# Worcestershire Pension Fund Climate-related Disclosures

*Report prepared in alignment with the recommendations of the TCFD*

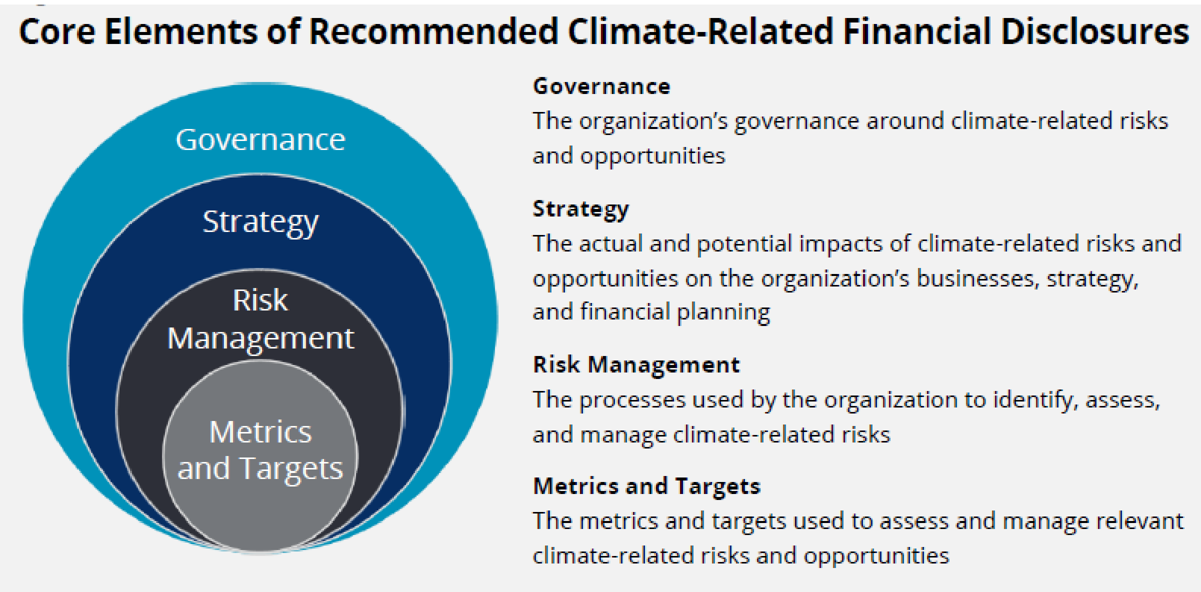
**January 2024**

## Introduction to the TCFD

The Taskforce on Climate-related Financial Disclosures (TCFD) was commissioned in 2015 by Mark Carney in his remit as Chair of the Financial Stability Board. 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. Official supporters of the TCFD total 930 organisations representing a market capitalisation of over $11 trillion. Disclosure that aligns with the TCFD recommendations currently represents best practice.

The recommendations are based on the financial materiality of climate change. The four elements of recommended disclosures (see Figure 1 below) are designed to make TCFD-aligned disclosures comparable, but with sufficient flexibility to account for local circumstances. Examples of pension funds that have been early adopters of the TCFD recommendations include AP2, NEST, PGGM, RPMI Railpen, The Pensions Trust, and Environment Agency Pension Fund.

**Figure 1: TCFD Disclosure Pillars**




The Fund supports the TCFD recommendations as the optimal framework to describe and communicate the steps the Fund is taking to manage climate-related risks and incorporate climate risk management into investment processes. As a pension fund, we are long-term investors and are diversified across asset classes, regions, and sectors, making us "universal owners". It is in our interest that the market is able to effectively price climate-related risks and that policymakers are able to address market failure. We believe TCFD-aligned disclosure from asset owners, asset managers, and corporates, is in the best interest of our beneficiaries.

## About this report

This report is Worcestershire Pension Fund's (WPF or 'the Fund') fourth climate-related disclosure report. It describes the way in which climate-related risks are currently managed within the Fund.

