British Coal Staff Superannuation Scheme TCFD Report for Scheme year ending March 2023

BCSSS

British Coal

Staff Superannuation Scheme

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Introduction

The Financial Stability Board created the Task Force on Climate-related Financial Disclosures ("TCFD") in 2015. TCFD is an industry-led group that helps companies and their investors understand their financial exposure to climate risk. In 2017, it published recommendations designed to help companies, asset managers and asset owners disclose how they are managing climate risks and opportunities in a clear and consistent way. As required by UK government legislation, the British Coal Staff Superannuation Scheme ("the Scheme") published its first report in 2022 and is now publishing its second report. This will be available to explain to members and other interested parties how the Scheme is addressing the risks and opportunities associated with climate change.

About the Scheme

The Scheme is one of the largest occupational pension schemes in the UK, providing benefits for just over 42,000 pensioners and deferred members as at the end of June 2023. The Scheme was established by an Act of Parliament on 1 January 1947 following the nationalisation of the coal industry. The coal industry was privatised in December 1994 and because of this, contributing members of the Scheme became deferred members. The Coal Industry Act 1994 established the parameters under which the Scheme operates, with the Government in place as the Guarantor. Coal Staff Superannuation Trustees Limited ("the Trustee") has ultimate responsibility for decision-making on investment matters. Coal Pension Trustees Investment Limited ("CPTI") is responsible for providing investment advice and investment management services to the Trustee. As at 31 March 2023 total Scheme assets were valued at £8.92bn.

The Scheme's approach to climate change and TCFD Summary

The Trustee's fiduciary duty is to act in the best interests of members and the Trustee's primary objective is to pay all future member benefits (i.e., the Scheme's liabilities) from the Scheme's assets without requiring new funds from the Guarantor. The Trustee recognises that climate change is a significant source of risk and opportunity which will, and already has, affect the pricing of assets and the ability to meet the Scheme's liabilities. Climate change is an urgent issue of global significance, so the issues related to climate change are legitimate concerns for pension fund trustees.

This second TCFD report issued by the Trustee reiterates the Scheme's governance and risk framework for addressing the risks and opportunities associated with climate change, as well as openly discussing areas of progress and the continued difficulties around data coverage, methodologies, and areas where progress still needs to be made. Much work is being done to improve and understand the data, models and assumptions, however, much remains to be done and so many of the estimates in this report are subject to considerable uncertainty. This applies particularly to climate scenario analysis which the Trustee has decided not to rerun until model improvements are made.

The Trustee continues to work to embed considerations of climate change and climate transition across all areas of the portfolio. The Trustee is actively working to transition the portfolio, reducing exposure to unrewarded risk and adding to Climate Opportunities where this is seen to be likely to

contribute to the financial return required to pay pensions. This is an ongoing process that will take several years and the Trustee is aware that the portfolio (and broader market) currently have a low level of Paris Alignment.

The Trustee also acknowledges the significant uncertainty around all data and models utilised in producing this report and therefore the challenges this presents to decision-making. The Trustee has set an ambitious target for carbon emissions data coverage across the portfolio and continues to push to achieve this.

Key Areas of Progress

In 2020 the Scheme's adviser and investment manager CPTI hired a Head of Responsible Investment and in 2021 the Trustee updated the Scheme's Responsible Investment and Stewardship policies, which each identified climate change as a key area of focus for the Scheme.

Climate change is an agreed investment theme for the Trustee and as such CPTI, on behalf of the Trustee, has significantly increased focus on climate change across all areas of investment.

The Trustee has continued to build out climate and broader ESG data coverage over the past year, in particular working towards progress in private markets. Understanding the starting point is critical in order to make the best investment decisions, albeit data challenges have not stopped the Scheme from making progress on risks and opportunities in the near term.

Importantly beyond policy and data, since adding Climate Change as a theme, the Scheme has made continued progress in reducing exposure to areas exposed to high levels of financial risk from climate change and increasing investment in those areas where a positive impact on financial returns is expected. This includes changes to public equities, sales and capital expenditure planning in infrastructure, property and shipping, new investment identified in climate-aligned commodities and global listed infrastructure and updated contracts with providers reflecting reporting and investment requirements in this area. The Trustee believes that the climate transition presents investment opportunities and this report discusses several examples of companies and assets the Scheme is invested in.

As required by regulation the Trustee has committed to report on the following required metrics. These are reported across all of the Scheme's assets as far as is possible and are set out below:

- **Total carbon emissions** – measures the absolute tonnes of carbon dioxide emissions for which an investor is responsible. Total emissions are what must be reduced in order to limit the carbon dioxide in the atmosphere and the degree of planetary warming. In line with the updated regulations, the Scheme has reported on scope 3 (supply chain emissions) as well as Scope 1 and 2 (direct and purchased emissions).
- **Carbon intensity** – an efficiency metric based on absolute emissions relative to the enterprise value including cash (EVIC).
- **Data coverage** – the proportion of the Scheme where reported (not proxied) scope 1 and 2 carbon emissions data is available.
- **Paris Alignment** - As now required under TCFD regulation, the Scheme has reported on the extent to which its assets are Paris Aligned in this TCFD report.

In line with the statutory guidance, the Trustee has also agreed a target focused on the additional metric as follows:

- Increase the proportion of the Scheme on which reported (not proxied) scope 1 and 2 carbon emissions data can be reported to 90% by the end of 2024.

The Trustee has not committed to an emissions reduction target and at present aims to build a greater understanding of the Scheme's starting point and whether a target can align with the Trustee's fiduciary duty to members.

Progress on metrics and targets:

Since measurement of the Scheme's emissions began at the end of September 2021, the proportion of assets where data is available has increased from 54% to 88% at the end of March 2023. However much of the data is still from proxies rather than directly reported by companies and assets. Actual reported data has increased by 16%, from 39% to 55%. These numbers will continue to vary in the near term as data and methodologies continue to evolve across the whole industry. The Trustee will seek to take steps to ensure data quality improves over the next two years and will seek continued assurance it is following best practice in data collection and aggregation.

Whilst there is no specific target for emissions reduction, both absolute emissions and emissions intensity have fallen in the period from 30 September 2021 to 31 March 2023. It is difficult to track total Scheme absolute emissions over time due to changes in data coverage, however the estimated emissions intensity has fallen by nearly 40%. This has partially been driven by asset class changes, but has also resulted from targeting investments explicitly taking advantage of climate opportunities and reducing unrewarded risk in this area. We do not expect emissions to fall in a straight line and the Trustee may make allocations to asset classes or assets with high starting emissions or emissions intensity if it is comfortable that these will be brought down through time. This year the Scheme has begun reporting the portfolio's total scope 3 emissions, starting with public market holdings.

In addition to scope 3 emissions, the Scheme has additionally added Paris Alignment to its ongoing monitoring of the portfolio to determine the percentage of the portfolio that is aligned to the Paris Agreement goal of limiting global warming to 1.5 degrees Celsius. Whilst at this stage the Scheme's Paris Aligned assets are limited we expect to improve this through time along with seeing improvement in the broader market.

Conclusion

The Scheme has continued to make progress over the last Scheme year in working to address the risk and opportunity that climate change poses to its assets and thus its duty to members. That said there is significant further work to be completed, not least owing to the ongoing development of solutions, regulation, data and understanding in this area. The Trustee is committed to a multi-year process of reducing unrewarded risk and adding to climate opportunities to improve expected outcomes for members. Whilst significant work has already been undertaken and progress made in the recent past the Trustee acknowledges there is still much more work to be done.

Section 1 – Governance

As set out in the first TCFD report The Trustee has an established governance framework for considering all investment opportunities and risks. The Trustee's governance of climate, outlined below, was formalised in 2021 in the context of this and as an extension of existing governance arrangements. This section is largely unchanged since the Scheme's first TCFD report.

Committee of Management ("COM")

COM consists of all eight members of the Trustee board. COM retains responsibility for all key areas of policy which includes the overarching Responsible Investment ("RI") Policy. Climate has been an important theme within the RI policy and the most recent review of the policy in 2021 resulted in a dedicated section on climate (link). The key roles retained by COM are as follows:

- Managing the risk of climate on Funding Strategy.
- Approve and regularly review the RI policy, which includes a specific climate policy.
- Provide clear guidance to the Investment Sub-Committee within the Terms of Reference for overseeing implementation of COM's policy regarding climate.
- Establish climate metrics to monitor and report publicly as part of TCFD requirements. In 2021, COM agreed the following key metrics to report on:
  - Absolute carbon emissions across the portfolio.
  - Carbon emissions intensity across the portfolio.
  - Percentage of the portfolio on which acceptable (reported not proxied) carbon emissions data is available.
  - In 2023 as required by the TCFD regulation COM also agreed to report on Scope 3 emissions and the degree of Paris Alignment across the Scheme's assets
- Establish a climate target and report progress towards this target as part of TCFD requirements. In 2021, COM agreed the following target:
  - Increase the proportion of the Scheme on which acceptable (reported not proxied) carbon emissions data (scope 1 and 2) is available from 41% to 90% by the end of 2024.
- Review progress against the climate data target, and whether the target remains relevant or needs replacing.
- Publish an annual TCFD Report within 7 months of the end of each Scheme year on a publicly available website, accessible free of charge.
- Ensure Knowledge and Understanding of climate issues across the Trustee and its advisors are sufficient to address the issues presented.

Investment Sub-Committee ("ISC")

ISC consists of four of the eight-member Trustee board and two investment advisers who are non-voting members of the sub-committee. COM delegates to ISC the ongoing oversight of investment risks and opportunities, including those relating to climate. ISC is responsible for:

- Implementation of investment strategy;
- Monitoring the agreed climate metrics to be reported publicly as part of the TCFD reporting as well as any additional metrics that ISC believe are appropriate;
- Reviewing progress against the established climate target as set out above and taking action as necessary to ensure the Scheme remains on track;

- Reviewing whether the agreed climate metrics should be changed through time and making any proposals to COM;
- Reviewing the climate scenario analysis and agreeing any investment changes required as a result;
- Setting and reviewing any additional metrics relating to climate and broader ESG risks as part of ongoing investment activity; and
- Overseeing CPTI's implementation of climate risk management and opportunity capture.

Climate and broader ESG metrics are now reported in each quarterly ISC meeting pack. COM formally reviews the climate data and metrics following the end of each Scheme year.

Coal Pension Trustees Investment Limited ("CPTI")

CPTI is responsible for providing investment advice and investment management services to the Trustee. As set out in its Investment Management Agreement, CPTI is responsible for the implementation of the Scheme's RI policy including in relation to climate and advising the Trustee on ongoing management issues. This includes:

- Ensuring climate risks and opportunities are assessed and addressed across all areas of the portfolio;
- Ensuring that the Scheme's providers are aligned in their management and reporting of climate risk and opportunity and stewardship of the Scheme's assets;
- Ensuring investment thinking is evolved to stay on top of a fast-changing opportunity set;
- Advising the Trustees on governance, risk and opportunities, metrics and targets;
- Ensuring the TCFD mandated scenario analysis is carried out; and
- Providing all required reporting and market information.

Risk management

The ISC receives quarterly information on carbon emissions data, the level of investment in climate opportunities and investment in potentially risky areas such as ESG laggards and controversies. This is discussed as part of the regular meeting agenda. The Scheme (and the market more broadly) is yet to build out an approach to systematically analyse physical risk data. Beyond these regular quantitative updates CPTI assesses climate risks and opportunities as part of all regular review meetings with managers and any new manager due diligence. It is also a focus of all stewardship discussions. CPTI or the Trustees may also identify areas of risk and opportunities through external meetings, training and their own networks and studies. All of this is then fed back into the ongoing qualitative and quantitative evaluation of risks and opportunities.

Whilst there is no one risk indicator or target around climate change the Trustee believes through the combination of the below as well as ongoing developments a good picture of potential risk and opportunity is being built:

- Monitoring carbon emissions and intensity data on an absolute basis and versus the benchmark
- Monitoring investment in climate opportunities
- Monitoring exposure to laggards and controversies and engaging on these.

The Risk and Assurance Sub Committee ("RASC"), which consists of four of the eight-member Trustee board, is responsible for overseeing overall compliance with policies and risk tolerances. As above there are no formal risk limits or tolerances set for climate change. Aside from any issues raised by the sub-committees, COM will formally review climate risk annually before publishing the Scheme's TCFD report.

Knowledge, understanding and training

The Trustee is required by the regulation to have the necessary expertise in relation to climate-related risks and opportunities and to ensure adequate knowledge from those appointed to advise it. The Trustee and its advisors look to regularly enhance their knowledge in this area as detailed below. Through COM and sub-committee meetings, the Trustee will challenge CPTI to ensure it takes adequate steps to identify, assess and manage any climate-related risks and opportunities on behalf of the Scheme. The Trustee has discussed climate change related issues at a number of ISC and COM meetings across the year.

Trustee training is undertaken at Trustee meetings, sub-committee meetings and through other external training as appropriate and is monitored through a training register by Coal Pension Trustees. Coal Pension Trustees Services Limited is the in-house executive function for the two closed Coal Industry pension schemes, the Mineworkers' Pension Scheme (MPS) and the British Coal Staff Superannuation Scheme (BCSSS). CPT is the parent company of CPTI. During the last eighteen months the Trustee has had training/information sessions on climate change risks and opportunities, stewardship in this area, metrics and targets and specific investments affected. They also received externally provided legal training on TCFD regulation and their respective Trustee duties. The training register enables CPT to keep a watching brief of those subjects the Trustee Directors are voluntarily pursuing, with a view to providing supplementary training on matters of particular interest and to identify any gaps in the Trustee Directors' knowledge and arrange for this to be addressed.

Further training was undertaken during 2023 on Paris Alignment and Scope 3 carbon emissions in line with the additional requirements for the Scheme's second TCFD report. This was provided by subject matter experts within CPTI.

The Trustee also has two independent investment advisors who attend all ISC meetings and provide expert investment opinions and challenge on behalf of the Trustee.

All CPTI Senior Managers and certified staff are required to fulfil training and competency requirements and are internally certified under SMCR. CPTI employees are given access to ongoing training including on climate-related risks and opportunities each year.

Section 2 – Strategy, risks, opportunities, time frames

This section highlights how the Trustee, on an ongoing basis, identifies climate-related risks and opportunities which it considers will have an effect over the short, medium, and long term on the Scheme's investment strategy and funding strategy. It also demonstrates how the Trustee considers where climate change, and actions to address climate change, might contribute positively to anticipated returns or to reduced risk. This section also sets out progress over the past Scheme year.

Appropriate Time Periods

It is important to define the time periods over which the Trustee is assessing risks and opportunities and relate these to the individual requirements of the Scheme. These timeframes are not specific to climate change or TCFD but align with the broader approach to Scheme strategy. The Trustee has defined these as follows:

Short term: Everything up to 3 years in the future. This would cover the Scheme's next actuarial valuation (undertaken every 3 years) and is in line with the Scheme's economic scenario modelling, which is used to assess risk and asset allocation. Over the short-term the most material risk to the Scheme's assets is likely to be Transition Risk, as defined below. That said The Scheme has already experienced the impact of some physical risks to the Real Asset portfolio, for example flood risk and retrofitting requirements in the property portfolio and greater stranding risk and investment requirement in the UK infrastructure holdings. Climate Opportunities are also expected to be material over this period as spending in this area from governments and corporates increases significantly.

Medium term: Defined as the period between 3 and 10 years. The end of this period is aligned with long term expected return forecasting which is done over 10 years. Over 65% of the Scheme's future payments (in real terms) are expected to be made over the next 10 years. During this period Transition Risk, Physical Risk and potentially Stranded Asset risk in some of the least efficient fossil fuels are all relevant. Climate Opportunities are expected to be realised over this period.

Long term: Defined as anything beyond 10 years up until 35 years (2057) when only 5% of the Scheme's future payments (in real terms) are expected to remain.

While some areas of climate risk may seem too long term to be considered given the Scheme's liability profile – for example physical risks (fire, flood, storms) in say 40 years' time, it is likely that such impacts will be priced much sooner. For example, some regions in the UK (and worldwide) could become uninsurable, un-mortgageable, or unrentable due to the anticipation of future physical risks. We also note that scenario analysis around physical risks in particular is expected to significantly underestimate both the severity and timing of these impacts.

Climate Related Risks and Opportunities - Investments

Responsibility

The Trustee is responsible for setting the climate strategy and managing and monitoring climate risk as with all other areas of risk and strategy. Like other areas of investment, the Trustee delegates the implementation of the strategy and the management and monitoring of risk to CPTI who will use external investment managers, data providers and advisors to assist.

High Level Strategy

In 2021 the Trustee formally recognised climate change as a key investment theme over the next decade. In line with the Trustee's fiduciary duty, it is critical the Trustee assesses and positions the assets to best manage these risks and take advantage of opportunities. CPTI, on behalf of the Trustee, is seeking the best investment opportunities for growth related to the climate transition as well as seeking to limit the Scheme's exposure to climate risk that is not adequately compensated. In addition, CPTI recognises the need to consider how climate risks and opportunities should be incorporated into the Scheme's expected returns framework, asset allocation and funding strategy. This latter piece of work is ongoing and partly relies on the development of better scenario modelling. In the meantime CPTI is conducting work to consider the impact of the Climate Transition on inflation as well as incorporating potential upside opportunities for particular asset classes such as commodities and infrastructure.

During the most recent Scheme year the key developments around climate risk and opportunities are as follows:

- Greater understanding and decision making around significantly increased capex required in property for climate transition.
- Identification of elevated risk in water, gas and energy-from-waste utilities owing to climate transition.
- Opportunity identified and approved to invest in climate-aligned commodities.
- Opportunity to invest in listed renewables-focused infrastructure.

Developments within specific asset class are summarised on page 14 and 15.

Risks and Opportunities

The Trustee aims to monitor and manage climate risks and opportunities across the whole portfolio including both public and private assets, albeit recognising data for the latter is challenging at present. Similarly, the Trustee looks to understand the full effects across both asset strategy and the funding strategy.

The results of the assessment of climate risk and opportunity have continued to impact the Scheme's asset allocation, manager appointments and mandate design/focus with the approaches taken continuing to evolve.

