Merchant Navy Ratings Pension Fund

Trustee's Report in respect of the Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021

For the Fund Year ending 31 March 2023

https://www.mnrpf.co.uk/library.php

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Section 1: Introduction and Chair Foreword

A foreword from the Chair of the Merchant Navy Ratings Pension Fund

Climate change constitutes one of the world's greatest challenges as society increasingly fights to tackle, alleviate and prevent the adversities of global warming. The magnitude of this threat is growing, urging the pace of action to accelerate as climate agendas shift into focus for many regulators, industry leaders and asset owners. We are delighted to present our first climate change report. This report addresses the anticipated effects of climate-related risk and opportunities for the Merchant Navy Ratings Pension Fund (the "Fund")), and the path ahead for the Fund to pursue better climate results for our members and our planet.

Climate change poses material financial risks, and considerations of Sustainable Investment are important to the delivery of our responsibilities and end goals to members. Now more than ever, the coverage of these considerations needs to appropriately assess the potential impact on invested assets, the benefits we expect to pay to members and the support provided by the Sponsors' Covenant.

Following the introduction of climate change reporting, the Trustee will be endeavouring to make improvements in the availability and quality of data provided. This will be enhanced through our utilisation of advisers, and industry effort to improve processes. We recognise data limitations and complexities encountered and will continuously seek to adopt best practices in our monitoring.

We take pride in the ambitious target we have set ourselves to reduce the Fund's carbon footprint to net-zero by 2040, with a milestone target of a 50% reduction by 2030. To accompany our headline targets, we also monitor and disclose a broad range of climate metrics to enable robust management of objectives in a measurable and accountable manner.

We remain committed to making tangible progression on this climate journey. Rest assured we will continue to train and educate ourselves on this evolving space. We hope you find this report informative, and we look forward to discussing our developments with you next year.

Doug Ross

Chair of the Trustee of the Merchant Navy Ratings Pension Fund

Introduction

The Trustee of the Merchant Navy Ratings Pension Fund (the "Trustee") presents its annual report under the Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the "Regulations") for the year ended 31 March 2023. The Fund is a multi-employer scheme.

The Fund is now subject to the requirement to produce disclosures in line with the recommendations of the Taskforce on Climate-Related Financial Disclosures (TCFD), as transposed into UK law in 2021. The aim is to improve and increase reporting of climate-related financial risks and opportunities.

The TCFD framework requires disclosures in four broad categories:

- **Governance:** around climate-related risks and opportunities
- **Strategy:** the actual and potential impact of climate-related risks and opportunities on the strategy and financial plans of the Fund
- **Risk management:** how the Fund identifies, assesses, and manages climate-related risks
- **Metrics and targets:** the metrics and targets used to assess and manage climate-related risks and opportunities.

This report sets out the Fund's approach to compliance in each of these four areas.

Section 2: Governance

The Trustee has identified climate change, alongside other Environmental, Social and Governance (ESG) factors, as an important risk and opportunity which requires oversight and management over the long-term.

The Trustee has received investment training provided by Towers Waston Limited, (trading as WTW), the Delegated Chief Investment Officer (DCIO) and Cardano Advisory Limited (trading as Cardano) the Trustee's Covenant adviser on climate risk and the requirements of the Taskforce for Climate Related Disclosures (TCFD) requirements. Given the pace of progress around sustainability, trustee training on climate and ESG has increased over recent years and is expected to remain a priority going forwards.

The Trustee's key overarching investment policies (including those in relation to climate) are detailed in the Trustee's Statement of Investment Principles (SIP) which can be found online at the following link: https://www.mnrpf.co.uk/library.php

The SIP includes the Trustee's belief that sustainability factors are increasingly material to portfolio construction. The Trustee's policies on Sustainable Investment (SI) are also included within the SIP. In summary, the Trustee seeks to be an active long-term investor with a focus on financially material considerations. The Trustee assess that ESG factors, and in particular climate change, pose a financial risk. It supports and actively encourages investments with a positive social and environmental impact. The Trustee expects its investment managers' stewardship to address broad ESG considerations and to use their engagement activity to drive improved performance over the medium to long-term. The Trustee expects the DCIO to assess the long-term alignment of the Fund's strategies and the underlying managers' approaches to sustainable investment with its own beliefs before making an investment on the Fund's behalf. The Trustee reviewed its policy in October 2022 and has been working to deepen and expand its sustainable investment beliefs to help inform further action in this area.

Whilst the Trustee may delegate certain aspects of its investment arrangements, the Trustee retains ultimate responsibility for setting the Fund's strategy, policies, and actions in this area and the Trustee works to ensure that such third parties are closely monitored and held accountable for the work they do on behalf of the Fund. The Trustee has received additional training in this area to ensure it is suitably qualified to discuss and take decisions about sustainable investment.

The main parties to which the Trustee delegates some form of responsibility for implementing its policies in relation to climate change and SI more widely are:

- **Financial Risk Management (FRM) -** To ensure the effective management of the Fund, the Trustee has established a three-pillar governance structure comprising of a Financial Risk Management Pillar (FRM), a Scheme Risk Management Pillar, and a Member Risk Management Pillar. The FRM is responsible for progressing actions relating to TCFD, and the Trustee is supported by the DCIO, DCIO Oversight, covenant and actuarial advisers.

