Scottish Hydro-Electric Pension Scheme

Disclosures in respect of Taskforce on Climate Related Financial Disclosures ("TCFD") for the Scheme year ending 31 March 2023

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Introduction

This report sets out the approach of the Trustee of the Scottish Hydro-Electric Pension Scheme ("the Scheme") with regard to assessing, monitoring and mitigating climate-related risks in the context of the Trustee's broader regulatory and fiduciary responsibilities to our members.

We believe that climate change is a systemic risk and an immediate concern. To ensure a sustainable future and to safeguard economic growth, we believe that concerted global action is required to tackle the climate crisis. Improved transparency on climate-related matters will lead to improved investment decisions which in turn will improve member outcomes over the longer term. This has created focus and an imperative to act.

Therefore, we are supportive of any initiative that helps improve disclosures and enhances transparency. The Taskforce Climate-related Financial Disclosures ("TCFD") framework provides a structure for companies, asset managers, asset owners, banks and insurance companies to outline the steps they have undertaken to identify, manage and monitor climate related risks and opportunities. The TCFD framework is designed to increase comparability but allow sufficient flexibility to communicate the specific approach adopted by each entity. As such, we support the TCFD recommendations.

From 1 October 2021, pension schemes above a certain size have been required to comply with the TCFD requirements for pension schemes. These requirements applied to the Scheme from 1 October 2022. This report is therefore our first disclosure under the TCFD.

The Scheme is a final salary defined benefit scheme which comprised 4,464 (296 active, 884 deferred, 3,284 pensioner) members, with total assets of £1,479m and gilts liabilities of £1,327.5m, giving a funding level of 111.5% at 31 March 2023 on a gilts basis.

Background

The TCFD was commissioned in 2015 by Mark Carney in his remit as Chair of the Financial Stability Board. The TCFD (or "taskforce") was asked to develop voluntary, consistent climate-related financial disclosures that would be useful in understanding material climate-related risks. In 2017 the TCFD released its recommendations for improved transparency by companies, asset managers, asset owners, banks, and insurance companies with respect to how climate-related risks and opportunities are being managed. Guidance was also released to support all organisations in developing disclosures consistent with the recommendations. For the pensions industry, relevant guidance has been produced by the Pensions Climate Risk Industry Group ("PCRIG").

The taskforce's report establishes recommendations for disclosing clear, comparable and consistent information about the risks and opportunities presented by climate change. Their widespread adoption will ensure that the effects of climate change become routinely considered in business and investment decisions. Adoption of these recommendations will also help better demonstrate responsibility and foresight in their consideration of climate issues, leading to smarter, more efficient allocation of capital, and helping to smooth the transition to a more sustainable, low carbon economy.

The taskforce divided climate-related risks into two major categories: risks related to the transition to a lower-carbon economy and risks related to the physical impacts of climate change. The TCFD report noted that climate-related risks and the expected transition to a lower carbon economy affect most economic sectors and industries, however, opportunities will also be created for organisations focused on climate change mitigation and adaptation solutions. The report also highlights the difficulty in estimating the exact timing and severity of the physical effects of climate change.

The taskforce structured its recommendations around four thematic areas that represent core pillars of how organisations operate: governance; strategy; risk management; and metrics and targets.

The disclosures are designed to make TCFD-aligned disclosures comparable, but with sufficient flexibility to account for local circumstances.

This report provides details of our approach against the four pillars:

- **Governance**: The Scheme's governance around climate-related risks and opportunities.
- **Strategy**: The actual and potential impacts of climate-related risks and opportunities on the Scheme's strategy and financial planning.
- **Risk management**: The processes used to identify, assess, and manage climate-related risks to the Scheme.
- **Metrics and targets**: The metrics and targets used to assess and manage relevant climate-related risks and opportunities to the Scheme.

As well as developing our own reporting for TCFD, we expect our underlying investment managers to be aligned with TCFD. We will continue to monitor this through our regular reporting and ongoing dialogue with the Scheme's investment managers.

We appreciate that the subject matter included within this report is complex with a number of disclosures that we must report on. As a result there are a number of technical terms and concepts that readers may be coming across for the first time within this report. As such, we have included a Glossary as an appendix to this report which provides further explanation and detail on these terms.

Report Summary

We have set out a summary of this report across each of the four pillars of TCFD below.

Governance:

We have overall responsibility for the management of climate-related risks and opportunities. We consider climate change to be a key risk to the Scheme, so have embedded climate-related issues across our strategic decision-making and other governance processes. We are supported by:

(a) a Responsible Investment Working Group ("RIWG") which comprises a sub-set of the Trustee,

(b) investment managers, and

(c) Scheme advisers.

We have agreed our Responsible Investment ("RI") beliefs and a Responsible Investment policy which both inform the approach to climate-related issues and identify the key roles and responsibilities with respect to climate change and broader Responsible Investment issues.

Climate-related risks are discussed at Trustee and Working Group meetings when relevant. We challenge our investment managers on their approach, and we receive advice from our advisers on how climate change could impact areas like the investment strategy and future funding positions.

Strategy:

We have liaised with our advisers and managers to understand processes and current risks to the Scheme, the ability to set targets and to make changes. We have worked to understand risks and opportunities at two levels:

- **Assessing climate risk at mandate level** – With support from our Investment Advisers we have worked with each of our investment managers to understand the processes they use to identify and manage climate risks. We are currently focussing on the low level of climate specific data across some of our investment mandates, this being vital for assessing and quantifying climate risks.

- **Assessing climate risk within the overall investment and funding strategy** – We have undertaken scenario analysis of the Scheme's assets and liabilities to test the resilience of the strategy to various climate scenarios. Given the Scheme's strong funding position and limited reliance on SSE plc ("the Company") the analysis showed the Scheme's strategy is broadly resilient, assuming the financial system continues to function effectively. Whilst the Scheme currently has limited reliance on the Company covenant, we note the Company has a vision to be a leading energy company in a net zero world and has set targets which have been verified by the Science Based Targets initiative. The Company's strategy includes considerable capital investment to accelerate progress towards Net Zero over the five years up to 2026, the majority of which will go to low-carbon infrastructure. As part of the upcoming 2024 Actuarial Valuation process, consideration of climate risks and opportunities will form a key part of the Company covenant review.

  We recognise that climate change could have significant impact in more extreme scenarios. Climate scenario modelling is still an evolving area, with a number of limitations, so whilst the Scheme is currently modelled as being resilient to climate change, we will also monitor and mitigate climate-related risks as part of our risk management process, and will reassess the need to undertake climate scenario modelling each year in order to continue to assure us of our resilience.

We have focussed, and continue to focus, our activities in areas we envisage having medium to long term strategic importance to the Scheme. Our strategic journey plan expects to see the number of investment mandates reduce over the short term and several existing mandates are in the process of run-off. We have agreed to build a new investment grade mandate allocation, as we move our investments towards the long term target strategy.

Risk management:

We consider climate risk as part of our wider approach to managing risk within the Scheme and as part of our wider activity, for example when we carry out a strategy review, when we engage with investment managers and so on.

We have recently undertaken a review of our risk management approach and implemented a number of changes including:

(a) restructuring our approach around 7 principal risks which we deem to be the risks that could have the most significant impact on the Scheme, and

(b) framing regular and project activities in the context of these principal risks. This has included restructuring our meeting agendas in line with the 7 principal risks to ensure that sufficient time is being spent on each. Each principal risk has also been allocated the oversight of a Trustee Director who will be closely involved with any work relating to that risk.

We have identified Environmental, Social and Governance ("ESG") issues (and, within this, climate-related risks) as a key risk to the Scheme and have clearly identified controls and actions in place to manage and monitor these risks.

During the year we have incorporated climate risks into our decision making alongside the other risks factors we consider when assessing our strategy. For example, within the upcoming implementation of a new allocation to investment grade credit, we have agreed climate related targets.

Based on the scenario analysis undertaken, climate-related metrics measured and our other risk monitoring and management processes, we believe that the Scheme's current strategy is resilient, with suitable controls in place. We therefore do not believe that significant strategic changes are needed. However, we believe that our decision during the year to introduce an allocation to investment grade credit should increase overall data availability and quality and gives the opportunity to set climate related targets. In coming years, we will highlight further decisions taken that allow for climate-related risks and opportunities.

Metrics and targets:

We have selected several climate metrics to help measure the Scheme's position and exposure to climate risks and opportunities. We have collected these metrics for the Scheme's mandates as far as they are available, and used these in informing the potential risks identified. Data reported and estimated varied across the managers while some attempted to estimate emissions from other sources.

We have set targets with the aim of improving data quality across all Insight mandates and a net zero target for our new investment grade credit mandate once it is implemented.

Next steps – we will:

- Consider the impact of climate risks and opportunities as part of the upcoming 2024 Actuarial Valuation including considering whether the Scheme's climate scenario analysis needs to be refreshed on an annual basis.
- As part of our overall review of the Scheme's principal risks, further develop our risk management approach to climate-related risks and opportunities where required.
- Undertake annual climate metric reporting against the chosen metrics for the Scheme and use this to both monitor performance against our targets as well as to aid in our investment decision-making as appropriate.
- Revisit further net zero targets for our mandates in future years.

We will provide an update on these steps within our next report. The following pages provide detail on our climate risk disclosures for the Scheme year ending 31 March 2023.

Governance

Governance Disclosure 1: Describe the Trustee's oversight of climate-related risks and opportunities.
We are aware of climate change and its potential impact not just on the environment but on pension schemes and member outcomes. We have acknowledged this by building climate risk and opportunities, as well as other climate-related issues such as policy directions, into our ongoing training, beliefs and wider governance policies and processes.