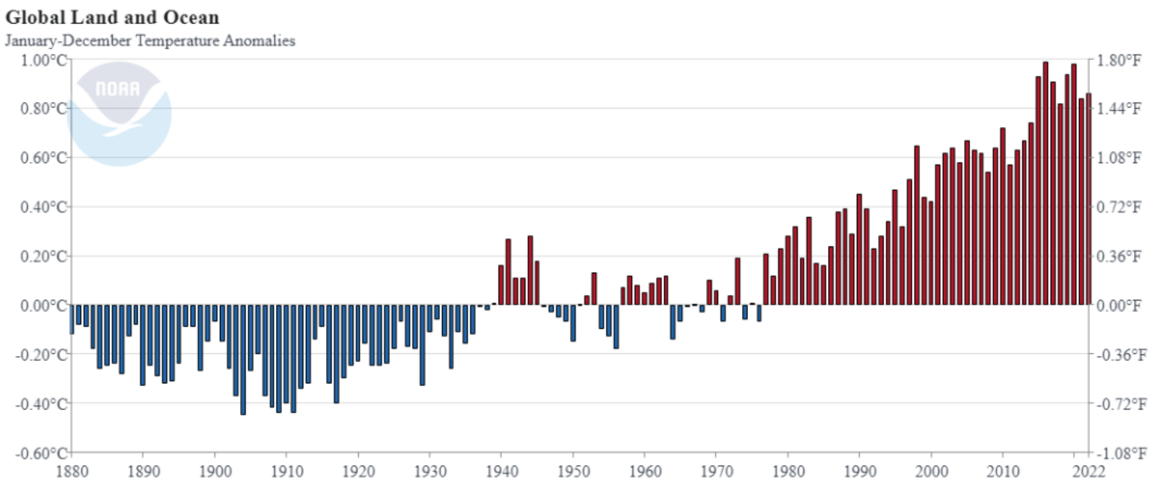
Since September 2020, WPF has received four Climate Risk Reports from the Fund's pooling company, LGPS Central Ltd (LGPSC). These reports have provided an in-depth review of the Fund's climate risks under different climate change scenarios across all asset classes. The Fund is currently using the findings of these reports to develop a more detailed Climate Strategy.

In the interests of being transparent with the Fund's beneficiaries and broader stakeholder base, this report discloses the most recent Carbon Risk Metrics Analysis and Climate Scenario Analysis undertaken on the Fund's assets. We expect to update our Carbon Risk Metrics on an annual basis.

## Climate-related risks

Human activities are estimated to have caused approximately 1.1°C of global warming above pre-industrial levels,[1] while the UN anticipates approximately 2.9°C of warming by the end of the century.[2] Most of this warming has occurred in the past 35 years, with each of the ten warmest years between 1880 and 2022 taking place over the last 12 years.[3] The overwhelming scientific consensus is that the observed climatic changes are the result primarily of human activities including electricity and heat production, agriculture and land-use change, industry, and transport.

**Figure 2: Global Land and Ocean Annual Temperature Anomalies (1880-2022) [4]**




In order to mitigate the worst economic impacts of climate change, there must be a large, swift, and globally co-ordinated policy response. Despite this, the majority of climate scientists anticipate that given the current level of climate action, by 2100 the world will be between 2°C and 4°C warmer. This is substantially higher than the Paris Climate Change Agreement, which reflects a collective goal to hold the increase in the climate's mean global surface temperature to well below 2°C above preindustrial levels and to pursue efforts to limit the temperature increase to 1.5°C.

[1] IPCC_AR6_SYR_SPM.pdf
[2] EGR2023.pdf (unep.org)
[3] Annual 2022 Global Climate Report | National Centers for Environmental Information (NCEI) (noaa.gov)
[4] Annual 2022 Global Climate Report | National Centers for Environmental Information (NCEI) (noaa.gov)

## Governance

| TCFD Recommended Disclosure |
| --- |
| **a) Describe the board's oversight of climate-related risks and opportunities** |

Roles and responsibilities at the Fund are set out clearly in the Fund's Governance Policy Statement and the Fund's annual reports include a Governance Compliance Statement. Overall responsibility for managing the Fund lies with Worcestershire County Council which has delegated the management and administration of the Fund to the Worcestershire Pension Fund Pensions Committee.

The Pension Committee ('the Committee') is responsible for the oversight of climate-related risks and the Fund's Climate Change Risk Strategy. The Committee meet four times a year, or otherwise as necessary and includes quarterly engagement and voting reports (including climate change) from the Fund's investment managers as a standing item on the agendas. Quarterly engagement reports are made available by the Fund on their website. The Committee also approve the Investment Strategy Statement (ISS), which includes the Fund's approach to responsible investment and a specific section on climate change. The ISS includes a set of responsible investment beliefs, including a formal investment belief on climate change, recognising it as a factor that could materially impact financial markets. The Climate Change Risk Strategy is premised on five foundational evidence-based beliefs about climate risk, considering climate science, the energy transition, and climate stewardship. The Climate Change Risk Strategy is reviewed at least every two years by the Committee.