- **Delegated Chief Investment Officer (DCIO) –** The Trustee has appointed WTW as its DCIO, responsible for ensuring climate change is considered as part of ongoing investment portfolio construction, the selection of the underlying investment managers and the conduct of its stewardship activities. WTW's approach to climate change and SI was a key determinant factor in

their selection and is a focus point of the Trustee's ongoing monitoring. WTW holds membership of important industry bodies such as the Net-Zero Asset Managers Initiative as well as being a signatory to the UK Stewardship Code. The consideration of sustainable investment is fully embedded in their investment processes. WTW works closely with the FRM and provides regular assessment of its views on the underlying managers' capabilities and performance in relation to ESG and stewardship, and a quantitative assessment of the Fund's portfolio across a number of ESG criteria, including climate.

The Trustee has set the DCIO objectives against which they are assessed annually which includes reference to assisting the Trustee in assessing, managing and measuring climate risks and opportunities.

- **Oversight Provider –** The Trustee also employs an Oversight Provider, Barnett Waddingham, who assists the Trustee with monitoring and holding the DCIO accountable for their actions, including around climate change. As part of its oversight activities, Barnett Waddingham compares WTW's SI-related activities against those of other fiduciary managers.

- **Investment Managers –** Responsible for managing climate change risks and opportunities within their mandates, consistent with their investment guidelines. This includes the selection of assets as well as the managers' ongoing stewardship activities. The Trustee receives reporting on an annual basis to assess the underlying managers' competencies. This provides an assessment of the managers' approach to ESG integration and stewardship activities as well as consideration of a balanced scorecard of climate metrics which provides insight into the managers' underlying exposures to climate change risks and opportunities**.** The DCIO assesses the investment managers' approach to ESG integration and stewardship activities before investing on the Trustee's behalf, and on a periodic basis as part of its ongoing manager research activities.

- **Other advisers –** The Trustee also takes advice from the Scheme Actuary and Covenant adviser regarding the extent to which climate change may affect the funding strategy of the Fund and the ability of the sponsors to support the Fund.

The Trustee board meets nine times a year and climate change is regularly discussed. The Trustee recognises that climate change is a fast-evolving and complex area which therefore requires ongoing discussion and education. Over the last 12 months, the Trustee has received from the DCIO training on the DWP climate regulations, climate metrics, and climate scenario analysis and an annual deep dive into Sustainable Investment. All Trustee Directors partake in these sessions as recognition of the responsibility of the whole group in evolving the Fund's approach in this area.

Annually, the Trustee also undertakes a deeper dive into both the DCIO's and underlying investment managers' approach to Sustainable Investment. This covers the DCIO's approach to reviewing managers and how this is evolving, identifying key actions the underlying managers took over the past year and sight of the annual manager SI reviews.

The Trustee has a strong belief that stewardship (voting and engaging with the underlying companies the Fund invests in) is an important way in which the Trustee can meaningfully influence outcomes. The Trustee has identified climate change as one of its current stewardship priorities. The Trustee delegates part of the implementation of this policy to the DCIO and underlying investment managers but retains overall responsibility and accountability for the policy. The Trustee considers the implementation of this policy on an annual basis.

Case Study – EOS at Federated Hermes

As outlined in the SIP, the Trustee recognises that the long-term financial success of the investments is influenced by a range of factors which includes appropriate management of ESG issues (including climate). As such, we typically invest with investment managers with the expectation of a long-term relationship, and we expect investment managers to take a similar approach with the companies that they invest in. The DCIO engages with the investment managers where appropriate on their approach to stewardship and engagement.

The DCIO also employs EOS at Federated Hermes, a stewardship service provider, to support the efforts of the appointed investment managers in their company-level engagement on a wide range of topics. EOS also carries out public policy engagement and advocacy on behalf of the Trustee. As at 31 December 2022, EOS represented $1.34trn of assets under advice. The DCIO has been working closely with EOS for many years, and a senior member of the WTW Investment Team chairs EOS' Client Advisory Board. The DCIO engages with EOS on behalf of the Trustee to help shape its engagement approach and voting policies. Over 2022, this included:

- Engagements with 1,138 companies on a total of 4,250 issues and objectives.
- 33 responses to consultations or proactive equivalents and 75 discussions with relevant regulators and stakeholders.
- Voting recommendations on 134,188 resolutions, including 24,461 votes against management.
- Active participation in a range of global stewardship initiatives.

Another example is Climate Action 100+ (CA100+), an investor initiative aiming to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. It targets 167 companies globally. EOS is among over 615 investors, totalling $65tn under management, who have signed up to CA100+. EOS led or co-led the engagement on over 25 focus companies and is collaborating with other investors on over 30 companies as part of this initiative.

EOS has undertaken climate engagements with major oil and gas companies through CA100+. As part of this strong momentum, CA100+ issued its net-zero benchmark for the world's largest carbon emitters in March 2021. EOS helped to design the benchmark, which set clear engagement priorities.

A case study of EOS' engagement with a company in the Fund's portfolio is linked below:

https://www.hermes-investment.com/uk/en/institutions/eos-insight/stewardship/petrobras-case-study-05-2022/

Section 3: Strategy

Appropriately managing the risks and opportunities associated with climate change from a strategic perspective, is a key part of the Trustee's role. The Trustee recognises that climate change could have a material impact on the potential success of the overarching funding strategy and therefore seeks to ensure that this matter is given appropriate consideration. To support this, the Trustee undertakes climate change scenario analysis to test the resilience of the Fund's funding strategy under a range of plausible climate scenarios. Importantly, the Trustee recognises that climate change could have a material impact on the investments of the Fund, the life expectancy of the Fund's members and the support provided by the Sponsors' covenant. All three aspects are therefore considered as part of this analysis. This scenario analysis was undertaken for the first time in 2022. The Trustee's intention is to repeat this analysis at least every three years or sooner should there be a material change in either the Fund's circumstances or the assumptions underlying the analysis.

