

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

September 2023



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Introduction

1.1 Chair's commentary

Welcome to our second Task Force on Climate-related Financial Disclosures (TCFD) report, covering the period 1 April 2022 to 31 March 2023.

Year in review

When it comes to progress towards a more sustainable world, the past 12 months have turned out to be a year of contrasts.

In August 2022, US policymakers passed the Inflation Reduction Act, with record investments in clean energy. In December 2022, at the UN Biodiversity Conference in Montreal, global policymakers agreed to protect 30% of Earth's nature and restore 30% of Earth's degraded land and water to help combat the climate crisis. And closer to home, in February 2023, we were pleased to review the disclosure framework and implementation guidance of the Transition Plan Taskforce, which we believe will improve the quality of UK companies decarbonisation activities.

Our own sustainability activities have also continued to evolve. We're pleased with the progress we're making, which is set out in this report.

However, the outcome of the UN Climate Change Conference in Sharm Al-Sheikh was less encouraging. There was also a near-term increase in fossil fuel use, caused by the Russian invasion of Ukraine. Overall, the world remains on track for runaway climate change, which left unchecked, will lead to substantial financial, environmental, and social consequences.

This is not in our members' best interests. Climate change therefore remains top of our agenda.

How we report

Whilst we're keen to reduce duplication between our yearly TCFD reporting, much of the governance we implemented in 2021 and 2022 relating to climate change is working well and as such remains unchanged in 2023. Our net zero target, our selection of scenarios and our approach to metrics also remain the same. This allows us to compare our progress between each reporting period.

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 opportunities¹. 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 2022 report first). For these reasons, there is repetition between our 2022 and 2023 TCFD report (this approach also helps us ensure we meet our regulatory obligations).

There are, however, some changes since the last report. In the past year, we've set out our approach to three priority sustainability issues: living wages, gender equality and climate action, details of which can be found on our website². This includes the evidence we've reviewed on the financial materiality of our priority sustainability issues. During the Trust year, we've also prepared our first stewardship policy.

There are also some additions and improvements to our 2022 report. These include:

- The results of focus groups carried out with our members on sustainability issues, in particular, climate change.
- A new alignment metric which shows the percentage of assets under management of our corporate investments, as reported to the Science Based Targets initiative (SBTi).
- The steps we've taken to engage the companies we own on climate change issues.
- The decarbonisation framework we're using, in conjunction with our investment manager Cardano, to monitor the progress we're making to reduce emissions in our portfolio and the wider economy.
- We disclosed our Scope 3 emissions last year on a voluntary basis, which are now part of our regulatory disclosures.
- We've also responded to feedback provided by The Pensions Regulator (TPR). This includes generic feedback, through TPR's blog and various webinars, as well as feedback TPR provided directly to us as the Trustee.

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

² See www.nowpensions.com/about-us/our-investment-strategy/responsible-investing/

Our commitment to net zero remains unchanged

To help us manage climate change-related risks and opportunities of our portfolio, we committed to net zero greenhouse gas emissions by 2050 at the latest. This means that our portfolio will not add to the amount of greenhouse gases (GHG) in the atmosphere.

We have also set an interim target, committing to 50% emissions reduction for our investments by 2030 at the latest, against 2019 levels, for Scope 1 and 2 of our emissions. This is consistent with the Paris Climate Agreement's objective of limiting warming to 1.5 degrees (what science tells us is the limit of warming that our planet can safely absorb).

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

Members summary

Alongside the publication of our report, we have prepared a summary for members. We welcome your comments and questions – and we thank you for reading.

Joanne Segars

Chair of the Trustee Board
NOW: Pensions Trustee Limited



1.2 What is climate change?

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

Globally, we emit around 51 billion tons of greenhouse gases a year³. Most of these emissions come from industry (particularly cement, steel, and plastic), energy (including electricity, heating, and cooling), agriculture and transport.

The greenhouse gases 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. We've already warmed the Earth to at least 1.1 degrees⁴. To stop climate change, we need to stop emitting greenhouse gases.

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 degrees⁵. 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 greenhouse gas (the contribution to climate change is multiples that of carbon dioxide). As the permafrost thaws, this methane is released. This causes further warming.

As the Arctic warms further, there is less of a difference between polar air temperature and warmer equatorial air. This weakens the jet stream, which typically acts as a barrier between the cold and warm air. This can cause further warming at the poles. It also causes extreme weather events⁶.

Carbon capture

To date, attempts to remove and store carbon at scale have been unsuccessful. There are some technologies that can suck carbon out of the atmosphere, but it always takes more energy to do so than the energy we gained putting the carbon in the atmosphere in the first place. This is because the concentration of atmospheric carbon dioxide, is 420 parts per million.



3 ourworldindata.org/greenhouse-gas-emissions
4 www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/
5 www.carbonbrief.org/guest-post-why-does-the-arctic-warm-faster-than-the-rest-of-the-planet
6 www.cbc.ca/news/canada/british-columbia/bc-heat-dome-sudden-deaths-revised-2021-1.6232758

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

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

At NOW: Pensions 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 emissions by 2050, with 50% emissions reduction by 2030, against 2019 levels. This is consistent with the Paris Climate Agreement goals of limiting global warming to 1.5°C versus pre-industrial levels.

To achieve our commitments, our starting point is to stay invested and 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 dialogue. We engage companies, governments, stakeholders, and third-party asset managers to address climate change-related risks.

However, in the same way that some investments are judged to be too risky irrespective of returns, some investments will be judged to have a highly negative impact, with regard to systemic issues, such as climate change or respect for human rights.

In these cases where we consider the investment to have a significant real-world impact, we may resort to exclusion (for example, thermal coal). This reflects our view that systemic issues represent a long-term financial risk to our investment portfolio.

In 2023, we published a [stewardship policy](#). Our stewardship policy sets out the principles we've adopted that underpin our approach to stewardship. We've also joined IIGCC (Institutional Investors Group on Climate Change), Pensions for Purpose, and we're a supporter of Climate Action 100+. Our asset owner application to PRI (United Nations-supported Principles for Responsible Investment) has also been accepted.

Box 1

Our Statement of Investment Principles

Our Statement of Investment Principles (SIP) sets out the principles, beliefs and policies adopted by NOW: Pension Trustee Limited (the Trustee) in investing the assets of NOW: Pensions Trust (the Trust).

Specifically in relation to the Trust assets, the Trustee has set the following goals as part of its RI 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 half of the portfolio's net asset value in investments which support the Trustee's RI beliefs by having an explicit sustainability objective.

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

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

Our Statement of Investment Principles is available on our [website](#)⁷.

⁷ www.nowpensions.com/resource/statement-of-investment-principles-and-our-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.

⁸ www.assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1006024/statutory-guidance-final-revised.pdf

⁹ We published our Scope 3 emissions last year on a voluntary basis

Box 2

The regulations

The UK government has amended the Pensions Bill⁸ to require large pension 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 with respect to climate change-related risks and opportunities.
- Disclose the role of third parties with respect to climate change-related risks and opportunities.

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 unpredictability of climate change. For the purposes of our reporting, we have decided to use three scenarios, 1.5°C, 2°C and 3°C⁹.

Risk management, including:

- How we identify, manage, and incorporate climate change-related risks and opportunities 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 climate change-related risks and opportunities.

Metrics and target setting:

- Absolute emissions-based metric (which we'll explain later in the report). New for our second TCFD report, the emissions metrics must cover Scopes 1, 2 and 3.
- Intensity emissions-based metric (we'll explain this too).
- One other climate change-related metric, which shows the percentage of assets under management of our portfolios where the investment has an explicit sustainability objective.
- New for 2023, an alignment metric which shows the percentage of assets under management of our corporate investments as reported to the Science Based Targets initiative (SBTi).
- 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.

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.



2

Governance

*The organisation's governance around
climate change-related risks
and opportunities*

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

As the Trustee, we are ultimately responsible for identifying, assessing and managing climate change-related risks and opportunities the Trust 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. We monitor our service providers, including our investment manager, Cardano Risk Management Limited (Cardano), our investment adviser, and third-party managers, and interpret climate change-related risks and opportunities, taking action where necessary.

