WORCESTERSHIRE PENSION FUND CLIMATE-RELATED DISCLOSURES REPORT

MARCH 2021

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Management Summary

Recognising that climate change is a risk to financial markets, the Financial Stability Board felt that it would be desirable to have clear, comprehensive, high-quality information on its impact and created the Task force on Climate-related Financial Disclosures (TCFD) to improve and increase the reporting of climate-related financial information.

The TCFD came up with recommended disclosures in the four thematic areas that it felt represent the core elements of how organisations operate:

- **Governance**: Disclose the organisation's governance around climate-related risks and opportunities.
- **Strategy**: Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.
- **Risk management**: Disclose how the organisation identifies, assesses, and manages climate-related risks.
- **Metrics and targets**: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

The Fund believes that:

1. Better disclosure of the risks and opportunities presented by rising temperatures, climate-related policy, and emerging technologies in our changing world is in our interests as we will be able to:

    a. More effectively evaluate climate-related risks to us and our employers.
    b. Make better-informed decisions on where and when to allocate our assets.

2. The TCFD's recommendations provide the optimal framework to describe and communicate the steps that pension funds are taking to manage climate-related risks and to incorporate climate risk management into their investment processes.

3. TCFD-aligned disclosure from asset owners, asset managers, and corporates is in the best interest of our stakeholders.

As a first step towards taking the TCFD recommendations forward the Fund has drafted disclosures after auditing its current state of play in relation to these areas in the sections that follow.

Further background to the TCFD's recommendations is also provided in Appendix 1 and 2

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 our 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. 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. 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 Pension Investment Sub Committee are responsible for identifying and approving investment in climate related opportunities. The Committee is currently eexploring 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 Fund has recently undertaken an external Environmental, Social and Governance **(**ESG) audit of the Funds' investments and at the same time sought to map all the Fund's investments to the United Nations Sustainable Development Goals (SDGs) including SDG13 Climate action. This was to establish a baseline for the Fund as to where we are and help formulate future strategic actions required for the Fund's investment approach.

In order to support good decision-making, the Fund applies the Myners Principles. Disclosure against the Myners Principles is made annually (see section 12 of the Fund's Investment Strategy Statement).

In October 2020 the Committee received a Climate Risk Report which will be used to develop the Fund's climate risk strategy.

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 Pensions Investment & Treasury Management Manager 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 Environmental, Social and Governance (ESG) factors and how these are integrated into their investment process is assessed as part of the manager selection process. The new manager selection guidelines (going to Committee for approval) on introducing impact criteria and TCFD Compliance will further strengthen this process. External portfolio managers are monitored on a regular basis by the Pension Investment Sub-Committee.

In 2020, Fund Officers received a Climate Risk Report and an ESG Audit which mapped the Fund's Investment to the SDGs. Both of these will enable the consideration of climate change within strategy setting, including asset allocation and asset selection. Receipt of a Climate Risk Report is expected to occur annually. Completion of an SDG mapping is expected to occur every two to three years

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

	Short & Medium Term	**Long Term**
Risks	Carbon prices Technological change Policy tightening Consumer preferences	Resource scarcity Extreme weather events Sea level rise
Asset class	Listed equities Growth assets Energy-intensive industry Oil-dependent sovereign issuers Carbon-intensive corporate issuers	Infrastructure Property Agriculture Commodities Insurance

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.

The Fund has recently invested in a number infrastructure opportunities that benefit the climate by de-carbonisation of economy, renewable energy, protecting the environment, etc and the Fund is currently eexploring the potential for additional allocations to sustainable and/or low carbon equities

The Fund has received a Climate Risk Report and will use its findings, along with the output of the Fund's recent ESG audit and SDG mapping, to develop a Climate Strategy.

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 2°C scenario.

The Fund's present deliberate underweighting to the UK equity market compared to its strategy and also reduced the passive Value Fund from 40% to 20% of the total passive alternatives allocation in September 2020. This will help reduce the Fund's exposure to companies with fossil fuel reserves. The Fund's carbon risk metrics analysis (Figure 8) shows that the UK equity market and the alternative passive Value Fund have the highest exposure to fossil fuel reserves compared to other regional equity markets, although it should be noted that some of the largest UK companies with fossil fuel reserves are among the most progressive in terms of factoring climate risk into their long-term strategy. In each regional equity portfolio, the Fund has a lower exposure to fossil fuel reserves companies than the benchmark.

The Fund will also use the analysis of the SDG Mapping exercise which shows £1.4bn of its £2bn of listed assets had exposure to SDG13 Climate Action through some of the most influential global companies contained within the World Benchmarking Alliance's SDG2000 benchmark. The analysis will help the Fund in

- Tackling the 'weaker' areas in the Fund's investments by having a **proactive identification and engagement** approach with:

- The **lowest-rated Fund SDG2000 holdings**, and
- Those **other Fund investments** deemed as being **SDG-detracting thus** creating a **more rigorous approach** towards future manager **appointments** / real asset **investments**

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.

The Fund has engaged the expertise of an external contractor, Mercer LLC[1] , to understand the extent to which the Fund's risk and return characteristics could be affected by a set of plausible climate scenarios. This includes an estimation of the annual climate-related impact on returns (at fund and asset-class level). All asset classes are included in this analysis. The climate scenarios considered are 2°C, 3°C and 4°C.

Two asset allocations have been analysed: (1) the asset allocation as at 29th May 2020; and (2) a hypothetical "Sustainable Asset Allocation" – which adjusts the Strategic Asset Allocation by incorporating low carbon, sustainable equities, and sustainable infrastructure.