The Pension Investment Sub Committee are responsible for identifying and approving investment in climate related opportunities. The Committee is currently exploring the potential for additional allocations to sustainable and/or low carbon equities.

The Committee, Pension Investment Sub-Committee and Pension Board receive focused training and workshops on responsible investment topics (including climate change).

The Pensions Board has an oversight role in ensuring the effective and efficient governance and administration of the Fund, including securing compliance with the LGPS Regulations and any other legislation relating to the governance and administration of the LGPS.

| TCFD Recommended Disclosure |
|---|
| **b) Describe management's role in assessing and managing climate-related risks and opportunities.** |

The Chief Financial Officer and the Head of Pension Investments, Treasury Management & Banking have primary day-to-day responsibility for the way in which climate-related investment risks are currently managed. As a primarily externally managed fund, the implementation of much of the management of climate-related risk is delegated onwards to portfolio managers. Each manager's approach to ESG factors and how these are integrated into their investment process is assessed as part of the manager selection process. The manager selection guidelines on impact criteria and TCFD Compliance further strengthens this process. External portfolio managers are monitored on a regular basis by the Pension Investment Sub-Committee.

Fund Officers have received annual Climate Risk Reports since 2020. These enable the consideration of climate change within strategy setting, including asset allocation and fund selection. These reports also assist in the production of the Climate Change Risk Strategy produced by the Fund. Receipt of a Climate Risk Report is expected to continue occurring annually. Completion of an SDG mapping is expected to occur every two to three years.

As detailed in the Climate Change Risk Strategy, the Fund leverages partnerships and initiatives – including the Institutional Investors Group on Climate Change (IIGCC) – to identify and manage climate risk.

## Strategy

| TCFD Recommended Disclosure |
|---|
| **a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.** |

As a diversified asset owner, the range of climate-related risks and opportunities are multifarious and constantly evolving. A subset of risk factors is presented in Table 1.

**Table 1: Example Short, Medium & Long-Term Risks**

| Risk | Transition / Physical | Time Horizon | Impact Area | Mitigation / Management Strategy |
|---|---|---|---|---|
| **Policy Changes (Including Carbon Pricing)** | Transition | Short<br>Medium<br>Long | Across investments and funding | • Monitor potential regulatory changes (domestic and international), and consider impact of these changes on Fund's investments and operations. |

| Risk | Transition / Physical | Time Horizon | Impact Area | Mitigation / Management Strategy |
|---|---|---|---|---|
| | | | Investments in carbon-intensive industries<br><br>Operational | • Monitor managers' preparedness and awareness of changing carbon prices across relevant markets<br>• Consider impact of likely policy changes in strategic decisions |
| **Technological Change** | Transition | Short<br><br>Medium<br><br>Long | Across Asset Classes | • Monitor potential technology disruptors<br>• Monitor manager awareness of emerging and disruptive technologies<br>• Consider impact of these changes in strategic decisions |
| **Extreme Weather Events** | Physical | Short<br><br>Medium<br><br>Long | Physical Assets<br><br>Corporate Holdings | • Carry out scenario analyses on various climate scenarios to assess impact<br>• Monitor portfolio company's assessments of extreme weather impacts on their operations |
| **Resource Scarcity** | Physical | Medium<br><br>Long | Physical Assets | • Monitor manager awareness of resource scarcity<br>• Special consideration to agricultural holdings |

Short-term risks include stock price movements resulting from increased regulation to address climate change. Medium-term risks include policy and technology leading to changes in consumer behaviour and therefore purchasing decisions – the uptake in electric vehicles is an example of this. Long-term risks include physical damages to real assets and resource availability. Examples would include increased sea level rise for coastal infrastructure assets or supply chain impacts for companies as a result of severe weather events.

| TCFD Recommended Disclosure |
|---|
| **b) Describe the impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning.** |

The Fund believes that diversification across asset classes, regions, and sectors is an important investment risk management tool to reduce risk. The Fund recognises that climate risk is systemic and is unlikely to be eliminated through diversification alone. The Fund is exploring options to further embed climate-related risks and opportunities into its investment strategy, including reviewing potential investments in sustainable and / or low carbon equities where this supports the Fund's investment and funding objectives.

The Fund aims to target investments in global companies that are sustainable in financial, environmental, social and governance terms and, where appropriate, providing solutions to sustainability challenges. Furthermore, the Fund has invested in several renewable energy opportunities, and continues to actively assess and explore additional opportunities. Research commissioned by LGPSC from Mercers (presented below) suggests that these allocations could lead to a positive return impact on the Fund's investment portfolio in a rapid transition and orderly transition scenarios.