Trustee training
We have undertaken relevant training on climate change and broader RI topics both prior to and during the Scheme year to 31 March 2023. Notably, we received training on climate-related metrics and targets in June 2022 as well as broader training with respect to the TCFD requirements, including governance, strategy and scenario analysis, risk management and metrics and targets in December 2022. We have also undertaken training prior to the Scheme year that this report covers on broader Responsible Investment issues, for instance training on ESG matters in 2021.

Further training will be undertaken as required to maintain our knowledge and understanding of the topic and how it applies to the Scheme.

Investment beliefs
We undertook an initial climate-related investment beliefs workshop in November 2021. Following this we discussed and finalised our RI beliefs and policy during RIWG meetings and Trustee meetings in the first half of 2022.

These beliefs are documented in the Scheme's RI policy (on which more information is below). We expect to review other Scheme documentation as appropriate to embed these beliefs within the wider Scheme governance. The wider principles that govern our approach to investment, including the RI policy itself, are documented in the Scheme's Statement of Investment Principles as published on the Scheme's website here.

We plan to review these beliefs on a regular basis, with a full, in-depth review at least every three years. In the meantime, we will work to embed these beliefs into our wider governance and decision making processes, using them to guide the approach we take to specific issues and how we address them in our strategy.

Responsible Investment policy
We have prepared and agreed a formal RI policy for the Scheme that outlines our approach to climate-related issues and the oversight of climate risks and opportunities. The policy also sets out roles and responsibilities relating to climate-related issues and how these issues are brought to our attention. This includes our role in monitoring investment managers and a responsibility for ensuring all regulatory requirements are met, as well as ensuring that the Scheme's governance processes are appropriate to ensure the proper management of all ESG and climate-related risks.

The Scheme's RI policy considers the whole ESG spectrum. This includes climate change and we give climate change due consideration given its financial materiality. Within this report, we refer to climate change, however relevant sections in the RI policy may instead refer to ESG more broadly.

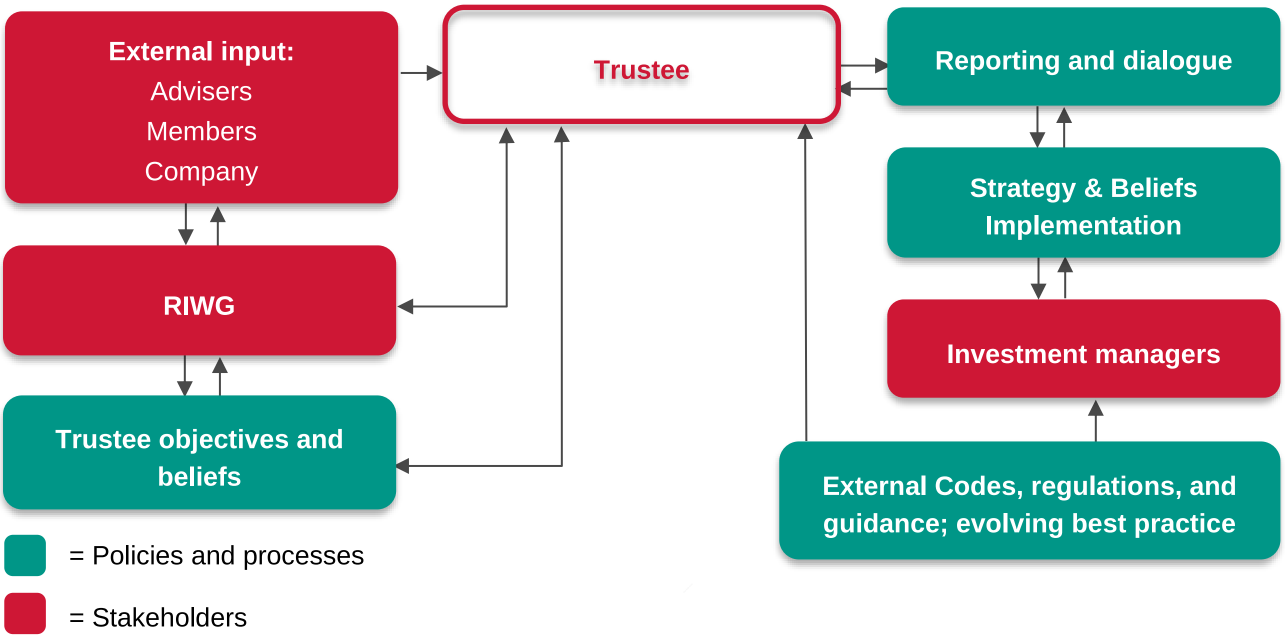
Governance policy and structure
We have overall responsibility for ensuring that RI considerations, including climate change, are taken into account, where relevant, in all areas of the Scheme's management. We also retain overall responsibility for the setting and implementation of the Scheme's approach to RI. This includes responsibility for ensuring all regulatory requirements are met and that the Scheme's governance processes are sufficient to ensure the proper management of all ESG related risks.

However, in fulfilling our duties, we delegate certain responsibilities to other parties. The parties with a role in the Scheme's management, how they incorporate the identification, assessment and management of climate related risks and opportunities into that role and the methods we use to assess each party is set out in this document and in the section below. We have formed a Responsible Investment Working Group ("RIWG") which comprises a sub-set of the Trustee. The RIWG plays a key role in helping manage RI considerations.

We oversee the Scheme advisers by challenging and reviewing advice at working group and Trustee meetings. Our Investment Advisers also have set objectives in place, and we undertake an annual review of performance against these objectives.

The current governance structure of the Scheme and key relationships is illustrated in the chart below.

Diagram 1 – Scheme governance structure and key relationships



Delegation and oversight

There are a number of responsibilities delegated to the Scheme's investment managers. The RIWG monitor these asset managers on an ongoing basis with a specific focus on climate-related issues. Our Investment Adviser assists with the ongoing monitoring of the investment managers, including rating the approach of the managers with respect to climate related issues. Further details on these responsibilities are also included under Governance disclosure 2.

We have delegated a number of actions, including the initial consideration of Responsible Investment related issues across the Scheme's investments, to the RIWG. The RIWG meets regularly to ensure that key RI legislative changes are understood and the minimum requirements that the Scheme must adhere to are complied with. Further roles and responsibilities with respect to climate-related issues are outlined in the Terms of Reference for the RIWG. Trustee effectiveness reviews are carried out annually, which include assessment of the governance structures in place including the RIWG.

Governance Disclosure 2: Describe the Trustee's role in assessing and managing climate-related risks and opportunities.

The parties with a role in the Scheme's overall approach to climate-related issues, including the assessment and management of climate-related risks and opportunities, are set out below alongside with the methods we use to assess each party.

The Trustee

The role of the Trustee is to oversee the management of the Scheme's strategy and assets, including the implementation of the RI policy. We incorporate RI considerations into our management of the Scheme's assets, including identifying and managing ESG-related risks and opportunities in all areas including asset allocation decisions, manager appointments and monitoring of the Scheme's current investment managers.

We are also responsible for ensuring that there are appropriate levels of resource to complete all RI associated requirements, including TCFD reporting, and have agreed to deliver TCFD compliance through the RIWG. We annually review our own role and responsibilities as well as those of the service providers to the Scheme.

Responsible Investment Working Group ("RIWG")

As noted above, the RIWG is a subset of the Trustee. The RIWG aims to carry out all tasks required to enable the Trustee to:

(a) Act in line with the beliefs and principles set out in the Trustee's agreed RI policy,

(b) Continue to progress towards becoming more active in all areas of RI, and

(c) Meet the requirements of the new climate related regulations that came into force from October 2022.

The RIWG consists of two Trustee Directors plus the Scheme secretary and meets regularly, typically at least quarterly. It provides regular updates to the Trustee as necessary.

SSE Pensions Team

The SSE Pensions Team supports the RIWG in the arranging of meetings and taking forward agreed actions between RIWG meetings.

Investment Adviser

The Scheme's Investment Adviser, Hymans Robertson, is responsible for assisting the RIWG and the Trustee to ensure climate-related risks and opportunities are embedded into all investment decisions. They provide advice and training to the RIWG and Trustee regarding regulatory requirements and are expected to incorporate RI considerations into advice regarding any strategy changes or manager appointments.

We have set objectives for the Scheme's Investment Adviser including objectives relating to RI support. The Investment Adviser is assessed against these objectives annually and the objectives themselves are assessed regularly to ensure they remain appropriate. The current Investment Adviser objectives are available as a separate document and are updated on a regular basis.

Actuarial Adviser

The Scheme's Actuarial Adviser, Hymans Robertson, is responsible for identifying any RI and climate considerations which should be incorporated into the Scheme's funding strategy (both short and long term) and in the Trustee's integrated risk management approach. This includes the setting of individual financial and demographic assumptions.

Investment Managers

The Scheme's investment managers are required to integrate ESG considerations, to the fullest extent possible, into their management of each of the Scheme's mandates. The Scheme's investment managers are required to provide frequent reporting on ESG topics including updates at each manager meeting.

On the appointment of any new manager, the Trustee assesses its RI capabilities, with assistance from the Scheme's Investment Adviser, to determine if that manager's approach is aligned with the Trustee's RI beliefs. Once appointed, the Trustee monitors all managers regularly, assessing each manager's RI processes and policy and challenges managers on any issues identified. The RIWG also liaises with the investment managers in relation to RI matters, as required.

Any issues identified and the outcome of the Scheme's monitoring are fed back to the Trustee, via the Scheme's Investment Adviser, at its regular meetings.

SSE plc

The Scheme's sponsor is SSE plc ("the Company"). The Company maintains its own RI policies, objectives, and action plan. The Trustee ensures that there is regular dialogue with the Company to ensure both parties are aware of each other's approach in this area.

Covenant Advisers

Whilst the Scheme does not have formal Covenant Advisers in place, we undertake monitoring activities on the Company covenant on an ongoing basis. This includes ongoing dialogue with the Company and regular reporting from the Company via a representative at Trustee meetings. Consideration is also given to covenant in the Scheme's risk register, which will be discussed in greater detail in the Risk Management section of this report. We maintain awareness of the Company's approach to climate-related issues and we ensure those issues relevant to the Scheme are considered where appropriate, encouraging synergy between the Scheme's and Company's approaches.