In October 2021, we adopted a Climate Change-related Risks and Opportunities (CCRO) governance policy. Our investment committee (IC), a committee responsible to the Trustee, oversees and monitors the day-to-day decision-making on climate change-related risks and opportunities undertaken by Cardano.

Our governance is working well and remains unchanged from last year's TCFD report. We receive regular reporting on climate change-related risks and opportunities from our investment manager, which

we discuss at our IC meetings. As a trustee, we have also spent a half-day together, discussing a range of sustainability issues, including climate change.

The IC ensures 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 CCRO policy describes:

- How we oversee climate change-related risks and opportunities.
- The role of parties other than the Trustee, such as the Trust manager (NOW: Pensions Limited).
- The role of Cardano 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 have established processes to assess, oversee, review, and effectively manage CCRO relevant to the Trust. 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, but 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)

- Identify, assess, and manage the ongoing impact of CCRO over the short, medium and long term on the Trust's investment strategies, for review and agreement by the Trustee.
- Oversee climate change scenario analysis to assess the impact on the Trust'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, and at least one additional climate change-related metric. Establish clear reporting lines to obtain climate change-related data for the Trust's investments, and calculate the selected metrics.
- Set at least one target for the Trust in relation to the metrics and assess performance against it, for review and agreement by the Trustee.
- Prepare the Trust'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)

- Establish and maintain processes to assess and effectively manage CCRO which are relevant to the Trust, for review and agreement by the Trustee, including integration of CCRO into the overall risk management of the Trust.

The IC meets at least quarterly, and reports to the Trustee on sustainability topics, including where necessary 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 emissions metrics for our investment portfolio, as well as portfolio ESG scores¹⁰, ESG scores for the largest investments in our portfolios, 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.

¹⁰An ESG score is an assessment of 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 are 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 Trust, including guidance from The Pensions Regulator (TPR)¹¹ and the Department for Work and Pensions (DWP).
- Engaging with peer groups, industry bodies and advisers to compare the Trust'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 over different time horizons.
- Considering the impact of physical and transitional risks, including operational risk factors.
- 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 Limited's staff to undertake training on climate change-related risks and opportunities. NOW: Pensions Limited's staff participated in a range of training activities, including attending an event on climate change (and other sustainability issues) organised by Pensions for Purpose on climate change issues and reviewing guidance published by the Institutional Investors Group on Climate Change (IIGCC) on alignment metrics.



¹¹ www.thepensionsregulator.gov.uk/en/document-library/consultations/climate-change-guidance/guidance

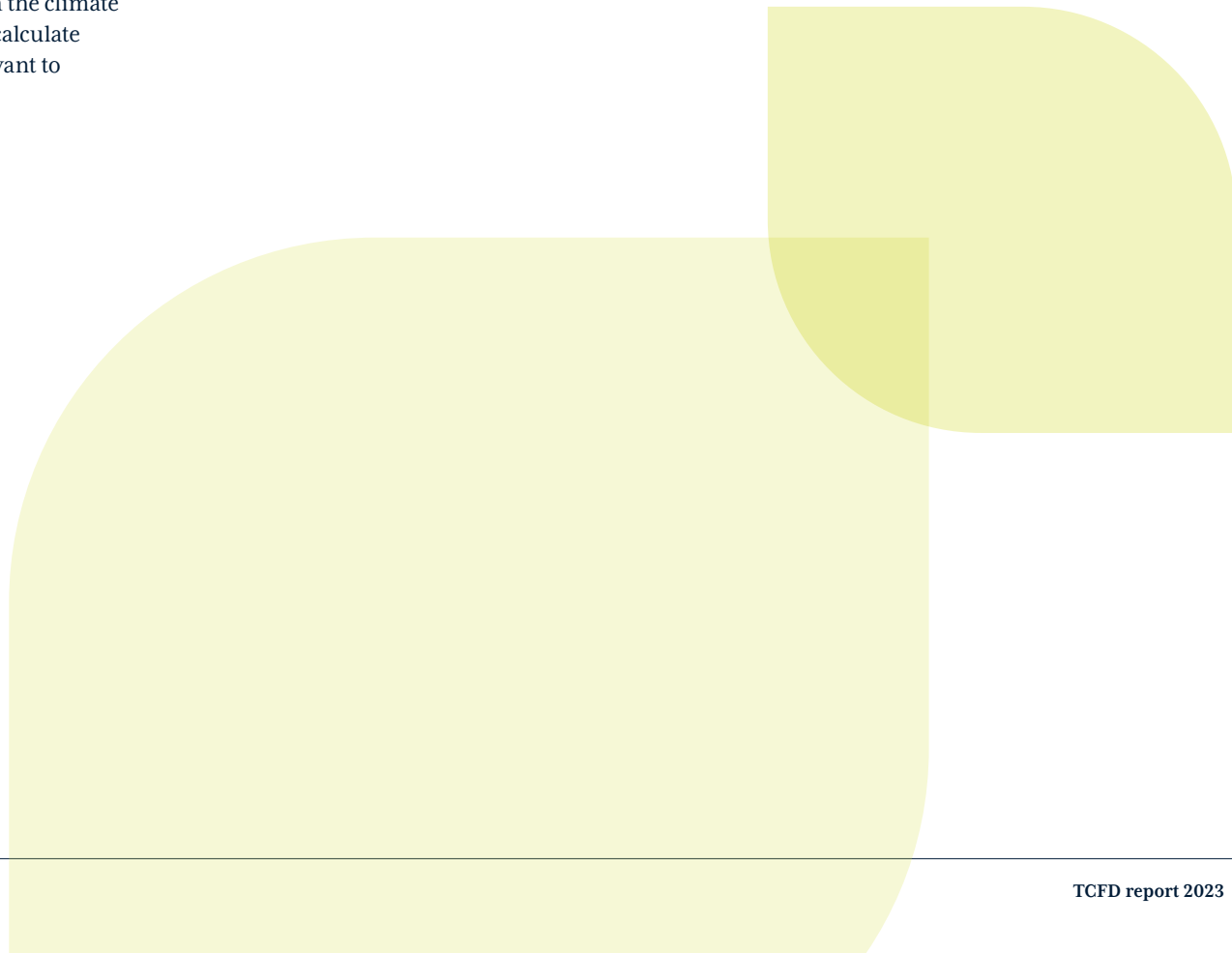
2.1.3 Investment manager delegations

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 Trust, taking into account climate-related information (including Scope 1, 2 and 3 greenhouse gas 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, in order to calculate selected metrics and assess the CCRO relevant to the Trust.

Cardano will flag any gaps in data, and prioritise on our behalf engagement on gaps that are likely to make the most material difference to the Trust’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 are 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, engagement policy, and its climate crisis action plan¹², which we have reviewed.

In January 2022, Cardano acquired ACTIAM, an asset manager with 30 years' sustainability experience. Cardano's end of year sustainability report sets out how this new expertise has been integrated within the firm¹³.