Each of the following areas of risk and opportunity are expected to be material to the Scheme:

- Physical Risk
- Transition Risk including Stranded Asset Risk
- Climate Opportunities and Solutions.

Each of these areas are discussed in more detail below.

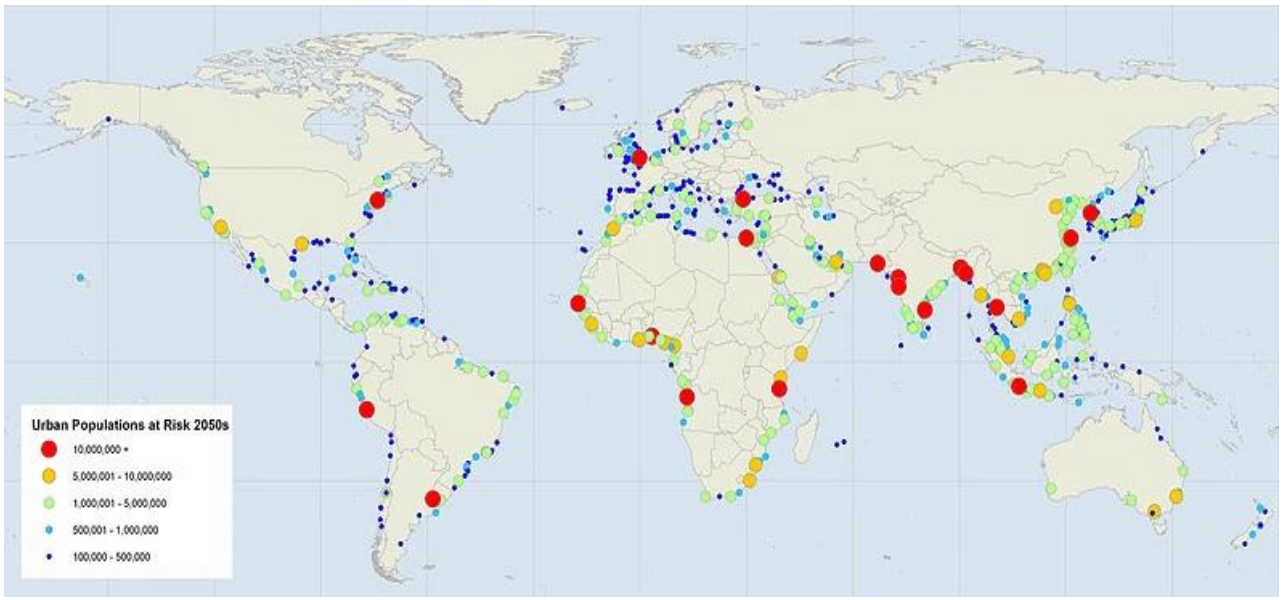
1) Physical Risk

Physical risk pertains to the risk of direct adverse impacts from climate change both extreme (fire, flood, drought, extreme temperatures, storms) and less extreme changes to weather patterns and temperatures (average temperature changes, humidity, rainfall etc).

Physical Risk a Hazard Example - Sea Level Rises:

Taking just one change as an example, the below graphic shows the impact of sea level rises if current emission levels continue (Source C40 Cities). According to the publication the total urban population at risk from sea level rise, if emissions don't go down, could number over 800 million people, living in 570 cities, by 2050. The estimated cost to GDP of this could amount to $1 trillion by mid-century. As with other climate hazards, local factors mean that cities will experience sea level rise at different paces. Cities on the east coast of the U.S., including New York City and Miami, are particularly vulnerable, along with major cities in Southeast Asia, such as Bangkok and Shanghai. In the U.S., east coast cities are witnessing sea level rises two to three times faster than the global average while cities along China's Yellow River Delta are predicted to experience a sea level rise of 48cm by 2050 according to the First Institute of Oceanography, China.

Figure 1



Source: C40 Cities

Physical Risk to the Scheme's Assets:

Climate change will directly impact the Scheme's holdings in physical assets such as buildings and infrastructure and will also have a broader impact through changes to growth and productivity. In terms of recent opportunities which the Scheme has allocated capital to, such as Sustainable Commodities, agricultural commodities in particular will be affected by physical risk. Beyond direct impacts, examples of the secondary impacts of physical risk include the following:

- Insurance premiums and availability will change materially with more regions moving outside of insurance provision and premiums rising.
- Financing new construction of property and infrastructure already increasingly considers physical risk with financing not available or at much higher cost for higher risk geographies.
- Cost of rebuild – countries will need to bear an increased and more regular cost of disaster recovery, prevention and rebuild which will impact growth levels and other areas of spending.
- Cost of adaptation – from greater need for heating and cooling in different areas to relocation of parts of the population or agriculture, this again represents a cost to companies and governments as well as an opportunity for new solutions.
- Agriculture will face significant challenges to productivity from the impacts of changing humidity, weather patterns and pests as well as increased incidence and severity of storms. In addition, the location of agricultural activities will need to change due to drought and flooding. This is an area of both risk and opportunity with agricultural technology and genetics seeking to find new solutions to some of these problems.
- Immigration – climate change is a key driver of immigration, and this is expected to increase with bigger temperature rises. In a 4-degree global warming scenario Professor Myers' (a leading British environmentalist) estimate of 200 million climate migrants by 2050 has become the consensus – cited in respected publications from the IPCC to the Stern Review on the Economics of Climate Change. This represents a ten-fold increase from the current documented refugee and internally displaced populations. To put the number in perspective, it would mean that by 2050 one in every 45 people in the world will have been displaced by climate change.

Understanding Scheme exposure to physical risk

The Trustee is in the early stages of understanding the Scheme's exposure in this area and data and modelling in this area are fraught with issues. To understand the Scheme's asset exposure to physical risk CPTI, on behalf of the Trustee, plans to:

1) Assess for the directly held physical assets – property and infrastructure primarily.
2) Assess risk to physical assets held by the companies the Scheme owns and lend to.
3) Seek to understand secondary impacts around broad long term economic assumptions and scenarios across different regions, sectors and in aggregate.

To date, progress in this area has been limited. Outside of real assets information on the location of assets is limited. Even within real assets reliable data and models are few and far between. CPTI will continue to seek greater information on this during the next Scheme year.

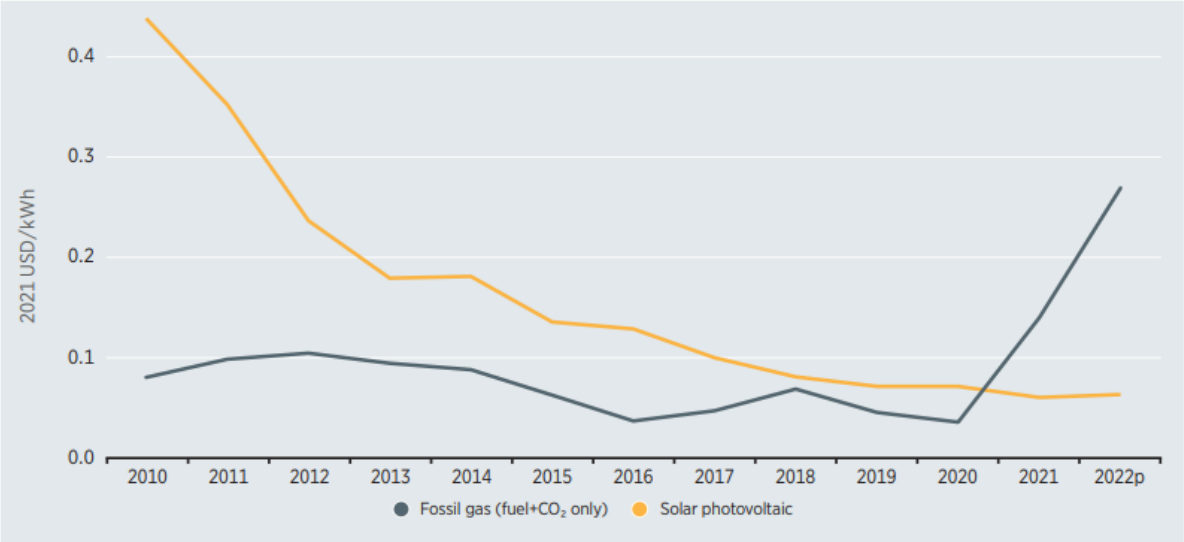
2) Transition and Stranded Asset Risk

Transition risk refers to how assets will perform under a transition to a net zero scenario. This can be an orderly and gradual scenario or a more disorganised scenario when regulation comes in suddenly over a shorter period with greater market impact. Transition risk also incorporates shifting consumer preferences towards environmentally friendly products and services.

Stranded asset risk refers to an asset which is assumed to have current worth turning out to have much lower or no worth. An asset's worth is based on its assumed future cashflows and therefore if these are lower, or last for less time the asset is worth less. An asset can be stranded for regulatory reasons (i.e. not allowed to profit from the asset), or economic reasons (no longer profitable). To reach net zero and achieve the goals of the Paris agreement, many current high cash flow assets need to be stranded. Even in the absence of climate targets, assets are becoming stranded for economic reasons – for example the cost of excavating and processing coal is now too high in many places to justify extraction when compared with renewable energy generation. As the price of carbon increases, or other costs of extraction including labour and materials increase, and as the cost of renewable solutions continues to fall, more assets will become stranded. The chart below shows the levelized cost of one kwh of European power comparing solar and gas. While the high current price of gas shown at the end of the chart may normalise and prove an anomaly, carbon emission costs are expected to continue to rise.

Figure 2

The weighted average levelized cost of energy of utility scale solar PV compared to fuel and CO2 cost only for fossil gas in Europe 2010-2022 (Source: International Renewable Energy Agency, as of now)



Source: International Renewal Energy Agency

Looking at the ongoing change to market structure outside of climate change we can see stranding/obsolescence is a normal part of progress: since 2000, 52% of the companies listed in the Fortune 500 have ceased to exist. While some of the businesses were subject to mergers and acquisitions, the majority lost out because they failed to keep pace with a changing world. Indeed, the average tenure of a company in the S&P 500 has reduced from 25 years in 1980 to 18 years by 2011.

Some sectors are more obviously exposed to climate transition risk than others – those relating to fossil fuel extraction, production, and use, with the least efficient, most emitting areas the most likely to be heavily penalised and sooner. UK property is a great example of fast changing regulation towards net zero. As of 1 April 2023, all commercial buildings in England and Wales were required to have a valid EPC (energy performance certificate) rating of at least E under the Minimum Energy Efficiency Standard (MEES) regulation. It is expected that regulations and market pricing will tighten the energy performance requirement further for both non-domestic and domestic properties.

A MEES compliance assessment was undertaken by the Scheme's property manager during the second half of 2022. The assessment confirmed 20% of units were non-compliant (where EPCs were expired, or below E). EPCs tend only to be updated following a refurbishment, or if required for a new letting or disposal of the property. Whilst a tenant is in occupation it is not possible to force an EPC improvement until they vacate the property. That said, excluding the expired EPCs, the only property within the portfolio which is currently non-EPC compliant, is due to the tenant's fitout falling significantly below standard market practice, and which has no obligation to renew during the lease. However, Nuveen, the Scheme's property manager, is currently agreeing a new deal with this tenant which will see the standard of the unit considerably improved and will prevent the tenant from making alterations which negatively impact the EPC. As part of this process the EPC will be renewed. Additionally, during the reporting period three properties were awarded B EPC ratings and a further three properties were awarded C ratings.

More broadly, CPTI, on behalf of the Trustee, assesses transition risk on a qualitative and quantitative basis, looking to understand how assets will perform under different scenarios. Quantitative assessment is easier done on public assets with greater data availability. As discussed in the last report the Scheme has already made changes to both its passive and active Chinese public equity exposure to ensure this risk is adequately reflected.

Scheme Exposure to Transition and Stranded Asset Risk

The Scheme, like the vast majority of large asset pools and the market as a whole, has significant exposure to transition and stranded asset risk. Determining when assets are likely to become stranded and the right time to exit these in favour of other investments to maximise the financial benefits is extremely difficult. Fiduciary duty to members is the Trustee's first responsibility. As such the first focus in this area is on assets with near term risks to pricing or profitability, or assets that CPTI expects to become difficult to sell over the medium term. This is likely to evolve as the transition progresses. In the first instance CPTI has focused on reducing the Scheme's exposure to the most inefficient assets – in particular the Scheme has made changes in passive and quantitative equity and there are ongoing changes in both property and infrastructure.

Net Zero/Emissions reduction

The Trustee has decided not to implement a net zero or emissions reduction target. The Trustee has set a target around increasing carbon emissions data across the portfolio. The Trustee will continue to review this through time. As such the focus during this Scheme year and over the immediate future is to:

- increase data coverage on climate risk across the full portfolio, public and private, with a target to increase this to 90% (see targets and metrics section);

- reduce exposure to the areas most at risk of near-term loss from climate risk; and
- increase investment in climate opportunities.

3) Climate opportunities

The climate transition and associated new technology developments and changing consumer preferences present significant investment opportunities across many asset classes. The Trustee will seek to ensure the Scheme is positioned to benefit from these opportunities and envisages significant opportunity cost from not doing so. There are opportunities in this area across many asset classes and the Scheme has already begun to make investments in public equity and commodities as well as beginning to align capital expenditure and sales in Real Estate and infrastructure around expected market recognition of risks in this area. The Scheme expects to continue to increase exposure in climate opportunities, whilst the change over the last Scheme year has been limited, several areas have been identified for investment during 2023/2024.

Examples of the Scheme's investments in Climate Opportunities are provided in the appendix of this report.

Implementation

The Scheme looks to capture climate risk and opportunity at all levels of investment. From overall asset allocation to manager assessment, hiring and firing, mandate design, manager agreements and reporting requirements.

1) Strategy changes

In terms of high-level strategic changes to funding strategy, asset allocation and planning, the Trustee is still in the early stages of considering how climate change will impact expected returns across asset classes, regions, sectors and in aggregate. That said the Scheme has made a commitment to a new asset class, commodities, of which the climate transition is expected to be a significant driver of growth in many of the underlying exposures. CPTI plan to do more work to incorporate climate change into the Scheme's expected returns and economic scenarios in 2024. The Scheme is also finalising work on a new investment in listed infrastructure which will focus on renewable energy and electrification as a key theme.

2) Manager assessment

For all new appointments, CPTI assesses manager understanding of and positioning around climate change, looking for assurance that risk is appropriately considered and priced and opportunities are not being missed. This is documented as part of each investment decision.

For existing managers, where changes can be made, CPTI has formally reviewed them and in some cases recommended mandate changes. In the extreme, a manager relationship could be discontinued if risks and opportunities are not sufficient considered and integrated. One example is the Scheme's historic investment in a semi-active China equity fund where CPTI became uncomfortable with the exposure to environmental laggards and very high carbon intensity companies. Within real assets CPTI is seeking to ensure the Scheme's capital expenditure aligns with the climate transition and the Scheme's exposure to high emissions intensity infrastructure assets is reduced – again this has contributed to a proposed manager change. Where CPTI has concerns around a manager's investment

approach or stewardship in this area it will place the manager on a formal watchlist which will be presented to the Trustees on a quarterly basis and will be subject to increased scrutiny until a decision on how to proceed is made. New investments have included a climate opportunities equities mandate and a commitment to invest in commodities with a focus on climate transition.

For legacy private markets exposures where CPTI cannot easily make changes the priority is to understand the Scheme's exposure to risk and engage with the managers.

3) Mandate design

In the design of mandates with external managers, where appropriate CPTI is seeking to explicitly set out the expectations around TCFD reporting in order to improve data coverage. CPTI is also adding reporting requirements and exclusions around some of the worst environmental offenders which have breached the UN Global Compact and where the manager does not expect near term improvements.

Key mandate changes have included a focus on climate transition risk with investment grade credit and passive equities. In real estate, decisions are being made to bring the portfolio in line with upcoming regulation around building energy efficiency requirements and ensure capex and sales focuses on climate risk and opportunity. More detail on these examples is provided in the appendices.

4) IMAs

Where appropriate, CPTI is updating all the Scheme's IMAs to ensure compliance with exclusion policies and the requirement to cooperate with TCFD reporting requirements.

5) Reporting requirements

CPTI is looking to ensure all managers report on their exposure to climate risk and opportunities as well as their engagement and voting in this area.

Stewardship

The Trustee views stewardship as a key tool for enhancing value through reducing risk and focusing on opportunities. Climate change has been formally identified as a key focus of the Scheme's stewardship and CPTI is communicating this to all of the Scheme's managers and providers. As stated in the Scheme's Stewardship Policy:

"Stewardship is the responsible allocation, management, and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society."

As with all areas of investment, stewardship is aligned with the Trustee's fiduciary duty and improving investment outcomes. Stewardship can be an effective tool for both reducing investment risks and improving returns.

Consistent with the Trustee's Responsible Investment Policy, the focus of stewardship is to create long-term value by effectively addressing material factors in the following areas:

- Environment – in particular risks and opportunities related to climate change but also other areas such as pollution, natural resources, biodiversity and land use.
- Social - human rights, labour rights, inequality and diversity, health and wellbeing.

- Governance – how well the companies and assets invested in are run and overseen with sufficient rights and accountabilities.

The Scheme is an active owner and has been accepted as a signatory to the UK Stewardship Code. The Scheme is also a signatory to the Principles for Responsible Investment (PRI), which works to promote the incorporation of ESG factors into investment decision-making.

The Scheme's role as a steward applies across all assets and geographies in which the Scheme invests. As the Scheme delegates the management of individual assets to its investment managers, the Scheme's key levers of control and influence in stewardship are (i) the appointment of aligned managers and stewardship providers; and (ii) ongoing engagement, oversight and challenge of those managers and providers.

The nature of stewardship varies across asset classes, from private markets where the investment managers have direct control over an asset or company, to public markets where the reliance is on engagement and voting.