Partly to reduce its climate-related risks, the Fund transitioned out of a carbon intensive passive fund and invested £200m in a climate multi-factor fund in November 2021. While seeking exposure to five style factors, the fund tilts away from companies that are carbon intensive or own fossil fuel reserves, and tilts towards companies that generate green revenues. In Q2 2022, the Fund invested approximately £170m in LGPS Central's Global Sustainable Equity fund. The carbon metrics associated with this fund are significantly lower than those of the benchmark, representing another significant step forward for the Fund's management of climate risk.

The Fund is exploring options to further embed climate-related risks and opportunities into its investment strategy where this supports the Fund's investment and funding objectives.

| TCFD Recommended Disclosure |
|---|
| **c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.** |

In 2020 and 2022 the Fund engaged the expertise of an external contractor, Mercer LLC,[5] to understand the extent to which the Fund's risk and return characteristics could come to be affected by a set of plausible climate scenarios. This includes an estimation of the annual climate-related impact on returns (at the fund and asset-class level). All asset classes are included in this analysis. The climate scenarios considered are Rapid Transition, Orderly Transition and Failed Transition. This analysis is carried out every 2 to 3 years and the results of the 2022 analysis are provided below.

The scenarios are defined according to the change since pre-industrial times in mean global surface temperatures. A Rapid transition scenario is characterised by sudden divestments on a global scale in 2025 in order to align society to the Paris Agreement goals. The Orderly transition scenario represents the markets pricing-in dynamics occurring gradually over four years. A Failed transition represents a scenario in which society makes no attempt to limit global warming, with severe physical and extreme weather events and the markets pricing in these risks.

The analysis shows that over medium- to long-term, a successful transition is imperative for the Fund as its asset allocation fare better under Rapid and Orderly transition scenarios versus the Failed transition. Over the long term for nearly all investors a successful transition leads to enhanced projected returns when compared to scenarios associated with higher temperature outcomes due to lower physical damages.

[5] Via LGPS Central Limited

The analysis concluded with several key recommendations, including That the fund continues with the development of its net zero strategy; that the portfolio increases its weighting of sustainable equity; and that it works with fund managers to understand how they monitor climate risk.

The Fund has also carried out a Climate Scenario Analysis on the impact of three different climate scenarios on the Fund's funding. This analysis also considered the impacts in a Rapid Transition, Orderly Transition, and Failed Transition. The analysis concluded by showing that Funding would be least impacted in a Rapid Transition, with the most impactful shocks in a Failed Scenario.

It should be noted that translating Climate Scenario Analysis into an investment strategy is a challenge because there is a wide range of plausible climate scenarios; the probability of any given scenario is hard to determine; and the best performing sectors and asset classes in an orderly scenario tend to be the worst performers in a failed scenario and vice versa. Despite the challenges, the Fund believes in seeking out the best available climate-related research in order to make its portfolio as robust as possible.

## Risk Management

| TCFD Recommended Disclosure |
| --- |
| **a) Describe the organisation's process for identifying and assessing climate-related risks.** |

The Fund seeks to identify and assess climate-related risks at the total Fund level and at the individual asset level. The Fund has received a Climate Risk Report to assess financially material risks in support of the Fund's Climate Change Risk Strategy which includes both top-down and bottom-up analysis of its listed holdings to support this endeavour. The Fund recognises that the tools and techniques for assessing climate-related risks in investment portfolios are an imperfect but evolving discipline. The Fund aims to use the best available information to assess climate-related threats to investment performance.

As far as possible climate risks are assessed in units of investment return, in order to compare with other investment risk factors.

As a primarily externally managed pension fund, the identification and assessment of climate related risks is also the responsibility of individual fund managers appointed by the Fund. Existing fund managers are monitored on a regular basis and the Fund's monitoring process will be more focussed in future to review the integration of climate risks into the managers portfolio management approaches, and to understand their engagement activities.

Engagement activity is conducted with investee companies through selected stewardship partners including LGPSC, EOS at Federated Hermes, and LAPFF (see below). Based on the findings of the Fund's climate reports, the Fund is devising a Climate Stewardship Plan in order to focus engagement resources on the investments most relevant to the Fund.