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

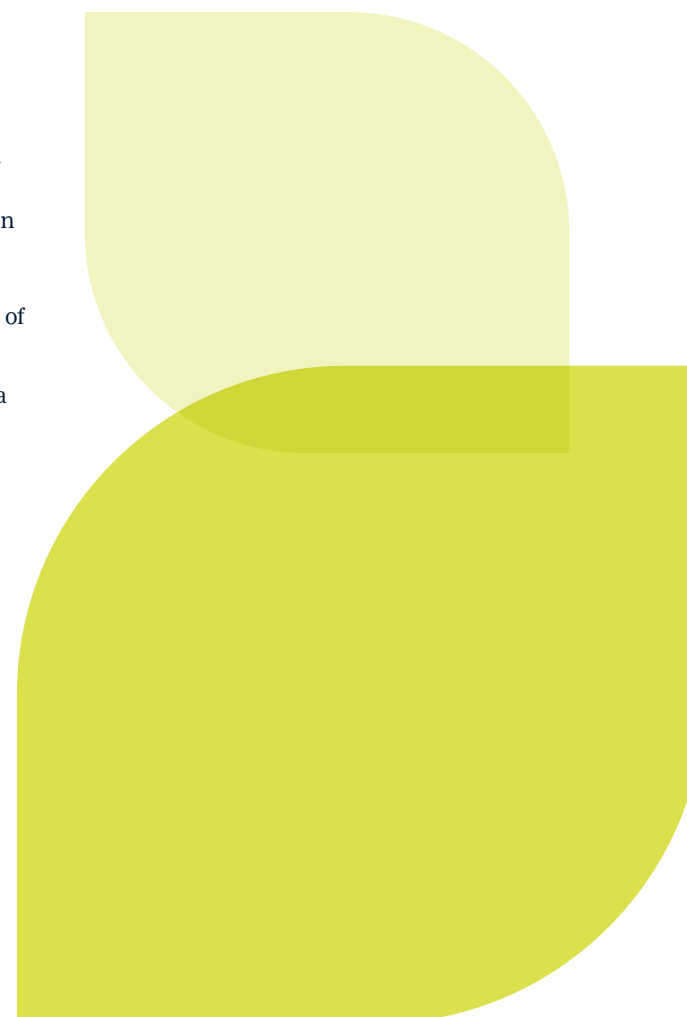
Cardano is a signatory to the UN Principles for Responsible Investment (PRI), a member of the Institutional Investors Group on Climate Change (IIGCC), and a signatory of the UK Stewardship Code. Cardano's engagement policy sets out how they promote and monitor the shareholder engagement activity of investment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

As our manager, Cardano has publicly stated they will measure the greenhouse gas emissions of their investments and set portfolio targets consistent with achieving net zero greenhouse gas emissions by 2050, with a target to cut emissions by 50% by 2030, against 2019 levels. This is the same target that we have set. The Cardano Group became a net zero firm (in terms of firm operations) in 2021 and has committed to do so every year.

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 groups¹⁴.

Cardano has also employed the services of MSCI, a sustainability data provider, to assist with climate change-related reporting. MSCI provides ESG scores, climate change-related research, and GHG emissions data to investors.

MSCI is a tool accessed by both Cardano and Redington (see below). The data covers 100% of the companies in our portfolio (see our section on metrics for more details). Cardano uses the 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 CCRO relevant to the Trust. We explain the role of GHG emissions data in more detail later.



¹² www.cardano.co.uk/sustainability-policies/

¹³ www.cardano.co.uk/wp-content/uploads/sites/3/2023/02/Cardano-Actiam-Annual-Sustainability-Report-2022.pdf

¹⁴ www.cardano.co.uk/our-approach-to-sustainability/

2.3 Advisers: Redington, Eversheds and NOW: Pensions Limited's staff

The Trustee is supported by investment, sustainability, compliance, and communications staff at NOW: Pensions Limited (Trust manager). 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. 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 staff also have the skills and experience necessary to support the Trustee's implementation of CCRO policy.

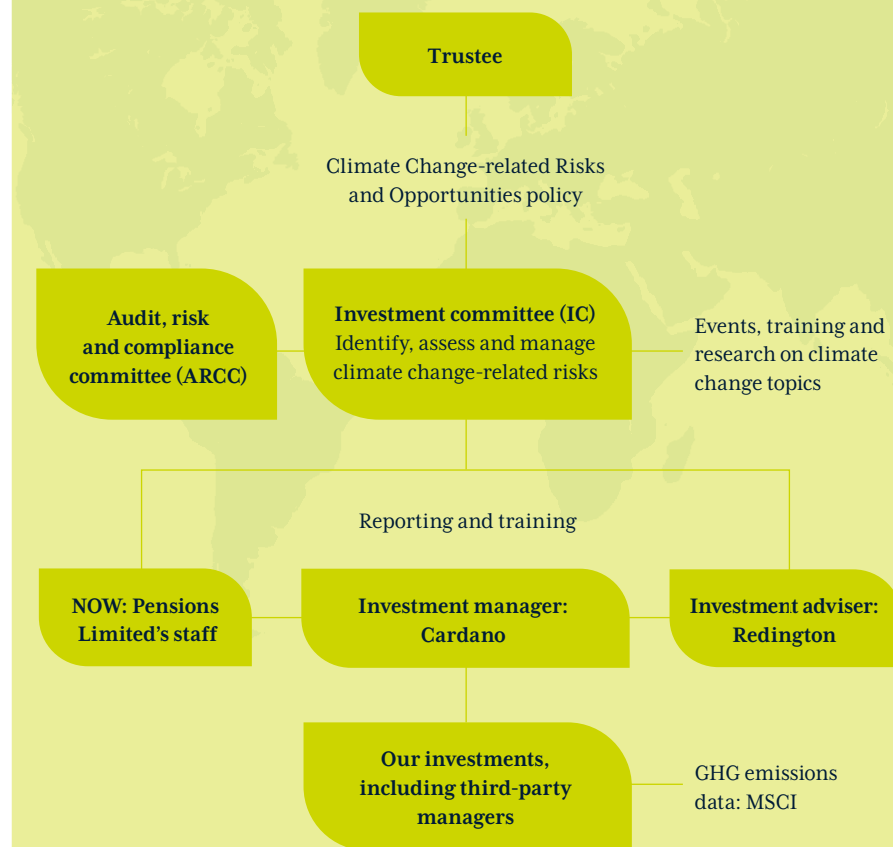
The time and resources involved in the governance of CCRO include IC, ARCC, and Trustee meeting time, training on climate change-related issues, and the costs of our external providers, including Cardano (and in turn, their data provider, MSCI), Redington and Eversheds.

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 Trust.

At quarterly IC meetings, the Trustee regularly challenges its staff and advisers on climate change-related issues, requesting training on new and emerging topics, such as alignment metrics, emerging disclosure frameworks such as International Sustainability Standards Board (ISSB) and Task Force for Nature-related Financial Disclosures (TNFD), and evolving UK and EU regulation, such as the proposed FCA's Sustainability Disclosure Rules, as well as progress on stewardship topics.

Diagram 1

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



2.4 Case study

We published our first TCFD report in 2022. As part of the 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. The research took place in Q1 2023.

Research objectives

To actively engage and speak with our members and employers to:

- Establish whether members understand their Trust and how it's structured in relation to responsible investing.
- Understand what investment and sustainability topics matter/are important to members and employers.
- Understand which areas members and employers want to see progress on, in relation to responsible investing.
- Find out from employers what their investment-related priorities are for the Trust they've chosen for their employees.
- Understand employers' responsible investment priorities.

Method

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 questions about their attitudes to finance broadly, before answering specific questions about their pension.

75-minute focus group sessions were structured to systematically explore members and employer's 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.

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.
- Without being able to see why investment decisions are being made, there is an assumption that decisions will be driven exclusively by profits.
- The TCFD report has 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 due to a lack of progress.
- Members understand issues are not always straightforward, such as divesting from fossil fuels.

Next steps

Whilst the findings are helpful, at this stage we do not believe that the focus groups give cause for a change in investment strategy. The findings are consistent with our current investment and stewardship activities. However, NOW: Pensions Limited (and the broader pensions industry) can and should do more to explain responsible investment to our employers and members. We will reflect on the findings of our research in the months ahead.



Strategy and scenarios

The actual and potential impacts of climate change-related risks and opportunities 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 10 to 15 years.
- Long-term to be 27 years (to 2050).

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

We expect that our short-term 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 in our portfolios, and how we address these.



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

We consider both transition-related risks (including environmental opportunities such as technology opportunities), and physical risks.

We consider these risks to be systemic, in other words, there will be social and economic impact across our portfolio, which needs to be managed across the short, medium and long-term time horizons established above.

Physical risks over the medium-term (up to 15 years) are relatively similar regardless of the scenario we look at because in all scenarios the climate will continue to warm to at least 1.5 degrees over this period. In the longer-term the physical risks will start to diverge substantially in warmer versus cooler scenarios.