In public markets, the Scheme oversees its asset managers or its dedicated stewardship provider, EOS, in their voting and engagement and stewardship of companies and assets. Where the Scheme hires a manager with a strong in-house approach to stewardship, or a private markets manager, the Scheme will set out its expectations for stewardship of these assets. For public markets investments The Scheme has additionally appointed EOS who provides supplementary engagement to the managers in fixed income and equities as well as executing the voting for certain mandates where CPTI has determined the manager's voting is not in line with the Scheme's priorities. EOS is a dedicated stewardship service provider whose purpose is to help long-term institutional investors be more active owners of their assets and to manage their risks by engaging with companies and policymakers on a range of issues including climate. Their approach is to engage in person and at board or executive level wherever possible, in order to effect positive change. EOS provide ongoing assistance to the Scheme and their involvement, as well as the scope of their services, is kept under regular review.

Examples are provided in appendix 2 of this report.

Escalation and Exclusions

A key part of engagement is the Scheme's approach to escalation. CPTI must determine if the investment managers and third party providers' engagement is effective and, if it isn't, CPTI must determine whether investing in a particular manager, sector, company or asset still makes sense. For particular areas with high levels of risk of financial loss the Trustee may consider exclusions. Thus far the Trustee has a formal engage and/or exclude policy for investments that violate the UN Global Compact principles. As discussed elsewhere in this report there have already been examples of reviewing mandates and managers and the Scheme has additionally changed voting and engagement responsibilities between fund managers and stewardship services provider, EOS within public equities according to views on the provider's stewardship capabilities.

Monitoring and Engagement on Exclusions, Laggards and Controversies

In line with the Scheme's Stewardship Policy which states that the Scheme will focus stewardship and address material factors relating to Environmental, Social or Governance issues.

CPTI has access to data from two data providers, MSCI and Sustainalytics, which facilitates the process of monitoring these factors. Within private markets CPTI is in the process of implementing eFront which will allow screening for controversies in these areas.

Where targets are contractual and have been incorporated into the manager agreements, these are monitored by way of IMA compliance and managers are explicitly required to monitor the portfolio and report to CPTI if they are in breach of the contractual requirements.

The Trustee monitors the Scheme's exposure to ESG laggards, controversies and UNGC Watchlist companies on a quarterly basis. Where a holding is highlighted by the data providers, CPTI will contact the manager responsible for the position and engage with them on their rationale for holding and understanding of the risk and the data provider's view. This rationale will be documented, and CPTI will continue to engage on a regular basis whilst the position is held. This engagement will also feed into CPTI's overall view of the manager's approach.

As an example, CPTI followed up with Wellington regarding Americold which flagged as an Environmental Laggard held in the Scheme's Global Opportunistic Value mandate. The company's carbon intensity levels were very high, and it had no commitment to carbon neutrality. Wellington were concerned that longer term this could become problematic as investors increasingly focus on environmental issues.

Wellington shared their engagements particularly around the lack of science-based targets for carbon reduction. This is especially important for Americold because its carbon intensity is nearly twice that of the global REIT industry average since it uses significant amounts of electricity to keep food frozen and chilled. The Board's reason for a lack of emissions targets was unacceptable and Wellington communicated the importance of carbon neutrality, with specific commitment to a 1.5^0C, 2.0^0C scenario ideally. The company countered with the difficulty it has making carbon reduction commitments since it is highly acquisitive and data collection with acquired entities may be onerous. Wellington provided recent examples from T-Mobile which maintained its 2021 carbon neutral commitment that was made before it acquired Sprint and maintained despite the scope of the company doubling to illustrate that it is possible for acquisitive companies to make pro forma commitments. Wellington also shared that large customers including Tyson have committed to carbon reduction consistent with a 2.0^0C warming scenario and failure to reduce emissions could harm commercial relationships.

Subsequent to their discussions, Wellington have not added to holdings in Americold. Wellington noted that in May 2022, management indicated interest in pursuing science-based targets to achieve Net Zero. Wellington plan to follow-up regularly to monitor the status of their potential commitments.

Voting

CPTI also monitors the Scheme's voting on key themes, including Climate related management and shareholder resolutions. CPTI has appointed an external advisor to enable better understanding of the voting carried out by the Scheme's managers and third-party engagement provider and also to provide a basis for CPTI engagement. The analysis so far has been encouraging and indicates that the third- party provider, EOS, displays independence of thought in this area. The analysis has also been helpful in highlighting some questions and areas where CPTI can provide challenge on voting policies with some of the other managers, which has led to meaningful engagement.

CPTI also contacts prominent managers following reports and analysis by organisations such as ShareAction in order to challenge managers on voting which addresses urgent environmental issues.

Summary of Progress Across Asset Classes in integrating Climate Risk and Opportunity

The table below sets out progress in each asset class to date as well as intended next steps.

Summary of progress across all asset classes

	Physical Risk		Transition/Stranded Asset Risk		Climate Opportunities	
Asset Class	**Progress up to Scheme Year End March 2023**	**Next Steps**	**Progress up to Scheme Year End March 2023**	**Next Steps**	**Progress up to Scheme Year End March 2023**	**Next Steps**
Public Equities	-Continued discussions with managers on beginning to collect data and complete modelling in this area - remains in early stages -Scenario analysis of high warming scenario completed - albeit results are believed to be extreme underestimates of this risk	Source appropriate risk metrics and tool for assessment	-Appropriate risk metrics identified and tracked -Engagement and/or exclude implemented around UNGC violators -Passive equity includes transition risk overlay -Hired Climate solutions focused manager	-Continue to monitor and evolve risk metrics -Ongoing monitoring of managers and engagement around risks and opportunities	-Hired manager focused on climate solutions -Implemented transition-focused overlay to passive equities -Added metric to quantify exposure here -Completed equity review identifying listed infrastructure as new opportunity	-Continue to monitor and increase exposure to climate opportunities -Continue to review metrics in this space -Make listed infrastructure investment
Commodities	Commodity pricing expected to be impacted by climate change, this is directly part of the investment thesis within the agricultural complex	continue to develop data in this area	Commodity pricing expected to be impacted by climate transition - this was key part of thesis for investment	Continue to develop data in this area	Commodity pricing expected to be impacted by climate transition - this was key part of thesis for investment	Continue to develop data in this area
Private Equities	-Scenario analysis of high warming scenario completed based on proxies -Implementation of eFront including ESG coverage in progress for private assets	-Build out analytics in this area -Engage with managers on assessment of risk in this area	-Initial analysis of risk metrics completed using proxy data -Engaging with managers around approach and assessment of risks and provision of direct data -In the process of contracting with data provider	-Look to assess risk data once new analystics provider in place -Continue to engage with managers around approach to this area and better provision of data	Limited new commitments for Scheme given maturity and total illiquidity	N/A
Govern-ment Bonds	-Actively seeking market consensus for data approach in this area -Engaging with managers on approach in this area	Continue to clarify approach on data and assessing risk more broadly	Begun reporting Carbon Intensity Data in government bonds - considering implications of new allocation to Emerging Market Sovereign Debt	-Continue to monitor risk data and engage with managers -Continued thinking on approach to transition risk and financing in emerging market debt	N/A	-Continue work on approach to transition risk and financing in emerging market debt
Investment Grade Credit	-Continued discussions with managers on beginning to collect data and complete modelling in this area - remains in early stages -Scenario analysis of high warming scenario completed - albeit results are believed to be extreme underestimates of this risk	Source appropriate risk metrics and tool for assessment	-Review of providers in this asset class included rigorous review of approach in this area and appropriate changes to managers and mandates made -New mandates in this area include commitment to reduce emissions versus the benchmark by 50% in corporates	-Continue to monitor and evolve risk metrics -Ongoing monitoring of and engagement with managers -Continue to develop best in class approach within securitised credit	Mandates in this area may take advantage of green bonds or other opportunities where appropriate	-Continued thinking on approach to transition risk and financing in emerging market debt

	Physical Risk		Transition/Stranded Asset Risk		Climate Opportunities	
Asset Class	**Progress up to Scheme Year End March 2023**	**Next Steps**	**Progress up to Scheme Year End March 2023**	**Next Steps**	**Progress up to Scheme Year End March 2023**	**Next Steps**
Property	-Used external data provider for formal analysis of physical risk at regional level albeit view this data as of limited use -Manager working with peers and providers on more useful scenario analysis in this area	Work with manager on assessment and mitigation/capex/ new investment spending in this area	-Data on emissions and intensity received and reviewed -Net zero building assessments ongoing -capex and sales plans incorporating the above being developed	Formalise plan on sales and spending to align portfolio with risks and opportunities and regulation in this area	As discussed in transition risk	Investigate opportunties around net zero buildings
Infrastruc-ture	-Scenario analysis completed using proxy data, albeit this is viewed to be of limited use -Begun discussions with managers on their approach in this area	-Work with managers on assessment and mitigation/capex/ new investment spending in this area -Build out analytics in this area	-Obtained data on emissions and intensity on majority of portfolio -Agctively focused on reducing exposure to risk in this area	-Make sales in private infrastructure - Continue to build out data coverage for infrastructure - Maintain exposure to renewables	Maintain exposure to renewables where financial opportunities is strong	Review opportunities across infrastructure, debt and equity in public and private assets.
Private Debt	-Scenario analysis of high warming scenario completed based on proxy data -Data provider identified	-Build out analytics in this area -Engage with managers on assessment of risk in this area	-Completed full review of managers' approach in this area - continued work on receiving greater proportion of reported data and understanding at risk areas	-Look to assess risk data once implementation of the new analytics provider is complete. -Continue to engage with managers around approach to this area and better provision of data	Existing investments in ESG screened CLOs and renewables financing	Continue to review opportunities around transtion lending.
Shipping	In the process of exiting this asset class, partly due to future stranded asset risk					
Special Situations Debt	-Scenario analysis of high warming scenario completed based on proxies -Tool for assessing risk identified and contract in progress	-Build out analytics in this area -Engage with managers on assessment of risk in this area	-Initial analysis of risk metrics completed using proxy data -More managers providing direct data or plannign to -In the process of contracting with data provider	-Look to assess risk data once implementation of the new analytics provider is complete. -Continue to engage with managers around approach to this area and better provision of data	No investments thus far	Review investment opportunities investments in this space

Climate Related Risks and Opportunities – Funding

Funding strategy

The Trustee's primary funding objective is pay all future member benefits (i.e., the Scheme's liabilities) from the Scheme's assets without requiring new funds from the Guarantor. To meet the objective, the Trustee plans to reduce risk gradually over time by targeting investing in a portfolio of assets that delivers future payments to members with a high degree of certainty.

In addition to member benefits, the future payments include payment of an Adjusted Reserve to the Guarantor by 2033 if the assets are sufficient. In the period up to 2033 the Adjusted Reserve effectively acts as a funding buffer.

In order to meet the funding objective, the Scheme's assets need to generate a return in excess of that available on "risk-free" assets such as UK Government Bonds. As such, the Scheme invests in a proportion of return seeking assets.

Ultimately, if the Scheme's funding strategy is unsuccessful (i.e. there are insufficient assets available to meet member's benefit payments), funding will be provided by the UK Government who is the Scheme's Guarantor.

Climate related risks and opportunities

Given the Scheme invests in return seeking assets, the biggest climate related risk and opportunities to the funding strategy are those that impact such investments. These risks and opportunities have been covered in detail above.

Climate change could also impact the level of benefit payments that the Scheme makes to members, either as result of changes in mortality levels or due to changes to future levels of inflation. Here, the maturity of the Scheme is likely to be an important factor, as the average age of members (weighted by pension amount) is around 77 and around 65% of the Scheme's future payments (in real terms) are expected to be made over the next 10 years.

So, for climate change to have a meaningful impact on the future benefit payments from the Scheme it is likely that these impacts will need to happen in the next 10 years.

It is unlikely that climate change is going to have a material impact on the life expectancy of the Scheme's members (and therefore the associated pension payments to members), particularly given the vast majority of members live in the UK where the physical risks of climate change are less extreme relative to other parts of the world. And whilst, for example, climate change could increase the number of heat-related deaths in the summer, this may well be offset by a reduction in cold-related deaths in the winter.

A more meaningful area of impact on future benefit payments could be the impact climate change has on inflation, as around 70% of members' benefits increase each year in line with inflation. In addition, the Adjusted Reserve payment due to be paid back to the Guarantor in 2033 increases each year in line with the Consumer Prices Index (CPI).

Covenant risk

Whilst the Scheme does not have a sponsoring employer, should the Scheme's funding strategy fail funding will be provided by the UK Government under the terms of the Government guarantee. As such climate change is not expected to affect the ability of the Scheme's sponsor to support the Scheme.

Overall Progress on Strategy

The Trustee continues to work to integrate climate risk and opportunity throughout the funding strategy. Whilst some areas, for example physical risk and climate scenarios, remain in early stages, regular reporting and discussion on transition risk and opportunities has been rolled out across the majority of Scheme assets for over a year now. Qualitative understanding and interrogation of climate risks and opportunities is a key part of manager selection and monitoring and climate change is a core focus of the Scheme's stewardship efforts. Over the next year, further opportunities for new or additional investment have been identified.

Section 3 – Risk management and monitoring

The Trustee's goal is to monitor and manage climate risks and opportunity across the whole portfolio, public and private. Whilst this remains a work in progress for the Scheme and wider industry, the Trustee now has a substantial level of information included in regular reporting around risks and opportunities in this area.

Risk Appetite

While climate risk has not altered the Trustee's overall risk appetite, it has led to some changes to the Scheme's portfolio, approach and providers. The Trustee expects to make further changes in order to meet the Scheme's required return in an environment where climate transition and physical risks will change the risk/return dynamics across investments.

Incorporating climate risk and opportunities into overall investment strategy

CPTI, on behalf of the Trustee, is in the early stages of considering how climate change will affect the Scheme's expected returns across asset classes, regions and sectors and likely economic scenarios. That said detailed work has been conducted around the most likely near-term affected areas. CPTI expects to continue incorporating climate change across all areas of strategy through 2023 and 2024.

How the Trustee assesses the risks and opportunities

Climate risk assessment is relatively new and continues to evolve. CPTI expects the tools and data available to continue to expand and improve. CPTI, on behalf of the Trustee, relies on both quantitative and qualitative approaches to assess climate risk.

Qualitative assessment involves understanding how different scenarios can play out and having detailed discussions with managers and other research providers on evolving expectations in this area. CPTI receives qualitative assessments of company risks from the Scheme's ESG data provider MSCI and stewardship provider EOS. Discussion of both company and broad market and asset class risks and opportunities are also part of regular ongoing conversations with the Scheme's managers, advisors and broader network including ESG and stewardship collaborative groups. Given limited data coverage and quality, particularly in certain areas of the portfolio, taking a qualitative approach as well as quantitative is critical.

In preparing the quarterly reporting for ISC, CPT and CPTI collate reports using data directly extracted from tools available in-house in conjunction with data sourced from third party managers. The reports are designed, reviewed and overseen by the Head of Responsible Investment and signed off by the CIO before being presented to the Trustee.

The following quantitative data is reported to ISC quarterly (with Scope 3 and Paris Alignment being new additions to reporting):

- ESG laggards
- Controversy exposure
- Carbon emissions and intensity across the portfolio (Scope 1, 2 and 3)

- Degree of Paris Alignment
- Level of investment in climate opportunities

At present full coverage of the portfolio is not available but CPTI continues to work to build this up through new data providers and engagement with managers. In the absence of reported data the most sensible available proxies will be used. As discussed above there is currently limited data and understanding around physical risk and CPTI and the broader market continue to seek better information and models here.

Another key tool for understanding climate risk and opportunity is scenario analysis – both quantitative and qualitative. Whilst the Scheme has not undertaken new analysis this year, considering how climate change will affect various investments and overall economies is a key consideration in decision making. For example analysis around opportunities has led to an investment in commodities in 2023 and ongoing work in listed infrastructure. Climate risk analysis also continues to be a major factor in the analysis and positioning of the Scheme's investments in UK property and utilities.

Monitoring of risk metrics

The ISC reviews climate risks and TCFD metrics on a quarterly basis. COM will formally review climate risks including metrics and targets at least once a year ahead of the publication of the Scheme's TCFD report.

The TCFD recommends that trustees should increase the frequency of monitoring if risk levels approach pre-determined risk appetites. The Trustee has not yet determined tolerances in this area given data and methodologies are still being constructed but will continue to develop its approach here as discussed in greater detail below.

To the extent possible, climate risk metrics are monitored for every asset class in the portfolio, however some areas remain a work in progress. More broadly the Trustee acknowledges that all areas of its assets and the broader economy are exposed to some level of climate risk and opportunity and that these risks are systemic and cannot be fully divested or diversified away.

Physical Risk: limited data or acceptable scenario modelling available here. More work to be done over coming years.

Transition Risk:

- Carbon emissions: absolute and change over time; scopes 1 and 2 with Scope 3 added in 2023
- Carbon emissions intensity: absolute and change over time
- Climate Stress Testing – conducted in 2021 and will update when better models are available or when required by regulation.
- Paris Alignment added in 2023

Stranded Asset Risk:

The above transition risk metrics also relate to stranded asset risk. As the price of carbon increases the risk of stranded assets increases with the most carbon intense assets at greatest risk. As part of this, the most carbon intensive sources of power will be monitored: coal reserves and oil sands. Others will be added through time as the energy market develops.

ESG scores: Scores absolute and versus the benchmark, along with exposures to laggard companies.

Controversies: Exposure to UNGC violators, watchlist and broader controversies including coal reserves and oil sands as mentioned above.

Some of the process and controls surrounding the investment section of the risk register remain in development and will be a subset of the broader risk reporting ISC already receives on a quarterly basis. There has been no change in the Scheme's prioritisation of relevant risks for the TCFD report and no tolerances have been proposed. The timeframe for this has been pushed out versus what was envisioned in the 2022 TCFD report. We expect this to be completed ahead of the next TCFD report. In the meantime CPTI continues to incorporate and evaluate climate risks and opportunities into our investment process and report back to ISC on all major developments. Understanding and assessing climate risk and opportunity remains an area of development for both the Scheme and the broader market and we expect to see this continue to evolve and we must continue to evolve our approach accordingly to ensure we do not miss risks or opportunities.

That said more broadly the qualitative understanding of climate risk and opportunities has led to both sales and new investments as discussed elsewhere in this report.