The Fund is currently exploring **additional allocations** to sustainable and/or low carbon equities and expects to complete some planned allocation to global sustainable equities and low carbon equities in the near-term.

Table 2: Annualised climate change impact on portfolio returns – to 2030 and 2050[2].

Scenario	Timeline	Estimated climate impact on returns
2°C	2030	0.29%
	2050	0.09%
3°C	2030	-0.02%
	2050	-0.09%
4°C	2030	-0.08%
	2050	-0.15%

≤ -10 bps > -10 bps, < 10bps ≥ 10 bps

[1] Via LGPS Central Limited

[2] Extract above from Mercer Limited's (Mercer) report "Climate Change Scenario Analysis" dated 19 September 2020 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 Climate Scenario Analysis suggests that a 2°C outcome is, according to the model used, the best climate scenario from a returns perspective (adding 0.29% in annual returns to the Asset Allocation on a timeline to 2030) while a 4°C outcome is the worst of the three considered (detracting by 0.08% annually over the same period). Over the longer time frame to 2050, the 2°C outcome continues to add positively to the Fund's annual returns (0.09%), while the 4°C outcome continues to drag on the Fund's returns (-0.15%).

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 a 2°C scenario tend to be the worst performers in a 4°C 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 Strategy which includes both top-down and bottom-up analyses of its listed holdings and a Sustainable Development Goals Audit 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). The Fund is, based on a Climate Risk Report, devising a Climate Stewardship Plan in order to focus engagement resources on the investments most relevant to the Fund.

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. The Fund's approach to climate risk management will be further developed in its forthcoming Climate Strategy.

Although the Fund's Climate Strategy will involve 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 the Paris Agreement, 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 3: The Fund's Stewardship Partners

Organisation	Remit
LGPS Central Limited	The Fund is a 1/8th owner of LGPSC. Climate change is one of LGPSC's stewardship themes, with quarterly progress reporting available on the website. The Responsible Investment Team at LGPSC engages companies on the Fund's behalf, including via the Climate Action 100+ initiative.
Federated Hermes	EOS at Federated Hermes is engaged by LGPSC to expand the scope of the engagement programme, especially to reach non-UK companies. In 2019, EOS conducted engagements on 238 climate change issues across its company universe.
Local Authority Pension Fund Forum	The Fund is a member of the Local Authority Pension Fund Forum (LAPFF). LAPFF conducts engagements with companies on behalf of local authority pension funds. In 2019 LAPFF conducted over 150 engagements on climate change.

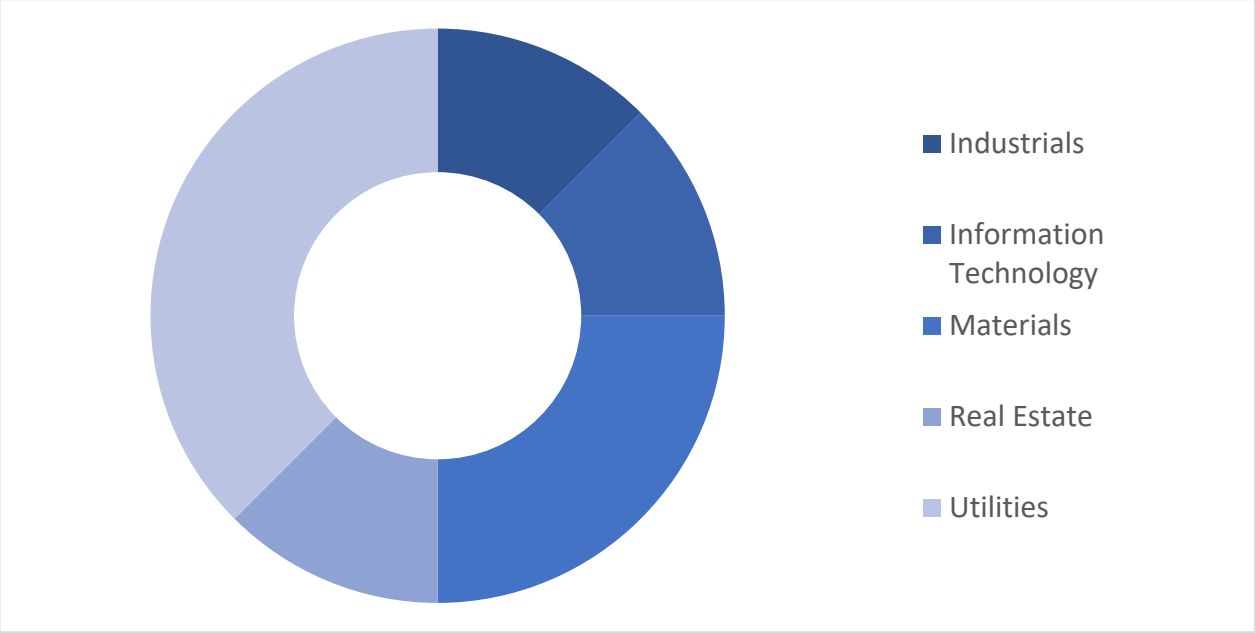
The use of shareholder voting opportunities is an important part of climate stewardship. The Fund's approach to shareholder voting is to appoint high quality asset managers whose voting policies support the long-term economic objectives of shareholders. Voting rights attached to securities in portfolios 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. LGPSC recently co-filed climate-related shareholder resolutions at the meetings of BP Plc, Barclays Plc, and Citigroup.

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.

Based on its Climate Risk Report, the Fund will develop a Climate Stewardship Plan which, alongside the widescale engagement activity undertaken by LGPSC, EOS at Federated Hermes, and LAPFF, will include targeted engagement at investee companies of particular significance to the Fund's portfolio.