Strategy

Strategy Disclosure 1: Describe the climate-related risks and opportunities the Trustee has identified over the short, medium and long term.

We believe that climate change and the expected transition to a low carbon economy is a long term financial risk to the Scheme and member outcomes. We have therefore incorporated climate change factors in our strategic decision-making process as far as possible.

Scheme time horizons

In the context of the Scheme, we regularly consider short, medium and long term time horizons. This is typically done in the context of the Scheme's strategy and journey planning, however in line with TCFD requirements we have considered and defined what these time horizons mean in more detail as they relate to climate-related risks and opportunities. These climate-related time horizons are set out below and we refer to these throughout this report as our time horizons, however where we refer to short, medium or long term this is in the context of the Scheme's broader timescales.

- **Short term time horizon: 2-3 years from now (i.e. short term is the period to 2026)**

  We have chosen 2026 as our short term time horizon because it is in line with the actuarial valuation cycle.

- **Medium term time horizon: 8-10 years from now (i.e. medium term is the period from 2026 to 2033)**

  We have chosen 2033 as our medium term time horizon as this is broadly aligned with the Scheme's current target date for full funding and the Sponsor's climate-related targets in 2030.

- **Long term time horizon: 20 years from now (i.e. long term is the period between 2033 and 2043)**

  Whilst this 20 year long term time horizon is in line with Scheme duration, the Trustee's long term target date to achieve full funding is closer to the medium term time horizon.

As the Scheme continues along its journey plan, the above timescales above will be re-assessed and amended over time as appropriate.

Scheme journey plan

We have agreed a strategic journey plan. This sees our allocations to higher risk/return asset classes such as equities and illiquid credit reduce over the short term. We intend to build an allocation to assets more aligned with insurer pricing, in line with our objective to insure all pensioner liabilities as they emerge.

Table 1 – Our strategic journey plan

	Strategy as at 31 March 2023	Target strategy
Growth	2.0%	-
Income	20.0%	20.0%
Illiquid credit	*7.5%*	-
Investment grade multi asset credit	*12.5%*	-
Investment grade credit	-	*20%*
Protection	78.0%	80.0%
Total	**100.0%**	**100.0%**

Our existing illiquid and multi asset credit mandates are currently in the process of running off. We have agreed to build a new investment grade mandate allocation as we move our investments towards the target strategy shown above. Following gilt market volatility during Autumn 2022, the timeline for implementing the new mandate has been pushed out. It will be implemented as soon as overall Scheme liquidity supports this.

Our funding target is to be 100% funded on a gilts basis, allowing for the cost of expected future benefit accrual, by 2033 and to insure all pensioner liabilities. We achieved this target early so our focus is now on maintaining the strong funding position and managing remaining risk within the Scheme where possible. Climate change has the potential to pose both material risks and opportunities to pension schemes over the longer term. Therefore, we consider it an important factor when thinking about the management of our funding and investment strategy.

Given the Scheme's strong funding position and limited reliance on the Company, we believe the Scheme's strategy is broadly resilient, assuming the financial system continues to function effectively. However, we recognise the potential for severe downside risk to emerge in extreme scenarios, which could threaten the ability to meet our objectives and to pay benefits. It is not possible to escape these downside systematic risks so we focus on areas where we can have the highest impact on real world outcomes and risk reduction and those which are of strategic importance to us. This is set out in more detail below.

Climate-related risks and opportunities

When considering the impact on the Scheme, climate risk can be defined as the potential impact on future financial returns that may arise from climate change. Climate-related risks are typically split into two parts – transition risk and physical risk. These risks may vary in likelihood and intensity over different time horizons and are dependent on how quickly and effectively the world transitions to a low-carbon economy. This is laid out in the diagram below.

Diagram 2 – the varying impacts on climate risk depending on the global response

Aggressive mitigation	Business as usual
We transition to a low carbon economy - so transition risks dominate. These include: Policy changes, e.g. *carbon pricing*, seek to create the changes needed in society. Technology development, e.g. renewable energy, and adoption enable the changes to be adopted.	**Climate change continues to worsen - so physical risks and impacts dominate. These include:** Chronic changes, e.g. sea level rise, agricultural systems impact economic and social systems. Acute changes, e.g. storms, wildfires create damage and give rise to costs of adaptation and reconstruction.

The Scheme is a long term investor. Given the nature of climate change and the time-horizons over which impacts of climate change may be felt, it can be expected that climate-related risks will impact the Scheme in various ways.

Climate-related risks over the Scheme's time horizons

We expect transition risks to feature more prominently over shorter time periods. This view is driven by the likely escalation in climate change regulation over the short-medium term time horizons. This also extends to the Company, whose vision is to be a leading energy company in a net zero world. Over longer-term periods, we expect physical risks to feature increasingly. Both transition and physical climate risks will likely impact the Scheme during its lifetime.

Climate-related risks may be identified, assessed and monitored in a number of different ways. These approaches include looking at climate-related risks and opportunities in detail for each asset in which the Scheme invests. We consider climate-related risks at both an overall strategy level as well as with respect to each asset in which the Scheme is invested. We then engage with the individual managers of these assets and consider what, if any, improvements can be made. We maintain a climate risk dashboard which records the risks identified through these processes (both the Scheme level and mandate level assessments) and is used to prioritise areas for action.

We assess climate-related risks and opportunities when setting investment and funding strategy, taking into account covenant, to ensure a holistic and consistent approach. The tables below set out a summary of the key ESG risks we have identified and monitor. We also consider how the impacts of these risks will manifest over the short, medium and long term. Further detail on the risk management processes in place for the Scheme are set out in the next section of this report.

Table 2 – Our Climate Risks & Opportunities Dashboard – Scheme Level

Risk Area	Identified risks	Impact			Identified opportunities
		Short term time horizon (i.e. to 2026)	Medium term time horizon (i.e. to 2033)	Long term time horizon (i.e. to 2043)	
Investment	Over the short-medium term time horizons, the Scheme is exposed to risk through the remaining equity exposure and credit asset allocations. These are expected to be reduced as part of the strategic journey plan. Medium to long term time horizon plans will see exposure to UK government through the Scheme's Liability Driven Investment ("LDI") portfolio, investment grade credit and buy-ins. The risk is that the ability of underlying investee companies to service debt could be impacted by transition or physical risks. Climate scenario analysis conducted in January 2023 highlighted that the investment strategy appears resilient, with the fast transition scenario (see description below) having the most potential to disrupt returns over the period to our short term time horizon, by c.1% over 10 years.	Low	Low	Medium	Limited investment opportunities given the low risk investment strategy and funding position. However, this will be considered as part of a new credit mandate given the agreed target to have a minimum allocation of 60% to issuers with Net Zero commitments. This target is to be reviewed at point of implementation. Through the buy-ins we hold, we expect insurers will be seeking out opportunities as part of their own climate risk and opportunities assessments under TCFD, due to their long term investment horizons and economies of scale.
Funding	The longevity impact from climate change and potential uncertainties in the funding assumptions poses a risk to the Scheme. The impact of climate change on longevity trends will take time to emerge so we might expect minimal impact over the period to our short term time horizon, with the greatest potential impacts longer term. Inflation and interest rate changes impact liabilities but the Scheme has high levels of hedging to protect the funding level against movements in these market factors.	Low	Low	Medium	Limited opportunities for Scheme funding.

Risk Area	Identified risks	Impact			Identified opportunities
		Short term time horizon (i.e. to 2026)	Medium term time horizon (i.e. to 2033)	Long term time horizon (i.e. to 2043)	
Covenant	Risk of the Company not meeting climate risk targets which may impact profitability and strength of covenant. Longer term physical risks could impact Company assets and infrastructure leading to destruction of value. Reliance on Company covenant is limited because of the Scheme's funding position but could increase in importance if the funding level were to fall due to other risks outlined above.	Medium	Medium	Medium	Capital investment plan to accelerate progress towards net zero over five years to 2026 could see greater growth achieved.

At an underlying mandate level, we are focussed on the mandates that we have the most ability to exert control over and that we expect to hold as part of the Scheme’s longer-term investment strategy. These are, in particular, the current Insight LDI mandate and the Insight investment grade credit ‘buy and maintain’ mandate that is due to be introduced in 2023 or 2024. We have agreed RI objectives in principle for this new credit mandate (discussed further in the Metrics and Targets section of the TCFD report) and as soon as overall Scheme liquidity allows, will move ahead with implementation. We believe that this new mandate, and the related RI objectives, will also give the manager the ability to take advantage of opportunities arising from climate transition.

With respect to the buy-ins that the Scheme holds, we expect insurers will be seeking out opportunities as part of their own climate-related risk and opportunities assessments under TCFD, due to their long term investment horizons and economies of scale.

Given the uncertainty around climate change, the potential global approach and therefore the balance of transition and physical risks that may manifest over the longer term time horizons, the long term time horizon risks to the Scheme have all been classed as medium. This reflects our prudent approach when rating these risks.

Strategy Disclosure 2: Describe the impact of climate-related risks and opportunities on the Scheme's strategy and financial planning.

The systemic nature of climate-related risks has the potential to reduce returns across all asset classes and will have a macro-economic impact that could affect the entire Scheme. Equally, however, the need to transition to a low carbon economy and the innovation which that will require presents a number of potential investment opportunities.

Over recent years we have dedicated considerable time and resource to ensuring that climate-related risks and opportunities are appropriately embedded within our investment processes. This has included engaging with the Scheme's investment managers on individual investee companies and the managers' contributions to wider industry initiatives whilst considering the resilience of our investment strategy to climate change risks.