We find the table to the right, adapted from The Bank of England's Prudential Regulation Authority, a useful summary of the climate-related risks¹⁵, and as such, include it in our TCFD report to explain how we think about short, medium, and long-term risks.

Table 1: Bank of England climate-related risk matrix.

Climate-related risk		Short/medium/long term	Main causes of financial impact on members
Physical	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	Policy and legal	Short/Medium	Regulation of existing products and services
		Short/Medium	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 stakeholder's perceptions of climate-related action or inaction

It is our expectation, based on the evidence we've reviewed, that without government action, the severity and frequency of weather events relating to climate change (the physical risks) will increase exponentially in the medium and long-term.

We're increasingly seeing weather events such as extreme heat, extreme 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 will increase.

¹⁵ www.bankofengland.co.uk/climate-change

3.3 The impact of the risks and opportunities on the Trust's investment strategy

We consider climate change-related risks and opportunities in relation to all aspects of the Trust's investment strategy, for example, climate change could affect:

- The dividend paying capability and the share prices, of companies in which we invest (either directly or indirectly).
- The prospects and prices of portfolios we invest in via both physical investments and derivative investments.
- The creditworthiness of the government and supranational bonds in which we invest.
- The prospects for banks and other financial institutions we place cash with
- Systemically, these could impact multiple parts of the portfolio at the same time, and in the same direction, particularly over the medium to long-term.

We consider climate change-related risks and opportunities in several ways:

- How climate change may affect the different asset classes we are invested in over time, and how we assess which parts of the portfolio are more susceptible to climate change-related risks and opportunities. This includes:
 - Asset class selection and their susceptibility to climate risk
 - Allocation within an asset class, for example, to green, social, and sustainable bonds or sustainable equity.
 - Engagement of companies, policy makers and collaboration with stakeholders.
 - The geographical and sectoral nature of investments (for example, the preparedness of different geographies and sectors to climate change risks).



3.4 Scenarios

3.4.1 Details of the scenarios we have selected

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.

Each scenario consists of a degree of warming and a measure of financial risk (we set this out as a loss to the portfolio). In other words, what we expect the financial loss to be based on a certain degree of warming.

We have 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 and transition risks in different situations, enabling us to draw conclusions about the different components of climate change-related risks and opportunities relevant to the Trust.

Box 4



Our three scenarios

1.5°C

Paris-aligned transition scenario

This is our goal. AIM/CGE¹⁶ 1.5°C assumes measures are taken that will keep the rise in temperature limited to 1.5°C.

2°C

late transition scenario

This is a forecast of what we think will happen. Late AIM/CGE 2.0°C assumes measures are introduced to tackle climate change, but are introduced too late to meet the Paris Agreement.

3°C

slow transition scenario

This is our hothouse scenario. AIM/CGE 3.0°C assumes current policies are continued. According to the UN, currently policies are on track for 3.0°C warming.

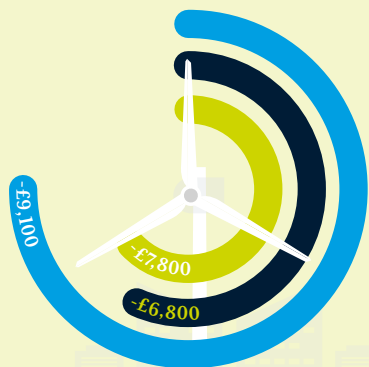
¹⁶ The AIM/CGE model is a multi-regional, multi-sectoral, computable general equilibrium (CGE) model.

3.4.2 The resilience of our investment strategy in these scenarios (in other words, the results)

Our scenario analysis is used to produce a Climate Value at Risk (CVaR), or the estimated financial loss of warming scenarios at 1.5, 2 and 3 degrees.

Climate Value at Risk in Scenario (calculated as of 2023)

- 1.5 degree CVaR
- 2 degree CVaR
- 3 degree CVaR



We undertake scenarios on our corporate equity exposure, which is 61% of our portfolio.

We have illustrated the estimated financial loss with a £70,000 pension pot at retirement (the pension pot for a typical woman saver on retirement, as identified in our *Fair Pensions for All report*¹⁷). We have rounded the loss to the nearest percent (or in the case of the 3 degrees scenario, to one decimal place), and the nearest £100.

The results incorporate a range of assumptions which we explain below, and include corporate equity only.

Table 2: Our scenarios, calculated as of 2023

Climate Value at Risk	1.5°C scenario		2°C scenario		3°C scenario	
	%	£70,000 pension pot	%	£70,000 pension pot	%	£70,000 pension pot
Transition risk	-6%	-£4,000	-2%	-£1,700	-0.30%	-£200
Physical risk	-7%	-£5,100	-7%	-£5,100	-11%	-£7,600
Total risk (estimated financial loss)	-13%	-£9,100	-9%	-£6,800	-11%	-£7,800

Table 3: Our scenarios, calculated as of 2022

Climate Value at Risk	1.5°C scenario		2°C scenario		3°C scenario	
	%	£70,000 pension pot	%	£70,000 pension pot	%	£70,000 pension pot
Transition risk	-5%	-£3,500	-3%	-£2,100	-0.30%	-£200
Physical risk	-6%	-£4,200	-6%	-£4,200	-9%	-£6,300
Total risk (estimated financial loss)	-11%	-£7,700	-9%	-£6,300	-9%	-£6,500

¹⁷ www.nowpensions.com/about-us/fairpensionsforall/

Interpreting the results

NOW: Pensions trust, like many Trusts, invests in both physical investments (such as listed equities, also known as stocks and shares) and derivative investments (such as futures). To understand our expected loss, we look at the aggregate exposure across corporate physical equity and derivative equity. Each scenario's financial loss to the portfolio is the weighted aggregation of each company's expected loss within our portfolio.

Across the three scenarios we see that transition risks are lower at higher temperature rises. This is because companies will have had to do less to transition at the higher temperature scenario. In contrast, the physical risks increase at the highest temperature rises, due to the increased weather events caused by climate change.

It is a major limitation of the methodology that we are unable to model physical risks beyond around 15 years. As such, we believe the physical risks set out above underestimate the financial loss to the portfolio of higher warming scenarios, particularly over the long-term.

At 2 or 3 degrees, it is still necessary to reach net zero, just over a longer period of time. As such, the transition will still happen, alongside more extreme physical risks. It is for these reasons, that we remain committed to 1.5 degrees.

Another limitation of the scenarios is that we have been unable to include the following asset classes:

1. **Sovereign bonds (bonds issued by governments).**
2. **Derivatives on sovereign bonds, also known as Total Return Swaps (TRS).**
3. **Green, social, and sustainable bonds.**
4. **Commodities, such as our allocation to base metals.**
5. **Cash.**

For example, financial outcomes for sovereign bonds are highly dependent on assumptions around monetary policy, inflation, growth, and government policy. We will continue to review data availability and methodologies to determine whether to include these asset classes in future TCFD reports.

Changes between 2022 and 2023 results

The changes in the results between 2022 and 2023 can be attributed to the following five areas:

1. **Changes in investment strategy**
 - a. We have increased our corporate physical equity investments (and decreased our derivative investments)
 - b. Our combined corporate physical and derivative equity investments constitute a (slightly) smaller proportion of our overall portfolio, informed by our risk tolerance
 - c. In turn, this has led to (minor) changes in regional allocations.
2. **Sectoral changes within portfolios.** Over the past year, the Russian invasion of Ukraine, and the corresponding effects on markets, as well as inflation and interest rate effects, have led some sectors such as energy (which tends to have high GHG emissions) to outperform, whereas other sectors such as technology (which tends to have low GHG emissions) has underperformed.
3. **Methodology changes.** Within our portfolios, some companies' GHG emissions reporting methodologies have changed due to regulation and reporting expectations.
4. **Changes in company GHG emissions.** Within our portfolios, some companies' GHG emissions have changed, as have their enterprise value (the calculations are weighted by companies' enterprise value).
5. **Increased severity and frequency of weather events caused by climate change.** Over the past year, human activity has continued to warm the planet, worsening the effects of climate change.