The fund will continue to monitor and consider both existing and emerging regulatory requirements relating to climate change.

| TCFD Recommended Disclosure |
|---|
| **b) Describe the organisation's process for managing climate-related risks.** |

The prioritisation of risks is determined on the level of perceived threat to the Fund which, for climate-related risk, will likely depend on analyses including Climate Scenario Analysis and Carbon Risk Metrics. As set out in the Fund's Climate Change Risk Strategy, the main management methods include the utilisation of various tools and techniques for assessing climate-related risks; accessing the best climate data available; and working collaboratively with other investors.

Although the Fund's Climate Change Risk Strategy involves more than just engagement and shareholder voting, stewardship activities will remain an important aspect of the Fund's approach to managing climate risk. The Fund expects all investee companies to manage material risks, including climate change, and the Fund believes that climate risk management can be meaningfully improved through focussed stewardship activities by investors.

The Fund supports the engagement objectives of the Climate Action 100+ initiative, namely that companies: adopt the appropriate governance structures to effectively manage climate risk; decarbonise in line with a 1.5°C and disclose effectively using the TCFD recommendations.

Either through its own membership or through LGPSC membership, the Fund has several engagement partners that engage investee companies on climate risk

**Table 2: The Fund's Stewardship Partners**

| Organisation | Remit |
|---|---|
| LGPS Central Limited | The Fund is a 1/8th owner of LGPS Central.<br><br>Climate change is one of LGPS Central's stewardship themes, with quarterly progress reporting available on the website.<br><br>The Responsible Investment Team at LGPS Central engages companies on WPF's behalf, including via the Climate Action 100+ initiative. |
| Federated Hermes | EOS at Federated Hermes is engaged by LGPS Central to expand the scope of the engagement programme, especially to reach non-UK companies. |
| Local Authority Pension Fund Forum | WPF is a long-standing member of the Local Authority Pension Fund Forum (LAPFF). LAPFF conducts engagements with companies on behalf of local authority pension funds. |

The use of shareholder voting opportunities is an important part of climate stewardship. The Fund's approach to shareholder voting is to appoint high quality asset managers whose voting policies support the long-term economic objectives of shareholders. Voting rights attached to securities in portfolios managed by LGPSC are instructed according to LGPSC's Voting Principles, to which the Fund contributes during the annual review process. LGPSC's Voting Principles incorporate climate change, for example by voting against companies that do not meet certain thresholds in the Transition Pathway Initiative (TPI) scoring system. LGPSC has co-filed shareholder resolutions that relate to climate change.

Legal & General Investment Management (LGIM) currently manage a sizeable proportion of the Fund's assets on a passive basis. The votes in respect of these assets are cast by LGIM. LGIM has a robust approach to incorporating climate change factors in its voting decisions, including on specific climate-related shareholder resolutions.

The results of engagement and voting activities are reviewed by the Committee and Pension Investment Sub-Committee. LGPSC's activities are reported in Quarterly Stewardship Updates which are available on the LGPSC website.

Following the Fund's first Climate Risk Report, the Fund has developed a Climate Stewardship Plan which, alongside the widescale engagement activity undertaken by LGPS Central, EOS at Federated Hermes, and LAPFF, includes targeted engagement with eight investee companies of particular significance to the Fund's portfolio. The Fund believes that all companies should align their business activities with the Paris Agreement on climate change.

**Table 3: Companies included in the Climate Stewardship Plan**

| Company | Sector |
|---|---|
| BHP Group | Materials |
| BP | Energy |
| Cemex | Cement |
| CRH | Materials |
| Glencore | Materials |
| Reliance Industries | Energy |
| Rio Tinto | Mining |
| Royal Dutch Shell | Energy |
| Taiwan Semiconductor Manufacturing Co | Info Tech |

| TCFD Recommended Disclosure |
|---|
| **c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.** |

Both 'mainstream' risks and climate-related risks are discussed by the Pension Committee. While specific macro-economic risks are not usually included in isolation, the Fund has deemed climate risk to be sufficiently significant and therefore included it on the Fund's Risk Register. Climate risk is further managed through the Fund's Climate Stewardship Plan.

## Metrics and Targets

| TCFD Recommended Disclosure |
| --- |
| **a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.** |

The Fund receives annual reports from LGPSC which set out the carbon risk metrics for its listed equities and fixed income portfolios. The poor availability of data in unlisted asset classes prevents a more complete analysis at this time.

The carbon risk metrics analysis includes: [6]

- Absolute Emissions (measured by 'Financed Emissions')
- Emissions Intensity (measured by 'Normalised Financed Emissions' and 'Weighted Average Carbon Intensity', or WACI)
- Data Quality
- Paris Alignment

Carbon risk metrics aid the Fund in assessing the potential climate-related risks to which the Fund is exposed, and identifying areas for further risk management, including company engagement and fund manager monitoring. The Fund additionally monitors stewardship data (see above).