As noted above, our strategic journey plan will see the total number of investment mandates reduce over the short term. We have focussed, and continue to focus, our activities in areas we envisage having medium to long term strategic importance to the Scheme, including:

- Establishing and refining our RI policy and beliefs with plans to make these publicly available.
- The decision to introduce an investment grade credit mandate with a view to this forming a key part of the long term target strategy. The availability of climate data and ability to integrate RI and climate objectives into the mandate was part of the rationale for this change in strategic asset allocation. These objectives will be reviewed and updated on an ongoing basis. More information can be found in the metrics and targets section of this report.
- Manager selection and design of a new investment grade credit mandate. Consideration of the ability to integrate RI and climate objectives into the mandate formed an important part of the manager selection and implementation process. Due to market events in the latter part of 2022 and early 2023, we have yet to implement this mandate but plan to once there is sufficient liquidity within the Scheme to do so.
- Ongoing engagement with the Company on its own climate transition plans and commitments. Whilst the current strong funding position limits the Scheme's reliance on the Company, climate change and the transition to net zero is highly relevant to its key business activities. The Company's strategy includes considerable capital investment to accelerate progress towards Net Zero over the five years up to 2026, the majority of which will go to low-carbon infrastructure. The Company has established its own net zero transition plan with interim commitments on carbon reduction. As part of the upcoming 2024 Actuarial Valuation, consideration of climate risks and opportunities will form a key part of the covenant review.
- Consideration of RI and climate change as part of the assessment of further insurance buy-ins or a full buyout.

In line with embedding climate-related issues into the Scheme's integrated risk management approach, we will also consider the impact of climate risks to the Scheme's liabilities. This will include possible margins of prudence to make allowance for the economic impacts of climate change, as well as the long term effects of climate change on assumptions such as longevity and mortality. We continue to engage with the Company on the impact that climate-related risks and opportunities may have on the covenant of the Company over the short, medium and long term time horizons as outlined under the strategy disclosures.

Strategy Disclosure 3: Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, include a 2°C or lower scenario.

When developing our assessment of risks to the Scheme as set out in strategy disclosure 1, we considered the impact of three climate scenarios which differ by how quickly and decisively the world responds (or fails to respond) to climate change. We used a combination of qualitative and quantitative assessment to think about what downside scenarios could disrupt or materially impair the Scheme's ability to meet benefit payments.

Quantitative analysis was used to illustrate the potential impact on the expected return from our investment strategy under the scenarios. The scenario analysis was carried out using a model produced by the Scheme's investment adviser. The analysis is not entirely bespoke as it is based on an example pension scheme with a similar investment strategy, but we deem this to be appropriate given the Scheme's circumstances.

In the table below we summarise these scenarios and how they correlate to the variance of the world's transition to a low carbon economy as outlined under strategy disclosure 1.

Results

Based on the specific scenarios considered and thinking about potential funding impact, we think the current funding position provides sufficient buffer to withstand both potential risks and some combination of risks, and still secure the underlying benefits.

That said, we recognise the potential for severe climate-related downside risk to emerge which could threaten the ability to meet our objectives, to pay benefits, and impact wider quality of life for our members. It is not possible to escape these downside risks which are systematic so appropriate ongoing risk management and sound stewardship practices will be crucial. We will continue to monitor the Scheme's exposure to climate-related risk through the collection of climate metrics and ongoing monitoring of the investment strategy, which will flag up specific risks and opportunities in portfolio companies. We will also continue to monitor climate-related risks and opportunities when these arise.

Diagram 3 – the scenarios we have considered and how these may play out in practice

Aggressive mitigation ← → Business as usual

Scenario 1: Green Revolution	Scenario 2: Delayed Transition	Scenario 3: Head in the Sand
Governmental policy: Concerted policy action starting now e.g. carbon pricing, green subsidies.	**Governmental policy:** No significant action in the short term, meaning the response must be stronger when it does happen.	**Governmental policy:** No or little policy action for many years.
Market reaction: Public and private spending on "green solutions". Improved disclosures encourage market prices to shift quickly.	**Market reaction:** Shorter and sharper period of transition.	**Market reaction:** Growing fears over ultimate consequences leads to market uncertainty and price adjustments. Ineffective and piecemeal action increases uncertainty.
Risks that emerge: Transition risks in the short term, but less physical risk in the long term.	**Risks that emerge:** Greater (but delayed) transition risks but similar physical risks in the long term.	**Risks that emerge:** Transition risks exceeded by physical risks.
Paris alignment: High expectation of achieving <2°C warming.	**Paris alignment:** High expectation of achieving <2°C warming.	**Paris alignment:** Low/no expectation of achieving <2°C warming.

Timing of disruption: Immediate → 10+ years

Intensity of disruption: High → Very high

Scenario analysis includes testing a number of elements of the Scheme's overall strategy, such as:

- The current investment and funding strategy, and
- The impact on the covenant.

Further information on what was modelled is included within Appendix II.

How climate-related risks and opportunities impact our investment and funding strategy

The assessments described in the above sections suggest the funding and investment strategy is resilient to climate change, assuming existing financial systems continue in their current form. We recognise the potential for wider systematic risk, for example, collapse of the insurance regime due to physical risks if attempts to limit global temperature rises fail. These systematic risks could impact our ability to meet our objectives but cannot be removed due to their nature. We therefore focus our approach on where we can have the highest impact on real world outcomes and risk reduction, and those which are of strategic importance to us.

Risk management

Risk Management Disclosure 1: Describe the processes for identifying and assessing climate-related risks.

As part of our responsibility for the setting and implementation of the Scheme's RI policy, we must ensure that ESG-related risks, including climate change, are identified, assessed and effectively managed. Therefore, it is crucial that the management of these risks is integrated into the overall risk management of the Scheme. We delegate aspects of this responsibility to other parties, but retain overall oversight, as set out previously in the governance section of this report. Below, where we have referred to ESG risks more broadly, this will include consideration of climate change risks.

Risk management framework

At a simple level, our risk management process comprises identification, assessment, monitoring and control of risk. We take both a bottom-up and top-down approach to risk management, which uses our strategic objectives and approach to the overall Scheme strategy as its starting point.

We have recently undertaken a review of our risk management approach and implemented a number of changes which include:

- **Focusing on the 7 principal risks** which we deem as the risks that could have the most significant impact on the Scheme. There are more granular sub risks detailed under each of which ESG and climate risk are two. Information from several sources is used to help identify risks and we and our advisers are responsible for identifying risks as appropriate.
- **Framing regular and project activities in the context of the principal risks.** This has included restructuring our meeting agendas in line with the 7 principal risks to ensure sufficient time is being spent on each. Each principal risk has also been allocated a Trustee Director as its 'owner' who will be closely involved with any work relating to that risk.

We will report on any further risk management developments in next year's report. We expect the number of principal risks will change as the Scheme continues to evolve over time and faces new or different challenges.

Once risks are identified, they are then evaluated and prioritised based on the overall threat posed to the Scheme. This helps us build up a picture of the Scheme's risks more widely and where climate-related risks sit in the overall risk management framework.

We regularly consider existing and emerging risks to the Scheme, with a full annual review of the Scheme's risk register. If and when new risks are identified, we consider whether these are related to existing principal risks or need added as a new principal or sub risk.

As set out in the strategy section, our climate risk dashboard supports the overall risk management process and contains our assessment of climate-related risks and opportunities from both the top-down Scheme level and bottom up mandate level.

Identification of risks by different parties

ESG and, in particular, climate-related risks can be identified by various parties including the Trustee and any other parties as outlined in the governance section,(e.g. the RIWG, investment managers or the Scheme's advisers) as part of the ongoing management of the Scheme. ESG risks are identified as part of the following processes:

- **Investment strategy reviews** – We consider ESG risks as part of the Scheme's regular investment strategy reviews that are carried out alongside each Actuarial Valuation and on an ad hoc basis as required. These reviews cover the extent to which ESG considerations are taken into account in the selection, retention and realisation of investments. The Scheme's Investment Advisers are expected to integrate ESG considerations into their strategy advice and to highlight any key risks that are included within any potential investment strategy. As part of this work we consider scenario analysis to assist in the identification and measurement of climate related risks in the Scheme's overall strategy.

- **Valuations and covenant reviews** – As part of the triennial Actuarial Valuation process, we consider material financial risks to the Scheme, and ensure that this analysis considers the potential impacts on funding, covenant and investment in an integrated way. Going forwards, this will also include consideration of ESG, including climate-related, risks. When assessing the Company covenant, we will take into account the ESG risks to the Company. We receive regular updates from the Company at Trustee meetings including updates on the Company's own climate targets and progress against these.
- **Considering asset classes** – When assessing new asset classes, potential ESG risks are assessed and discussed as part of the training provided to us. Key ESG risks are taken into account when comparing alternative options. The decision to introduce an allocation to investment grade credit to the investment strategy is an example of this.
- **Selection of investment managers** – When appointing a new investment manager, the Scheme's investment adviser provides information and their view on each manager's ESG policy and capabilities. Each manager is also asked to provide information regarding their own ESG risk management processes as part of the selection process. This information allows us to identify potential risks when comparing potential providers. The Scheme's policy prefers investment managers to engage on ESG issues, rather than divest. This means that we, as investors, are able to influence the approach of those in which we invest in order to drive change, rather than removing them from our portfolio without the opportunity to evolve or change their approach to ESG and climate-related issues.
- **Individual mandates and investments** –The investment managers on behalf of the Scheme will undertake risk analysis at the individual asset level. In doing so, the Scheme's investment managers are responsible for the identification and assessment of ESG risks, including climate related risks and opportunities. Not only will investment managers be tasked with developing and implementing processes to identify existing ESG risks but also with adopting a forward-looking approach to identifying emerging risks.