To appropriately assess the impact of the climate change scenario analysis, the Trustee has agreed the suitable time horizons over which climate risks and opportunities should be considered. These are as follows:

- **Short Term** – to 2023/2024: this is defined as the next Actuarial Valuation cycle during which the funding strategy will be revisited in detail.
- **Medium Term** – to 2030: this is the timeframe over which significant climate action is expected, climate transition risks are expected to emerge and is aligned with the Trustee's agreed net-zero objective.
- **Long Term** – to 2040: this is the timeframe consistent with the Trustee's overall net zero target and the point at which a significant proportion of member benefits will have been paid out. At this point in time we expect the Fund's liabilities could be managed by an insurer, following a buyout transaction.

The Trustee has identified the following categories of climate-related risks and opportunities:

Regulatory risk	Reputational risk	Transition risk	Physical risk

• The Fund needs to keep up with the pace of regulatory change, as regulators increase pressure on pension schemes to explicitly consider climate change.
• **Example:**
  • Annual Implementation Statement - which examines how the Fund's engagement policy is followed
  • DWP Pensions bill
  • Mandatory TCFD reporting
	• The increasing spotlight on pension schemes and climate change increases the risk of being "named and shamed" (which in turn could adversely affect the effective management of the Fund).
	• **Example:**
	  • 2018 Environmental Audit Committee (EAC) report on 25 biggest UK schemes
		• The indirect impact arising as a result of changes in society and economies to combat or adapt to climate change
		• **Example:**
		  • **Assets:** Some industries become obsolete (e.g. coal), reinvent themselves or others emerge (electric vehicles)
		  • **Liabilities:** Improvements in mortality from healthier lifestyles
			• The direct impact arising as a result of chronic and/or acute changes in climate and extreme weather events
			• **Example:**
			  • **Assets:** Damage to physical assets underpinning securities (e.g. real estate and infrastructure)
			  • **Liabilities:** Excess deaths arising from extreme weather

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Funding impact – scenario analysis overview

The Trustee has assessed how the categories identified are relevant to the agreed short-, medium- and long-term time horizons.

	Short Term	Medium Term	Long Term
Timeframe	To completion of next Triennial Actuarial Valuation (2023/2024)	To expected timeframe of 50% reduction in total emissions by 2030	To expected timeframe of net zero by 2040
Primary types of risk	• Regulatory • Reputational • Transition	• Reputational • Transition	• Transition • Physical
Key risk exposure	The Fund is exposed to regulatory risks, including fines, if it does not comply with evolving regulatory requirements. The Fund is exposed to reputational risks if policies are misaligned with requirements. The Fund is predominately exposed to transition risks through the equity, alternative credit, corporate bond and private market holdings.	The Fund is exposed to reputational risks if policies are misaligned with requirements. The Fund is exposed to transition risks through the equity, alternative credit, corporate bond and private market holdings. The Fund is exposed to the impact on insurer pricing of climate risk, including the impact on future expected returns and other financial and demographic assumptions. Given the long-term nature of these risks, there is a high level of uncertainty in terms of the likely effect and the potential magnitude of their impact.	The Fund's liabilities may be exposed to transition risks through its holdings in various asset classes (including equity, credit, property and infrastructure). The Fund may be exposed to physical risk through its holdings in various assets, in particular real assets including property and infrastructure. In an extreme left-tail event, exposure to, and poor management of these risks may weaken the strength of the insurer and ability to meet pensioner benefits. Given the long-term nature of these risks, there is a high level of uncertainty in terms of the likely effect and the potential magnitude of their impact.
Potential opportunities	Encouraging existing funds to consider and where possible reduce exposure to transition risks and engage with companies to develop a strong transition plan.	Aligning the Fund's investments with the ESG policies of leading insurers may increase the likelihood of credit assets being taken in specie.	Encouraging fund managers to follow best practice with regard to climate risks.

Working with its DCIO, the Trustee seeks to mitigate the risks and take advantage of opportunities

which may occur so as to improve the likelihood of the Fund meeting its short- and medium-term funding and investment goals.

These time horizons, risks and opportunities are key inputs into the climate scenario analysis. The Trustee, in conjunction with the DCIO, Scheme Actuary and Covenant Adviser, has conducted this scenario stress testing and presented the results within this section. The key climate scenarios that the Trustee has considered are:

	Lowest Common Denominator	Inevitable Policy Response	Global Coordinated Action	Climate Emergency
Description	A 'business as usual' scenario where current policies continue with no further attempt to incentivise further emission reductions.	A delay in meaningful action but a rapid shift in policy in the mid/late 2020s. Policies are implemented but not in a completely co-ordinated manner.	Policy makers agree on and immediately implement policies to reduce emissions in a globally co-ordinated manner.	An immediate, ambitious and coordinated response in which aggressive policy is pursued and more extensive technology shifts are achieved.
Temperature rise vs pre-industrial levels	3.5ºC	2.0ºC	2.0ºC	1.5ºC
Renewable energy by 2050	30-40%	80-85%	65-70%	80-85%
Transition risk level (shorter term)	Low	High	Low – Medium	Medium – High
Physical risk level (longer term)	High	Low – Medium	Low	Low