Data providers, advisors, and tools

In addition to data provided directly from managers, CPTI uses MSCI for ESG and climate risk assessment in public markets, supplementing this with additional data from EOS and Bloomberg. In private markets, Blackrock eFront will for future TCFD reports complete a collection of reported private company level ESG data annually. Lastly, CPTI engaged with a number of consultants in this area, for both training purposes and for support in particular areas particularly Redington and Mercer (who provided the scenario analysis in the appendix of this document). CPTI, on behalf of the Trustee, has significantly increased the Scheme's available data in this area since 2021 and continues to work to further build this out.

4) Climate opportunities

The Trustee is focused on capturing investment opportunities in the Climate Transition theme and expects these to deliver outsized returns to members. CPTI, reports to the Trustee the level of investment in climate opportunities on a quarterly basis.

The table below shows the percentage of the portfolio that is invested in companies or exposed to climate opportunities (as defined by MSCI for public markets and direct manager input in private markets). During the year the Scheme saw a marginal increase in exposure to climate opportunities due to a new investment in a Private Debt fund which includes a sizable allocation to renewables. This was partially offset by the reduction in the allocation to Public Equities. Overall, progress in investment in climate opportunities was limited during this Scheme year, however two new opportunities were identified, and since the end of the Scheme year an investment in climate aligned commodities has now been funded. Overall, like many pension schemes, if the Scheme de-risks its ability to invest in more climate opportunities will be reduced. Large exposure to private assets and the Scheme's requirement to reduce illiquidity also limit the ability to add to climate opportunities.

Examples of some of the Scheme's climate transition opportunities are provided in the case studies within appendix 2.

Figure 3 – Percentage of Growth assets invested in Climate Opportunities (Shown only for the asset classes invested in Climate Opportunities)

Asset class	Q1 23	Q1 22
Public Equity	12.5%	14.1%
Private Debt	1.0%	-
Infrastructure	19.7%	22.9%
Total of growth assets	**6.5%**	**6.6%**
Benchmark (FTSE AW)	**10.3%**	**11.3%**

For public investments climate opportunities investment percentage is captured through MSCI data looking at the following two data sets:

- Low-Carbon Transition Solutions-Oriented Firms – companies that have the potential to benefit through the growth of low-carbon products and services due to their existing patents and technology.
- Environmental Impact Solutions – companies where at least 25% of their revenues are derived from the following themes: energy efficiency, alternative energy, green building, pollution prevention, sustainable water usage or sustainable agriculture.

For private assets, CPTI plans to manually label those investments that fall in this category until a more robust way can be implemented through a third-party data provider with sufficient accuracy. Currently for private assets, the only relevant investments are the Greencoat Solar, EDF Renewables investments and a portion of the Newmarket Private Debt fund.

Section 4 – Scenario Analysis

The Trustee has reviewed the analysis and concluded that it would not conduct new scenario analysis in the 2023 Scheme accounting year since the results would not be significantly different and the available models remain flawed, particularly in relation to modelling physical risk. The Trustee agreed to instead wait for the availability of new or improved scenarios or modelling capabilities, or events that might reasonably be thought to impact key assumptions underlying scenarios. The decision to conduct new scenario analysis will be revisited again in 2024, however as required new scenario analysis will be undertaken by 2025.

Requirements:

Scenario analysis must be undertaken in the first scheme year in respect of which the requirements apply to the Trustee. As such, initial scenario analysis was reviewed by COM in March 2022 and the results are set out in the appendix. We would emphasise there is a huge level of uncertainty in these scenarios and climate models generally. In particular, we expect the physical risk scenarios to be significant underestimations of likely damages even in the near term agreeing with the recent report from the Institute and Faculty of Actuaries and the University of Exeter.

As the Scheme has not conducted new Scenario analysis in this Scheme year the previous years' analysis has been moved to the appendix 3 of this report.

Section 5 - Metrics and Targets

In line with Government regulation, the Trustee agreed climate metrics and put in place a climate target in 2021. The Trustee has retained these metrics and the agreed target through to this second TCFD report as of March 2023 and added a fourth metric on Paris Alignment as required by regulation. This section provides a description of the metrics, the rationale for these and the changes for the second TCFD report. COM has agreed the appropriate climate metrics and approach and the ISC has the responsibility to monitor these metrics and any additional metrics they believe are relevant. COM has also established the climate target, which the ISC will review progress towards and act as necessary to ensure the Scheme remains on track.

The Trustee has committed to report three core climate metrics, which are in line with the statutory guidance. These will be reported across all of the Scheme's assets as far as is possible and are set out below:

- **Total carbon emissions** – measures the absolute tonnes of carbon dioxide emissions for which an investor is responsible. Total emissions are what must be reduced in order to limit the carbon dioxide in the atmosphere and the degree of planetary warming. Scope 1 and 2 emissions are those directly produced by the companies/assets through burning fossil fuels or indirectly through purchased energy. Scope 3 emissions are those associated with the company or asset supply chain upstream and downstream.

  Scope 1 and 2 total carbon emissions are reported at each asset class level where possible and aggregated at the Scheme level. The Scheme is focused on collecting reported data for scope 1 and 2 emissions but will use proxied data to fill in any gaps. Data on Scope 3 emissions has been added for this second TCFD report as required by regulation and currently the Scheme is able to obtain estimated emissions on public assets only.

  The metrics and methodology in each asset class have been chosen in-line with industry consensus. Scope 3 emissions have been added to reporting but excluded from targets ahead of the publication of this annual TCFD report.

- **Carbon intensity** is an efficiency metric which allows a comparison between companies and assets of different sizes. The Trustees have chosen to calculate intensity based on absolute emissions relative to the enterprise value of the company/asset including cash (EVIC). This metric has been chosen as it is in-line with industry consensus although there is a greater degree of variability in metrics used here versus absolute emissions and the metric utilised may change in future. Additional metrics are monitored where appropriate to particular assets, for example looking at intensity/sales in public equities and intensity per square meter in real estate or per unit of energy produced in certain infrastructure assets. Scope 3 emissions have been added during the last 12 months where possible – currently this is just proxy data and just for public assets.

- **Portfolio Alignment** – in line with regulation the Trustee has added a metric to report portfolio alignment in this second TCFD report, as required.

The Trustee has also committed to an additional metric, data quality, set out below, having considered a range of options. The Trustee has also set its target based on this metric. This target is unchanged from the first TCFD report and remains an ambitious target for improvement.

- **Data quality** – the Scheme seeks to improve the data quality of carbon emissions, targeting obtaining a 90% coverage level of reported carbon data across the Scheme's assets where appropriate methodologies exist by the end of 2024. Getting reliable data on emissions remains a challenge and there is not currently data across the whole of the Scheme's portfolio. A Scope 3 target has not been included in this second TCFD report.

The Trustee believes this is an ambitious target as at present reported data levels are significantly below this, particularly in private assets. CPTI, on behalf of the Trustee, is engaging with the Scheme's investment managers to improve data availability across the Scheme's assets and particularly in private market assets. The Scheme has also engaged new data providers and added requirements in manager contracts to improve reporting. This is also a focus on asset and company level stewardship. Having data on emissions across the portfolio and trends in these will enable the Trustee to measure the impact of changes to the portfolio strategy and implementation as well as the success of its engagement with managers.

The pages that follow set out the Scheme's data under the above metrics.

Carbon Emissions Data Quality by Asset Class

Figure 4:

The table below shows the data quality currently available by asset class and at the total Scheme level as at 31 March 2023:

Asset Class	% coverage (including proxy and reported data)	% coverage (reported data only)	% of total Scheme NAV (excluding cash)
Public equity	96%	83%	17%
Private equity	100%	2%	13%
Private debt	10%	0%	9%
Ultra short bonds	84%	78%	6%
Government bonds*	100%	100%	6%
Investment Grade Credit	96%	82%	18%
Securitised credit	100%	0%	7%
Special Situations Debt	100%	2%	6%
Infrastructure	89%	80%	7%
Property	98%	90%	10%
Shipping	100%	100%	1%
Hedge funds and other	0%	0%	1%
Total (reflecting asset allocation)	**88%**	**55%**	**100%**

Source: MSCI and managers; * Absolute emissions data is not yet available for government bonds as there is not yet an agreed methodology of apportioning this data to investors. Therefore, coverage for government bonds relates to carbon intensity metrics only.

Data coverage, use of proxied data and performance versus target

From 30 September 2021, when measurement of the Scheme's emissions began, to 31 March 2023, data coverage has increased by 31% including both proxy and reported data, and by 16% for coverage including reported data only. It is important to note that coverage is sensitive to asset allocation changes. In particular, the allocation to public equity has decreased in the year to March 2023 which has partially offset the gains made in other areas. However, there have been improvements in nearly every asset class in the year with the largest impacts arising from new reported data in government bonds and property. Figure 5 below shows the trend in data quality through time.

Reported data coverage is expected to ramp up significantly over the next 2 years as both universe data coverage increases and due to: regular ongoing engagement from CPTI across all areas of the Scheme, the onboarding of eFront to capture private markets data, the inclusion of TCFD reporting in manager contracts. Whilst the lack of data is a concern, CPTI couples this with a qualitative understanding of the portfolio assets and the approach taken to climate risk and opportunity by each asset manager. As such whilst it is key the Trustee sees data improve, this data quality metric alone does not imply that changes are required to the investment strategy.

CPTI assesses reported data coverage using information from data providers in public markets (public equity and public credit). In Real assets reported data is available on the majority of assets, received from the managers and based predominantly on actual energy use. In private equity and private debt limited reported information is available, some of which is provided by managers based on underlying

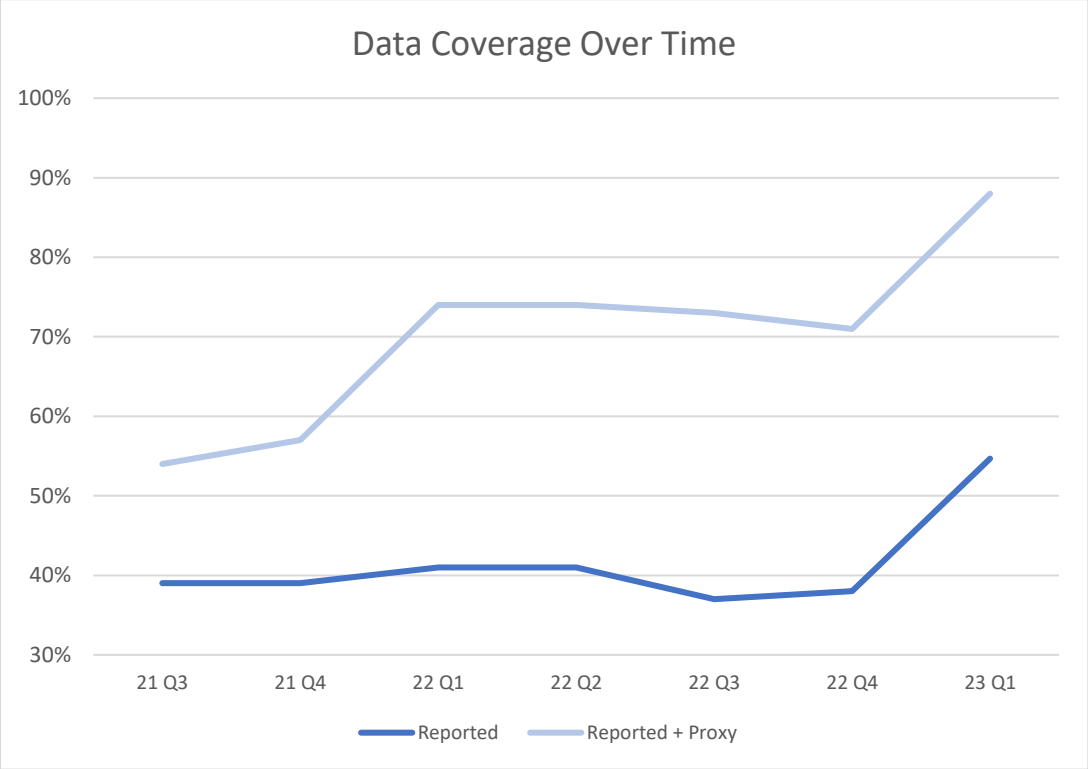
company information and the remaining portion of data is approximated via proxies based on company sector and geography. The data collected is aggregated at the asset class level and portfolio level in the table above for the Trustee.

Coverage in private assets is currently low. However, following the onboarding of data provider eFront in this area we expect an increase in the collection of reported data from underlying assets over the next 12-24 months.

For hedge funds, commodities and some other derivative instruments there is currently no accepted methodology for reporting carbon emissions and as such these have been categorised as non-applicable and excluded from the total calculation (note these are a very small proportion of Scheme assets).

As at 31 March 2023, 55% of the Scheme's data comes from reported company or asset data. As such the actual carbon emissions of the Scheme could differ significantly from what is reported here using best estimates and proxies as well as noting the level of unreported data. That said, the most robust methodologies are being used for estimates and the Scheme has clear sight of the areas of the portfolio that are more or less carbon intensive. As some areas of the portfolio are not currently covered, the total emissions number in this report is expected to be an underestimate. Increasing data coverage and accuracy is a key focus for the Trustee. Where proxy data is used, this is based on the actual sector and regions of the assets where available and thus is expected to be an indicative (if not accurate) estimate of actual data.

Figure 5



The Scheme continues to target having 90% reported data by the end of 2024.

Total Scheme Scope 1 and 2 Carbon Emissions, Intensity and Methodology

Figure 6

Asset Class	Scheme emissions (thousands of tonnes of CO2)	Benchmark emissions (thousands of tonnes of CO2)	Scheme Intensity (EVIC)	Benchmark Intensity (EVIC)
Public equity	67	107	47	74
Private equity	67	136	58	117
Private debt	2	9	28	117
Ultra short bonds	18	TBC	41	TBC
Government bonds	TBC	TBC	11	TBC
Investment Grade Credit	52	105	42	78
Securitised credit	16	TBC	27	TBC
Special Situations Debt	48	64	87	117
Infrastructure	66	TBC	110	TBC
Property	20	TBC	23	TBC
Shipping	43	TBC	751	TBC
Total*	**398**	**514**	**54**	**74**

Data in this report is based upon the best methodologies available at this point in time and may be subject to change as methodology and interpretation continues to evolve in this area.

Carbon intensity is calculated based on emissions by £m invested for all asset classes except government bonds which is based on emissions by capita. The total Scheme level intensity excludes government bonds.

Carbon data is as of Mar 23 for public equity and investment grade credit, Dec 22 for shipping, Mar 22 for infrastructure, and Dec 22 for property, private debt, private equity and special situations debt.

*The benchmark total is the scope 1 and scope 2 emissions of the FTSE All World Index for the asset value we have data for.

As indicated in the above table, the Scheme's absolute emissions and emissions intensity are both lower than the benchmark as at the 31st March 2023 across all asset classes where data is available.

Whilst the Scheme has no set targets around this, carbon emissions and intensity have continued to fall despite the substantial increase in data coverage. This has largely been driven by a reduction in the carbon intensity of public markets as noted below and changes in allocation towards assets with lower emissions. The Trustee does not expect this to continue to fall in a straight line and may make allocations to assets with higher emissions or intensity subject to being comfortable that these assets will be transitioned through time.

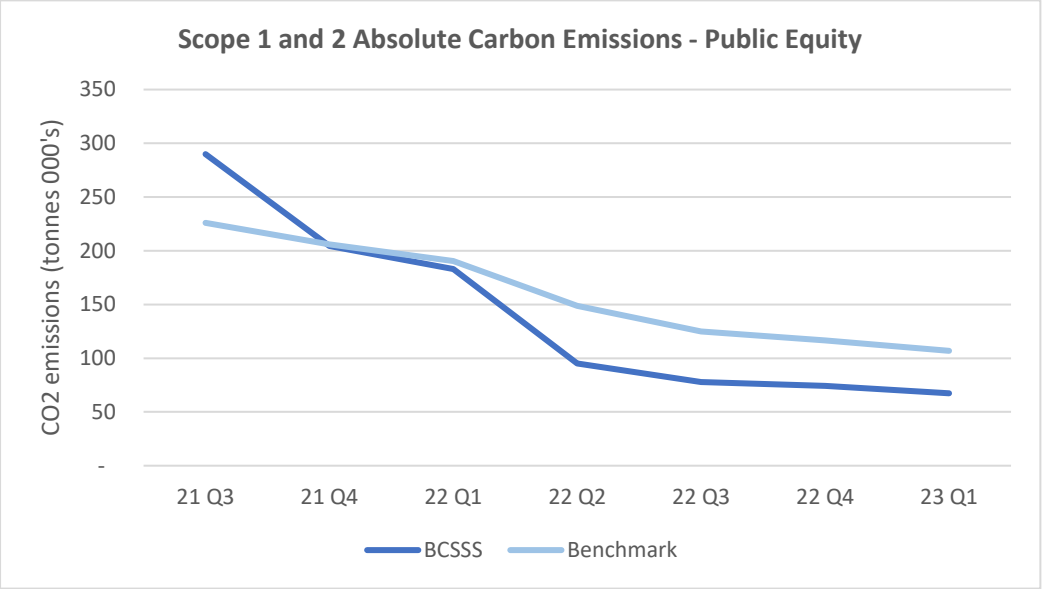
Public Equity and Investment Grade Credit Data Trends and Methodology

For public equity and investment grade credit Scope 1 and 2 carbon data is sourced from MSCI and is based primarily on company reported emissions with proxy data used to supplement any gaps. Carbon emissions are apportioned to the investor based on an investor's share of the EVIC of a company.