  Investment managers are expected to identify these risks to us in the following ways:

(a) As part of their regular reporting (as investment strategy is subject to continuous review by the Scheme),

(b) During their presentations when meeting with us and the RIWG,

(c) As part of their more in-depth Responsible Investment meetings with us and the RIWG,

(d) By providing climate metric data in line with the TCFD requirements, and

(e) By providing any relevant scenario analysis.

We meet with each of the Scheme's investment managers regularly to gain a more in-depth understanding of each manager's process and the risks inherent in each of the current mandates. At all meetings with the Scheme's managers, each will be asked to identify its view of the key ESG-related risks facing the portfolio at that time. This assessment may be qualitative or quantitative depending on the type of mandate and data available. Any key risks identified will be discussed by the RIWG and monitored within the climate risk dashboard.

We note that evaluation of ESG-related risks and opportunities is based on the availability of relevant information and tools, as well as the quantification of ESG and climate-related risks and opportunities which is a developing area based on continuously emerging information. We actively engage with all managers to promote improvement in this area.

Risk Management Disclosure 2: Describe the Scheme's processes for managing climate-related risks.

Prioritising risks and agreeing actions

As noted in risk management disclosure1, our approach to risk management sees us focus on managing the most significant risks to the Scheme. We consider the likelihood and impacts in identifying what the principal risks to the Scheme are, of which there are currently 7. Rating each risk's likelihood and impact may be informed by scenario analysis and calculated metrics where relevant.

Risks and opportunities should be considered in absolute terms and in relation to the risk appetite of the Scheme. Risk appetite can be defined in terms of a willingness to take risk or the acceptability of risk.

Once the risks facing the scheme have been considered and prioritised, mitigation strategies are established and monitored to ensure that they remain effective. We delegate the management of certain risks to other parties, as set out in the governance section. Risks that are deemed to be high in likelihood, impact, or both take priority for future action.

An action, in the context of risk management, will aim to either introduce an additional control to mitigate the likelihood of a risk occurring or reduce the impact of a risk should it occur. This discussion will also consider whether additional Trustee training is required. The restructuring of meeting agendas helps to ensure there is sufficient time allocated to the priority risks.

Managing ESG and climate-related risks

As part of this work, we have ranked the severity of ESG risks using the method noted above and have carried out scenario analysis at the total Scheme level to assist in the identification and measurement of climate-related risks in the Scheme's overall strategy. In addition to this top down overall risk management approach, the RIWG has also carried out work on a bottom up approach to assess and review climate risk. The results of this are documented in our climate risk dashboard. Having considered the output of this work and the existing ESG related controls we have in place, we do not believe there is a need to change the overall strategy at the current time. The decision to introduce an allocation to investment grade credit should increase RI overall data availability and gives the opportunity to set climate-related targets.

However, we recognise that climate change is a systematic risk and more extreme climate scenarios could impact the Scheme and our members in future. Effective stewardship is crucial and we will continue to monitor best practice in the management of ESG issues and climate change, including monitoring of any new ESG products via training sessions from investment managers and our advisers. Our ability to invest in certain asset classes is limited by our long term objective to insure the Scheme's liabilities.

Expectations of investment managers

Our expectations of the investment managers with regard to the integration of ESG risks are set out in the Scheme's Statement of Investment Principles ("SIP"), RI beliefs, and RI policy. These documents are shared with the Scheme's investment managers who are asked to report regularly on how their strategy is aligned with our intentions and to discuss with us any investments which do not comply with these policies. We monitor the ESG activities of all managers through regular reporting and meetings, as set out above. We maintain an ESG log to document all ESG-related activities and discussions.

In summary, in relation to climate risk matters, we require all our investment managers to:

(a) be aware of the investment risks and opportunities associated with climate change;

(b) incorporate climate considerations into their investment decision making practices and processes; and

(c) monitor and review companies and assets in relation to their approach to climate change.

Our approach to stewardship is also a key aspect of the management of climate-related risks. We expect our investment managers to consider and take appropriate steps to manage climate-related risks within our funds, including engagement with underlying investee companies on their management of climate risks.

We prepare an annual Implementation Statement with the assistance of our Investment Advisers that assesses the engagement and voting activities of investment managers and is used to monitor managers' activities in this area. As part of this we receive an annual summary report on engagement and voting activities of the Scheme's investment managers. We use the annual report to inform our monitoring of investment manager stewardship practices. Where investment managers are not acting in line with expectations, we engage further with the manager to understand why and work to improve the stewardship practices and/or performance, further to which we undertake a formal review if this does not occur.

We engage with investment managers where risks have been identified to agree a plan of action through the RIWG. This may include setting specific targets for certain mandates and more regular monitoring of mandates at higher risk. In some circumstances, this could include considering instructing managers to disinvest from certain investments or by disinvesting from specific investment mandates although we do not believe divestment is always the best option.

Risk Management Disclosure 3: Describe how processes for identifying, assessing and managing climate-related risks are integrated into the overall organisation's risk management.

As set out under risk management disclosures 1 and 2, the management of ESG risks is integrated into the Scheme's current risk management processes in a number of ways. These ESG and climate-related risks are considered as relevant as standalone risks, as well as in the context of other strategic risks to the Scheme.

Due to the wide variety of risks, as well as the complexity of these risks and how they may interact with each other, there is significant uncertainty of the net impact of climate risk and how it may impact the Scheme's strategy across the areas of funding, investment, and covenant.

We use both scenario analysis and the climate-related metrics chosen and collected for the Scheme to help inform our approach to this uncertainty, as well as to better understand the resilience of the Scheme to climate change. The scenario analysis and climate-related metrics are covered in more detail under the strategy and metrics and targets sections of this report. These have also been used to inform the climate risk dashboard under strategy disclosure 1, as well as how we undertake ongoing Scheme actions. An example of this is provided in the case study below.

More broadly, climate-related risks and how they interact across funding, investment and covenant is also covered at a high level within the Scheme-level climate risk dashboard set out under strategy disclosure 1.

Case study – review of long term strategy

During the year we reviewed our long term target investment strategy and agreed to introduce an allocation to investment grade credit via a segregated 'buy and maintain' investment mandate. Management of risks including climate-related risks was a key consideration of the review process and integrated in all aspects from the review of strategy to the selection of the investment manager. The rationale behind this change in strategy considered:

(a) alignment of our strategy with our long term objective of insuring pensioner liabilities,

(b) a preference to have a long term strategy with high levels of liquidity,

(c) the required return we would like our investment strategy to deliver taking into account the Scheme's strong funding position, and

(d) the ability to set ESG and climate related targets for our investments and improve data availability and quality across our investments.

Metrics and Targets

Metrics and Targets Disclosure 1: Disclose the metrics used by the Scheme to assess climate-related risks and opportunities in line with its strategy and risk management processes.

We receive reporting on a quarterly basis from our investment managers, which includes a variety of climate-related metrics where available. We believe it is important to consider a variety of metrics on a holistic basis, covering both forward- and backward-looking metrics. On an annual basis we receive ESG reporting from our investment adviser, where information is available.

Carbon equivalent risk metrics are expected to form an important part of our investment decision-making process to measure, manage and disclose climate risk. The selected metrics will also aid us in identifying opportunities for further engagement with investment managers and underlying investee companies.

The TCFD requirements have set out clearly defined expectations for the categories of metrics that must be measured and reported on. For clarity, those requirements have been set out below, as well as the metrics chosen by us for the Scheme:

- One **absolute emissions metric** is to be chosen and monitored;
  - There is only one choice of absolute emissions metric – Total Greenhouse Gas (“GHG”) emissions.
- One **emissions intensity metric** is to be chosen and monitored;
  - There is a choice of Carbon Footprint or Weighted Average Carbon Intensity (“WACI”) for the emissions intensity-based metric. We have chosen to measure the Carbon Footprint of the Scheme.
- An **additional climate change metric** that is non-emissions based;
  - There is a wide variety of outcome based and process-based metrics that may be chosen. We have chosen to measure data quality of the Scheme’s emissions-based metrics for this metric category.
- A **forward-looking portfolio alignment metric:**
  - There are three different portfolio alignment metrics that may be chosen from. We have chosen a binary target metric – the % of assets with clear net-zero targets in place.

The following metrics are included in this report in line with the above requirements. Those in highlighted rows comprise our main Scheme metrics that meet the TCFD requirements:

Table 3 – the Scheme’s chosen TCFD Metrics

Type	Metric	Reasoning	Measurement
Absolute emissions metric	Total Greenhouse Gas (GHG) emissions	In line with guidance.	The volume of scope 1 and scope 2 emissions from the Scheme’s assets – Measured in tons of CO_2e.
Emissions intensity based metric	Carbon footprint	In line with guidance but recognising the range of data available from the managers.	The volume of scope 1 and scope 2 emissions per unit of capital invested from the Schemes’ assets measured in tons CO_2e per £m invested.
	Weighted Average Carbon Intensity (WACI)	Recognising the range of data available from the managers, this has been selected as an additional intensity based metric to improve understanding of the Scheme’s position.	The volume of scope 1 and scope 2 emissions per unit of sales for each portfolio company, weighted by the size of allocation to each company within the Schemes’ assets measured in tons CO_2e per £m invested.
Additional climate change metric (non-	Data quality – A measure of the level of actual and estimated data available from the Scheme’s managers.	We have selected a range of process based metrics, but for the purpose of this report, our main ‘additional climate-related metric’ is data quality.	Measured per mandate: % of portfolio at year end for which climate related metrics of acceptable quality have been obtained.