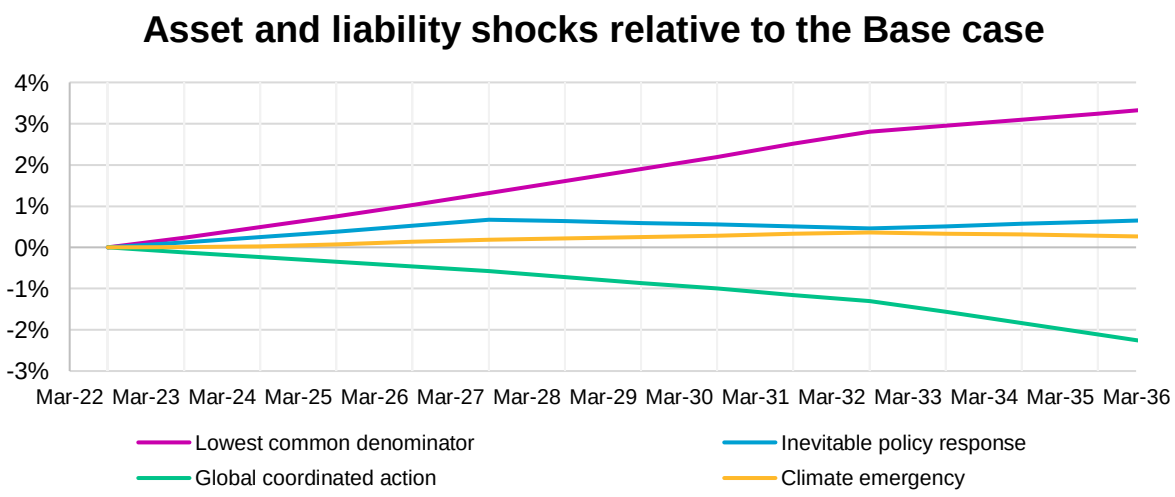
The scenarios were created to reflect the differing paths that could be taken to meet, or fail to meet, the temperature rise target agreed as part of the Paris Agreement. The Paris target is to limit global temperature rises to well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The scenarios differ in the size of the physical risks, based on the resulting temperature impacts, but also in the size of the transition risks. In the view of the Trustee, the four scenarios selected reflect an appropriate range of plausible decarbonisation pathways and are relevant in the context of the Fund's journey and funding plans. The Trustee recognises that there is the potential for more extreme outcomes than reflected in the chosen scenarios.

The Trustee has illustrated below the impact of the climate change scenarios on the Fund's funding level. The Trustee has considered these over a timeframe that is consistent with the Fund's longer

term time horizon (c.15 years). The Trustee recognises that assuming such climate scenarios are priced in gradually, year by year, is an unrealistic expectation and in practice this is likely to be far less linear. The Trustee has therefore also included a one-off shock which seeks to illustrate the impact if climate change was to be reflected instantaneously. This assumes that markets immediately price in the transition and physical risks over the next 15 years and that the market initially overreacts to this news in struggling to price in the actual impact. Whilst this is potentially unrealistic, the Trustee thinks this helpfully stress tests the assumptions made in the analysis and helps consider how robust the funding strategy might be. The Trustee also recognises the uncertainty in the underlying assumptions and that, in reality, the shocks experienced could be larger.

In some climate scenarios, the modelling process implies reduced life expectancies (relative to other scenarios and/or funds' central mortality assumptions) and therefore a relative reduction in the Fund's liabilities. This is a plausible potential outcome arising from the negative impacts of increasing climate change. This can suggest a relative improvement in the expected funding position for the Fund even when combined with associated reductions in the value of the Fund's assets. However, it is important to recognise that an assessment of what is in the best interests of the Fund and its members is a much broader question than the impact on funding level alone. Key considerations may be a reduction in the quality (and length) of members' lives, and the quality of the environment that they will retire into. Consequently, the results of any such modelling should not be assumed to reflect any complacency or acceptance (either implicit or explicit) that the Trustee considers global inaction or business-as-usual with respect to climate change to be in the best interests of the Fund or its members. The Trustee believes that climate change is a systematic risk of unprecedented scale and severity. Actions to address it are a collective priority, given the risks it presents to individual pension schemes, the ongoing resilience of the savings universe, and the planet as a whole.