Figure 5: Sectors included in proposed Climate Stewardship Plan



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 Committee. While specific macro-economic risks are not usually included in isolation, the Fund is considering the inclusion of climate risk on the Fund's Risk Register.

Climate risk will be further managed through the development of a Climate Strategy and a Climate Stewardship Plan

Metrics & 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 has recently received a report from LGPSC on carbon risk metrics for its listed equities portfolios, which represent 70% of the Fund's total assets. The poor availability of data in asset classes other than listed equities prevents a more complete analysis at this time.

The carbon risk metrics analysis include:

- portfolio carbon footprints[3]
- weight of portfolios invested in companies with fossil fuel reserves
- weight of portfolios invested in companies with thermal coal reserves
- weight of portfolios invested in companies whose products and services include clean technology
- metrics assessing the management of climate risk by portfolio companies

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).

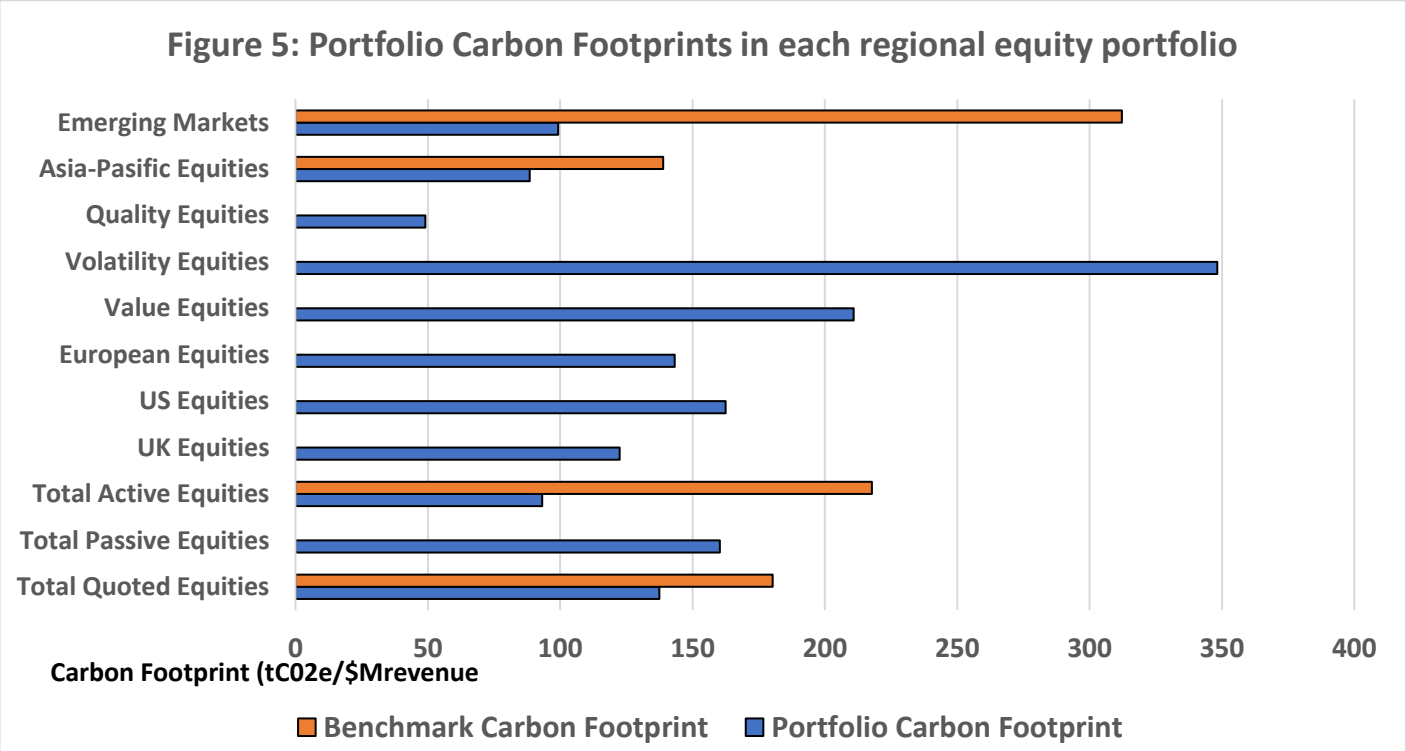
The Fund has also recently undertaken an external Environment Social and Governance **(**ESG) audit of the Funds' investments to the United Nations Sustainable Development Goals (SDGs). This was to establish a baseline of the Fund's current position and to help formulate future strategic actions for the Fund's investment approach.

[3] Following TCFD guidance we use weighted average portfolio carbon footprints.

This involved examining the existing Investment Portfolio holdings and their relationship (positive/ negative) to the 17 SDGs, specifically highlighting a number of specific SDGs one of these being SDG13 Climate Action that will be used to identify the risks and opportunities associated with the analysis.