In considering its carbon risk metrics, the Fund remains aware of the limitations of the available metrics and the underlying datasets. There are certain data gaps caused by companies failing to report greenhouse gas (GHG) emissions data, or by companies reporting unreliable GHG data. In such cases the GHG data must be estimated, and different suppliers of GHG datasets might have different methodologies for making such estimations, leading to potentially different values for the same company or portfolio of companies. The results should, therefore, be treated with some degree of caution. Despite the potential pitfalls, the Fund has resolved to integrate the consideration of carbon risk metrics within the Fund's overall framework of risk management. The Fund is also aware that the results are primarily useful in facilitating decisions, to enabling the prioritisation of risk management measures, and to assess progress from a climate risk management perspective.

[6] Definitions of these metrics can be found in the Glossary at the end of this report.

TCFD Recommended Disclosure

**b) Disclose Scope 1, Scope 2, and if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. TCFD Guidance:** *Asset owners should provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each fund or investment strategy.*

In line with the TCFD guidance and following receipt of a report from LGPSC, the carbon footprints of the applicable portfolios are presented below.[7] Further information is available in the full dashboard at the end of this report.

**Table 4: Carbon risk metrics for the equity portfolio as of 30th March 2023** [8]

| Portfolio | Financed Emissions | | Normalised Financed Emissions | | Weighted Average Carbon Intensity | | Data Quality | Alignment |
|---|---|---|---|---|---|---|---|---|
| | PF | BM | PF | BM | PF | BM | | |
| Total Equities | 167,214 | 222,645 | 72.7 | 93.2 | 98.7 | 164.1 | 2.1 | 19.7% |

The financed emissions (scope 1&2) associated with the Fund's equity portfolio are approximately 25% lower than the benchmark, while the portfolio's WACI is approximately 40% lower than the benchmark. Both of these figures are also lower than 2022. As the NAV of the total equity portfolio increased in 2023, the scale of the year-on-year decrease was significantly larger for normalised financed emissions than absolute financed emissions.

The equity portfolio also outperforms the benchmark in terms of its exposure to fossil fuels, both in terms of absolute exposure and when apportioned by revenue. While the Paris Alignment metric is currently quite low (19.7%), the high engagement percentage (71.2%) should help ensure that this figure increases over time.

Whilst the Fund's carbon risk metrics results show the Fund generally 'outperforms' its benchmarks, the Fund is proactively exploring ways to further embed climate risk management in its investment decision making. The Fund expects to update its carbon risk metrics data on an annual basis.

TCFD Recommended Disclosure

[7] Analysis undertaken on the listed equities portfolios with holdings data as of 30th March 2023. The information in Table 4 was provided to the Fund in a report authored by LGPS Central Limited. In LGPS Central Limited's report, the Total Equities portfolio comprises the Total Active Equities and the Total Passive Equities portfolios weighted according to their size in GBP. The Total Active Equities portfolio contains three underlying portfolios managed for the Fund by LGPS Central and one underlying portfolio managed by Nomura. The Total Passive Equities portfolio contains four underlying portfolios managed for the Fund by LGIM, and one managed by LGPS Central.

[8] Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.

## c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

The ability for diversified investors (such as pension funds) to set meaningful climate targets is inhibited by the paucity of credible methodologies and data currently available. Like most investors, the Fund is supportive of the development of target-setting methodologies, and the increasing completeness of carbon datasets. The Fund wishes to set meaningful and challenging climate targets for its investment portfolio and work is underway to assess options within the limitations of currently available data.

## Appendix 1

TCFD Recommendations for Asset Owners (source: TCFD)

### Governance

Recommended Disclosure (a) Describe the board's oversight of climate-related risks and opportunities.

Recommended Disclosure (b) Describe management's role in assessing and managing climate-related risks and opportunities.

### Strategy

Recommended Disclosure (a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

Recommended Disclosure (b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Recommended Disclosure (c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

### Risk Management

Recommended Disclosure (a) Describe the organisation's processes for identifying and assessing climate-related risks.

Recommended Disclosure (b) Describe the organisation's processes for managing climate-related risks.

Recommended Disclosure (c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

### Metrics and Targets

Recommended Disclosure (a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

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

Recommended Disclosure (c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

## Appendix 2: Glossary

**Clean Technology/ Weight in Clean Technology:** the weight of a portfolio invested in companies whose products and services include clean technology. Products and services eligible for inclusion include Alternative Energy, Energy Efficiency, Green Building, Pollution Prevention, Sustainable Water.