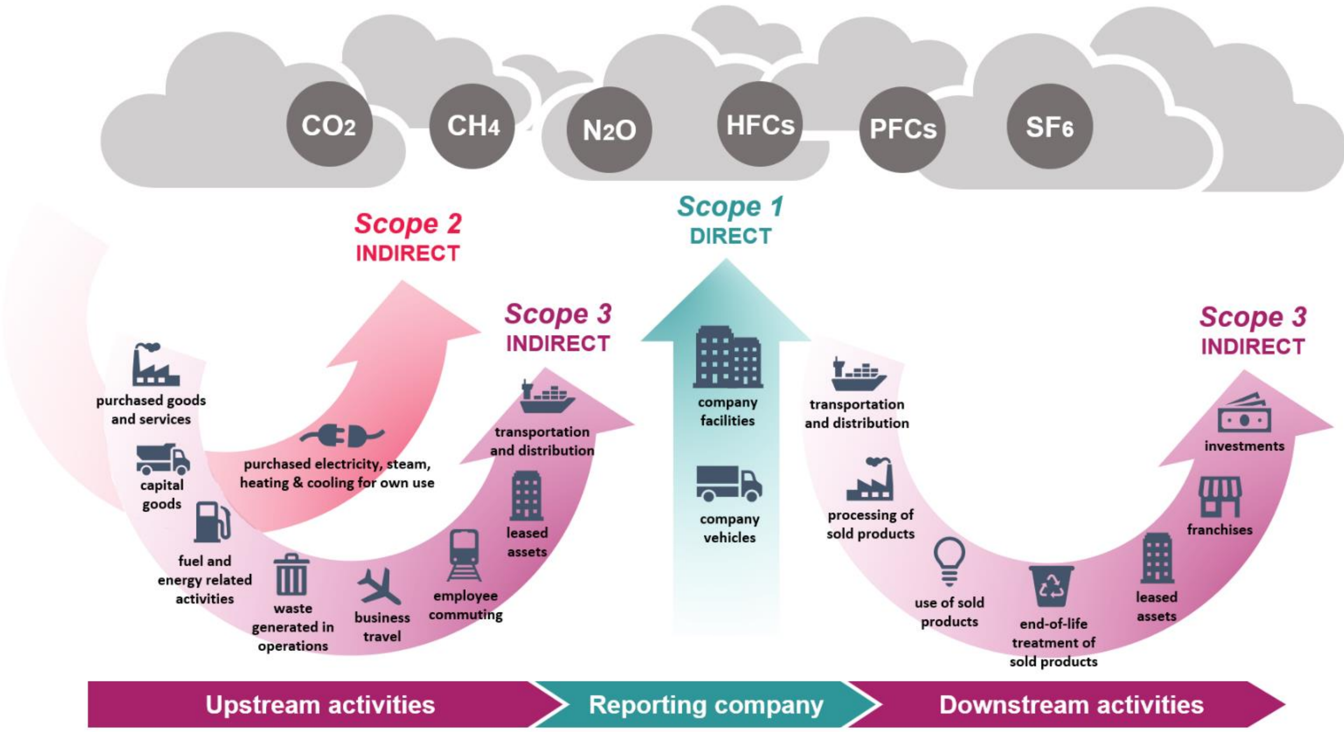
Type	Metric	Reasoning	Measurement
emissions based)	% portfolio for which engagement/voting has been substantial		Measured per mandate: % of portfolio at year end for which engagement / voting on climate risk has been substantial.
	% of board meetings per year where climate risk is a substantial agenda item		Measured per mandate: % of board meetings per year where climate risk is a substantial agenda item.
Portfolio alignment metric	Binary target measurement	This metric is the easiest portfolio alignment metric to calculate, collect and understand at this point in time.	Measured as the % of portfolio at year end with specific net zero targets.

Many climate related metrics are based on the level of GHG emissions that are related to a particular asset or investment. GHG emissions are categorised into 3 scopes:

- **Scope 1:** All direct GHG emissions from sources owned or controlled by the company (e.g. emissions from factory operations).
- **Scope 2:** Indirect GHG emissions that occur from the generation of purchased energy consumed by a company.
- **Scope 3:** Indirect emissions that arise as a consequence of the activities of a company e.g. supply chains and the use and disposal of their products. These are sometimes the greatest share of a carbon footprint, covering emissions associated with business travel, procurement, production of inputs, use of outputs, waste and water.

There is overlap on emissions data between different companies and between companies and governments on some measures. As a result, aggregate total greenhouse gas emissions reported across all investments may include some double counting in relation to the actual level of GHG emissions, especially as the coverage continues to expand and Scope 3 is fully included. For example, fossil fuels sold by a producer to a utility to generate electricity would be Scope 3 for the producer, Scope 2 for the electricity consumer and Scope 1 for the utility. In addition, if the basis for attributing emissions to government bonds was total country emissions they are also included in the government bond emissions for the relevant country.

The different scopes of emissions are also demonstrated by the diagram below:



(Source: Greenhouse Gas Protocol)

Although we are currently gathering scope 3 data for the Scheme's investments where available, this is currently not well reported on and we have split out the Scope 3 data in this year's report in order to be clearer on where data gaps lie either due to lack of information received by managers or lack of reported data. As noted in disclosure 2 below, we would look at ways to improve the data gaps in future TCFD reporting.

We acknowledge that there are limitations in the data available from investee companies on emissions of greenhouse gases, particularly for Scope 3 emissions as noted above. Where these limitations in data exist, the data may be estimated or not yet reported. We will seek to obtain information, where it is currently missing, for future assessments. In the meantime, the results of the above metrics have been understood to be reflective of the portfolio, but the limitations of data availability is noted when using the metrics for decision-making purposes.

Metrics and Targets Disclosure 2: Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.

The table below sets out a summary of the GHG emissions data provided by our investment managers and the measurement of each metric using this data. Due to the nature of some mandates and the difficulty in collecting emissions data on a more frequent basis, the data provided is not all as at the same date. Data has been sourced from a combination of the managers and our Investment Adviser, utilising data from a third party source for listed assets.

We appreciate the challenging nature of data collection for some types of assets, however, acknowledge the importance of having data as at consistent dates. Therefore, we have agreed to liaise with the Scheme's managers on data availability in more detail, which is also reflected in the target that has been set for the Scheme under the TCFD requirements. Further information on this target is included under metrics and targets disclosure 3.

Tables 4 and 5 show the Scheme's carbon emissions and carbon footprint metrics, as reported to us by our managers. We originally commissioned reporting on a range of broader ESG, including climate-related, metrics for the Scheme in 2021 to help inform our understanding of the Scheme with respect to ESG and to support our decision making. These metrics were decided based on those which best informed us as to the Scheme's position at the time they were produced, as well as taking into consideration data availability of certain metrics at the time. These metrics do not therefore necessarily reflect current TCFD requirements and guidance.

Where managers have only been able to provide the carbon emissions (or the carbon footprint) for a mandate, we have used this information to estimate the carbon footprint (or the carbon emissions) for the Scheme based on the Scheme's assets in that mandate and the relationship between the two metrics (whereby, the carbon footprint is the carbon emissions per £m invested). Additionally, some metrics provided by managers do not yet distinguish between various scopes of emissions that can be provided. This has been taken into consideration when assessing data quality and setting targets. We have not verified the data provided by our managers.

Table 4 – the Scheme's Scope 1+2 emissions per mandate

Mandate	Measurement date	Total carbon emissions – Scope 1+2 (tCO2e)	Carbon footprint – Scope 1+2 (tCO2e/£m invested)	WACI – scope 1+2 (tCO2e/ £m sales)
Baillie Gifford Long Term Global Growth Investment Fund	30 September 2022	95	3	14[i]
Adams Street Partnership Fund Program	31 December 2021	Not available	Not available	71[i]
Insight MAC – investment grade credit holdings only[ii]	30 September 2022	4,816	96	52[i]
HPS Core Senior Lending Fund L.P	31 December 2022	6,140	34	7[i]
Insight LDI[iii]	31 March 2022	176,119	165	130[iv]
Insight Buy and Maintain	*Not yet implemented therefore no data.*			
Pension Insurance Corporation (PIC) Buy ins	31 October 2021	33,022	63	274

Notes: [i] WACI tCO2e/$m sales [ii] Only considers investment grade bonds within mandate. By 31 March 2023 these holdings had been liquidated [iii] In our experience, LDI data is available but comes heavily caveated and with numerous disclaimers/limitations. Given the strategic importance of LDI to UK private sector DB schemes we expect LDI managers will face significant pressure from the industry to improve their disclosure but is currently unable to be aggregated with other carbon data. [iv] Per million dollars of Purchasing Power Parity (PPP) adjusted GDP.

More broadly, across the industry, the picture is still developing as to what may be considered 'high' and 'low' emissions for different types of assets.

As a result, progress needs to be made in understanding the emissions for each of the Scheme's mandates and therefore the ability to reduce these over time. This is an action that we, our advisers and investment managers will progress during the 2023/2024 Scheme year and report on in further detail in the next TCFD report for the year ending 31 March 2024. As noted earlier in this report, a number of the above investments are currently in run-off and so we might expect the corresponding emissions to fall as a result.

The methodology for Scope 3 emissions is currently less well defined currently than Scope 1 and 2 emissions and this has therefore been kept separate. Additionally, in part due to the complexities of measuring scope 3 emissions in a consistent way, data for Scope 3 emissions is a lot harder to gather. As a result, and as may be expected, the Scheme's assets have poorer coverage of Scope 3 data. The Scope 3 emissions, where available, have been set out separately in Table 5 below.

Table 5 – the Scheme's Scope 3 emissions per mandate

Mandate	Measurement date	Total carbon emissions – Scope 3 (tCO2e)	Carbon footprint – Scope 3 (tCO2e/£m invested)	WACI – scope 3 (tCO2e/ £m sales)
Baillie Gifford Long Term Global Growth Investment Fund	30 September 2022	5,098	146[i]	471[iii]
Adams Street Partnership Fund Program	31 December 2021	Not available	Not available	98[ii][iii]
Insight MAC (investment grade credit holdings only[iv])	30 September 2022	20,377	485[i]	411[iii]
HPS Core Senior Lending Fund L.P	31 December 2022	10,284	N/A	19[iii]
Insight LDI	Not available	Not available	Not available	Not available
Insight Buy and Maintain	*Not yet implemented therefore no data.*			
Pension Insurance Corporation (PIC) Buy ins	31 October 2021	109,484	342	598

Notes: [i] (tCO2e/$m invested) [ii] Includes Scope 1,2 and 3 emissions [iii] WACI tCO2e/$m sales [iv] Only considers investment grade bonds within mandate. By 31 March 2023 these holdings had been liquidated.