Figures 7-10 show the total carbon emissions and carbon emissions intensity for the Scheme's public equity and investment grade credit at the end of each quarter from Q3 2021 when the metrics were

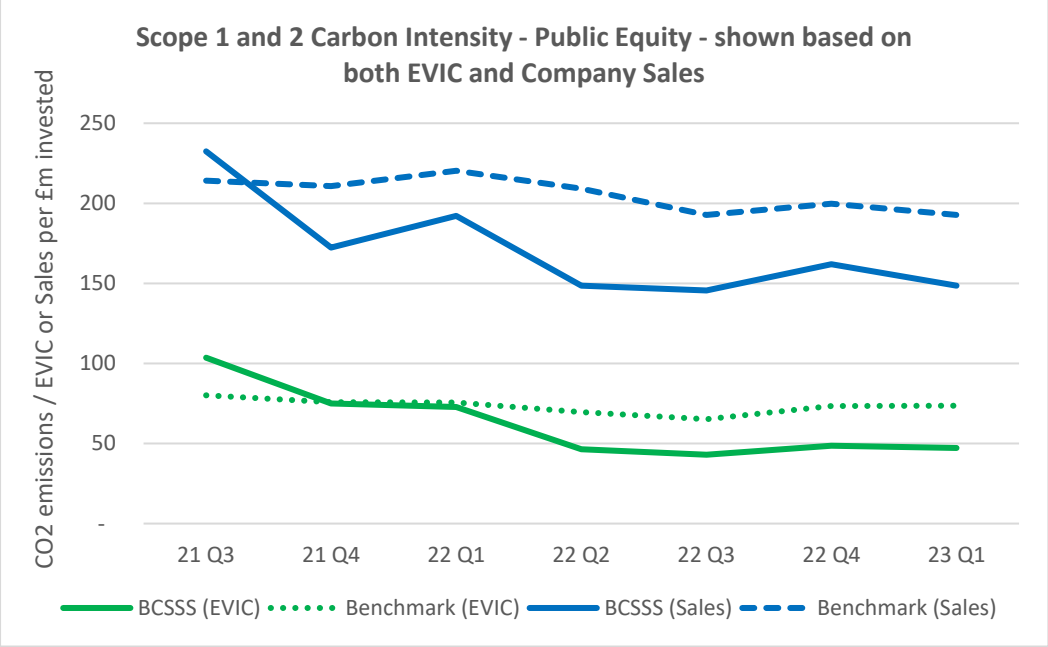
agreed and tracking began. Carbon intensity is shown by the chosen metric of emissions (EVIC) and also relative to sales as an additional measure relevant to these assets. In each case, changes through time are shown as well as the comparison with the relevant asset class benchmark.

Figure 7



Source: MSCI

Figure 8

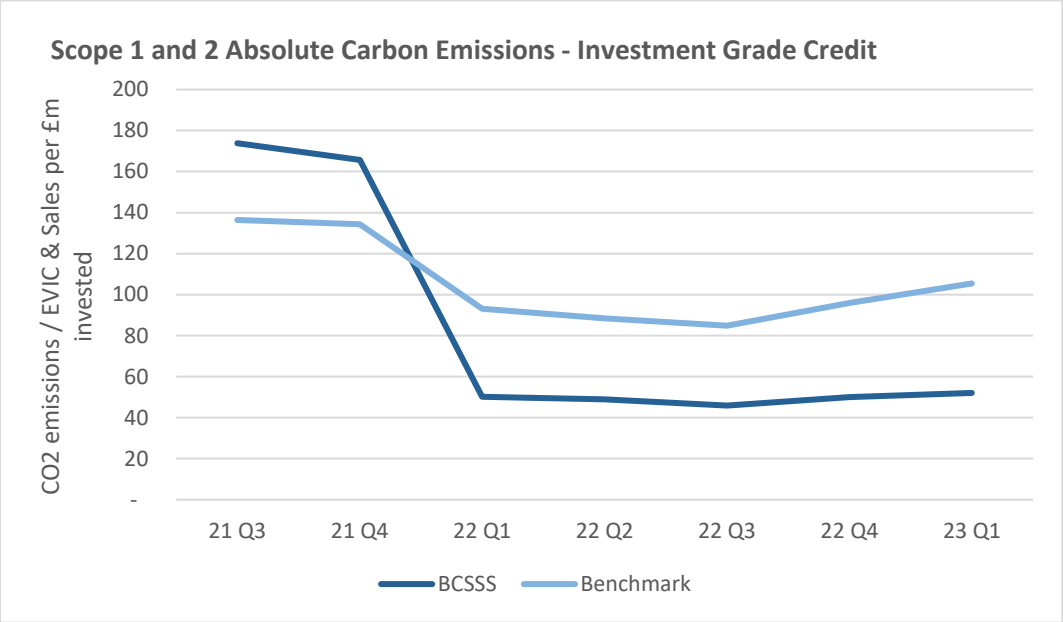


Source: MSCI

Both absolute carbon emissions and carbon intensity within the public equity portfolio have fallen since we began tracking these measures. This has been driven primarily by a 55% reduction in the

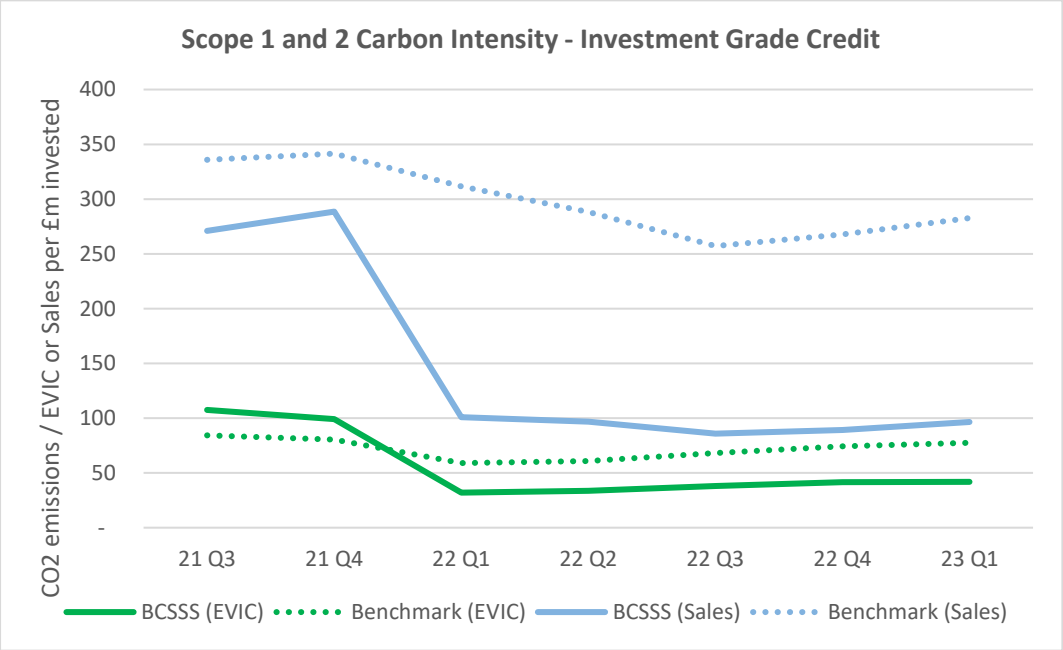
carbon intensity. Carbon intensity has been reduced primarily through changes to the passive equity mandate to explicitly incorporate climate risk towards the end of 2021. In addition, changes to the Scheme's approach to investing in China in 2022 also caused intensity to fall. Whilst the Scheme has not set a target around absolute emissions or intensity CPTI believes a fall in intensity reflects appropriate inclusion of climate risk in the approach into the management of the Scheme's equity assets.

Figure 9



Source: MSCI
Benchmark: BBG Global Aggregate Corporate Hedged Index

Figure 10



Source: MSCI
Benchmark: BBG Global Aggregate Corporate Hedged Index

Both absolute emissions and emissions intensity within investment grade credit have fallen following the transition in February 2022 to mandates with a direct focus on and guidelines around risk in this area. Investment managers are now contractually obliged to keep emissions below their benchmarks. CPTI believe it is more appropriate to set contractual obligations in this area to limit risk as the mandate has limited upside and limited transaction levels.

Property

Scope 1 and 2 property emissions are received from the managers on an annual basis and are based on landlord energy use only. Since the numbers reported in the prior years' TCFD report, the Scheme's emissions intensity remained at 23 and the absolute emissions fell slightly in line with a slight fall in the allocation.

Scheme emissions (thousands of tonnes of CO2): 20

Scheme Intensity (EVIC): 23

Infrastructure

Infrastructure emissions are received from the managers on an annual basis based on reported energy use at the asset level. Since the numbers reported in the prior years' TCFD report, the Scheme's emissions intensity reduced from 122 to 113. The absolute emissions number increased due to a greater level of data coverage.

Scheme emissions (thousands of tonnes of CO2): 68

Scheme Intensity (EVIC): 113

Private equity and private credit

The majority of the data currently shown above in Figure 6 is proxied data provided by Cambridge annually, based on MSCI public market equivalent emissions data applied by sector allocation of the underlying assets where available. For fund of funds (where transparency is not available) Cambridge apply an MSCI World Index proxy. Separately, Blackrock eFront completed the first annual data collection of ESG data from investment managers on the Scheme's behalf early in 2023 resulting in 2% reported data of both private equity and special situation debt in this report. We expect this to increase significantly in the next annual cycle.

Government bonds and Ultra Short Bonds

Government bond emissions intensity is the emissions of a country shown per capita (source: World Bank). We do not report absolute emissions as there is currently no agreed methodology of apportioning emissions to investors.

For Ultra short bonds Scope 1 and 2 emissions are calculated on an annual basis on assets where available. Emissions considered are those generated by the financial issuers (majority banks) that make up the majority of portfolio.

Securitised

Data for securitised has been calculated and provided by the manager using proxy estimates based on a similar securitised fund. Proxies are created at the deal level quantifying expected carbon from each underlying asset backing the particular securitisation.

Scheme emissions (thousands of tonnes of CO2): 16

Scheme Intensity (EVIC): 27

Shipping

For shipping, data is based on asset energy consumption as provided by the manager.

Scheme emissions (thousands of tonnes of CO2): 43

Scheme Intensity (EVIC): 751

Scope 3 carbon emissions

Scope 3 emissions encompass indirect emissions embedded within a company's value chain, spanning emissions from both the production of goods and services, as well as the usage and disposal of sold products. These emissions are further categorised into upstream and downstream emissions. Upstream emissions encompass indirect greenhouse gas emissions that occur prior to a company's activities, such as emissions generated during the production of raw materials and components used in the company's products, while downstream Scope 3 emissions refer to emissions that arise after the company's products have been sold and are in the hands of customers, including product use, disposal, and any associated transportation. Scope 3 emissions make up 86% of the equity benchmark's total emissions and are therefore very significant.

Focusing just on scope 1 and 2 allows countries and companies to downplay supply chain issues and could encourage the use of long and murky supply chains and lack of ownership. Similarly, it allows companies to create wasteful and polluting short-term use products and not understand the risks of this as more and more regulation around waste emerges. Understanding Scope 3 emissions, the full life cycle of a product and all of the processes and materials used in this is key for risk management, strong corporate governance and future planning.

Challenges

A series of challenges are associated with addressing Scope 3 emissions. These challenges encompass data-related issues, including limited access to comprehensive information regarding value chains and end-use of products. Furthermore, variations in data quality arise due to disparate methodologies employed by different suppliers, leading to potential inaccuracies. When aggregating scope 3 data one company's upstream emissions is another company's downstream emissions which leads to double or triple counting and means total portfolio emissions are misleading. However, this is a deliberate feature of Scope 3 to create shared responsibility – the double counting also leads to fast downward curves when emissions are cut.

Data reporting in scope 3 is currently very limited. Even where data is reported methodologies vary hugely. As such, unlike with Scope 1 and 2, best practice is to use estimated, not reported data, to allow like for like comparisons.

Therefore, our approach for this round of TCFD reporting on scope 3 is to use estimates provided by MSCI. MSCI use the publicly available Greenhouse Gas Protocol (GHGP) framework for Scope 3 emissions accounting for their modelling. Estimates are used partially due to the issues covered above.

The Scheme's approach to measuring Scope 3 emissions covers only public markets as this is the current extent of MSCI's coverage of Scope 3. Fundamentally, the lack of data and coverage in other asset classes currently remains too low for inclusion into the Scheme's report.

Figure 11

Asset Class	Scope 1 & 2	Scope 3	Scope 1,2 & 3 Absolute Scheme emissions ('000s)	Scope 1,2 & 3 Benchmark emissions ('000s)
Public equity	67	449	517	747
Investment grade credit	52	628	680	788

Figure 12

Asset Class	Scope 1 & 2	Scope 3	Scope 1,2 & 3 Carbon intensity (EVIC)	Scope 1,2 & 3 Benchmark intensity (EVIC)
Public equity	47	317	364	513
Investment grade credit	42	500	542	577

Overall whilst Scope 3 emissions are high the Scheme's emissions when including these remain below benchmark emissions. As we have just begun tracking scope 3 emissions we cannot yet show a trend here but we hope to observe this trending downwards in the Scheme's next report as well as hopefully covering a greater proportion of the Scheme's assets in future.

Paris Alignment

Definition and Scheme Relevance

The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP21 in Paris, France, on 12 December 2015 with the goal of limiting global temperature increases to below 1.5 degrees Celsius above pre-industrial levels. Since then an ever greater number of countries, cities and companies have set targets or made commitments to cut emissions to align with The Paris Agreement.

Whilst the Scheme has not committed to a net zero target the Paris Agreement remains relevant in understanding the portfolio's climate transition risk. As regulation and investment patterns rapidly shift around the climate transition it is critical for investors to understand risks such as carbon tax and

stranded assets, as well as the potential for missed opportunities to align with government incentive programs or stated company goals.

The Trustee notes that, as with Net Zero, the Scheme is not required to set a Paris Alignment commitment. The Scheme is now required to report on the extent to which its assets are Paris Aligned or not.

The Scheme's approach

The Trustee has chosen to calculate the extent to which its assets are Paris Aligned by using a binary target measurement. CPTI have considered the percentage alignment of each individual portfolio/account that makes up the overall portfolio, on a look-through basis to the extent possible (excluding some older private asset commitments). CPTI believe that considering Paris Alignment at the investment manager level is not a sufficient or accurate measure of the portfolio's overall alignment. This is because some managers might be signatories to initiatives such as the Net Zero Asset Manager's initiative at their firm level but will still hold portfolio companies that are not Paris Aligned.

The approach taken, therefore, looks at the company/asset level within each portfolio from data provided by the managers. For some asset classes, this is relatively straight-forward while for others it is either more complicated or in some cases not possible.

Figure 13 below shows the current look-through level of Paris Alignment across the total portfolio as at the end of March 2023. The portfolio is currently 16% Paris Aligned. Those asset classes where Paris Alignment is not an applicable metric, such as government bonds, are marked with an asterisk below and these asset classes currently make up 21% of the portfolio. If we strip out these asset classes, the total alignment figure rises to 21%. Paris Alignment is applicable to other asset classes, such as private equity, but at the time of writing there was not yet any data, these asset classes are shown as 0% alignment. Whilst the level of Paris Alignment appears concerning compared to the benchmark level much of this stems from the lack of data in private assets. Looking at public assets alone the level of Paris Alignment is much closer to the benchmark level. We expect to be able to report both better alignment and higher levels of data in the Scheme's next report.

Figure 13

Asset class	% of asset class that is Paris Aligned
Investment Grade Credit	42%
Public equities	42%
Short-dated bonds	20%
Infrastructure	11%
Private Equity	0%
Real estate	0%
Private Debt	0%
Special Situations Debt	0%
Liquid Securitised Assets*	--
Government Bonds*	--
Hedge Funds*	--
Other*	--
Total portfolio alignment	**21%**
FTSE All World alignment (including both science-based targets and high level commitments)	**56%**

Source: Investment Managers/SBTi; * asset classes for which Paris Alignment is not an applicable metric.

Through time we expect to see the level of Paris Alignment across the portfolio increase as the managers continue to incorporate transition risk and opportunities, and as individual assets and companies make progress in clarifying their transition plans and timing. In Real Estate for example whilst Nuveen itself has a Paris Alignment target for its Real Estate assets the planning for our portfolio is not yet complete.

The approach taken to assessing Paris Alignment for each asset class is outlined below:

Public equities, investment grade credit & short-dated bonds

CPTI has assessed Paris Alignment in public markets based on each manager's rigorous understanding of the commitments and targets made by each company within their portfolio. Methodologies for assessing Paris Alignment differ across each manager, however we are happy with this approach taking into account qualitative assessments of company intent and their ability to transition, as well as published metrics and targets. The approach to this area will be reviewed again for the Scheme's next TCFD report.

Both the public equity and investment grade credit portfolios are currently 42% Paris Aligned, which compares with the FTSE All World Index' alignment of 56%. It is expected that these numbers will improve overtime, both at the portfolio level and the index level. The public equity portfolio figure is also expected to rise to at least match the index over time, currently the total alignment is partially affected by exposure to emerging market equities where there has generally been a slower drive towards Net Zero to date, but where significant changes are likely to occur in the coming years. It is also worth noting that a few very large technology companies are currently skewing the index figure and that the Scheme's public equity portfolio is underweight these names relative to the index.

Infrastructure

The portfolio's infrastructure holdings exhibit varying degrees of alignment. One manager has identified their holdings as 100% Paris Aligned, reflecting investments tailored to support a low-carbon economy. Conversely, another manager has not yet conducted a formal assessment against Science-Based Targets (SBTs) for climate impact, resulting in their holdings being categorized as "Not Aligned" for the current reporting period. The Scheme is in the process of exiting some of this latter portfolio.

Real estate

Carbon Risk Real Estate Monitor (CRREM) analysis (based on benchmark assumptions of carbon intensity) show that all the real estate assets would be stranded by 2050 and are therefore currently not Paris Aligned. However, this is purely based on a snapshot of the assets in their current state, with no improvements made between now and 2050, so is not a good indicator of what will actually occur. As units become vacant and undergo refurbishment, a large part of the refurbishment will focus on reducing the carbon intensity of the property. The Scheme's property manager, the Scheme's property manager has a net zero target of 2040. Given this is ahead of the Paris Alignment target, the Scheme will expect all properties to comply with the Paris Agreement once fully incorporated into asset level business plans.

Other asset classes

The Scheme's Private Debt, Private equity and Special Situations Debt allocations include a large number of commitments made several years ago. These assets are in gradual run-off and we expect much of these investments to be paid out to the Scheme over the next several years. Given this we are focusing our Paris Alignment assessment on the remainder of the Scheme's assets.

For some asset classes in which the Scheme is invested such as government bonds, securitised credit hedge funds, there is no current market accepted methodology for assessing Paris Alignment and thus these portfolios have been classified as N/A and will be excluded from the overall calculation – noting what percentage of the total portfolio falls under this category.