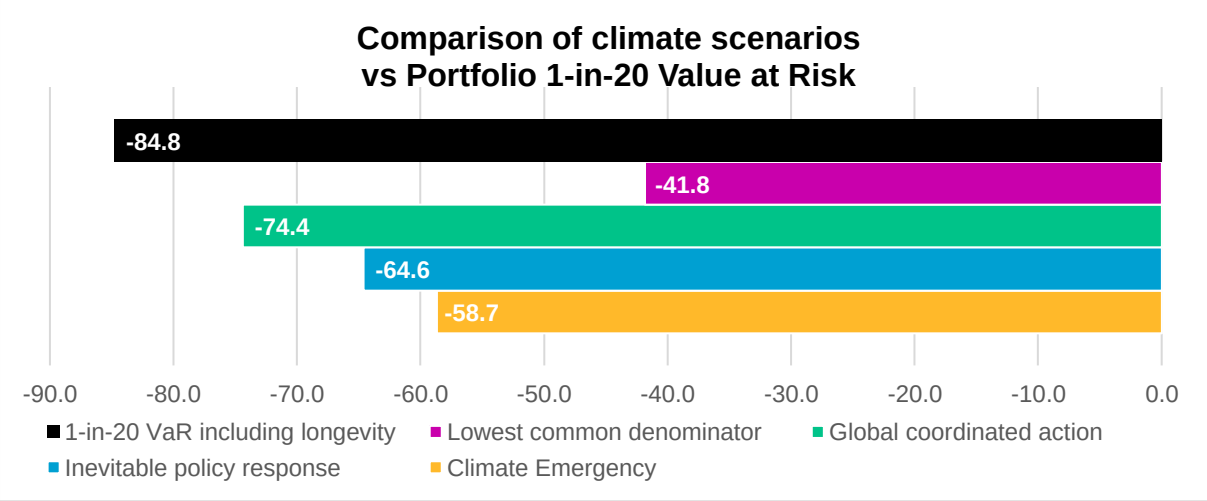
Impact of Climate Drags on the Fund's Funding Level relative to the Base Case



Scenario*	Asset return impact p.a.	Liability return Impact p.a.	Relative funding level in September 2030
Lowest Common Denominator	-0.05%	- 0.24%	2.2%
Global Coordinated Action	-0.01%	+ 0.14%	-1.0%
Inevitable Policy Response **	- 0.08%	- 0.12%	0.6%
Climate Emergency	- 0.03%	- 0.04%	0.3%

* Relative to the base case. Base case is assumed to price in Lowest Common Denominator transition costs.
** Asset return impact begins from September 2027 (i.e. 5 years from the projection date) in this scenario. This represents the potential delay in agreeing and implementing required action.
Analysis is based on the Fund's Journey Plan as at 30 September 2022, where the base case funding level represents 110.3% funding in September 2030.

Impact of Climate Shocks on the Fund's Funding Level



Scenario	Asset shock (£m)[1]	Liability shock (£m)[2]	Increase in deficit (£m)[2]	Decrease in funding level
Least Common Denominator	- 76	- 34	42	4.7%
Global Coordinated Action	- 54	+ 20	74	7.4%
Inevitable Policy Response	- 82	- 17	65	6.9%
Climate Emergency	- 65	- 6	59	6.1%

1. The asset shock is estimated to be approximately twice the size of the per annum impacts over time as markets tend to overreact in more extreme scenarios.
2. Liability shocks are assessed on the Fund's gilts +0.5% liability basis.
3. Analysis is based on the Fund's position as at 30 September 2022

As a result of the combined analysis, the Trustee's assessment is that the investment and funding strategy of the Fund is resilient against climate risk, and that the Fund is expected to be relatively well protected against the impact of climate change both as a gradual impact and a sudden shock. This was driven by a key factor:

- **The diversified portfolio and allocation to climate positive investments** – The Fund has a sizeable allocation to investments which are expected to benefit from the transition to a low-carbon economy. These include investments in wind, solar and opportunistic renewable energy investments.

Although the analysis provided the Trustee with some reassurance on the robust nature of the Fund's funding strategy, it did clearly highlight that climate change could have an impact on the Fund's outcomes. This reiterated to the Trustee that it warrants continued focus as part of the Trustee's broader SI strategy and should remain a priority area for portfolio monitoring, stewardship activities and manager engagement. In terms of next steps, the Trustee is focussing on the following:

- The Trustee is investigating the introduction of longevity hedging
- The Trustee is continuing to engage with its DCIO to ensure its investment managers maintain a focus on the risks and opportunities associated with climate change
- The Trustee uses a dashboard of climate and ESG metrics together with an assessment of stewardship policies/activities to monitor the portfolio annually

As mentioned earlier, the Trustee intends to update this analysis at least every three years and will be testing annually whether this needs to be done more frequently, including if there have been material changes to the scenarios used or the Fund's funding strategy.

Employer covenant - scenario analysis overview

The Fund is a non-aligned multi-employer scheme, supported by employers from across the UK shipping industry and beyond, with a particular concentration in the areas highlighted below.

Based on the distribution of these employers, the climate scenario analysis focused on the shipping industry, with a lighter touch analysis of the oil and gas industry due to the high level of impact expected from climate change.

As the impact of climate change on specific sectors could vary materially depending on emission profiles, products, supply chains and financing needs, the scenario analysis adopted a granular approach. Employers were assigned to specific sectors and the possible impact of scenarios on their business and prospects was considered, before the potential overall impact on the Fund's employer covenant was considered. In some cases, employers were assigned to more than one sector.

The analysis carried out by Cardano in February 2023 considered the employers' exposure to two climate change scenarios which are consistent with Lowest Common Denominator and Global Coordinated Action scenarios used by WTW:

Selected scenarios	Orderly transition *~2.0˚C scenario*	Failed Transition *~3.5˚C scenario*
Scenario outline	Global decarbonisation **starts now**, so policies intensify gradually but are implemented immediately. Large transition changes will happen quickly	**The world fails to meet the Paris Agreement goals**, which leads to continued increase in GHG emissions and rise in global temperatures
Physical risks	**Long-term physical risks are reduced** but deviations from the present climate are still expected	More **pronounced physical risks** – particularly over the longer-term
Transition risks	**Highest in the near-term** as policies are implemented immediately	**Limited transition risks** over above existing commitments and policies
Macro-economic impact	Sudden divestments have disruptive effects on financial markets. Following initial shock there is partial recovery	UK and global **GDP growth permanently lower**, with the impacts of this increasing over time. Macroeconomic uncertainty rises
Alignment with advisers	Broadly aligned to WTW's Global Coordinated Action scenario	Broadly aligned to WTW's Lowest Common Denominator scenario

Employer risk assessment

The scenario analysis identified broad risks to the Fund's employer covenant as a result of climate change, which were considered by the Trustee in relation to the sectors highlighted above, over the chosen short, medium and long term time horizons.