Whilst we will continue to monitor the results of the scenarios, at this stage we do not believe the results warrant any changes to our existing investment strategy.



3.4.3 The key assumptions for the scenarios we have used and any limitations of the modelling

In completing the analysis above, we have relied on Cardano and the methodology that MSCI has developed to calculate Climate Value at Risk (CVaR), and estimated the financial loss. Without covering the entire methodology used, broadly speaking two types of risk are considered:

Transition risk

This is calculated by considering a company's exposure to greenhouse gas emissions and an assumed carbon price. Because that carbon price is not currently embedded in the company's cost base, this increases the cost to the company, causing a loss of profitability. The carbon price assumptions are linked to the climate change scenario that is selected. In a 1.5°C scenario, carbon prices are assumed to increase more rapidly than in a 3°C scenario, creating more transition risk for businesses in the short-term. In other words, the costs associated with transition (for example, switching energy sources, retrofitting buildings, roll-out of electric vehicles) are assumed to be higher in the short-term.

Included in transition risk is solutions, which looks at green revenues and patents and assumes that to the extent companies have these, these will be growing portions of a company's revenues in the future, potentially offsetting some of the negative impacts of transition and physical risk. These will be more valuable in faster transition scenarios.

Physical risk

This risk looks at the potential losses that can occur due to more extreme physical risks aggregated for each company in our portfolio, particularly over the next 15-year time horizon, and is based on modelling of the company risk exposures. This includes increased weather events such as floods, drought, wildfires, and rising sea levels. Due to limitations in modelling, this does not allow for the economic impact that higher temperatures might have, for example slowing economic growth.

There are two physical risk calculations provided by MSCI. An 'average' physical risk and an 'aggressive' physical risk. The average physical risk is £5,100 (used for 1.5°C and 2°C) and the aggressive physical risk is £7,600 (used for 3°C).

Any scenario analysis is heavily dependent on the underlying assumptions made. Following discussions with Cardano, we believe that the key assumptions underlying the modelling are reasonable and we will review them annually to ensure we remain comfortable. **There are several fundamental uncertainties including¹⁸:**

Uncertainties in future greenhouse gas (GHG) emissions.

Uncertainties in:

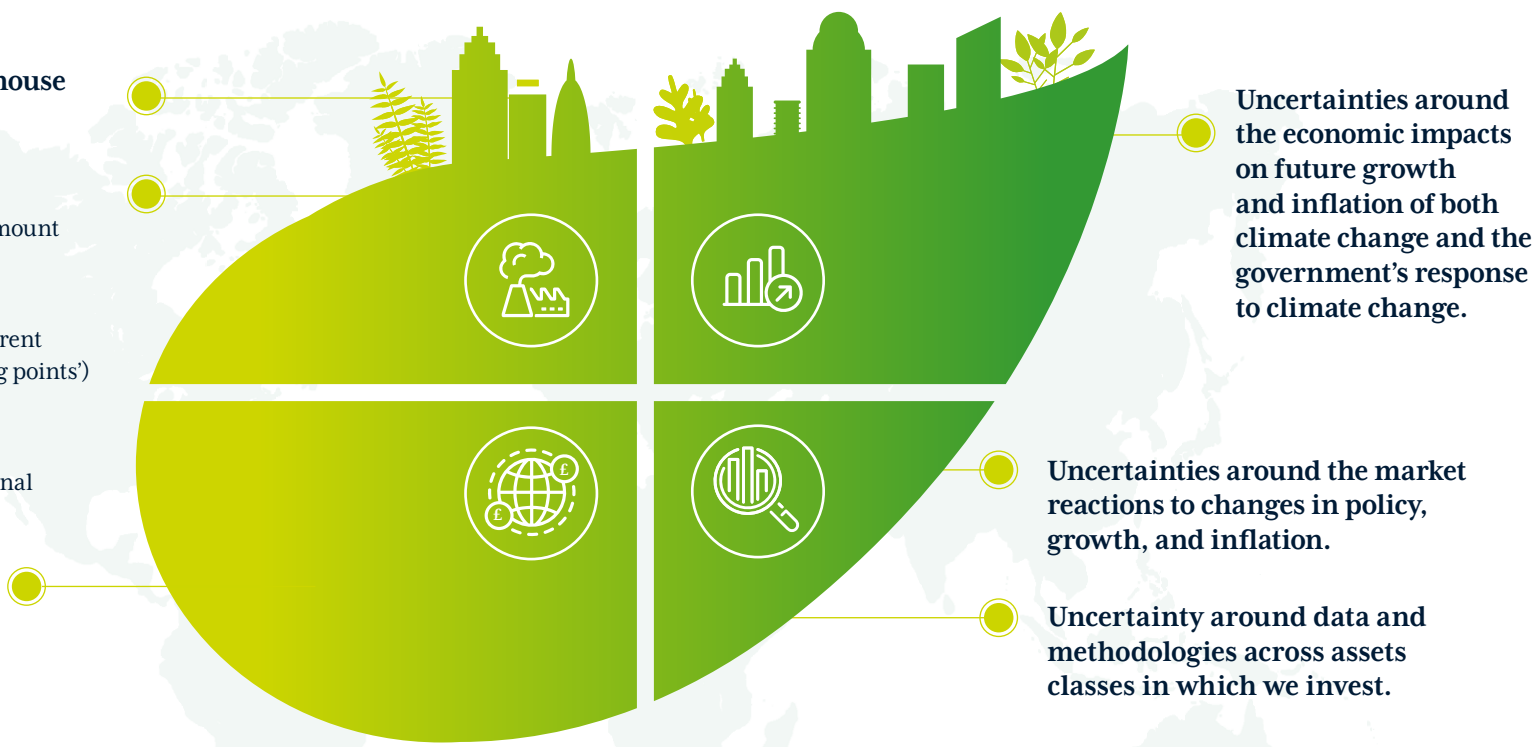
- Expected warming for a given amount of GHG emissions.
- Emission trajectory.
- Estimates of the strength of different feedbacks (also known as 'tipping points') in the climate system.
- Changes in polar ice sheet mass.
- Uncertainties surrounding regional projections of climate change.

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

Despite the assumptions necessary for scenario analysis, the results are a useful starting point for our investment decision-making (which we set out in the risk management section that follows).

For our portfolios, our largest transition risks are in the following sectors: energy, transport, automobiles and components, materials, and food and beverage production.

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.



¹⁸ www.cifor.org/publications/pdf_files/WPapers/WP45Santoso.pdf



Risk Management

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

4.1 How we manage climate change-related risks

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

Risk 1

Correctly identifying portfolio risks from climate change. New risks are likely to emerge, both physical and transition.



Risk 2

Insufficient action to deviate from the 3°C scenario, and risk of environmental tipping points.



Risk 3

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



We have added climate change to our risk register. We have made changes to our portfolio to address the risks that we've identified, we explain this further over the next pages.

4.2 The risk management tools we – and our investment manager and adviser – have used and the outcomes of using those tools

Level 1:

Selection of MSCI as an external sustainability data provider

In 2020 Cardano appointed MSCI as its external sustainability data provider. The appointment followed a formal process, in which the service offerings of different providers were reviewed. Cardano selected MSCI for several reasons, in particular, 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 2019¹⁹.

The appointment (and subsequent reappointment) is overseen by the Cardano Group's Sustainability Steering Committee and reported to us on an annual basis. It is also reviewed by the investment committee (IC) annually.



¹⁹ ir.msci.com/news-releases/news-release-details/msci-strengthen-climate-risk-capability-acquisition-carbon-delta

²⁰ Cardano joined IIGCC in Q4 2020.

Level 2:

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 calculating the greenhouse gas 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 adopted the approach to metrics set out by the IIGCC's Paris-Aligned Investment Initiative²⁰. 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 Trust.