Next steps on metrics and targets

Over the next year the Trustee will to continue to work towards the target of increasing reported carbon emissions data for the Scheme's assets towards its 90% target. CPTI is engaging the Scheme's investment managers to improve disclosure as well as mandating disclosure in IMAs. The Scheme also expects to see significantly more reported data from private assets ahead of the next report following the onboarding a new data provider in this area. The Scheme is now tracking scope 3 emissions and the level of Paris Alignment and would hope to see scope 3 emissions fall through time, as with scope 1 and 2, albeit this may not be a straight line as the Scheme may commit in future to assets with high levels of starting emissions and intensity as long as it is comfortable that these can be successfully transitioned through time. The Trustee expects to see the level of Paris Alignment across its portfolio improve through time along with that of the broader market – this should occur through greater investment in climate opportunities as well as ongoing management of climate risk and the transitioning of assts.

Section 6 – Conclusion

This second statutory TCFD Report demonstrates the seriousness and commitment with which the BCSSS Trustee is addressing the financial risks and opportunities posed by climate change. The Trustee believes that addressing climate risk and opportunity within the Scheme's assets will be beneficial in meeting its fiduciary duty to members over the full remaining lifetime of the Scheme.

The Trustee has already taken significant steps to address climate risk and opportunity within the Scheme's assets as well as to increase the Trustee's knowledge and oversight of this area. However there remains much more work to be done to transition the portfolio to best address Climate Risk and Opportunity, this work will take several years. The Trustee also acknowledges the high level of uncertainty around the data and modelling included in this report, which presents challenges to decision-making. Whilst this report has identified many areas of work in progress for the Trustee, and the industry, it is committed to continuing to develop its approach in this area, and to both challenge and partner with asset managers.

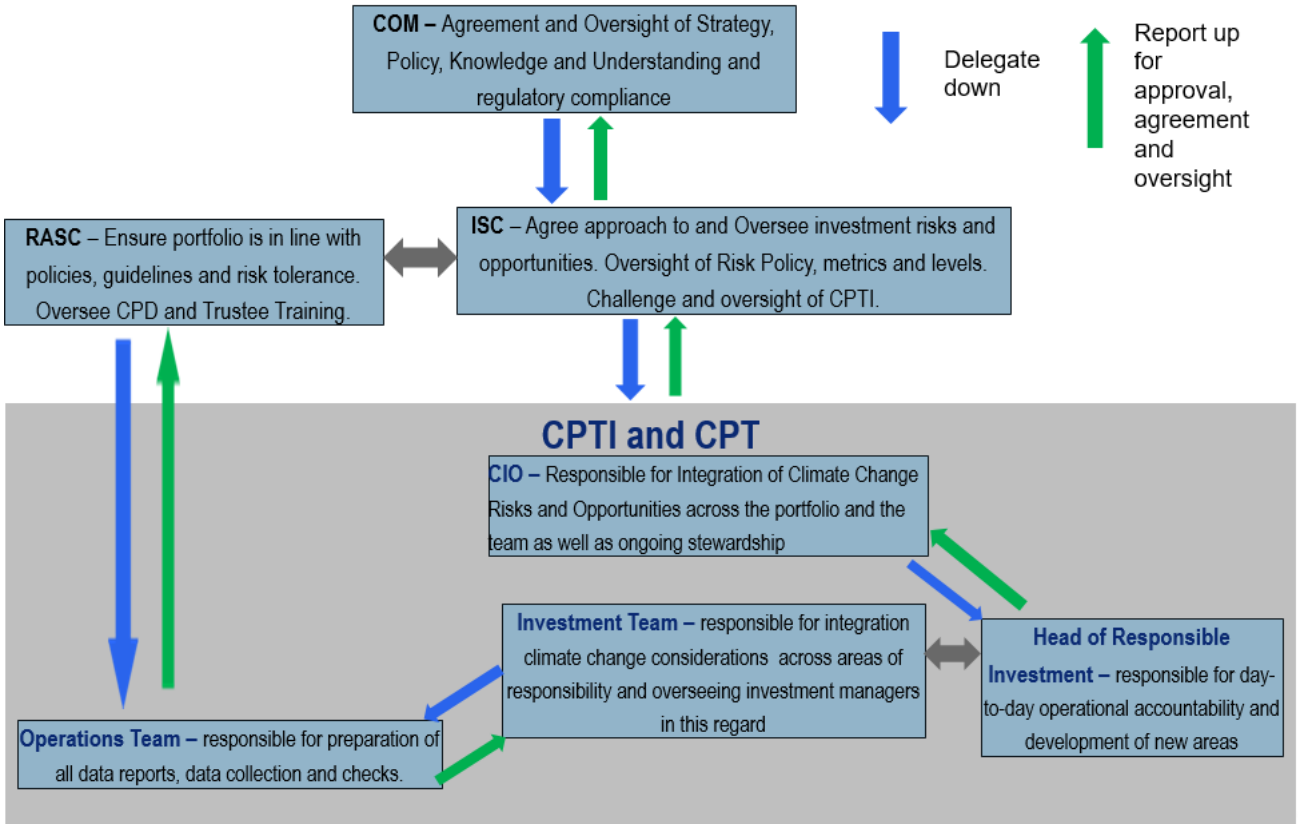
The Trustee is actively working to transition the portfolio, reducing exposure to unrewarded risk and adding to Climate Opportunities where this is seen to be likely to contribute to the financial return required to pay pensions. This is an ongoing process that will take several years and the Trustee is aware that the portfolio (and broader market) currently have a low level of Paris Alignment.

The Trustee continues to make progress towards its target of significantly improving data quality on carbon emissions across the whole portfolio. The 90% target is ambitious and may not be achieved by the end of 2024 however the Trustee continues to believe this is the right target to enable it to understand its exposure to transition risk as well as the path towards reducing this.

The Trustee is pleased to see carbon emissions and intensity continue to fall over the year, albeit the Scheme has set no targets here and notes that this may not continue to fall in a straight line as the Trustee may make commitments to asset classes with high starting levels of emissions as long as it is comfortable that these assets will be transitioned through time.

In this second TCFD report the Trustee has reported Scope 3 carbon emissions and Paris Alignment for this first time. The level of Paris Alignment across the Scheme's asset is currently reported as low, we would expect to see this increase over time, both as assets are transitioned, new investments in opportunities are made, and the level of data improves. The Trustee would hope to see scope 3 carbon emissions fall through time as companies are pushed to take greater ownership of the impacts of their supply chain.

Appendix 1 – Climate Oversight Governance Structure



Appendix 2 – Case Studies on Climate Integration

Type 1 – Improvements made to the Portfolio following Work on Climate

Case Study 1: Improvement to Passive Equity

In 2021 the Scheme undertook a review of the Scheme's passive equities in light of concerns highlighted by ESG data. Whilst the Scheme's active equity managers were effectively addressing climate risk, the passive equity portfolio was exposed to a high proportion of environmental laggards, as well as controversies, and very high emitters. Clearly when bought in a passive manner these risks are not considered. Following a full review of ways to address climate risk in passive portfolios, CPTI, on behalf of the Scheme, decided that off the shelf products were not sufficiently forward looking. Instead of seeking to invest in companies making changes many 'climate solutions' in this area just skewed the sector mix of investments to focus heavily on the lower emitting technology sector. CPTI was looking for the Scheme to retain balanced exposures across sectors, both to ensure diversification and access to opportunities, as well as noting all sectors need to transition. Investing only in current lower emissions sectors does nothing to address issues or capture the evolving opportunity set. Following a comprehensive search, CPTI, on behalf of the Scheme, appointed Blackrock to implement a climate aware passive equity solution. The LCTR (Low Carbon Transition Readiness) strategy seeks to overweight companies that are deemed more aligned with a transition to a low carbon economy and to underweight those deemed less prepared. This evaluation is done within each sector of the market so that each company is compared to its peers in that sector. At the same time CPTI on behalf of the Trustees appointed EOS to engage and vote for the Scheme on the whole of these portfolios.

The LCTR strategy measures companies along 5 dimensions of transition readiness:

1. Energy Production	**Involvement in the extraction, refinery, generation and ownership of carbon emitting energy**
2. Clean Technology	Involvement in renewable energy, energy efficiency, green building, low carbon transportation
3. Energy Management	Energy use, mix, efficiency and indirect emissions through electricity consumption
4. Water Management	Water consumption, withdrawal, efficiency, physical stress, and recycling practices
5. Waste Management	Company waste generation, recycling, and toxic emissions management

The portfolio targets include the following:

- Maintain a risk profile within stated ranges with respect to the benchmark. This includes holding bounds for individual security weights, sector weights, and country weights.
- Provide the greatest exposure possible to the companies that best capture the LCTR strategy's 5 dimensions consistent with the risk parameters for the portfolio.

One result of switching the Scheme's passive equity mandate has been a measurable drop in the carbon intensity of the Scheme's passive equities. At 30 June 2021, the Scheme's passive equity allocation had a carbon intensity value of 77.9 t/$m EVIC but as at 31 March 2023, following the LCTR inclusion, the carbon intensity value of the Scheme's passive public equities reduced to 41.08 t/$m EVIC.

Case Study 2 – Aligning Investment Grade Credit

During a portfolio restructure focused on cost, complexity and current strategy, CPTI reviewed how current managers were integrating climate risk and opportunity within investment grade credit. When CPTI selected the go forward managers and wrote the new investment guidelines, managers were required to explicitly address these issues given the lower liquidity, limited upside and relatively longer holding period in these portfolios versus equities. The new mandates CPTI have put in place for the Scheme, which were funded in May 2020, have targets for emission levels to be at maximum 70% of the benchmark. As at 31st March the portfolio emissions for the BlackRock investment grade credit mandate are at 57% of the benchmark and the PGIM investment grade credit mandate are at 54.9% of the benchmark.

Case Study 3 – Climate and China

CPTI was previously invested with a quantitative manager in China. The portfolio operated based on quantitative drivers. In 2021 CPTI, on behalf of the Trustee, decided to terminate the position in this China A fund. Whilst this review reflected a number of factors including cost, diversification and a changing view of the appropriateness of a quant-based approach to a high risk region, the manager's approach to climate risk and opportunity was also a key factor as well as their limited stewardship in this area. As at 30th December 2021, the quantitative China portfolio had the public equity portfolio's worst Carbon Intensity value of 401.3. To put this value into context, the next worst performer in regard to Carbon Intensity had a value of 205.2 t/$m EVIC. The quantitative approach taken incorporated no view or consideration of climate risk. This mandate has now been fully exited.

Case Study 4: Real-Estate – Nuveen Appointment

On 2nd December 2022, Nuveen Investment Management International Limited were appointed as the Property Investment Manager to the Scheme. Nuveen were appointed based on their strong track record and commitment to sustainable property investing which aligned to the Scheme's targets. Below is a list of some of the current industry commitments, standards and benchmarks that are supported by Nuveen:

- Nuveen Real Estate is one of 37 Better Buildings Partnership member companies to have become a signatory to their Climate Change Commitment. It is also one of 34 ULI Greenprint member companies to have publicly announced their alignment with the net zero goal.
- Nuveen monitors key performance indicators in line with GRI and INREV.
- Nuveen sets annual targets and benchmarks against the wider industry using the GRESB (several of its Funds are 5-star rated).
- Nuveen Real Estate has set a goal to achieve for net zero carbon by 2040.
- Nuveen is rated 4 stars by the UN Principles for Responsible Investment for its direct real estate capability.
- Nuveen was named a '2023 ENERGY STAR Partner of the Year – Sustained Excellence Award' winner for their ongoing commitment to outstanding energy management practices and reductions in greenhouse gas emissions. The 2023 award marks their 17th consecutive year as a Partner of the Year.

Property Investment Management Agreement

Key commitments have been agreed to within the Property Investment Management Agreement focusing on the importance of ESG within the management of the Scheme. The agreement requires ESG risk factors to be integrated within the investment and business planning processes, with a material focus on promoting Net Zero Carbon and climate related transition risk. Further to this, several ESG objectives have been agreed to be achieved over the first two years of Nuveen's appointment. These include:

- Achieving at least 90% accuracy of Scope 1 and 2 carbon emissions.
- Achieving 100% Scope 3 carbon emissions (tenant operational energy usage data).
- Prioritise Net Zero Carbon pathways on new acquisitions.
- Develop Net Zero Carbon business plans for all investments, focusing on best use of capital based on carbon savings per GBP invested.
- Reposition the Scheme's property portfolio towards more energy efficient investments via acquisitions, disposals, and capital expenditure.
- Shift the portfolio to a renewable energy Power Purchase Agreement.
- Develop asset level action plans which focus on the 3 pillars of community engagement: "Wellbeing of communities"; "Education for all"; and "Social equity and support".

To support in the measurement of the portfolio's ESG performance, annual GRESB submissions will be prepared from 2024 by the manager.

Work to date

In the period since Nuveen were appointed, the management team have focused on several ESG initiatives to support the Scheme objectives:

- A sustainability consultant has been appointed to provide 100% Scope 3 carbon emission data directly from tenants' utility providers.
- Tenant engagement has taken place to discuss installing solar photovoltaic panels on available roof space, focusing on assets which provide the largest carbon reduction. As part of this process, selected tenants have been approached with bespoke illustrative documents outlining potential savings available to them once the panels have been installed, along with an estimate of the reduction this will have on their carbon consumption.
- A new agreement with the portfolio's Property Manager is being negotiated which will modernise the property management mandate. The new agreement will focus on sustainable property management practices including securing sustainable power purchase agreements, paying contractors the living wage, supporting in the delivery of Net Zero Carbon asset plans, and improving tenant data collection for GRESB submissions.

Type 2 – Climate Transition Opportunities

The Scheme has begun identifying attractive opportunities to invest for members which have been created by the ongoing climate transition. We have detailed several of these below.

Case Study 1: Climate Opportunities Mandate in Public Equities - Ninety One

As part of the work around the climate theme, CPTI identified a significant opportunity to invest in climate opportunities in public equities. CPTI wished to implement a mandate focusing across the full spectrum of this theme from energy transition to waste management to the future of food. Additionally, CPTI identified opportunities in both growth companies and value companies who are transitioning their model to align with the transition.

After a thorough selection process, the Scheme appointed Ninety One to run this mandate. Ninety One is an Anglo-South African asset management business, based in London and Cape Town and dual-listed on the London Stock Exchange and the Johannesburg Stock Exchange. At the start of 2022 the Scheme invested c.£181 million in the climate opportunities mandate. The mandate aims to outperform broad global markets over the long-term, whilst also delivering a quantifiable impact through both carbon savings and company engagement. The aim is to invest in companies that will deliver strong and sustainable long-term returns through exposure to decarbonisation, including renewable energy, electrification, and resource efficiency.

Three examples of the companies that we invest in through this mandate are outlined below.

i) Trane Technologies

Trane Technologies is a leader in the heating, ventilation and air conditioning (HVAC) sector, which accounts for a significant amount of energy used in buildings due to aged equipment, high global warming potential (GWP) refrigerants and low-efficiency systems. Overall, the built environment generates nearly 40% of annual global CO2 emissions. Trane is the leader in system integration for commercial customers (i.e., it links systems such as HVAC, lighting and security in a building), helping them optimise energy efficiency. It has an aggressive decarbonisation target, the 'Gigaton Challenge', aiming to reduce customers' carbon footprints by 1 gigaton of CO2e by 2030. This is among the largest climate commitments made by a business-to-business company. In its emerging thermal management business, Trane is well placed for the transition from oil & gas boilers to heat pumps, electric heating and district heating, and from high- to low-GWP refrigerants.

Trane's growth is underpinned by the need to address the 15% of global emissions generated by the heating and cooling of buildings. With 70-80% of revenues driven by replacement demand, Trane's primary structural-growth driver comes from replacing older, less-efficient equipment, which often uses potent greenhouse gases. Several regulatory tailwinds are benefiting Trane. These are phased over different periods, which means that regulation should be a consistent support for some years. The tailwind from the American Rescue Plan Act (which is directing funds to improving HVAC systems in schools) should last another year; the Inflation Reduction Act is expected to start having a positive impact from Q4 2023; and Trane should also benefit from the EU Green Deal (which aims to accelerate building renovation and digitisation). Finally, the Montreal

Protocol (which will reduce the sale and use of high global-warming potential refrigerants) should also support demand for energy-efficient products.

ii) Sungrow

Sungrow is the world's largest manufacturer of solar inverters, a crucial part of a solar power plant. In 2022, the company shipped 77GW of solar inverters, representing a >30%+ global market share. Sungrow is also a leader in energy-storage systems, solar-power project development and wind converters, with additional product capabilities in electric-vehicle (EV) charging and hydrogen electrolysers. All of Sungrow's business segments directly contribute to global decarbonisation.

Sustainable decarbonisation requires a rapid transition towards renewables. Sungrow benefits from global solar demand growth and increasing adoption of energy-storage systems, highlighted by its 5-year per share compounded growth rate of 34%. Its annual solar inverter shipments increased to 77GW in 2022 from 17GW in 2019, representing a >30% market share globally. Energy-storage systems shipments, which were close to zero three years ago, were 7.7GWh in 2022. In the next 10 years, we forecast 14% and 26% revenue CAGR for these two businesses, respectively, and a 16% CAGR for Sungrow overall.

Contemporary Amperex Technology (CATL)

iii) Contemporary Amperex Technology (CATL) is the largest electric vehicle (EV) battery and energy storage system (ESS) battery manufacturer globally. The company has industry-leading profitability and directly contributes to the global transition to EVs and renewable energy. In 2022, CATL shipped 192GWh of EV batteries, equivalent of 3.7m EVs and plug-in hybrids. In the same year, CATL also shipped 47GWh of energy-storage system batteries, which equates to 38% of the global market.

Sustainable decarbonisation requires a rapid transformation towards EVs and renewables. EV batteries are a direct beneficiary of increasing EV adoption, while energy-storage systems help address the intermittency of renewables. By 2030, we forecast EV penetration to reach >40% from 12% in 2022, driving >3TWh of battery demand. Our forecasts suggest demand for energy storage systems will grow from 87GWh today to >1TWh, both from rising attachment rates (more renewable-power systems being installed with a battery) and strong demand for standalone energy-storage solutions. At end-2022, CATL had generated 1-year revenue growth of >140% and a 5-year CAGR of almost 70% on a per share basis. We expect >20% compounded growth in EV battery volume shipments and >30% growth in energy-storage system batteries out to 2030.