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 LGPS Central Limited we provide below the carbon footprints of our equity portfolio[4]:

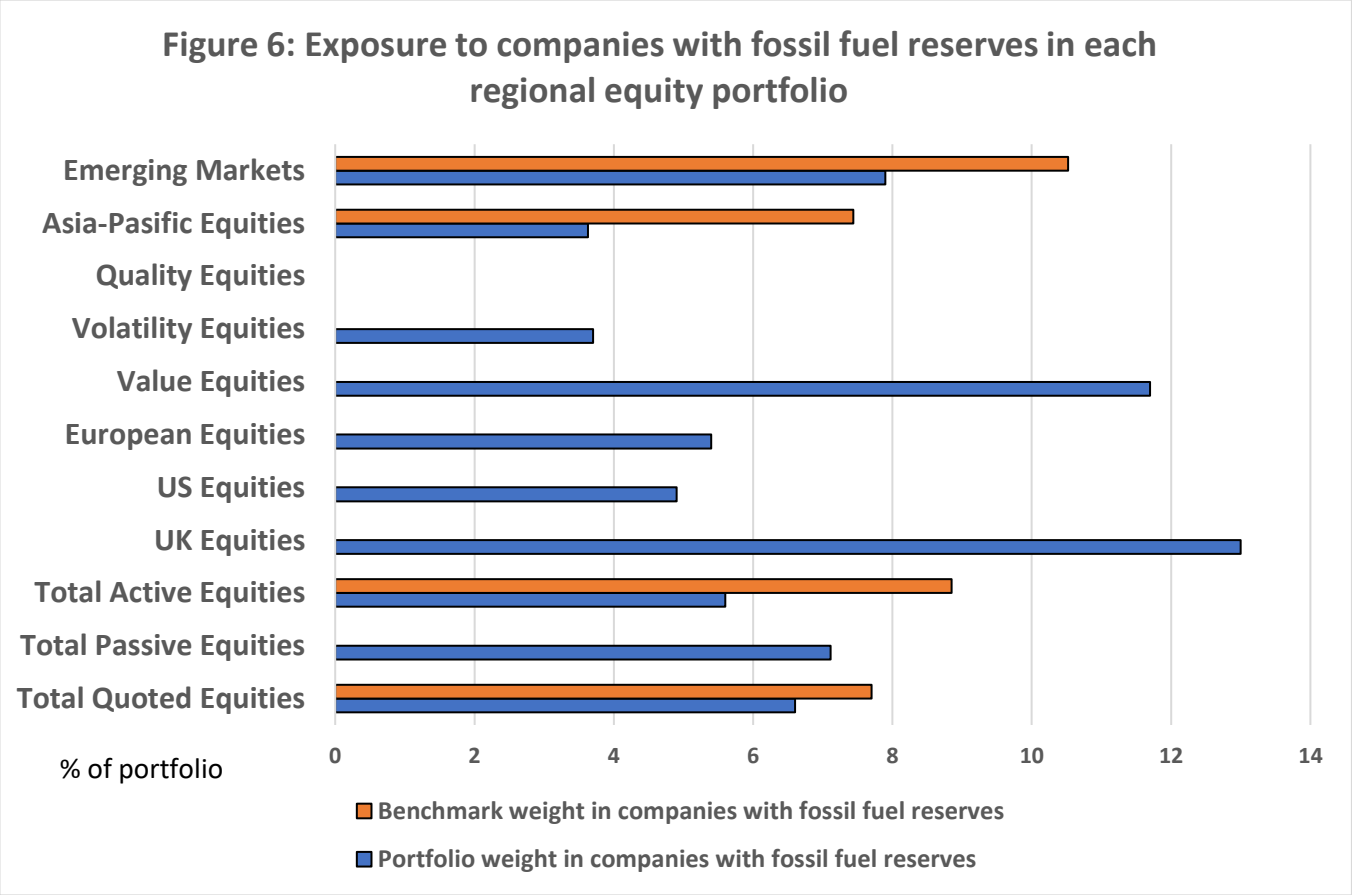


The Fund's Total Equities portfolio is 23.75% more carbon efficient than the benchmark. This means that, on average, for every $m of economic output companies produce, the Fund's investee companies emit 23.75% fewer greenhouse gas emissions than the companies in the

[4] Analysis undertaken on the listed equities portfolios within holdings data as of 29 May 2020. The information in Figures 5 to 8 was provided to the Fund in a report authored by LGPS Central Limited. In LGPS Central Limited's Reports the Total Equities portfolio comprises the Nomura Asia-Pacific, LGPS Central Emerging Equity Active Multi-Manager Fund, LGIM UK Equity, LGIM North America Equity, LGIM Europe Ex-UK Equity, LGIM Global Equity portfolios weighted according to their size in GBP.
The Total Active Equities portfolio comprises the Nomura Asia-Pacific and LGPSC Emerging Equity Active Multi-Manager portfolio. The Total Passive Equities comprises the LGIM UK Equity, LGIM North America Equity, LGIM Europe Ex-UK Equity and LGIM Global Equity portfolio.
The LGIM Global Equity portfolio contains 3 underlying passive portfolios managed for the Fund by LGIM; FTSE RAFI Dev Fund, MSCI Wold Minimum Volatility Total Return Fund, MSCI World Quality Total Return Fund.
The LGPSC Emerging Market Equity Active Multi-Manager fund contains 3 underlying strategies: BMO, UBS and Vontobel.

index. The report received from LGPS Central Limited shows that the Total Active Equities portfolio is c.57% more carbon efficient than its benchmark, with each underlying equity strategy in the portfolio having a lower carbon footprint than their benchmark.
In addition, both the Total Equities portfolio and the Total Active Equities portfolio have lower weights in companies with fossil fuel reserves (Figure 6) and thermal coal reserves (Figure 7) than their benchmarks.

The carbon footprint analysis above includes scope 1 and 2 emissions (those emitted either directly by a company or indirectly through its procurement of electricity and steam) but does not include scope 3 emissions (those emitted by a company's suppliers and customers). This means that for some companies the assessment of their carbon footprint could be considered an 'understatement'. Examples could include an online retailer whose logistics emissions are not included in scope 1 or 2. The Fund has chosen not to include scope 3 emissions in the carbon footprint metrics for two reasons: (1) the rate of scope 3 disclosure remains insufficient to use reliably in carbon foot-printing analysis; and (2) the inclusion of scope 3 emissions leads to double-counting at the portfolio level. To overcome the risk of 'understating' carbon risk, the Fund additionally assesses its exposure to fossil fuel reserves.