Risk factor	Description	Transmission channel
GHG emissions	This risk will manifest in a transition scenario as higher costs when companies are required to reduce/offset their emissions (scope 1,2,3). The cost could stem from carbon tax/ETS, or the transition to a low carbon business (capex, operational expense, etc.). The sponsor base has very material exposures to shipping and O&G industries, which are traditionally carbon-intense. In the shipping industry, scope 1 is the primary source of GHG emissions given most vessels are run on bunker fuel. In the O&G industry, emission profile varies depending on the part of the value chain.	Operations Supply chain
Renewable energy	Ability to access renewable energy sources is crucial for shipping companies that are planning to transition towards Net Zero target. Greener alternative fuels face challenges such as high costs, limited availability, and technological barriers that need to be overcome before they can be more widely adopted. For O&G companies, the shift away from fossil fuels associated with renewable energy will impact end market demand and profit.	Operations End Market
Regulatory environment uncertainty	Most of the Employers have a multinational footprint and are subject to different regulations. The risk is likely to be heightened when there is an uncoordinated regulatory response from different governments on emission reduction polices and industry targets (such as low-carbon fuels or engine types).	Macro-economic Supply chain
Supply chain/ operational disruption	Risk that supply chains, shipping routes, ports or other infrastructure are disrupted as a result of more acute/chronic climate events such storms/sea level rise or transition to new fuels/vessel types. This could lead to higher operational/maintenance costs to repair any damage and remediate the disruption.	Operations
Permanent displacement of population	Risk that employees working at key operating sites (incl. manufacturing sites and offices) or populations making use of services/products are permanently displaced as a result of more frequent and severe acute/chronic climate events such as coastal flooding, heat stress, etc.	Operations
End market preference	End market consumers preference may shift towards greener products and services. The increasing adoption of renewable energy sources and the push for decarbonization may lead to a decrease in demand for fossil fuels. This could result in loss of business for companies that do not transition as quickly as competitors.	End Market Competition

Employer covenant scenario analysis results

Potential risk assessment accounting for the % liability share of shipping and O&G in the sponsor base

	Near-term (1-2 years)	Mid-term (6-8 years)	Long-term *(10+ years)*
Orderly	Low risk	Medium risk	Medium risk
Failed	Low risk	Medium risk	Higher risk

The Failed Transition scenario represents a higher risk, particularly to ferries, ports and O&G Employers

The results of Cardano's analysis suggest that risks to the employers from climate change appear low in the next 2 years, due predominantly to their diversity.

However, in the mid-term, risk is expected to increase, driven by adverse climate events like storm flooding (in a failed transition) or increasing decarbonisation costs (in an orderly transition).

Over the long term, the employers' operational routes and sites are likely to be significantly impacted by extreme weather events in a failed transition, being frequently exposed to flooding, storms, increased capital costs and transport route disruption. This is heightened by the fact many employers operate globally, which makes physical risks harder to avoid. In an orderly transition, physical risk is expected to be lower but decarbonisation costs and the risks of transitioning to a low carbon economy rise materially, particularly for oil & gas and ferry sector employers.

To address these risks, the Trustee has considered the recommendations from the covenant adviser in each of the following areas:

- climate risks identified (e.g. emerging regulations, extreme weather events, renewable energy pricing, and carbon pricing in key jurisdictions) will be integrated into the Trustee's regular employer covenant monitoring framework; and,

- the impact of climate risk on the employer covenant over the mid and long-term will inform the Trustee's choice of long-term funding targets and time horizon.

Section 4: Risk Management

Climate change is a key risk and opportunity and therefore receives particular attention as part of the ongoing risk management processes. We think about how it is integrated into risk management processes in three ways:

Governance

Climate change is included within the Trustee's risk register. This clearly details the impact and likelihood of the risk, the controls in place and the actions the Trustee takes to manage, mitigate, and exploit both the risk and opportunity. Although the Trustee retains ultimate ownership, the risk register clearly sets out the parties that assist the Trustee in its responsibilities.

Top-down

The climate change scenario analysis shown in the previous section, provides the Trustee with a holistic overview of the potential impacts of climate change and how they may affect the Fund's funding strategy (across assets, liabilities, and covenant). This is an important risk management tool for a top-down risk and opportunity assessment, allowing us to make better informed choices in respect of appropriate funding assumptions, long-term funding targets and risk budgets.

Bottom up

As mentioned, we also conduct more granular analysis to manage the risks and opportunities associated with climate change. These include:

Security analysis – We calculate various climate change related metrics for the underlying securities within the portfolio. This includes metrics such as carbon footprint, climate opportunities, science based targets and transition management score. These provide us with a more detailed understanding of the Fund's exposures.