Similar to the Scope 1 and 2 emissions, we note the limitations of using the Scope 3 data to make decisions. This is due to the issues encountered around data availability, methodology and therefore comparability from mandate to mandate. Again, this is an area that we hope will improve over the coming year, with an update to be provided in the next TCFD report for the year ending 31 March 2024.

The other metrics chosen for the Scheme were also measured, as shown in the tables below.

Table 6 – Other Scheme Metrics (Data Coverage and Binary Target Measurement)

Mandate	Measurement date	Data coverage of emissions metrics – scope 1 & 2 (%)			Data coverage of emissions metrics – scope 3 (%)			Binary target measurement - % of the portfolio with specific net zero targets
		Reported	Estimated	Unknown	Reported	Estimated	Unknown	
Baillie Gifford Long Term Global Growth Investment Fund	31 March 2022	>90%	<5%	<5%	0%	>90%	<10%	15% of AUM with 'approved' SBT 13% of AUM 'committed' to SBT
Adams Street Partnership Fund Program	31 December 2021	0%	>95%	<5%	0%	100%	0%	Not available
Insight Multi Asset Credit (Investment Grade Credit)	31 March 2022	<15%	<5%	>75%	0%	<10%	>90%	27.9% have science-based net zero targets 20% aligned to 1.5 degrees.
HPS Core Senior Lending Fund L.P	31 December 2020	0%	>95%	<5%	0%	100%	0%	Not available
Insight LDI	31 March 2022	0%	>95%	<5%	0%	0%	100%	Not available
Insight Buy and Maintain	*Not yet implemented therefore no data.*							
Pension Insurance Corporation (PIC) Buy ins	31 October 2021	73%	27%	0%	0%	100%	0%	8%

Table 7 – Other Scheme metrics (% engagement, % meetings where climate risk is a substantial agenda item, % of acceptable quality climate metrics[1])

Mandate	Measurement date	% of portfolio at year end for which engagement / voting on climate risk has been substantial.	% of board meetings p.a. where climate risk is a substantial agenda item	% of portfolio for which climate metrics of acceptable quality have been obtained
Baillie Gifford Long Term Global Growth Investment Fund	31 March 2022	90%	Not available	Not available
Adams Street Partnership Fund Program	31 December 2021	Not available	Not available	Not available
Insight MAC (Investment Grade Credit)	31 March 2022	42%	c.25%	Not available
HPS Core Senior Lending Fund L.P	31 December 2020	Not available	Not available	Not available
Insight LDI	31 March 2022	Not available	Not available	97%
Insight Buy and Maintain	*Not yet implemented therefore no data.*			
Pension Insurance Corporation (PIC) Buy ins	31 October 2021	38%	Not available	Not available

[1]Full definitions of these metrics and how they are measured can be found under metrics and targets disclosure 1.

Currently, data for a number of the different metrics is not available on a proportion of the Scheme's investments. This is in part due to the nature of some of the investments and the difficulties in measuring climate metrics across these types of investments, for example unlisted investments such as private equity and private lending. For structured credit held within the Insight Multi Asset Credit, the securitisation of large pools of underlying assets makes data collection particularly challenging.

As part of ongoing dialogue with managers, we will request improvements to the data provided to ensure a fuller picture of the Scheme's position is able to be reported. Below is a summary of the commitments that some of the managers have put in place to improve data coverage and the reasoning for poor data coverage where applicable.

Baillie Gifford

- By the end of 2023, 90%+ of the companies in the portfolio will be expected to report Scope 1 and 2 emissions. If they do not, they will be on a specific engagement pathway for such disclosure. Any new companies entering the portfolio will have two additional years to meet this expectation.
- By 2025, at least two-thirds of companies within the portfolio by number will be positively aligned with global net zero goals and this will be demonstrated through public net zero aligned targets encompassing Scope 1 and 2 and material Scope 3 emissions. Where this is not the case the manager will provide specific research demonstrating this element of its alignment while continuing to work with the company around the appropriate level of disclosure.
- By 2030, over 90% of the portfolio will be net zero aligned. Any new companies entering the portfolio will have two additional years to meet these expectations.

Adams Street

- Given the limited availability within private markets, coverage across the Scheme's holdings is limited to estimates only. This is made even more challenging given the fund of funds nature of the Scheme's investments with estimates currently covering c.97% of the underlying portfolio.
- Coverage across the non-emissions based and portfolio alignment metrics is low.
- The manager has expressed possible improvements in data availability in relation to the percentage of the portfolio at year end for which engagement / voting on climate risk has been substantial as well as the net zero targets of underlying holdings.
- Given the size of the holding and low importance of this mandate in the Scheme's overall strategic journey plan, the lack of overall data availability is less of a concern. However, efforts will still be made to engage with the manager where possible.

HPS

- Across the non-emissions based and portfolio alignment metrics, coverage is low. The manager has however recently started to collect certain KPIs (Key Performance Indicators) at company level through their ESG Checklists. These include:
    - Scope 1 and 2 carbon emissions.
    - The percentage of energy consumption provided by renewable sources.
    - Diversity at board and senior management level.
    - Worker health and safety in the form of worker fatalities.

- HPS also state they plan to engage with underlying loanee companies with regards to their net zero targets.
- Given the low importance of this mandate in the Scheme's overall strategic journey plan the lack of data availability is less of a concern. However, efforts will still be made to engage with the manager where possible.

Insight Multi Asset Credit ("MAC")

- Insight is currently unable to provide data for particular asset classes within the MAC (i.e. structured credit assets like Collateralised Loan Obligations, Residential Mortgage Backed Securities, etc) given their complex nature and the fact that they are currently considered outside the scope of TCFD.
- Insight has also shared the types of engagement it has had with the underlying investee entities over the year at a high level and will provide further details if requested.

Insight Liability Driven Investment ("LDI")

- Data for the non-emissions based and portfolio alignment metrics for the LDI portfolio is limited with Insight only able to provide the percentage of the portfolio at year end for which climate related metrics of acceptable quality have been obtained. This relates to the portfolio's gilts exposure for which data is produced by the UK Government.

In future reports, we will monitor the metrics on an at least an annual basis and identify whether performance has improved or deteriorated over time. Where performance has deteriorated, we will engage further to understand the reasons for this and undertake any appropriate remedial actions. The metrics will also be used to monitor the Scheme's performance in line with climate-related targets (see metrics and targets disclosure 3).

We acknowledge that limited data is available on industry wide comparisons and we have relied heavily on the benchmark set for each fund and the market knowledge of our advisers in understanding how well the funds are performing and whether further improvements could be made.

Metrics and Targets Disclosure 3: Describe the targets used by the Scheme to manage climate-related risks and opportunities and performance against targets

Given the nature of the assets and availability of data, we have considered targets on a mandate-by-mandate basis in order to appropriately reflect the action that can be taken and the key priorities for each mandate. Our current priority is to improve data in the first instance to enable investment managers to set more meaningful targets where we can take specific actions and influence the outcomes.

As such, we have decided not to set an emissions target for the Scheme's first year of reporting under the TCFD requirements. This decision will be revisited as part of the annual review once the new investment grade credit allocation has been established, with a view to setting a mandate specific emissions target given that good data coverage would be expected. The timing of this investment will depend on overall Scheme liquidity.

Data Quality Target

We have considered where best to focus our time and resource with respect to improving the data coverage of our chosen emissions metrics for the Scheme's mandates; this includes which of our investment mandates will form part of the strategy over the longer term in particular, as well as those mandates where we have the most influence when engaging with the investment manager on steps to improve. As a result, the target that we have set in respect of data quality has been done on a mandate by mandate basis, as outlined by the table below and overleaf. It allows for the potential to estimate data where reported data is difficult to gather, however we will engage heavily with our managers to improve both reported and estimated data for the Scheme.

Net Zero Ambition

In addition to the target above and set out in more detail below, we have agreed in principle for a new investment grade credit 'buy and maintain' mandate to have a minimum of 60% of issuers in the portfolio having made a Net Zero target. We aim to increase the minimum percentage of issuers with Net Zero targets from 60% towards 100% over time within the 'buy and maintain' mandate once this has been implemented.

Targets set

To date, we have agreed the following data quality targets for the Insight investment mandates over the next two years:

- Multi-asset credit from score 1 to 2
- LDI from score 2 to 3
- 'Buy and maintain' (once in place) from score 3 to 4 *(once we have confirmed that the initial score is 3)*

The above data quality targets are based on non-emissions-based climate-related metrics. We have agreed to use the scoring system outlined below for monitoring and assessing the managers' progress and setting data quality targets. Please note that all percentages refer to portfolio coverage, i.e., for what % of the portfolio the given type of data is available. This is based on the availability of Scope 1 and Scope 2 emissions data.