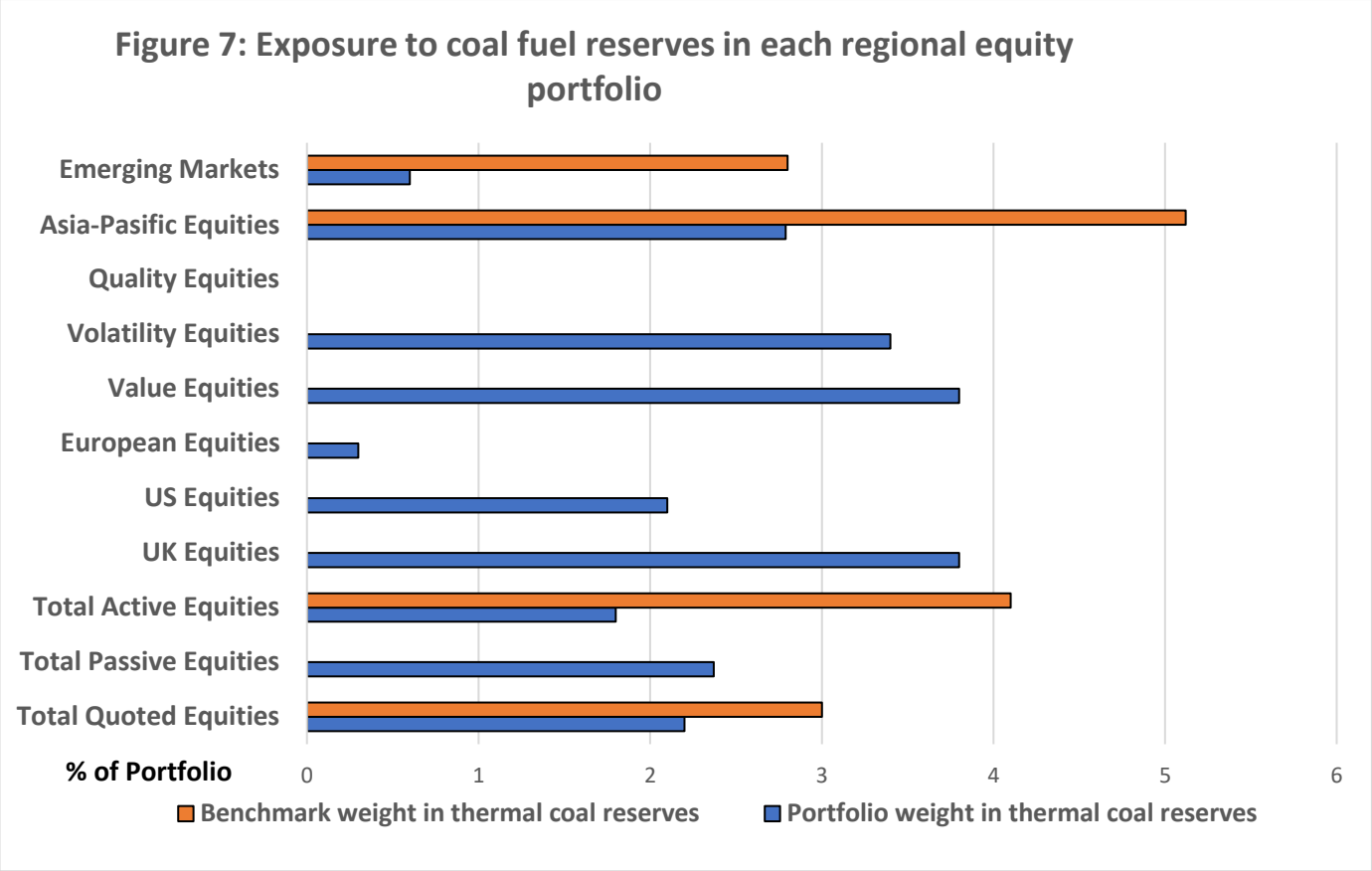
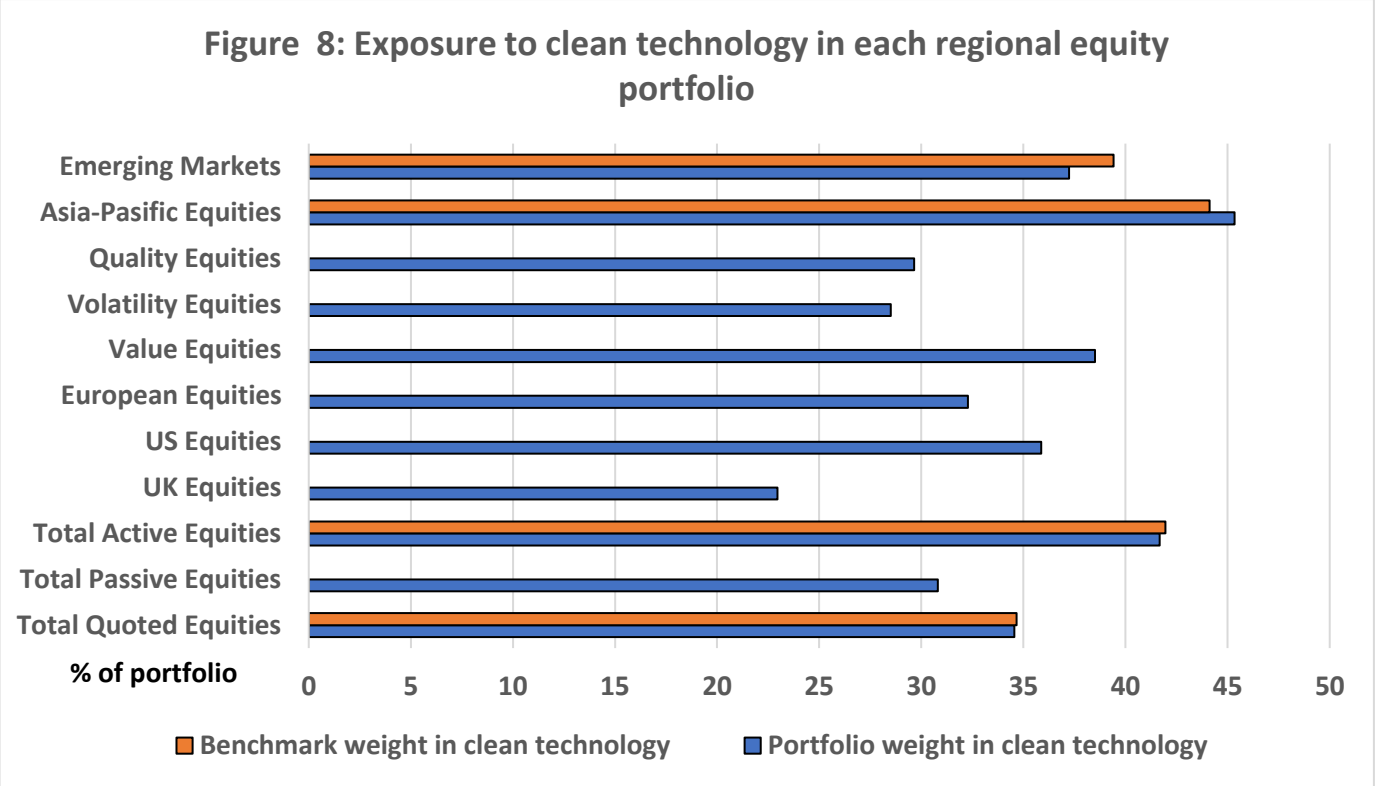