Manager analysis – The Trustee also conducts an annual review of the DCIO and underlying investment manager policies, processes, and actions in the area of SI, which includes a focus on climate change. The Trustee has been reassured by the results presented and the actions taken to date. The Trustee does however have a strict policy of engagement if any concerns are identified as part of this monitoring.

Employer analysis – The Trustee also conducts an annual review of the Fund's employers, which provides an opportunity to review their response to climate change risks and considers whether any specific risks have arisen that require mitigating actions from the Trustee.

Case Study – DCIO approach to Risk Management

The Fund's DCIO considers climate to be a material risk in the context of the investment portfolio, and that the transition to net zero is a systematic and urgent global challenge which necessitates specific risk management and collective action. To achieve this, the DCIO has placed emphasis on the importance of:

- A combination of decarbonising existing investments and new investments in long-term climate solutions
- Using multiple 'levers' including changes to risk management and asset allocation, manager selection, and index design
- The critical importance of effective stewardship and policy level engagement

In line with this, the DCIO has developed the following Carbon Journey Plan framework which is consistent with the Trustee's overall goals and which is applied in the approach to risk management for the Fund. This is outlined below.

Emission reduction levers

Climate 'levers'	Description
Free Rider	The carbon intensity of major equity markets has been falling in recent years (albeit this depends on the metric used for measurement). As global governments introduce further measures to encourage the reduction of carbon emissions, the carbon intensity of corporate exposure could fall through no specific action by pension schemes
Mandate Changes	Making changes to the mandates given to investment managers can encourage or instruct a lower carbon portfolio to be held. Examples include exclusions (e.g. thermal coal), benchmark design (e.g. climate tilted indices) and limitations (e.g. through guideline limitations).
Engagement	Increased engagement with portfolio companies (across the portfolio, including equity and corporate bonds) may increase the pace of decarbonisation. It will likely be difficult to disaggregate the impact of engagement from the free rider effect.
Impact investing	Impact investments made by pension schemes into carbon neutral or negative assets can reduce or offset carbon emissions from elsewhere in the portfolio
De-risking	A pension scheme's carbon risk (and depending on calculation methodology, carbon exposure) is expected to fall as schemes de-risk out of equities (higher carbon risk) and into bonds/LDI (lower carbon risk)

Section 5: Metrics and Targets

Introduction and overview

A key facet of the Trustee's ongoing monitoring and management of climate change is having good data on the Fund's exposure in this area. Although there are limitations with some of the metrics presented and the completeness of data, the Trustee still has a strong belief that these can helpfully inform us of ongoing monitoring and management of the Fund. The Trustee considers metrics across the Sustainable Investment spectrum, but the focus within this statement is those in climate change. The metrics disclosed have been selected from the following categories:

- An absolute emissions metric
- An emissions intensity metric
- An alignment metric
- One additional climate change metric

It is also important to be clear which emissions are captured within the above metrics and therefore the Trustee has referred to the categories of emissions identified within the Kyoto Protocol. These are as follows:

- Scope 1 emissions: all direct emissions from the activities of an entity or the activities under its control
- Scope 2 emissions: indirect emissions from electricity purchased and used by an entity which are created during the production of energy which the entity uses
- Scope 3 emissions: all indirect emissions from the activities of the entity, other than scope 2 emissions, which occur from sources that the entity does not directly control.

Due to the nature of the emissions, scope 3 emissions are significantly more difficult to calculate than scope 1 or scope 2 emissions for any given entity. It is also the case that, for some assets, even scope 1 and scope 2 emissions are difficult to calculate. The Trustee has included scope 1 and 2 emissions within the metrics displayed in this report and will look to include scope 3 emissions as far as the Trustee is able as part of next year's report.

t The Fund's climate dashboard metrics can be found below:

Topic	Metric	Description	MNRPF	52/48 Comparator[2]
Climate Change	**Total Carbon Emissions**	tCO2e scope 1 + 2 emissions	**38,354**[1]	N/A[1]
	Carbon Footprint	tCO2e scope 1 + 2 emissions / $M invested	**24**[1]	27[1]
	% of assets with approved Science based targets (SBT)	% of the portfolio with science based targets	**11.4%**	16.0%
	Net climate opportunities	Exposure to top 5 industry-related climate opportunities (%) - Exposure to worst 5 industry related climate risks (%)	**5.7%**	10.4%
	Transition management score	Proportion of listed portfolio with a reasonable or effective transition management programme (MSCI's Low Carbon Transition score)	**64%**	88%
	Carbon data quality	% of portfolio for which carbon footprint has been estimated	**43.6%**	47.6%

Notes:

1. Emissions-related metrics for the total portfolio are exclusive of sovereign debt emissions given the nature of the data. Total carbon emissions data for the 52/48 Comparator are not currently available.
2. The Comparator reflects the relevant market cap index – MSCI All Country World Index – that has been scaled down to the return-seeking target allocation of the Fund's portfolio (52%) as at 31 March 2022. The remaining 48% mirrors the portfolio's target weight to liability matching assets via a proxy cash exposure.

Overview of analysis

The following table details the rationale for choosing these metrics.