**Coal Reserves/ Portfolio exposure to thermal coal reserves:** the weight of a portfolio invested in companies that own thermal coal reserves.

**Data Quality:** this metric assesses the quality of a company's carbon reporting. It is represented on a scale of 1-4, where 1 (the highest score) suggests that emissions data has been independently verified. A score of 4 (the lowest score) suggests that data may be based on sectoral estimates.

**Engagement:** dialogue with a company concerning particular aspects of its strategy, governance, policies, practices, and so on. Engagement includes escalation activity where concerns are not addressed within a reasonable time frame.

**Financed Emissions:** the absolute amount of greenhouse gas emissions associated with a particular holding or portfolio. This is calculated by assuming the investor is responsible for their share of the company's total emissions. For example, if an investor owns 10% of a company which emits 1000 tonnes of CO2, the investor's financed emissions will be 100 tonnes.

**(Normalised) Financed Emissions:** the portfolio's financed emissions divided by £1m invested. This intensity figure allows investors to track changes in financed emissions over time, irrespective of changes in AUM.

**Fossil Fuel Reserves/ Portfolio exposure to fossil fuel reserves:** the weight of a portfolio invested in companies that own fossil fuel reserves.

**Paris Alignment:** This score, expressed as a percentage, shows the proportion of financed emissions within the portfolio that are aligned to LGPSC's 'alignment' metric. In order to classify as aligned, the company must meet several threshold criteria across a variety of climate metrics.

**Physical risk/ climate physical risk:** the financial risks and opportunities associated with the anticipated increase in frequency and severity of extreme weather events and other phenomena, including storms, flooding, sea level rise and changing seasonal extremities.

**Scope 1 Greenhouse Gas Emissions:** Direct emissions from owner or sources controlled by the owner, including: on-campus combustion of fossil fuels; and mobile combustion of fossil fuels by institution-controlled vehicles.

**Scope 2 Greenhouse Gas Emissions:** Indirect emissions from the generation of purchased energy

**Scope 3 Greenhouse Gas Emissions:** Indirect emissions that are not controlled by the institution but occur as a result of that institutions activities. Examples include commuting, waste disposal and embodied emissions from extraction.

**Stewardship**: the promotion of the long-term success of companies in such a way that the ultimate providers of capital also prosper, using techniques including engagement and voting.

**Transition risk/ climate transition risk:** the financial risks and opportunities associated with the anticipated transition to a lower carbon economy. This can include technological progress, shifts in subsidies and taxes, and changes to consumer preferences or market sentiment.

**Voting**: the act of casting the votes bestowed upon an investor, usually in virtue of the investor's ownership of ordinary shares in publicly listed companies.

**Weighted Average Carbon Intensity (WACI):** A proxy for a portfolio's exposure to potential climate-related risks (especially the cost of carbon), often compared to a performance benchmark. It is calculated by working out the carbon intensity (Scope 1+2 Emissions / $M sales) for each portfolio company and calculating the weighted average by portfolio weight.

## Appendix 3: Important Information

Extract above from Mercer Limited's (Mercer) report "Climate Change Scenario Analysis" dated December 2022 prepared for and issued to LGPS Central Limited for the sole purpose of undertaking climate change scenario analysis for Worcestershire Pension Fund. Other third parties may not rely on this information without Mercer's prior written permission. The findings and opinions expressed are the intellectual property of Mercer and are not intended to convey any guarantees as to the future performance of the investment strategy. Information contained herein has been obtained from a range of third-party sources. Mercer makes no representations or warranties as to the accuracy of the information and is not responsible for the data supplied by any third party.

The following notices relates to Table 4 (above), which is produced for the Fund by LGPS Central Limited based on a product licensed by MSCI ESG Research LLC. This report confers no suggestion or representation of any affiliation, endorsement, or sponsorship between LGPS Central and MSCI ESG Research LLC. Additionally:

Although LGPS Central's information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information (the "Information") from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The Information may only be used for your internal use, may not be reproduced, or re-disseminated in any form and may not be used as a basis for, or a component of, any financial instruments or products or indices. Further, none of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

## Appendix 4: Total Equities Dashboard

# Equity

LGPS Central

| Equity | Multiple | Multiple | £2,433,117,663 | Blended | Q1 2023 |
|---|---|---|---|---|---|
| Asset Class | Fund Classification | Fund Manager | NAV | Reference Index | Period |