The Paris-Aligned Investment Initiative sets out the advantages and disadvantages of the multiple methodologies used to determine the absolute emissions, emissions intensity, and more recently, environmental alignment of a company, and a portfolio.

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 MSCI.

This year, we are required to disclose 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).



Level 3:

Internal controls

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

Finally, we note that there are gaps and assumptions in the data. In some markets, greenhouse gas emissions disclosures are not regulated, and not subject to audit. However, the quality of the data is constantly improving. We believe that the processes we have implemented are market-leading and mitigate (as far we are able) 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.

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

Over the past three years, we have made several investment decisions that relate to our assessment of climate change-related risks and opportunities. These decisions are ongoing, enhanced by the scenarios and metrics set out in this report.

Green, social and sustainable bonds

We have invested in green, social, and sustainable bonds since 2017, increasing our investments in these through 2020, 2021 and 2022. For example, in September 2021, Cardano invested on our behalf in the issuance of green bonds by the UK government.

We now have a total of 24 green, social, or sustainable bonds, which constitute over 15% exposure of our portfolio, up from 13% last year.

Sustainable bonds are the same as conventional bonds in terms of financial characteristics - they have a fixed term, fixed notional and a fixed coupon. The main difference is that the proceeds of sustainable bonds are 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 green, social, and sustainable bonds to reduce our estimated financial loss set out in our scenarios above. However given the lack of methodology, they are not currently able to be included in our scenarios.

No direct commodity exposure to fossil fuels

A commodity investment does not allow us to exert our influence through stewardship, so 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 exposure, we have instead invested in base metals and inflation swaps. Base metals, such as copper and aluminium, will be needed as we electrify our energy systems, and so we expect base metals to help us manage inflation-related risks, as well as perform well as part of the transition.

Environmentally aware cash fund

All pension schemes require liquidity to be able to make payments to members as they reach retirement. Our portfolio invests in an environmentally aware cash fund, a fund that provides liquidity whilst paying consideration to environmental criteria.

ESG-screened low carbon equity with stewardship

In 2021, we invested in a portfolio of ESG-screened, low carbon companies with stewardship. We increased our exposure to these investments in 2022 and expect to do so again in 2023. These companies have, on average, 50% lower greenhouse gas emissions, and improved environmental, social and governance (ESG) scores than the benchmark. The portfolio also has no, or very limited, exposure in activities that contravene international standards, such as controversial weapons, nuclear weapons, thermal coal, and oil sands.

Investment with an explicit sustainability objective

In Q1 2021, as part of a review of our investment strategy, we set ourselves a target that our portfolio would have at least 50% of investments with an explicit sustainability objective by the end of 2021. We have exceeded this target; we are now at 82%, up from 56% last year, and allocations will be increased further in the next Trust year. This is our third metric, which we discuss further on the next pages.



4.4 Engagement activities that help address climate change-related risks and opportunities

We will 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 greenhouse gas emissions globally, and we seek to maximise our influence to achieve this.

We believe it is important to engage with companies and governments, and where consistent with our return, risk, and sustainability objectives, to supply enabling capital to achieve transition to net zero greenhouse gas emissions globally.

For example, emerging markets require capital to transform their economies. This is because emerging markets tend to have higher carbon footprints, partly because they produce carbon intensive goods consumed by developed markets.

Therefore, we will continue to review portfolio decarbonisation targets at least every three years to ensure they remain appropriate.

Third-party asset manager engagement

Where Cardano invests directly, we expect them to engage the companies in our portfolio on our priority sustainability issues. Cardano is a signatory to the UK Stewardship Code, and participates in stakeholder initiatives that facilitate engagement, such as Climate Action 100+.

Where Cardano invests via a third-party manager, we expect Cardano to review the sustainability characteristics of the fund manager and the portfolio, which we assess to ensure it is consistent with our investment strategy, our CCRO policy, our Statement of Investment Principles, and the Investment Management Agreement (IMA).

Corporate engagement

Starting in Q1 2022, Cardano has applied an enhanced stewardship to its direct and indirect investments, with access for NOW: Pensions Limited's staff. Our Head of Investment, Emma Matthews and Head of Sustainability, Will Martindale, along with Cardano staff, participate in engagements on companies we hold in our portfolios.

Cardano works with Sustainalytics to support its engagement work. This includes thematic engagements on topics such as climate change on companies in our portfolios.

We have prioritised three sustainability issues for our corporate engagement: climate action, gender equality and living wages.

Examples of engagements include:

- **Land use:** Engaging a drinks manufacturer to assess exposure to, and management of changes, in land use and deforestation in the supply chain, using satellite data.
- **Energy transition:** Engaging an oil and gas company in collaboration with other investors on Scope 1, 2 and 3 emissions reductions targets and Paris alignment.

Policy engagement

We also engage policy makers both directly, and through Cardano, on sustainability topics. We participate and respond to government consultations on sustainability issues.

We believe we have a responsibility to use our influence to improve the quality and number of corporate greenhouse gas disclosures. We participate in public policy consultations, engaging policy makers to improve corporate disclosure obligations.

For example, we responded to the 2023 Transition Plan Taskforce consultation. Our Chair, Joanne Segars, and our Head of Sustainability, Will Martindale, participate in the Department for Work and Pensions' (DWP) Occupational Pensions Stewardship Council. We are also members of IIGCC, which has a policy engagement work programme, which we review and support.

5

Metrics and targets

The metrics and targets used to assess and manage relevant climate-change related risks and opportunities



5.1 Our investment strategy and how we report our metrics

Our investment strategy makes use of derivatives alongside traditionally funded investments. This enables us to aim for attractive long-term returns and manage risk at the same time.

There is, however, no established methodology on how to consider the greenhouse gas (GHG) emissions of derivative investments. Indeed, some argue that derivatives have zero emissions, because a derivative is not physically invested in a company.

For the purposes of our TCFD report, we disagree with this view and have taken the decision to consider the GHG emissions of derivatives as we would physical investments for sovereign bonds and corporate equity. This is because the TCFD report sets out how we measure and manage climate change-related risks and opportunities.

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 derives its price from its physical equivalent.

In the tables that follow, the total sum of our investments is therefore higher than 100%, because we use leverage to access market exposures beyond what we could achieve with only physical investments. We access leverage through use of derivatives, mostly equity futures, total return swaps, and inflation swaps.

When measuring greenhouse gas emissions across our portfolio, we aggregate the emissions of companies, disclosing Scope 1 and 2 emissions, as well as Scope 3. We recognise that there are still gaps in data availability, particularly regarding Scope 3 emissions.

Scope 3 emissions help us better understand a company's sensitivity to climate change-related risks and opportunities, 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.

Box 5



Scope of emissions

The GHG Protocol Corporate Standard²¹ classifies a company's GHG emissions into three 'scopes'.

Scope 1:

Emissions are direct emissions from owned or controlled sources.

Scope 2:

Emissions are indirect emissions from the generation of purchased energy.