Case Study 2: Private Equity - Cinven: company investment – MasMovil

Private equity arguably provides the Scheme with the best opportunities to invest in companies early in the growth journey which can deliver high multiple returns to the Scheme. Within the Scheme's private equity portfolio, the managers have identified a number of very attractive opportunities presented by the climate transition. These companies represent both a chance for significant financial gains but also the opportunity to solve some of the problems currently impeding the transition.

An investment example from the Cinven portfolio is MasMovil, one of the largest telecoms operators in Spain, which it acquired in 2020. The following year it became Europe's first telecoms operator to become B-Corp certified. In 2022 it attained the ISO 50001 energy efficiency certification. As part of its efforts to improve energy efficiency, last year it achieved a 4.5% decrease in total consumption by the network (without affecting customer quality). It has signed up to setting SBTs and committed to achieve net zero by 2040. It also requires its suppliers to have an environmental management system that includes specific measures such as ISO 14001 certification.

Case Study 3: Newmarket

In January 2022 the scheme made a £60m commitment to a flagship strategy run by Newmarket to gain exposure to Strategic Risk Transfer ("SRT") transactions with banks, which provides a capital management solution and improves balance sheet efficiency for the counterparty. The Fund provides the Scheme with access to underlying pools of ESG-aligned, high quality, senior loans made by the leading banks in each respective area, primarily renewables and affordable housing. Beyond ESG investing Newmarket aims to generate tangible impact. This can be in the form of catalysing new impactful lending or offering financial incentives to borrowers to improve the credentials of lending. Examples include transactions that have catalysed nearly $3 billion of new environmentally friendly lending, as well as fresh capital release to more than $1 billion of US affordable and sustainable housing assets. Newmarket also anchored the first ever risk transfer transaction with a development bank completing a $1bn risk transfer with the African Development bank enabling the AfDB to free up $650m for fresh lending whilst maintaining its AAA-rating. This deal supports the G20 call for multilateral development banks to optimise balance sheets and allows them to deploy more capital to the world's most persistent infrastructure needs.

Case Study 4: Greencoat Solar Fund II

In 2018 the scheme made a £70m commitment to Greencoat Solar Fund II. The Fund was formed to primarily acquire and manage a portfolio of ground mounted solar panels in the UK with the objective of providing stable cashflows and inflation protection over a long-term horizon. The Fund has built a portfolio of 119 assets with an installed capacity of 949MW, generating sufficient power for 262 thousand homes and has avoided generating 304k tonnes of carbon emissions in the process of doing so.

Case Study 5: Sustainable Commodities

During 2022 The Scheme agreed a proposal to add Commodities as a new asset class. The investment thesis is based on both an expected high inflation environment and greater regionalisation but also critically the impact of climate transition and climate change on commodity prices. This mandate is focused on those commodities needed for climate transition as well as those whose prices will rise with greater physical risk. The mandate excludes the less aligned commodities – coal, oil and livestock.

Wellington was appointed to manage the sustainable commodities portfolio and is very focused on both ensuring it captures the returns available from commodities aligned with the climate transition and fulfilling its role as a steward of assets. Two current engagement examples are engaging with the key exchanges on (i) the structure of voluntary carbon credit markets; and (ii) better clarity on the source of metals underlying futures contracts.

Type 3 – Climate stewardship

Stewardship of assets is a key tool to address risk and ensure opportunities are developed for the Scheme. The Trustee has a core belief in stewardship and is a signatory of the UK Stewardship Code. Climate change is a key stewardship priority for the Scheme as discussed in the body of this TCFD report.

1) Stewardship in public markets

EOS company engagements

A company engagement by EOS, on behalf of the Scheme, through the collaborative engagement initiative Climate Action 100+ (CA100+) is outlined below. Since December 2017 CA100+ has been striving to bring the world's biggest corporate emitters into line with international ambitions for a 1.5-degree world. EOS is a significant supporter of CA100+, leading or co-leading engagement at over 25 of the 167 focus companies across Europe, North America, and Asia. According to analysis by research company BNEF, 111 of the CA100+ focus companies have set a net-zero or equivalent target, compared with five prior to January 2018 when the initiative was launched. BNEF estimates that in 2030, the net zero targets set by these 111 focus companies will reduce greenhouse gas emissions by 3.7bn metric tons of carbon dioxide equivalent annually.

i. Mercedes-Benz Group

In 2022, EOS intensified their engagement on lobbying by facilitating discussions between the company and a group of investors planning to file a shareholder resolution. EOS agreed to support a letter sent by two institutional investors to the chair and CEO, reiterating their expectations on lobbying and informing the company of the intention to file a shareholder resolution requesting improvements. In a subsequent call with other investors, EOS encouraged the company to make a shareholder resolution unnecessary by publicly committing to carrying out a lobbying review ahead of the AGM filing deadline. Following the engagements and the possible shareholder resolution, EOS received written assurance from the company in February 2022 that it would carry out a review of its associations' lobbying activities and publish this as "Mercedes Benz Group Climate Policy Report" with its sustainability report annually from 2023. Ahead of the 2022 AGM, the company also committed to providing assurances to investors, including that a declaration of intent would be included in the CEO's speech and the supervisory chair's letter and corporate governance roadshow materials. This made the filing of a shareholder resolution unnecessary. The company published its first Mercedes Benz Group Climate Policy Report, making a key step towards improved lobbying disclosure.

EOS will continue to engage with the company on the quality of its disclosures. Investors launched the Global Standard on Corporate Climate Lobbying to better articulate best practice in companies ensuring that their direct and indirect lobbying practices are aligned with the Paris Agreement. This consists of 14 indicators in areas of policy and commitment, governance, actions and specific disclosures that provide companies with clear guidance on what investors are expecting from them.

The NGO Influence Map assesses existing lobbying reports against these global standards to assess how well these are aligned with investor expectations. Mercedes Benz' lobbying report only scores 29/100 points, thus EOS are continuing engagement with the company for further improvements.

ii. Wellington Global Opportunistic Value – Engie SA

Wellington is the Scheme's public equities manager focused on Value companies.

Engie is currently one of the portfolio's largest emitters but has set a net-zero-by-2045 goal for Scopes 1, 2 and 3 emissions, and expects to be out of coal generation by 2027. Wellington expect Engie's robust development of its renewable infrastructure to support the target of reaching a 58% mix of renewable electricity generation by 2030, and their SBTi commitment to a well below 2-degree scenario. A key risk is that of stranded natural gas infrastructure, which Engie plans to mitigate through a focus on green hydrogen development. During a recent engagement, Wellington's Global Industry analyst and ESG analyst learned that Engie expects to gradually replace fossil gas with biogas and/or hydrogen. Combined-cycle natural gas plants are also expected to eventually run-on hydrogen. Engie currently has 8 gigawatts of hydrogen development projects, making it one of the emerging leaders in Europe on this front.

Engie is a French-based integrated utility company with operations across the globe. Wellington believe the company can be a long-term winner of energy transition as it refocuses growth plans from fossil-fuel based infrastructure to developing new renewable energy. While Engie is not typically thought of as a major renewable developer, it is one of the largest renewable developers in Europe, developing 4 gigawatts of new wind and solar capacity each year.

Wellington recently engaged with Engie's CEO, and were encouraged by measures the company has taken, such as freezing the utility rates for certain residential consumers and working with the French government to offer extra support to economically vulnerable customers to help them navigate record-high natural gas prices. These initiatives had a short-term negative impact on the company's cash flow generation which Wellington expect the company to recoup in the future. They also admire Engie's willingness to advise Europe throughout this energy crisis and to take necessary steps to diversify Europe's natural gas supply away from Russia. During the discussion, Wellington gained confidence in the company's plan to accelerate wind and solar development, funded by sales of non-core assets, which will play a critical role in reducing Europe's dependence on fossil fuel imports. Wellington believe Engie's accelerating strategy to build more renewables will be a positive outcome for the environment, for society, and, most importantly, for shareholders.

iii. Ninety One – Croda

Croda is a leading bio-based chemical producer whose output, which mainly serves as ingredients for products such as skin creams, vaccines, and biological pesticides, replaces carbon-intensive, fossil-fuel-based alternatives. Croda is an enabler of decarbonisation in industries such as personal care and crop protection. In addition, some of its products offer efficacy advantages, for instance, its adjuvants decrease the amount of active ingredients required in a pharmaceutical product to deliver the same health outcome.

In the second quarter of 2022, Ninety One had an onsite meeting with Croda, visiting one of their manufacturing plants in Spain. This site visit was used to better understand the contribution of the company's new flavours and fragrances business which is made up of acquisitions from 2020 and 2021 – Iberchem and Parfex. Notably, Iberchem has already established its "green future" label and Ninety One expect products that minimise environmental impact to grow.

In the fourth quarter, Ninety One also visited the company's manufacturing site in the UK, in which they were able to review the chemical production process and research & development facilities. Both

site visits enhanced their understanding of the significant know-how required to use bio-based feedstocks both in manufacturing and research & development (95% of Croda's research & development pipeline is bio-based). The company's target is to increase feedstock from 52% bio-based to 75% by 2030. Meeting this target is essential to achieving the 13.5% reduction in upstream scope 3 emissions by 2029 (both focuses of Ninety One's 2022 engagement goals). These site visits helped Ninety One to understand the challenges and opportunities in decarbonising the chemical sector, and, subsequently, they have gained confidence in the Croda's ability to meet its ambitious goals. During their scope 3 discussions with the company, they highlighted the continuing work to better understand its emission baseline, with the company undertaking lifecycle analysis for all its key raw materials. Given the complexity in scope 3 calculations, Ninety One believe this is a key piece of work to ensure the company has the best possible understanding of its supply chain emissions and where it needs to target its decarbonisation efforts.

Additionally, Ninety One engaged with Croda on its land/biodiversity targets and reporting. More specifically, they met with the Managing Director of their crop protection business, who leads on Croda's Land Positive Commitment. They spent time discussing Croda's methodology for calculating land savings as a result of use of their bio-stimulants, adjuvants, and seed coatings. They asked Croda to provide more information around these calculations in follow up disclosures. They also discussed Croda's goal to develop a scientific-based target for the company's impact on nature with a desire to become "nature positive", although this remains very early stage. They also had a separate discussion relating to the company's exposure to biologically sensitive areas. Croda has so far not identified any operating areas within biologically sensitive areas, but some operate close by, so the company's mitigating efforts will be area specific. This is an area Ninety One will be continuing to monitor in 2023.

2) <u>Stewardship in private equity</u>

The Scheme has committed capital to a diverse selection of managers over a long period. Climate change, net zero, broad-ESG and diversity all continue to be a focus of our stewardship in PE in ongoing reviews and in particular where CPTI are part of Advisory Committees.

In private equity, investments in funds and co-investments are regularly evaluated. For example, consideration of ESG factors for both fund and co-investment opportunities is a critical input to the monitoring process as well as in the ongoing stewardship. The majority of BCSSS' private equity investments are via the PE advisor JP Morgan. Here JP Morgan will act as a steward of the underlying assets on the Scheme's behalf and raise any queries or challenge with the underlying manager. This includes taking Limited Partner Advisory Committee (LPAC) seats where possible and pushing for agendas to include ESG priorities. BCSSS has LPAC seats with 12 funds currently. Several examples of the ESG approach in this area are detailed below:

Company A: JPM spent substantial time in an LPAC meeting understanding the company's approach to reducing their carbon footprint. The company has made a commitment to reduce emissions from their own operations (scope 1 and 2) by 60% by 2030, versus the 2021 baseline. JP Morgan will monitor this going forward and has asked them to provide examples of what they are doing to track progress and to meet the target.

Cinven Fund 7, in which BCSSS is an investor, was awarded top 40 ESG innovator by Real Deals early in 2023; the firm has made material efforts to enhance its ESG function and introduced a standalone ESG Value Creation Playbook. It also made use of a sustainability-linked loan at the firm level with its interest rate linked to annual performance targets centred on diversity, decarbonisation and ESG

governance. Additionally, Cinven co-led the Climate Change Working Group, developing a carbon valuation guidance framework for the private equity industry. Good progress was made throughout the portfolio in 2022, with 90% of portfolio companies reporting GHG emissions, more than half have in place or are developing a decarbonisation plan, and two thirds are using renewable electricity. In 2022 Cinven further strengthened its climate strategy by setting a target for 100% of eligible portfolio companies to set a Science Based Target by 2030; additionally it has set a target for a 42% reduction in its operational emissions (scope 1 and 2) by 2030. Following a carbon footprinting review of the portfolio in 2022, Cinven found that 85% of its emissions come from four portfolio companies due to their production processes and value chain. Cinven is working with these companies to actively manage their emissions. Support across the portfolio includes helping companies to source renewable electricity, improve energy efficiency and build action plans to decarbonise.

Another example is Restaurant Brands Iberia, a QSR platform. During 2022 Cinven supported six months of negotiations between the company and several power generators, resulting in the signing of a 10 year PPA with Iberdrola, covering 75% of its energy consumption. The PPA significantly increases the proportion of the company's energy needs met by renewable energy sources from 5% in 2022 to 75% in 2027. It will also make energy savings of around 150 MWh per year.

3) Stewardship in infrastructure – Greencoat Solar Fund II

During 2022 the Scheme made no new infrastructure commitments but continued to work with its incumbent managers to monitor climate-related topics. The Scheme has an investment in Greencoat Solar Fund II, which is invested across a diverse portfolio of nearly 119 solar farms in the UK that has over 1MW of capacity. CPTI notes the manager's commitment to renewable infrastructure throughout its business lines and how it has improved its ESG processes including focusing on the supply chain through formal supplier monitoring and reducing risks associated with modern slavery. The manager has increasingly improved its measurement and tracking of ESG performance culminating in its third annual ESG report at the end of 2022. The ESG Framework focuses on 9 areas including enhanced TCFD questions and monitoring of biodiversity, environmental impact and climate risk. The manager will hold workshops with portfolio companies to share best practices and enable collective learning. The Scheme continues to work with Greencoat to improve its emissions reporting.

4) CPTI Stewardship in Property – Nuveen Real Estate Asset Management

As described in more detail earlier in this report, CPTI's own stewardship of the Scheme's real estate assets led to a change in property manager, a project which involved in depth engagements between CPTI and prospective managers. As part of the onboarding clear goals were set for tenant engagement with the target of 90% of tenant level energy data to be reported by 2024. This would be a significant leap from previous levels. Further objectives which were engaged also focused around net zero carbon business plans, repositioning toward energy efficient investments and development of asset level plans focused on community engagement.

Shortly following Nuveen's appointment to the Scheme, the manager introduced itself to a large tenant within one of the Scheme's industrial estates, Winwick Quay Business Park. The tenant informed Nuveen of their intention to install solar photovoltaic panels on the property at their own expense. The cost to install the panels to the tenant was revealed to be significantly higher than the costs should Nuveen manage the installation due to the economies of scale available to the manager.

Nuveen have since negotiated a deal with the tenant which will see the tenant increase their lease term by 10 years, improving the income profile of the asset. In return for the lease extension, the Scheme will install the solar panels and sell the power back to the tenant, providing a positive IRR to the Scheme while also limiting tenant costs and reducing the carbon intensity of the property.

Appendix 3 – Scenario Analysis

The Trustee has reviewed the analysis and concluded that it would not conduct new scenario analysis in the 2023 Scheme accounting year since the results would not be significantly different and the available models remain flawed, particularly in relation to modelling physical risk. The Trustee agreed to instead wait for the availability of new or improved scenarios or modelling capabilities, or events that might reasonably be thought to impact key assumptions underlying scenarios. The decision to conduct new scenario analysis will be revisited again in 2024, however as required new scenario analysis will be undertaken by 2025.

Approach

Understanding the performance of the Scheme's assets under various scenarios is a key part of the risk management and asset allocation approach. This applies to climate in the same way as inflation or recessionary scenarios are considered. The approach here is both quantitative where possible, understanding both risks and opportunities, and also qualitative in understanding how different assets may be positioned.

In terms of quantitative analysis, after reviewing a variety of providers and observing what other schemes had done, consultant Mercer was commissioned to undertake the first climate scenario analysis for the Scheme in 2021. Mercer was able to consider the whole portfolio for the analysis albeit proxies based on rough asset class definitions were used for private assets.

Scenario Analysis Methodology and Caveats

Mercer's model works as follows:

1. Third party Cambridge Econometrics delivers assumptions on transition and physical damages inputs across different regions.
2. Each asset class and sector are linked in the model to an economic variable e.g. GDP and assigned a sensitivity to that variable. The model matches each risk factor (spending for transition or physical damages) to specific sectors and regions.
3. The risk factors and risk sensitivities are then applied to the portfolio under each scenario.

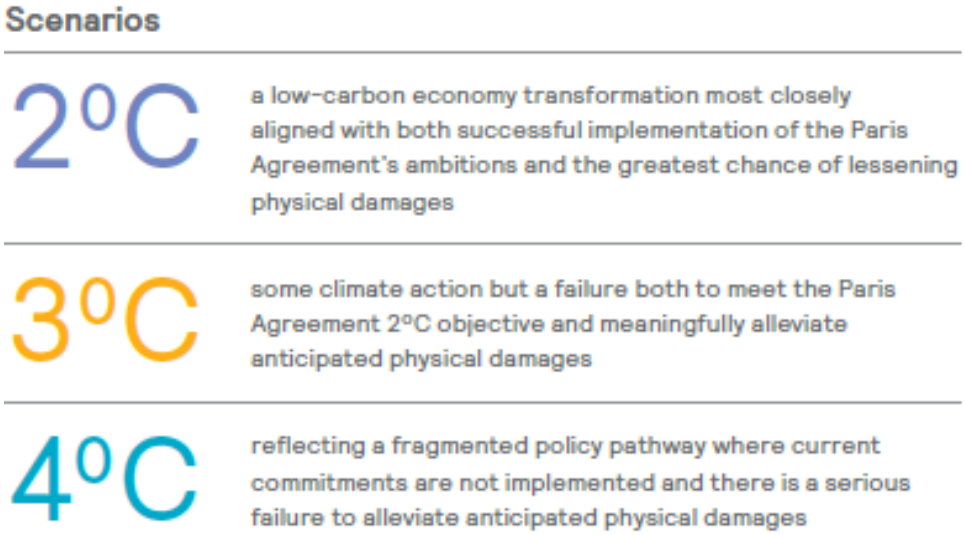
There are a number of things that have not been included in the model. Additionally, whilst this was a leading model as recently as last year, the methodology and data used is now somewhat dated in this fast-evolving area. Mercer is in the process of updating the model and data and expects a number of key changes. The following key limitations and aspects not covered in the model are:

- Physical impacts are underestimated (e.g., feedback loops like permafrost melting).
- Financial stability and insurance "breakdown" (e.g., systemic failure, inevitable policy response and uninsurable 4^0C).
- Most adaptation costs and social factors are not priced (e.g., population health, migration).
- Multi decade timeframes and mean returns used here lead to small average impacts rather than true stress tests. All of the caveats above also mean the impacts to our scheme of physical damages in particular are likely to be underestimated.
- The impact on future pension payments (i.e., the Scheme's liabilities) were not directly included in the model.