Table 8 – Data Quality Scoring system

Score	Emissions data requirements
4 – Excellent	At least 90% of actual data available OR >95% overall coverage including at least 75% actual data
3 – Good	At least 65% actual data available OR >75% overall coverage including at least 50% actual data
2 – Adequate	At least 45% of actual data available OR >75% overall coverage using estimates
1 – Poor	Less than 45% of actual data available OR <75% overall coverage using estimates

The targets set by the Trustee for the mandates in line with the above scoring system are below:

Table 9 – Data scores and targets

Mandate	Q1 2023 Allocation (ex. Trustee bank account)	Total data available (reported and estimated)	Current data availability score	Short term time horizon target (2 years)
Baillie Gifford Long Term Global Growth Investment Fund	2.3%	c.95%, with >90% reported	4 – Excellent	No target set
Adams Street Partnership Fund Program	0.5%	>95% estimated	2 – Adequate	No target set
Insight MAC	14.1%	<20%	1 – Poor	2 – Adequate
HPS Core Senior Lending Fund L.P	10.8%	>95% estimated	2 – Adequate	No target set
Insight LDI	30.0%	>95% estimated	2 – Adequate	3 – Good
Insight Buy and Maintain	0.0%	Not yet implemented therefore no data		4 *(once we have confirmed that the initial score is 3)*
Pension Insurance Corporation (“PIC”) Buy ins	42.2%	73% reported, 100% coverage	3 – Good	No target set

Whilst not setting targets for the buy-ins, we will engage with PIC as part of ongoing monitoring to understand its own TCFD targets. Also, it should be noted that our efforts in improving data quality will be significantly limited by third parties’ ability and willingness to provide data. As such, regular engagement with the managers will be our main action to improve availability and quality of climate data.

As the above targets were set during the Scheme year to 31 March 2023, we are not yet able to report performance against each target. Progress against these targets and any other targets set for the Scheme’s other mandates will be included in future reports.

The ability for diversified investors (such as pension schemes) to set meaningful climate targets is inhibited by the limited availability of credible methodologies and data currently available. Like most investors, we are supportive of the development of target-setting methodologies, and of the increasing completeness of carbon datasets. We wish to set meaningful and challenging climate targets for our investment portfolio. As part of our continued focus on areas of medium to long term strategic importance to the Scheme, we have prioritised data quality targets on those mandates we plan to hold over the long term.

Appendix I: Glossary and definitions

Asset Class
An asset class is a group of investments that typically share a lot of the same characteristics, which may be subject to the same rules and regulations. For example, equities, bonds and property are three well-known asset classes.

AUM
Assets Under Management – i.e. the amount of money invested and being managed.

Buy-in
A buy-in involves securing insurance policies for a sub-section of members covering all the benefits they have in the Scheme. These insurance policies are in the name of the Trustee and are an asset to the Scheme.

Buy-out
A buy-out involves securing individual insurance policies for all members covering all of the benefits they have in the Scheme. Reaching full funding on a buy-out basis is a common target for pension schemes because once achieved it gives a very high level of security for members benefits.

Carbon neutral
Carbon neutrality is the state where the amount of carbon emissions being emitted is balanced out by the removal of the same amount of emissions. It can be achieved through carbon offsetting.

Carbon pricing
Carbon pricing assesses and quantifies the external costs of greenhouse gas emissions – for example, damage to crops or loss of property from flooding and sea level rises – and relays these costs back to the source of the emissions through a price, usually in the form of a price on the carbon dioxide ($CO2$) emitted.

Covenant
If the Scheme were to have a funding shortfall, i.e. if the Scheme's assets were lower than the value of its liabilities on the technical provisions basis, the Trustee would look to the Company to make the necessary additional contributions to restore full funding. The legal obligation on the Company to provide these contributions and remove the shortfall, and its ability to satisfy these obligations, is known as the Company covenant.

Engagement
Engagement with respect to assets of the Scheme means communication with a person or organisation, typically via investment managers, with the aim of driving change.

ESG
ESG refers to Environmental, Social and Governance issues, collectively a series of risk factors that could impact the value or future performance of an investment. Particular issues covered by ESG factors include:

- Environment: resource use, pollution, waste
- Social: human rights, workforce diversity and employee welfare
- Governance: management structure, business ethics and executive compensation

Fiduciary responsibilities
The responsibilities of the Trustee to act in the best interests of the Scheme's beneficiaries (i.e. Scheme members).

Financial Stability Board

The Financial Stability Board is an international body that monitors and makes recommendations about the global financial system. It was established after the G20 London summit in April 2009 as a successor to the Financial Stability Forum.

Greenhouse Gases (GHG)

Greenhouse gases are gases in the Earth's atmosphere that are capable of absorbing infrared radiation and thereby trap and hold heat in the atmosphere. The main greenhouse gases are:

- water vapour
- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)

IIGCC

Institutional Investor Group on Climate Change: membership body for investor collaboration on climate change, comprising 330+ members, mainly pension funds and asset managers responsible for approximately €39+ trillion in assets under management.

Low-carbon economy

An economy based on energy sources that produce low levels of GHG emissions.

Macroeconomic

The area of economics concerned with large-scale (e.g. national or international) or general economic factors, such as interest rates and inflation.

Mandate

An instruction to an asset manager about how the Scheme's money may be invested.

Net Zero

Net zero refers to the amount of all GHG (which includes but is not limited to carbon dioxide) being emitted being equal to the amount removed. It typically also implies the reduction of total emissions as much as possible, with only the remaining unavoidable emissions being offset.

Paris Agreement

The Paris Agreement on climate change is a 2015 global accord seeking to keep the rise in global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the increase to 1.5°C. As of 2021, the Paris Agreement has been signed by 191 countries, and ratified by 186 countries.

Responsible Investment

The integration of ESG factors into investment decision-making and asset stewardship practices.

Scope 1 Emissions

All Direct Emissions from the activities of an organisation or under their control, including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.

Scope 2 Emissions

Indirect Emissions from electricity purchased and used by the organisation. Emissions are created during the production of the energy and eventually used by the organisation.

Scope 3 Emissions

All Other Indirect Emissions from activities of the organisation, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.

Stewardship
Stewardship of assets is a tool that can shape corporate behaviour using methods including engagement and voting.

Systemic risk
Refers to a risk that impacts the entire market, not just a particular stock or industry.

TCFD
Taskforce on Climate-related Financial Disclosures.

Voting
When investors are shareholders in a company via the investments they hold, this typically provides them the opportunity to vote on company matters at meetings such as an Annual General Meeting (AGM). Issues that can be voted on include climate change plans, executive pay, the election of board directors, and much more. However, this opportunity only arises with certain types of assets, such as equities. Additionally, a lot of voting is undertaken on behalf of pension schemes by investment managers, due to pension schemes typically being one of many investors in a fund which then invests in companies.

Appendix II: Reliance and limitations for quantitative scenario analysis

Overview of approach

The economic scenario service ("ESS") used within the climate scenario modelling set out in this report uses probability distributions to project a range of possible outcomes for the future behaviour of asset returns and economic variables. The output compares portfolio returns over 10 years for the Scheme's broad asset allocation under the core ESS (i.e. a base case with no explicit allowance for climate risk) and the three climate change scenarios. It then calculates summary statistics based on the distribution of returns in order to provide a sense of how returns may differ under the base case and each of the three climate scenarios. The consideration of investment risks is at an asset class level and cannot take account of individual stocks, property assets, sustainable funds etc. However, the indicative output can be used to provide an overview of the strategic risks the Scheme is exposed to.

This analysis only considers the impact on investment returns and not on liabilities or covenant. Climate risk can influence longevity outcomes both directly via temperature effects and indirectly through its influence on lifestyle, healthcare and other longevity and mortality related factors.

The table below summarises the impact the three climate scenarios have on the following measures:

i. The 50th percentile (i.e. median) return over 10 years and 20 years (in line with medium and long term time horizons agreed for TCFD reporting). This is broadly the "expected" return with 50% of returns being above and 50% below this level. Note that we might not expect much difference in median return, but the returns at high or low percentiles will be more affected as the model tends to express climate risk as increased variability in outcomes.

ii. The chance that the return in at least one year in the next 10 and 20 is worse than -5% (i.e. the chance of an asset shock). The climate scenarios tend to show more variability (at different time points) so the chance of a severe shock is typically higher.

In all cases the results for the climate scenarios are shown relative to the result in the unweighted core ESS.

The fact that the returns and downside risk are not significantly worse under any of the scenarios does not mean that climate risk is not important or that the Scheme is "immune" to its effects. Instead, it implies that if the level of risk in the funding and investment strategy was acceptable, and since the scenario results suggest that this risk level is not materially different even when the model is significantly stressed, we can conclude that the funding and investment strategy is fairly resilient to climate risk at a strategic level.

Table 10 – Modelling output – current strategy

	Base	Green revolution (relative to base case)	Delayed transition (relative to base case)	Head in the Sand (relative to base case)
Current target strategy – 10 years	5.1%	-0.1%	0.2%	0.1%
Chance of at least one return worse than -5% by year 10	0.1%	0.2%	0.0%	-0.1%

	Base	Green revolution (relative to base case)	Delayed transition (relative to base case)	Head in the Sand (relative to base case)
Current target strategy – 20 years	4.8%	0.0%	0.2%	0.2%
Chance of at least one return worse than -5% by year 20	0.1%	0.1%	-0.1%	0.2%

Source: Hymans Robertson internal model, 30 September 2022 market conditions

The expected asset returns used in this paper are an output of Hymans Robertson's Economic Scenario Service (ESS). This type of model is known as an economic scenario generator and uses probability distributions to project a range of possible outcomes for the future behaviour of different asset returns and economic variables. Like all models, ESS is based on a number of inputs and assumptions. Some of the parameters of the model are dependent on the current state of financial markets and are updated each month (for example, the current level of equity market volatility) while other more subjective parameters that affect long term distributions are reviewed once a year (or more often in response to significant market events).

Key subjective assumptions are the median excess equity return over the risk-free asset, the volatility of equity returns and the level and volatility of yields, credit spreads, inflation and breakeven inflation, which affect the projected value placed on liabilities and bond returns. The output of the model is also affected by other more subtle effects, such as the correlations between economic and financial variables.

The figures provided have been calculated using 5,000 simulations of ESS, calibrated using market data as at 30 September 2022. The absolute median returns shown are the 10-year and 20-year geometric averages (all returns shown are net of fees).