Metric	Definition	Rationale
Total Carbon Emissions ("tC02e")	An 'absolute emissions' metrics which gives a measure of carbon emissions attributable to the Fund. This is calculated in line with the Greenhouse Gas (GHG) protocol methodology and currently includes only scope 1 and 2 emissions. The underlying emissions data has been sourced from MSCI and, in line with the protocol, includes all the major GHG gases with a conversion into carbon emissions equivalent quantities. We have used each entity's enterprise value, including cash (EVIC) to attribute carbon emissions.	Determined by the Pensions Regulator
Carbon Footprint (tCO2e / $ invested)	An 'emissions intensity' metric which gives a measure of how many equivalent tonnes of carbon emissions each million invested causes. This uses a comparable methodology as the total carbon emissions referenced above for underlying data and emissions attribution for companies.	It provides a direct measure of absolute emissions, which ultimately impact global outcomes and provides a simple comparable measure across portfolios of different sizes
Percentage of assets with approved Science based targets ("SBTi")	A 'portfolio alignment' metric which is a forward-looking measure of the percentage of assets with targets validated by the Science-Based Targets Initiative.	It provides a consistent verification of a company's alignment to the Paris agreement.
Transition Management Score	This aims to assess exposure to the investments which are the most likely to benefit from transition to a low carbon economy and is calculated as a percentage of the Fund's assets with a reasonable or effective transition management programme (MSCI's Low Carbon Transition score).	This additional metric of 'transition management score' has been selected as this reflects the Trustee's belief that the global response to climate change can reward those who respond and adapt quickly as well as punishing the laggards.
Data coverage/quality	A measure of the proportion of the Fund's assets for which the Trustee has high quality audited data, proxied data, or no data at all.	The Trustee believes it is important to monitor this as climate metrics are at an early stage and data is currently limited. The Trustee also believes that improved data quality and coverage is an area that the Trustee (through its DCIO) can most influence investment managers and improvements would allow better decision making on future carbon metrics.

	31 March 2022
Total Carbon Emissions ("tCO2e")	38,354 tonnes
Carbon Footprint (tCO2e / £m invested)	24 tonnes
% of assets with approved Science based targets (SBTi)	11.4%
Transition Management Score	64%

Data quality

In calculating absolute emissions and carbon footprint, the Trustee was able to obtain data on c56% of the portfolio, excluding liability driven investments (LDI). For the private assets the Trustee has proxied the exposure by using appropriate geographic and sector weights for the underlying holdings. This represents 19% of the total portfolio. All the underlying carbon emissions data has been sourced from MSCI. CO2e represents a single unit of measurement for total greenhouse gas emissions (often referred to as CO2 and equivalents) and includes the seven gases mandated under the Kyoto protocol.

On the Trustee's behalf, the DCIO is working actively with its investment managers to improve the quality of the data supplied for these purposes over time. The Trustee will monitor how these metrics evolve over time on an annual basis and understand the drivers for change.

Targets

As referenced, the Trustee has also identified carbon footprint as the metric on which to set a target. This target is to reduce the Fund's Carbon footprint (scope 1 and 2 emissions) by 50% by 2030 and to achieve net-zero by 2040. This will be measured from a baseline of 2022, and the Trustee intends to report progress against this objective in next year's report. The Trustee is reassured that the DCIO has also made a commitment that is consistent with this objective and a key part of the Trustee's responsibility will be monitoring the Manager's progress against this objective over time. The Trustee intends that this goal will be achieved through engagement (with the underlying managers and companies invested in), impact investing (in assets such as green energy), strategic changes (investing in assets with lower climate risk) and also as a result of the 'free-rider' effect. This recognises that although the Trustee will take positive actions, this won't be able to achieve the goal alone and will require the continued collaboration of the global community to combat climate change.

Case Study – DCIO approach

The DCIO has identified the challenges posed from managing portfolio performance alongside the Carbon Journey Plan which has led to a combination of setting top-down targets for long-term value creation alongside bottom-up evaluations of the portfolio's performance. In line with the Climate Financial Risk Forum's guidance, they are considering the impact of our portfolios on climate change as well as the impact of climate change on our portfolios, in the form of a climate dashboard.

Having made substantial progress for target setting and measurement approaches, going forward increased focus will be on assessing climate-related performance and ensuring ESG and climate-related information is readily available to support the investment-decision making process.

Below is an extract of the DCIO's climate dashboard:

Category	Use case	Current metric	Notes
Impact of climate change on the portfolio	Transition Risk	Climate Transition Value at Risk	
	Physical Risk	Proportion of portfolio exposed to significant physical risks	Quantifying physical risk is a major focus, led by our Climate Quantified program and our leadership of the Coalition for Climate Resilient Investment
Impact of the portfolio on climate change	Decarbonisation	Financed emissions – emissions / $ invested	We assess total emissions and carbon footprint, also looking to exclude the impact of market movements to focus on actual underlying decarbonisation
	Alignment	% assets Paris aligned	We draw on multiple lenses here, including Science Based Targets Initiative (SBTi), Transition Pathway Initiative, Climate Action 100+. We also utilise the guidance and methodologies outlined in the Net Zero Investment Framework.
	Mobilising transition finance	Exposure to climate solutions	Aligned to EU Taxonomy and IIGCC methodologies.
Cross-cutting	Engagement	Climate engagement activities, voting records, public policy advocacy and collaboration.	Engagement through multiple mechanisms – asset-level engagement, voting, public policy and advocacy and collaboration. See the Stewardship Section.

Going forward

The Trustee is continuing to monitor the evolving climate measurement landscape with the expectation that the robustness of the metrics will improve over time. The Trustee looks forward to sharing updates on progress in monitoring and managing climate risks and opportunities over time.