Figure 8 below indicates that the Fund's Total Quoted Equities portfolio has nearly the same level of exposure to clean technology with the blended portfolio benchmark. The Fund notes that this measure should be viewed with some caution as there appears to be a moderate positive correlation in the dataset between sectors that have a high carbon intensity (or a higher weight in fossil fuel reserves) and those that have a higher weight in clean technology. For example, Utilities and Oil & Gas are the sectors with the third and fourth highest weight in clean technology. This correlation means that it may be difficult to have a diversified portfolio that is simultaneously carbon efficient, is underweight fossil fuels, and overweight clean technology. The Fund's exposure to clean technology should increase if it agrees to invest in Global Sustainable Equities or other low carbon products as being proposed to Committee in March 2021. Furthermore, the analysis takes no account of the Fund's unquoted on-shore & offshore, solar, and hydro renewable energy infrastructure investments.



Whilst the Fund's carbon risk metrics results show the Fund already '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.

SDG Mapping to the Fund's portfolio undertaken by Minerva

At the end of September 2020, the Fund's listed equity investment managers collectively held 1,007 **(50.4%) of the 2,000 companies in the SDG2000.** Minerva used the World Benchmarking Alliance (WBA) SDG2000 to measure the alignment between the Fund's investments and the SDGs. The WBA SDG 2000 measures and ranks 2000 of the world's most influential companies in respect of SDGs. These are seen as global companies that are deemed likely by the WBA to have the greatest potential to help deliver the SDGs, if managed in a sustainable manner.

The Fund had a total of **£1.33bn invested** in these 1,007 companies' equities and corporate bonds, **representing 66% of the total value of the in-scope assets** as at end September 2020

The Fund also assessed the number of its portfolio companies referencing TCFD disclosures. This found that almost 47% of the Fund's in scope equities under coverage have made some material reference to TCFD in their latest Annual Report and Accounts. The Fund aims to request that managers present their TCFD report in future.

The Fund will look to complete the SDG Mapping of its overall portfolio every 2 to 3 years.

TCFD Recommended Disclosure
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 in credible methodologies and data currently available. Like most investors, the Fund is supportive of the development of target-setting methodologies, and of the increasing completeness of carbon datasets. The Fund wishes to explore options to further manage climate-related risks and work is underway to assess options within the limitations of currently available data.

APPENDIX 1

Introduction to the TCFD

The Task force on Climate-related Financial Disclosures (The Task Force/TCFD) was commissioned in 2015 by Mark Carney in his remit as Chair of the Financial Stability Board, in recognition of the risks caused by greenhouse gas emissions to the global economy and the impacts that are likely to be experienced across many economic sectors. The Task Force was asked to develop voluntary, consistent climate-related financial disclosures that would be useful to investors, lenders, and insurance underwriters 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, with supplemental guidance released for specific sectors and industries, including asset owners.

In his introduction to the final TCFD report, Michael Bloomberg (TCFD Chair) noted: ‘it is difficult for investors to know which companies are most at risk from climate change, which are best prepared, and which are taking action.

The Task Force’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 companies better demonstrate responsibility and foresight in their consideration of climate issues. That will lead to smarter, more efficient allocation of capital, and help smooth the transition to a more sustainable, low carbon economy.’

The Task Force 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 Task Force structured its recommendations around four thematic areas that represent core elements of how organisations operate: governance, strategy; risk management; and metrics and targets (see Figure 1).

Figure 1

The four overarching recommendations are supported by recommended disclosures (see Appendix 3) that build out the framework with information that will help investors/stakeholders understand how reporting organisations assess climate related risks and opportunities. The disclosures 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.