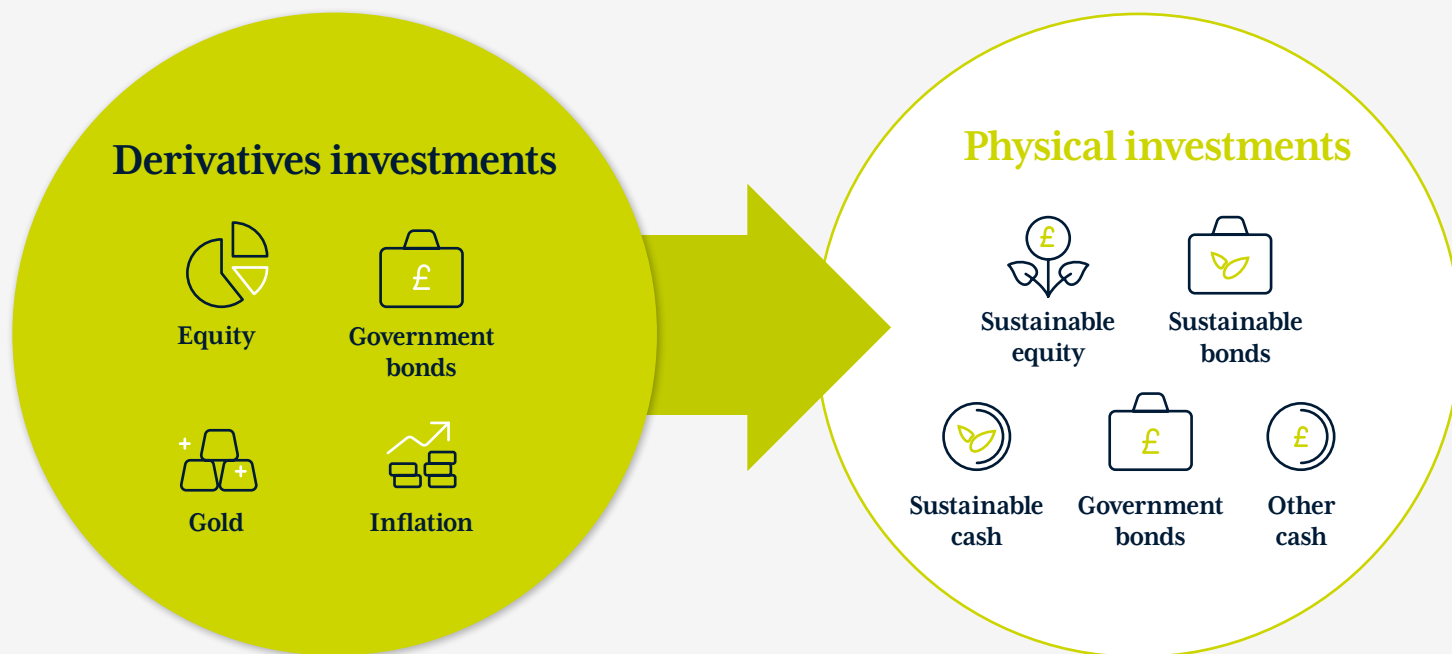
Scope 3:

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

²¹ www.ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf

Diagram 2

This diagram is an explanation of our investment strategy and use of derivatives to achieve leverage.



Our TCFD report includes metrics associated with the following investments:

- **Physical:** Sustainable equity, sustainable bonds, government bonds and (for Metric 3), sustainable cash
- **Derivatives:** Equity, government bonds.

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

5.2 The metrics we calculate

We calculate and disclose the following metrics.

Metric 1: Total or absolute GHG emissions.

- Our absolute emissions for GHG Scope 1 and 2 are 142,908 tCO₂e for physical sustainable equity and derivatives equity. This is the total greenhouse gas emissions, in tons of carbon dioxide equivalent, of Scope 1 and 2 emissions. We explain why this applies to physical and derivatives equity below.
- Our absolute emissions for GHG Scope 3 are 307,800 tCO₂e for upstream emissions and 879,486 tCO₂e for downstream emissions.

Metric 2: Carbon footprint or emissions intensity.

- Our emissions intensity for GHG Scope 1 and 2 is 63.1 tCO₂e per £1m invested in physical sustainable equity and derivatives equity. 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. We explain why this applies to physical and derivatives equity below
- Our emissions intensity for GHG Scope 3 is 135.9 tCO₂e for upstream emissions and 388.4 tCO₂e for downstream emissions.

Metric 3: Investments with an explicit sustainability objective.

- 81.7%. This is the percentage of assets under management of our portfolios where the investment has an explicit sustainability objective. This includes green, social, and sustainable bonds, low carbon ESG-screened equity, and environmentally aware cash investments.

Metric 4: Corporate equity investments that are 1.5 degrees aligned.

- 24.4%. This is the percentage of corporate equity investments that have targets in place reviewed by the Science-Based Targets initiative.

Please note, all data is as of 31 March 2023 unless otherwise stated.

Table 4: Investments with explicit sustainability objectives

This table shows our physical investments, highlighting those with an explicit sustainability objective. As with our scenarios, we have considered a pension pot on retirement of £70,000.

Investments	% of portfolio exposure	£70,000 pension pot	Incorporated in our Metrics 1 and 2	Explicit sustainability objective (Our Metric 3)
Sustainable equity	30%	£21,000	Yes	Yes
Sustainable bonds	15%	£10,500	Yes	Yes
Sustainable cash	37%	£25,900	No robust methodology	Yes
Physical government bonds	8%	£5,600	Yes	No
Cash	6%	£4,200	No robust methodology	No

Our cash and government bonds are also used as collateral for our derivative positions. The GHG emissions associated with our derivative equity and derivative government bond investments are also included in the tables that follow. We have not included the GHG emissions associated with our derivative inflation and derivative gold investments, as there are currently no robust methodologies.

Table 5: Green, social and sustainable bonds

This table provides more details of our green, social, and sustainable bonds.

Sustainable bond exposures consist of exposures to bonds used to specifically finance green, social, or other sustainable objectives. Such bonds must meet quality standards for the use of proceeds and provide certification and monitoring of the use of proceeds. The carbon footprint of these bonds is not added to other parts of the portfolio, neither are any emissions avoided subtracted from other parts of the portfolio.



Table 6: Government bonds: greenhouse gas emissions per person (also known as per capita)

This table shows the weighted GHG emissions per person for each government bond in which we invest. The net exposure includes physical and derivative government bonds. Derivatives can be a long or short position²².

There are typically three ways to measure the greenhouse gas emissions of a country.

- **Per 'issued debt'**: The percentage we own of a country's debt multiplied by its emissions. This favours countries with large debts (for example, Japan).
- **Per GDP**: A weighted average of the greenhouse gas emissions per unit of GDP. This favours countries with a large GDP (for example, the US).
- **Per capita**: A weighted average of the greenhouse gas emissions per person, in each country in which we invest. 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 is emitted, or by whom.

Therefore, it does not make sense to combine the GHG emissions of government bonds and corporate equity, and so we report separately.

Country /continent	Average GHG in tons of carbon dioxide equivalent per capita	Physical government bonds % of portfolio exposure	Net exposure (physical + derivative government bonds) % of portfolio exposure
Australia	21	0%	11%
Asia	9	1%	1%
Canada	19	2%	13%
Germany	9	2%	31%
UK	6	3%	9%
US	18	0%	22%
Portfolio weighted average		11 tons of GHG emissions per person	14 tons GHG emissions per person

²² This is often done to isolate the inflation exposure of an inflation-linked bond.

Table 7: Emissions associated with our equity exposure

For the purposes of our TCFD report, we consider the emissions of both physical sustainable equity and derivative equity.

Asset class	% of portfolio exposure	% coverage of GHG emissions data for Scope 1 + 2	Metric 1: Absolute emissions			Carbon footprint: Emissions intensity		
			Ton of GHG emissions / Enterprise Value including cash			Ton of GHG emissions / Enterprise Value including cash per million pound invested		
			Scope 1+2	Scope 3 upstream	Scope 3 downstream	Scope 1+2	Scope 3 upstream	Scope 3 downstream
Physical sustainable equity	30%	100%	35,400	138,700	335,700	31.8 (last year it was 32.3)	124.3 (last year it was 98.7)	300.9 (last year it was 187.5)
Derivative equity*	31%	100%	107,500	169,100	543,800	93.6 (last year it was 86.8)	147.2 (last year it was 118.0)	473.4 (last year it was 395.4)
Total	61%	100%	142,900 (last year it was 164,700)	307,800 (last year it was 259,900)	879,500 (last year it was 776,800)	63.1 (last year it was 71.3)	135.9 (last year it was 112.5)	388.4 (last year it was 336.4)

* Data as at 31 March 2023 using MSCI proxy holdings as at 31 December 2022.

Metric 1: Our absolute GHG emissions for Scope 1 and 2 are 142,900 tons of carbon dioxide equivalent for physical and derivative equity. To give a sense of scale, on average, this is equivalent to the GHG emissions of 22,900 UK residents, or per passenger emissions of 242,000 flights from London to New York, or 1.8 million car journeys from London to Edinburgh.