Given the above, in taking conclusions as discussed below, CPTI has advised the Trustee to focus on relative impacts and whether impacts are positive or negative, rather than the specific numbers in which we have low confidence and are likely to change each time we present this.

Chosen scenarios

The below figure summarises the three scenarios used for the analysis. The first scenario reflects a successful transition, limiting temperatures by the end of the century (albeit not keeping temperatures below 1.5 degrees) and the other two show increasing impacts of physical damage.



These scenarios were chosen in line with regulatory requirements and also to address the key areas of risk and opportunity. The lower temperature scenario demonstrates greater transition risk and opportunity, and the higher temperatures incorporates greater physical risk. While a 1.5-degree scenario was not run, the effects are expected to be in the same direction but of greater magnitude to the 2-degree scenario.

Results

Some of the result from the scenario analysis undertaken by Mercer are shown over the next pages. In each case Mercer have modelled the cumulative impact of different regulation, price change or physical events occurring vs not occurring.

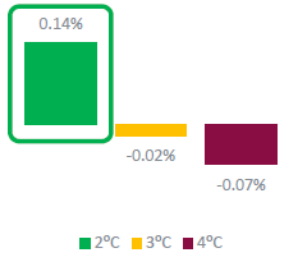
The first figure below shows the per year impact of the 2 degree (successful transition) and two unsuccessful, physical impact scenarios. The figure shows the performance impact of the scenarios on the total portfolio, these are assumed to be experienced every year for the whole period and so in aggregate are much larger than the single year impacts shown. While the analysis here shows the impacts smoothed over a long period, we expect many physical risks to impact prices in this decade (i.e. before 2030) and thus will impact our assets. The transition will also happen (or fail) this decade. As such the longer dated time frames remain relevant even though much of the Scheme's liabilities will be paid sooner. In the two-degree scenario, the portfolio benefits from an additional return of 0.14% per annum based on the asset allocation at the time of analysis. The 3 degree and 4-degree scenarios both detract from performance.

Total Portfolio to 2030 and 2050, Annualised

The results emphasise the physical damages risks and why a below 2°C scenario is most beneficial, and the 4°C and 3°C scenarios are to be avoided, from a long-term investor perspective.

SAA – 2030

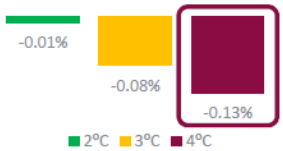
Under 2°C to 2030, the SAA is expected to benefit from the low carbon transition. This provides a +1.7% return benefit, on a cumulative basis.



Climate change impact on return (% p.a.)

SAA – 2050

Under high carbon scenarios to 2050, particularly 3°C and 4°C, physical risks act as a negative drag on returns. Fund returns are expected to degrade by -4.1% on a cumulative basis.



Climate change impact on return (% p.a.)

The Coal Pension Scheme SSS Fund has exposure to infrastructure, which is driving the positive result under 2°C to 2030. In general, the positive expectations for infrastructure are given the more stringent climate change policy in this scenario driving a period of significant investment in this asset class. Mercer also expects exposure to clean technology innovation and renewable assets in most infrastructure allocations under a low carbon transition.

The above green bars for the 2-degree scenario indicate that in a transition our infrastructure assets will do well through the period to 2030. The numbers are smaller to 2050 as results are just averaged over a larger number of years. The yellow and red bars show that physical damages will hurt our portfolio in the period to 2030 and 2050 – the 2050 bar is bigger as more damages are modelled to happen by this period. The numbers above are due to happen each and every year so for the left chart need to be multiplied by 9 for the total effect and the right chart need to be multiplied by 29 for the total effect. Whilst the total numbers are bigger we still expect these to be an underestimation.

This next figure shows how the portfolios SAA at time of analysis compares with what Mercer defines as a 'sustainable portfolio' – one tilted to benefit from the climate transition. The Sustainable portfolio performs much better in the transition scenario and no worse in the other two scenarios. Again these performance amounts are expected to occur each and every year for the time periods shown and so the aggregate numbers will be much larger. So to 2030 the sustainable portfolio is expected to perform better than the current portfolio by 7% under a successful transition scenario.

The analysis shows the limited downside risk of 2°C scenario aligned investment, vs 4°C aligned 'business as usual' investment, as the modelled portfolios are similarly impacted under a 4°C scenario.

		SAA	SUSTAINABLE PORTFOLIO
		Climate change impact on return (% p.a.)	
2°C	2030	0.14%	0.72%
	2050	-0.01%	0.37%
	2100	-0.06%	0.11%
3°C	2030	-0.02%	0.04%
	2050	-0.08%	0.03%
	2100	-0.12%	-0.04%
4°C	2030	-0.07%	-0.06%
	2050	-0.13%	-0.10%
	2100	-0.19%	-0.14%

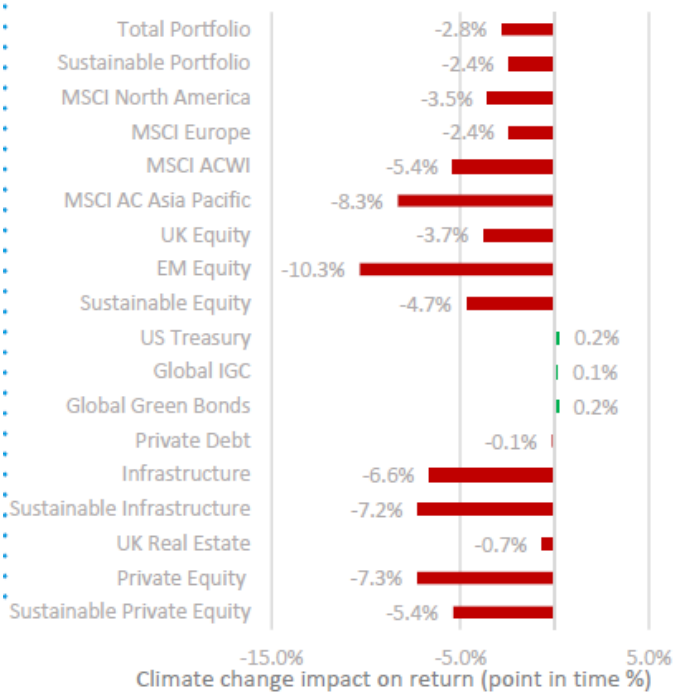
≤ -10 bps > -10 bps, < 10bps ≥ 10 bps

"Low carbon transition premium" is found under 2°C to 2030, 2050 and 2100 for the Sustainable Portfolio, as compared with just 2030 for the SAA.

The below figure shows the impact of the 4 degree scenario taken as a loss i.e. adding up the losses from each year. As with the above caveats this is likely to be a significant underestimate of actual losses but shows the relative impact across different areas of the portfolio as well as the general negative impact. So for example Private equity on average will return 7.3% less than it otherwise would and sustainable equity 5.4% less than it otherwise would. Again we would question whether in actual fact returns across the board would be absolute negatives.

STRESS TEST TOWARDS 4°C AND 80% MARKET AWARENESS

This situation could e.g. arise should multiple natural disasters occur across key markets (to which the portfolio is exposed), which act as a return detractor.



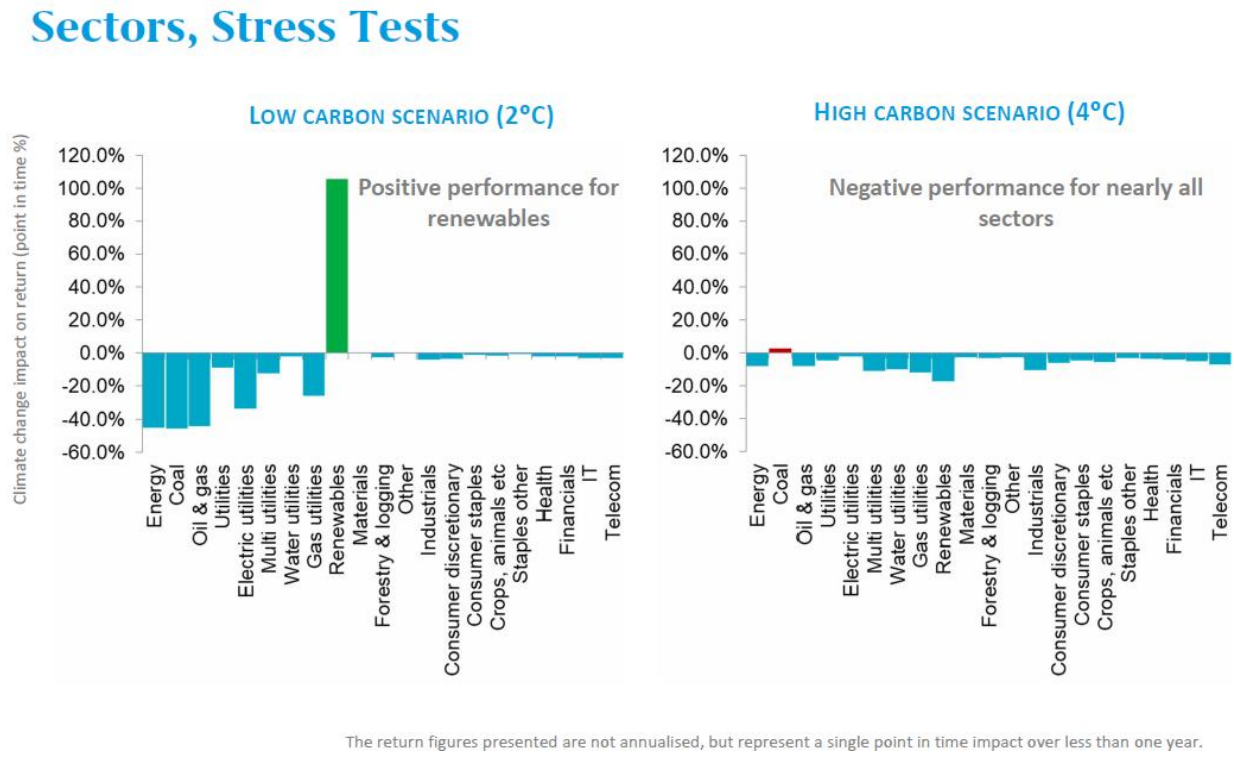
Under this stress test scenario, the expected return impact to the SAA is approximately -2.8% and for the Sustainable Portfolio is approximately -2.4%.

The largest negative impacts under 4°C are for real assets (in particular infrastructure) and equity exposed to quadrupling of physical risks as compared with today

Fixed income, in particular the US Treasury allocation, is less sensitive to modelled climate risks, which is partly due to modelling limitations, but also partly due to the asset class overall characteristic as a safe-haven asset.

The return figures presented are not annualised, but represent a single point in time impact over less than one year.

The figure below shows the impact on the portfolio of both the successful climate transition (LHS) and the worse physical risk scenario (RHS) both taken as a single number adding up the events that may occur across time. The impacts across each sector of the equity market is shown. Whilst the actual performance is likely an underestimation the relative performance of different sectors is a useful guide. The key thing we take from this chart is the opportunity to invest in areas of Climate Opportunity which could meaningfully outperform.



Liabilities and funding strategy

The Scheme liabilities (i.e. the future payments to be made from the Scheme assets) could be affected by climate change in two ways:

- If UK inflation rates change in future as a result of climate change.
- If the Scheme members live longer or die sooner as a result of climate change.

In both cases, it is also important to consider the timing of when climate change may influence these factors. This is because the average age of members (weighted by pension amount) is around 77 years old and over 65% of the Scheme's future payments (in real terms) are expected to be made over the next 10 years (i.e. over the short and medium term time periods defined by the Trustee). So, for climate change to have a meaningful impact on the future payments from the Scheme these impacts will need to happen sooner rather than later.

UK inflation rates

Whilst the scenario analysis modelling carried out by Mercer did not directly consider the impact on the Scheme's liabilities, they have considered what might happen to inflation in the scenarios they modelled. That in turn has then allowed the Trustee to consider any resulting impact on the Scheme's liabilities.

Under the 2 degrees Scenario the driver of the change in UK inflation rates is the transition to a low carbon economy. Most of these impacts would happen in the short to medium term (less than 10 years). There are a number of elements of the transition which have the potential to be inflationary, including:

- Additional costs of businesses transitioning being passed to customers.
- Carbon pricing increasing input costs and these again being passed-on.
- Investment from both public and private sectors stimulating the economy.

An increase in inflation of the order of 0.25% to 0.5% pa over the first 10 years could be expected in this scenario.

Following the transition i.e., beyond 10 years, the impact of this scenario would likely be to reduce the rate of inflation. Reasons for this include:

- The move to renewable energy sources and development in technology would reduce energy costs. These savings may be passed to customers.
- Costs associated with paying back debt (private and public) would dampen economic growth and therefore inflation.

These impacts would be expected to offset some but not all of the cumulative increase in prices described above.

These changes in UK inflation would result in an increase of around 2% to 4% in the amount of future payments to be made from the Scheme (i.e. the Scheme liabilities).

In this scenario it is expected that the current investment strategy would provide a cumulative additional return of around 2% over the period to 2030 (so 0% to 2% lower than the increase in liabilities) and a more 'sustainable portfolio' (as modelled by Mercer) would provide an additional return of around 7% (so 3% to 5% higher than the increase in liabilities).

Therefore, it appears that the Trustee's funding strategy would remain broadly fit for purpose within this scenario, particularly noting the extra resilience provided by the existence of the UK Government Guarantee should the Scheme's investments ultimately fail to provide the returns necessary to meet all future payments.

Under the 3 degrees Scenario, the transition would initially be muted and so there would be no material impact on inflation in the first 10 years. Beyond that time point, a mix of delayed transition efforts and the impact on physical damages, would likely increase the rate of inflation. Physical damages could impact inflation via the following:

- Increased water shortages.
- Food shortages due to the impact of both drought and flooding on agricultural productivity.
- Potential impacts on supply chains due to natural disasters and reduced willingness to trade scarce commodities.

These impacts could increase inflation by up to 0.25% pa from 10 years' time. Given the Scheme's maturity, this delay to the inflationary impact mutes the impact on the liabilities only resulting in an increase of around 1% in the amount of future payments to be made from the Scheme (i.e. the Scheme liabilities).

Under the 4 degrees Scenario, the key driver in the changes to inflation would be the physical damages. As with the 3 degrees Scenario, these impacts could increase inflation by up to 0.25% pa

from 10 years' time. In the longer time, the 4 degrees Scenario would likely bring about greater resource scarcity and higher inflationary pressures. However, these would be beyond the key time horizon for the Scheme so the impact on liabilities would broadly be expected to be the same as the 3 degrees scenario.

Under both the 3 degrees and 4 degrees scenarios, the impact on the assets would be negative which would put more pressure on the Trustee's funding strategy than under the 2 degrees scenario. This might make it more likely that the Scheme may have to rely on the UK Government Guarantee than in the 2 degrees scenario. But ultimately the existence of the Guarantee provides a resilience to the Trustee's funding strategy in both the 3 degrees and 4 degrees scenario.

UK life expectancy

The impact climate change will have on UK life expectancy is very hard to predict and will also depend on non-climate change factors (e.g. medical breakthroughs and health service funding). One possible consequence of climate change is that global warming leads to both warmer UK winters and summers. This would likely reduce the number of cold-related winter deaths but increase the heat-related deaths. It is hard to predict with any kind of certainty the overall impact of this.

Furthermore, given the maturity of the Scheme, it seems unlikely that the climate change impact on the life expectancy of the Scheme's members will be material, particularly over the next 10 years when the majority of the Scheme's liabilities are expected to be paid. As such, the Scheme's funding strategy is expected to be relatively resilient to the effects of climate change on life expectancy.

Conclusions from Scenario Analysis

The Scenario Analysis shown reinforced the conclusions the Trustee had already reached on the significance of climate risk and opportunities as discussed throughout this document:

- Climate change could have a significant impact on the financial outcome from the Scheme's investments and potentially on the Scheme's liabilities.
- There are significant opportunities and risks presented by climate change – both transition and physical.
- The risks and opportunities vary across asset class.
- There are options to shift the portfolio to better capture the opportunities and reduce the risks.

As such the scenario analysis reinforced the Trustee's desire to move forward with increasing the ability to assess the portfolio's exposure to risk and opportunities and to continue looking to reduce unrewarded risks and take advantage of opportunities in-line with its fiduciary duty to deliver the best outcomes to all members.

The summary of actions taken is included in Section 3 and 4 of this document. As discussed above, whilst the greater understanding the Trustees have built around climate risk and opportunity has not changed the overall funding and asset strategies, it has led to changes within asset classes and around particular managers and mandates.

In terms of the scenario analysis itself, the impacts of a climate transition and of significant planetary warming are believed to be underestimated by this analysis. As such, no comfort can be taken in the magnitude of the numbers, particularly under the 3 and 4 degree scenarios.

That said, the existence of the Government Guarantee does provide welcome security to members' benefits should the impact of climate change be such that the Scheme's assets generate insufficient returns to meet all future payments, with the Government required to provide any shortfall in funding.

Signed by the Chair of Coal Staff Superannuation Scheme Trustees Limited.