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 policy makers 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.

Official supporters of the TCFD total 930 organisations (as at December 2019) representing a market capitalisation of over $11 trillion. Disclosure that aligns with the TCFD recommendations currently represents best practice. The Fund believes TCFD-aligned disclosure from asset owners, asset managers, and corporates, is in the best interest of the Fund's stakeholders

About this report

The Climate-related Disclosures report, which has been prepared in collaboration with LGPS Central Ltd (LGPSC), describes the way in which climate-related risks are currently managed by the Fund. It includes the results of recent climate scenario analysis and carbon risk metrics analysis undertaken on the Fund's assets as part of LGPSC's preparation of a Climate Risk Report for the Pension Fund.

Climate scenario analysis carried out at the asset class level estimates the effects of different climate scenarios on key financial parameters (e.g. risk and return) over a selection of time periods.

The TCFD recognised that the use of scenarios in assessing climate related issues and their potential financial implications is relatively recent and that practices will evolve over time, but believed that such analysis is important for improving the disclosure of decision-useful, climate-related financial information.

Carbon risk metrics analysis on the Fund's listed equities portfolios considers portfolio carbon footprint (weighted average); fossil fuel exposure; carbon risk management; and clean technology (portfolio weight in companies whose products and services include clean technology).

The challenges of measuring the potential impact of climate change on investment portfolios are well recognised. The Fund believes that a suite of carbon risk metrics and climate scenario analysis currently provides the most appropriate method of analysing climate risk to support the development of a detailed strategy for integrating climate risk into investment decisions.

The findings of the Climate Risk Report, which is structured around the TCFD's four thematic areas of governance, strategy, risk management and metrics and targets, are being utilised to support the development of a Climate Strategy and a Climate Stewardship Plan for the Fund

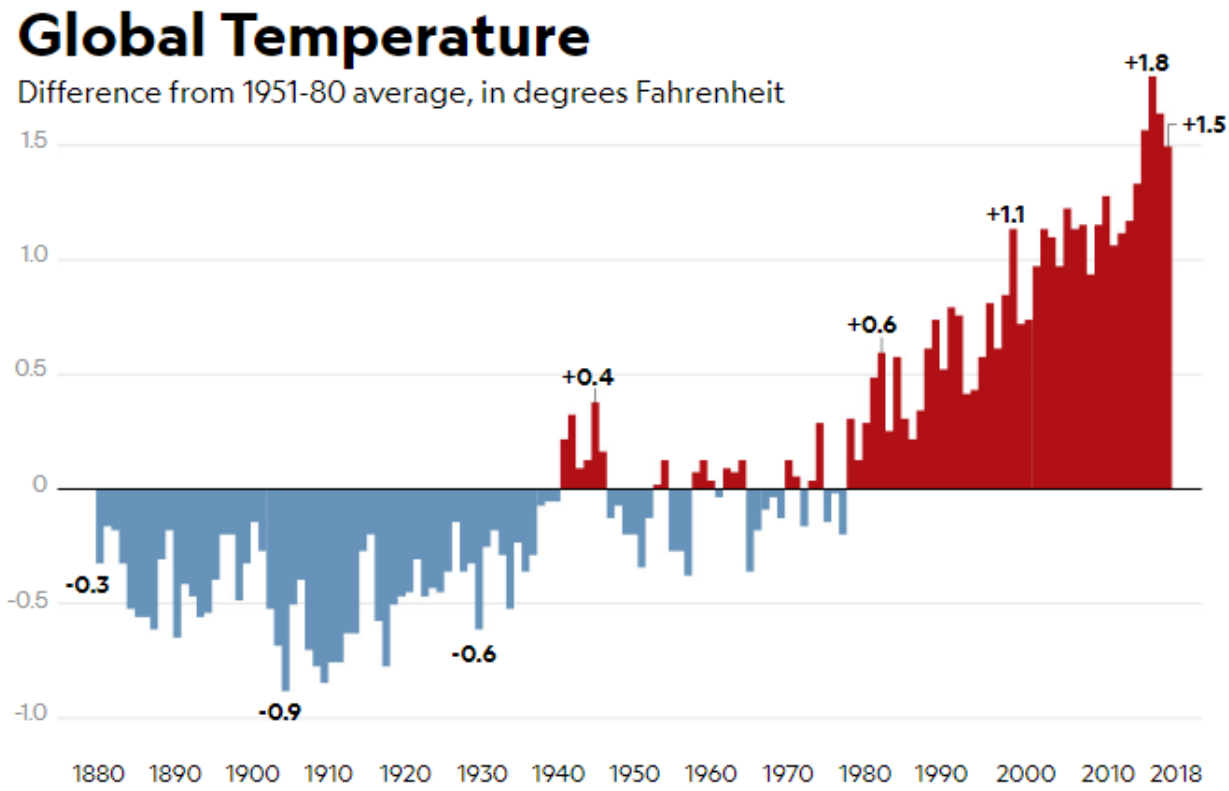
The Fund's climate-related disclosures will develop over time and this report will be updated after a Climate Strategy and a Climate Stewardship Plan have been developed for the Fund. It is anticipated that climate-related disclosures will be included in the Fund's Annual Report.

APPENDIX 2

Climate-related risks

Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels. As shown in Figure 2 ,most of this warming has occurred in the past 35 years, with the five "warmest" years on record taking place since 2010. Between the years 2006-2015, the observed global mean surface temperature was 0.87°C higher than the average over the 1850-1990 period. The overwhelming scientific consensus is that the observed climactic changes are the result primarily of human activities including electricity and heat production, agriculture and land use change, industry, and transport.