Metric 2: Our emissions intensity metric for Scope 1 and 2 is 63.1 tons of carbon dioxide equivalent for physical and derivative equity, per million pounds invested in equity. The intensity per million pounds invested of the total portfolio assets, is 38.6 tons of carbon dioxide equivalent, because the portfolio is 61% invested in physical and derivative equities (63.1 x 61% = 38.6).

Table 8

Science Based Targets initiative (SBTi) alignment	% of corporate equity
SBTi approved – 1.5°C	24.4%
SBTi approved – well below 2°C	5.0%
SBTi approved – 2°C	1.9%
Total	31.4%

Metric 4: The corporate equity investments that are aligned to 1.5 degrees. This is 24.4% of our corporate equity exposure. To determine alignment, we defer to the Science Based Targets initiative (SBTi).

With the support of our advisers, we reviewed the range of alignment metrics, assessing their strengths and weaknesses, including implied temperature metrics and the binary alignment metric. We have chosen the binary alignment metric, which we believe is more decision-useful, and less reliant on the range of assumptions involved in temperature metrics.

Changes between 2022 and 2023

Sovereigns

Whilst our sovereign GHG emissions per person has decreased (from net exposure of 16 tons GHG emissions per person to 14 tons), this is due to an increase in exposure to Germany (as a proportion of our sovereign mix), rather than material changes in GHG emissions.

Germany's 9 tons GHG per person is lower than the average (pushed up by Australia, Canada, and the US).

Absolute and intensity-based emissions

The changes articulated above, in relation to our scenarios, also apply to our metrics 1 and 2.

Our derivate equity has changed from 48% of our portfolio exposure to 31%, and our physical sustainable equity has changed from 19% of our portfolio exposure to 30%.

Because our physical sustainable equity invests in companies with, on average, lower Scope 1 and 2 GHG emissions, and makes up a larger proportion of our portfolio, we would expect our GHG emissions to decline. This is indeed the case for Scope 1 and 2, with our net equity Scope 1 and 2 GHG emissions declining by 11.5%.

However, our Scope 3 emissions intensity has increased, both for upstream and downstream Scope 3 emissions. At this stage, we remain unconvinced of the reliability of Scope 3 emissions, due to lack of reporting and the use of proxies. With the introduction of initiatives such as the International Sustainability Standards Board IFRS climate-related disclosures, we expect the quality of Scope 3 disclosures to improve.

Whilst this is a metric we will continue to monitor as part of our CCRO policy, at this stage, we do not believe the quality or extent of the Scope 3 data should inform any changes to our investment strategy.

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 degrees, below 2 degrees or 2 degrees scenarios. Companies commit and articulate their target, which they submit to SBTi for assessment. SBTi undertakes an independent assessment, publishing the results on its website.

Internal controls

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

5.3 The target we have set in relation to the metrics we have calculated, and performance against our target

Now we've set out our metrics we'll have a look at the target we've set and how we measure progress towards it.

In 2022, we set the following principal target with respect to the Trust.

- We committed to net zero greenhouse gas emissions by 2050 at the latest. This means that the investments we make will not add to the amount of greenhouse gases (GHG) in the atmosphere.
- We also set a mid-term target, committing our investments to 50% emissions reduction by 2030 at the latest, against 2019 levels²³.

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 Trust against the target, we consider:

- The Scope 1 and 2 GHG emissions intensity of our physical equity and derivative equity investments. We measure our target relative to the appropriate market portfolio representative of the strategic asset allocation of the portfolio (table 7, metric 2 above).
- We will also consider the GHG emissions per person of the government bonds in which we invest. The UK government has legislated for net zero GHG emissions by 2050 (table 6 above).

To meet our target, both absolute emissions and emissions intensity will need to trend to zero by 2050.

We have developed a net zero GHG emissions decarbonisation framework with our investment manager, Cardano, which helps the Trustee achieve its decarbonisation targets.

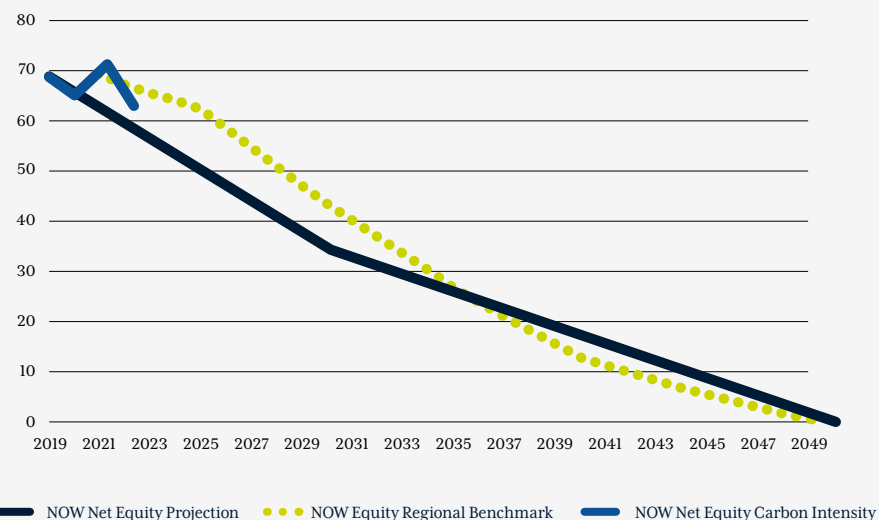
The framework involves a four-stage process.

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 investments 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 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 we 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.

We have illustrated our approach in diagram 3.

²³ www.ipcc.ch/reports/

Diagram 3 – Our net zero pathway



To monitor our progress, we will use our emissions intensity metric, which is the total 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 will continue to focus first on our corporate equity exposure, where we believe we can have most influence.

2019 is the baseline year because we have confidence in the climate change data from this year and it is prior to the COVID-19 pandemic, which due to lockdowns, saw fluctuations in fossil fuel use. We did not, however, measure our actual GHG emissions, and our investment strategy has changed considerably. As such, we are using our regional benchmark to approximate our 2019 and 2020 emissions.

Diagram 3 shows three lines. The first, 'net equity projection', sets out our target, which is 50% Scope 1 and 2 GHG emissions reduction by 2030, and 100% Scope 1 and 2 GHG emissions reduction by 2050.

The second line, 'equity regional benchmark', is our control measure. This helps us understand the GHG emissions of the benchmark, weighted by regions (we weight by regions because some regions have higher GHG emissions than others). If policymakers fulfil their commitments as set out in the Paris Climate Agreement, this too should trend to 0 by 2050. So far however, emissions continue to rise.

The third line is our 'actuals'. We will add to this each year, as part of the preparation of our TCFD report. If economies decarbonise, all three 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 will inform the investment decisions we take in future.

The investment decisions we have made so far, including our allocations to sustainable bonds, and ESG-screened low carbon equity, have helped us make progress towards our target, consistent with our Climate Change-related Risks and Opportunities policy.

Our objective is to achieve decarbonisation through the transformation of underlying businesses and government activities, where possible, rather than divestment (because it is 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). To help us track progress against our target of net zero greenhouse gas emissions by 2050, Cardano will update the metrics presented above for the investment committee (IC) to review.

A 2019 baseline year, and a faster decarbonisation towards 2030, is consistent with the Paris Aligned Investment Initiative²⁴, an initiative that we support. We will periodically, and at least annually, review progress towards our target, which will inform our investment strategy, and will be disclosed in our TCFD report.

²⁴ www.parisalignedinvestment.org

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What's next?



What's next?

We continue to monitor the GHG emissions of our investments. Global GHG emissions are rising, and so it's possible that the GHG emissions of our investments will increase. Our CCRO policy will inform the steps that we will take. We endeavour to:

- Engage with companies, prioritising those companies that present climate change-related risks in our portfolios. 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. We expect the FCA to conclude their proposals for sustainable investments, which apply to asset managers.
- 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.