**Carbon Footprint Metrics** / **Data Availability**

| | | Portfolio | Reference | Previous Year | Data Availability Portfolio | Data Availability Reference |
|---|---|---|---|---|---|---|
| Total Financed Emissions | Scope 1+2 | 167,214 | 222,645 | 164,359 | 96.3% | 98.3% |
| tCO2e | Scope 3 | 1,754,764 | 1,857,785 | 1,546,893 | 96.1% | 98.1% |
| Normalised Financed Emissions | Scope 1+2 | 72.7 | 93.2 | 81.5 | | |
| tCO2e/£M Invested | Scope 3 | 767.0 | 777.7 | 770.3 | | |
| Weighted Average Carbon Intensity | Exclude Sovereign | 98.7 | 164.1 | 114.4 | 96.3% | 98.4% |
| tCO2e/$M Revenue | Include Sovereign | 98.7 | 164.1 | 114.4 | 96.3% | 98.4% |

### Top 10 Emissions Contributors

| Issuer | PF Weight | Ref Weight | % Financed Emission | | % WACI | | Scope 1+2 | Scope 3 | Engagement | Focus | Data | LCT | ITR | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Taiwan Semiconductor Manufacturing Co., Ltd. | 1.8% | 1.3% | 0.9% | 19 | 3.7% | 4 | 11.3M | 35.0M | Yes | Yes | 2 | 5.8 | 2.9 | No |
| SHELL PLC | 1.7% | 2.0% | 15.2% | 1 | 6.5% | 1 | 137.7M | 1,174.0M | Yes | Yes | 2 | 2.9 | 2.5 | No |
| BP P.L.C. | 1.0% | 1.1% | 3.6% | 5 | 1.5% | 11 | 35.5M | 640.7M | Yes | Yes | 2 | 2.8 | 2.4 | No |
| RIO TINTO PLC | 0.7% | 0.7% | 3.1% | 7 | 4.1% | 3 | 30.3M | 583.9M | Yes | Yes | 2 | 5.5 | 5.9 | No |
| ANGLO AMERICAN PLC | 0.4% | 0.4% | 1.4% | 13 | 1.7% | 10 | 13.3M | 335.2M | Yes | No | 2 | 5.8 | 5.5 | No |
| CRH PUBLIC LIMITED COMPANY | 0.3% | 0.4% | 4.8% | 3 | 3.4% | 6 | 33.8M | 22.4M | Yes | Yes | 2 | 4.9 | 1.8 | Yes |
| CEMEX, S.A.B. de C.V. | 0.1% | 0.0% | 5.0% | 2 | 3.4% | 5 | 39.3M | 14.8M | Yes | Yes | 2 | 4.0 | 1.9 | Yes |
| SOUTH32 LIMITED | 0.1% | 0.0% | 3.0% | 8 | 2.8% | 8 | 21.0M | 67.4M | Yes | No | 2 | 4.0 | 5.2 | No |
| SEMBCORP INDUSTRIES LTD | 0.1% | 0.0% | 4.4% | 4 | 4.3% | 2 | 25.5M | 8.9M | No | No | 2 | 3.4 | 3.2 | No |
| Huaxin Cement Co., Ltd. | 0.0% | 0.0% | 2.6% | 10 | 2.8% | 7 | 36.0M | 3.5M | No | No | 2 | 1.4 | 8.3 | No |

### Recommendations / Observations

- Financed emissions have increased slightly since the previous year. However, as the fund's AUM also increased by a greater proportion over the same period, normalised financed emissions have decreased by 11%.
- The fund's financed emissions are 25% lower than that of the benchmark, driven by underweight exposure to Materials, Energy, and Utilities.

| Worst YoY Contributors | Stewardship Focus |
|---|---|
| BLUESCOPE STEEL LIMITED | No |
| SEMBCORP INDUSTRIES LTD | No |
| SOUTH32 LIMITED | No |

### High Impact Sectors / Climate Solutions Exposures (Portfolio vs Benchmark)

| Fossil Fuel Exposure | Fossil Fuel Revenue | Thermal Coal Exposure | Coal Power Exposure | Cleantech Exposure | Cleantech Revenue |
|---|---|---|---|---|---|
| 5.7% \| 8.3% | 2.0% \| 3.9% | 2.1% \| 2.9% | 0.0% \| 0.1% | 38.1% \| 38.2% | 4.9% \| 5.2% |

### Portfolio Alignment & Engagement

| Engagement | Data Quality | LCT | ITR | SBT | Alignment |
|---|---|---|---|---|---|
| 71.2% | 2.1 | 37.1% | 26.1% | 35.7% | 19.7% |