Figure 2 Graph showing Global Temperature Difference from 1951-80 average. Source: NASA



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 is estimated to be between 2°C and 4°C warmer, with significant regional variations. This is substantially higher than the Paris Climate Change Agreement (see Figure 3 for selected extracts of the Paris Agreement), which reflects a collective goal to hold the increase in the climate's mean global surface temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C.

Figure 3: Selected extracts from the Paris Agreement on climate change. Source: UNFCCC.

Paris Agreement Article 2(1)a
Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

Paris Agreement Article 2(1)c
Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

Paris Agreement Article 4(1)
In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

Given its contribution to global GHG emissions, the energy sector is expected to play a significant role in the long-term decarbonisation of the economy. Figure 4 suggests that in one climate scenario the proportion of coal, oil, and gas in the global power generation mix will shrink to 31% of total by 2050. However, it is important to recognise that not only is the supply of energy expected to be a factor in global decarbonisation, but the demand for energy plays a crucial role too. In addition, the behaviour of private and state-owned energy companies (not commonly invested in by UK pension funds) is as important as their publicly traded counterparts.

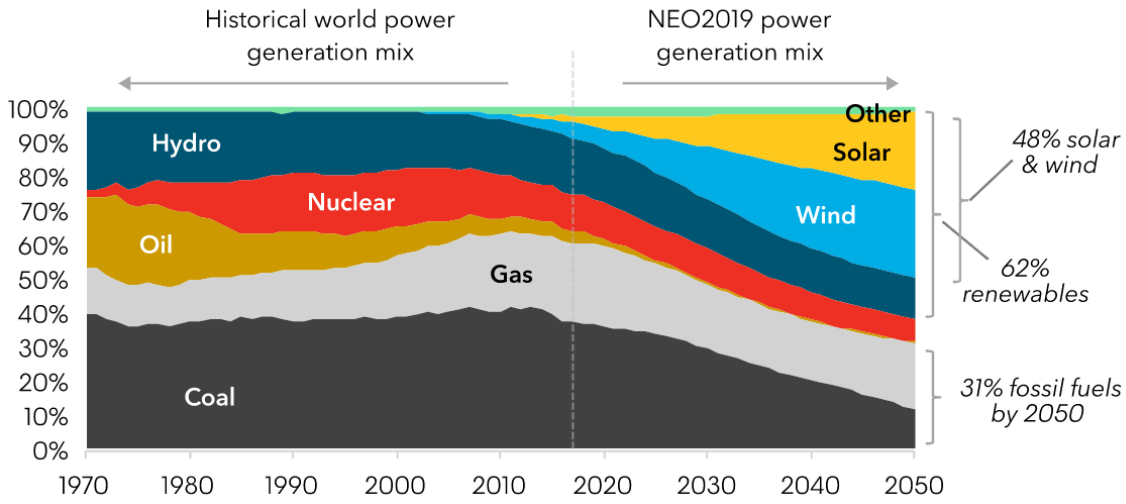
However, the potential climate-related issues faced by diversified investors (such as pension funds) are not limited to the oil & gas and power generation sectors. Investors focussing exclusively on primary energy suppliers could fail to identify material climate risks in other sectors. There is considerable uncertainty in the crystallisation pathway for climate risk.

Well known concepts such as stranded assets risk are not homogeneous within certain sectors (e.g. oil & gas and power generation), and robust due diligence will be required in order to identify the potential winners and losers.

The uncertainty of climate change stems from the complexity and interrelationship of value and supply chains, the flow through of fossil fuels to by-products and services across multiple sectors and industries, the pass through cost of carbon, policy fragmentation, and the consideration that certain companies are too big to fail. The likelihood of asset stranding depends on the commodity, the asset quality, the customer base, the rate of technology change, cost curve dynamics, mitigating strategies (e.g. company diversifying portfolio), and the ability of the market to price risk and timing thereof.

The Fund recognises that climate-related risks can be financially material, and that the due consideration of climate risk falls within the scope of the Fund's fiduciary duty. Given the Fund's long-dated liabilities and the timeframe in which climate risks could materialise, a holistic approach to risk management covering all sectors and all relevant asset classes is warranted.

Figure 4: The Bloomberg New Energy Outlook global power generation mix. Source: BloombergNEF.



APPENDIX 3

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 4: Important Information

Extract above from Mercer Limited's (Mercer) report "Climate Change Scenario Analysis" dated 18 September 2020 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.

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Glossary of Terms

Anthropogenic
Anthropogenic in terms of climate change refers to the impact humans have had on climate change, primarily through emissions of greenhouse gases.

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
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
- methane
- nitrous oxide.

Scope 1 Greenhouse Gas Emissions
Scope 1 emissions are direct emissions produced by the activities of the emitter.

Scope 2 Greenhouse Gas Emissions
Scope 2 emissions are indirect emissions generated by the electricity, heat, or steam consumed and purchased by the emitter.

Scope 3 Greenhouse Gas Emissions
Scope 3 emissions are other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities not covered in Scope 2, outsourced activities, waste disposal, etc.

UNFCCC
The UNFCCC secretariat (UN Climate Change) is part of the United Nations and was established in 1992 when countries adopted the United Nations Framework Convention on Climate Change (UNFCCC).

Abbreviations

Acronym	Meaning
CO_2	Carbon Dioxide
CH_4	Methane
WPF	Worcestershire Pension Fund
ESG	Environmental, Social & Governance
GHG	Greenhouse Gas
LGIM	Legal & General Investment Management
LGPSC	LGPS Central Limited
NDC	Nationally Determined Contribution
TCFD	Taskforce on Climate-related Financial Disclosures
WEF	World Economic Forum