WORCESTERSHIRE PENSION FUND CLIMATE-RELATED DISCLOSURES REPORT

FEBRUARY 2022

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Management Summary

Recognising that climate change is a risk to financial markets, the Financial Stability Board (FSB) 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.

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 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).

In late 2020 the Fund undertook 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 January 2022 the Committee received its second Climate Risk Report which is being used to implement the Fund's Climate Change 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 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.

In 2020, Fund Officers received a 2020 Climate Risk Report (updated report received January 2022 relating to 2021) and an ESG Audit which mapped the Fund's Investment to the SDGs. Both of these enabled 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

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

	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.

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.

Partly to reduce its climate-related risks, the Fund transitioned out of a very 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 addition, during 2021 the Fund transitioned assets from a further carbon intensive passive fund into an existing passive fund that has a very low carbon footprint. The Fund also recently decided to invest £50m per annum for the next 3 years into a Forestry Growth and Sustainability Fund. The Fund is exploring options to further embed climate-related risks and opportunities into its investment strategy, including reviewing potential investments in sustainable asset classes where this supports the Fund's investment and funding objectives.

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 7 Classified as Confidential

➢ 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.

In 2020 the Fund 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.

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

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.

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[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.

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 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. As set out in the Fund’s Climate Change Risk Strategy, the main management techniques are utilising the best possible tools and techniques for assessing climate-related risks; accessing the best possible climate change 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 3: The Fund's Stewardship Partners

Organisation	Remit
LGPS Central Limited	The Fund is a 1/8th owner of LGPS Central Limited. Climate change is one of LGPS Central's stewardship themes, with quarterly progress reporting available on the website. The Responsible Investment Team at LGPS Central engages companies on the Fund'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	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.

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.

Based on its 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 4: Companies included in the Climate Stewardship Plan

Company	Sector
BHP	Materials
Duke Energy	Utilities
Keppel DC Reit	Real Estate
Nextera Energy	Utilities
Rio Tinto	Materials
The Southern Company	Utilities
Taiwan Semiconductor Manufacturing Company	Info Tech
Wizz Air	Industrials

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 has included climate risk 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 has recently received a report from LGPSC on carbon risk metrics for its listed equities portfolios, which represent 71% 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).

In 2020 the Fund undertook an external ESG audit of the Funds' investments to the 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.

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.

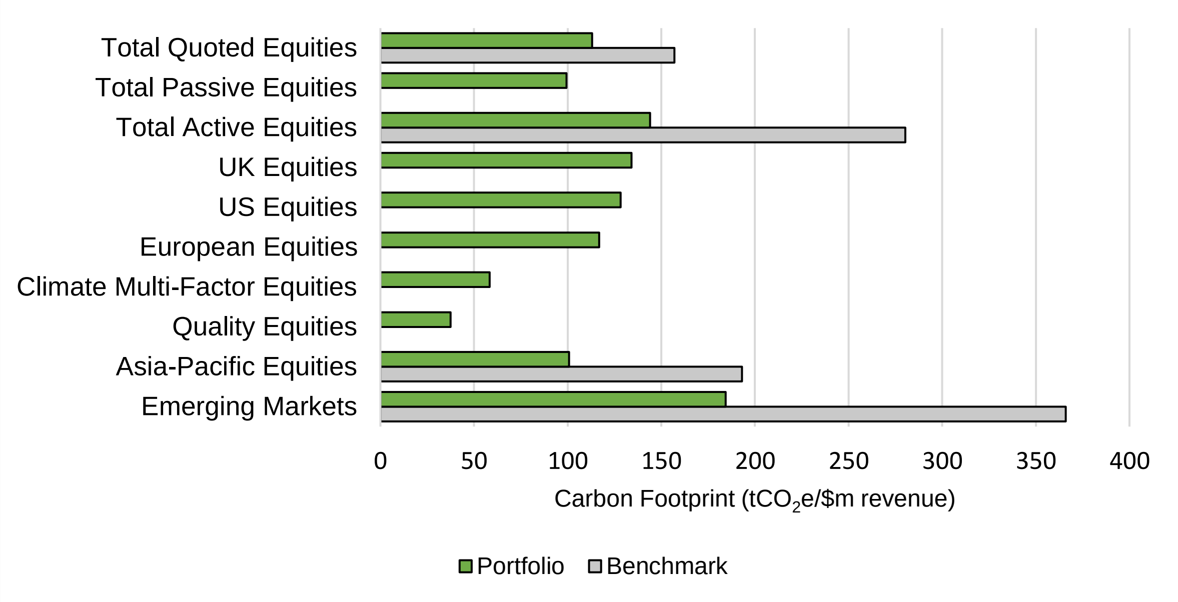
[3] Following TCFD guidance we use weighted average portfolio carbon footprints.

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]:

Figure 4: Portfolio Carbon Footprint in each regional equity portfolio[5]



The Fund's Total Equities portfolio is 28.05% (23.75% in 2020) 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 28.05% fewer greenhouse gas emissions than the companies in the index. The report received from LGPS Central Limited shows that the Total Active Equities portfolio is c.49% (57% in 2020) 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 5) and thermal coal reserves (Figure 6) 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).

[4] Analysis undertaken on the listed equities portfolios with holdings data as of 30th November 2021 unless otherwise stated. The information in Figure 4, 5, 6, 7 & 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 Fund. 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 fund. The LGPSC Emerging Market Equity Active Multi-Manager fund contains 3 underlying strategies: BMO, UBS and Vontobel.

[5] Certain information ©2021 MSCI ESG Research LLC. Reproduced by permission.

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 5: Exposure to fossil fuel reserves in each regional equity portfolio[6]

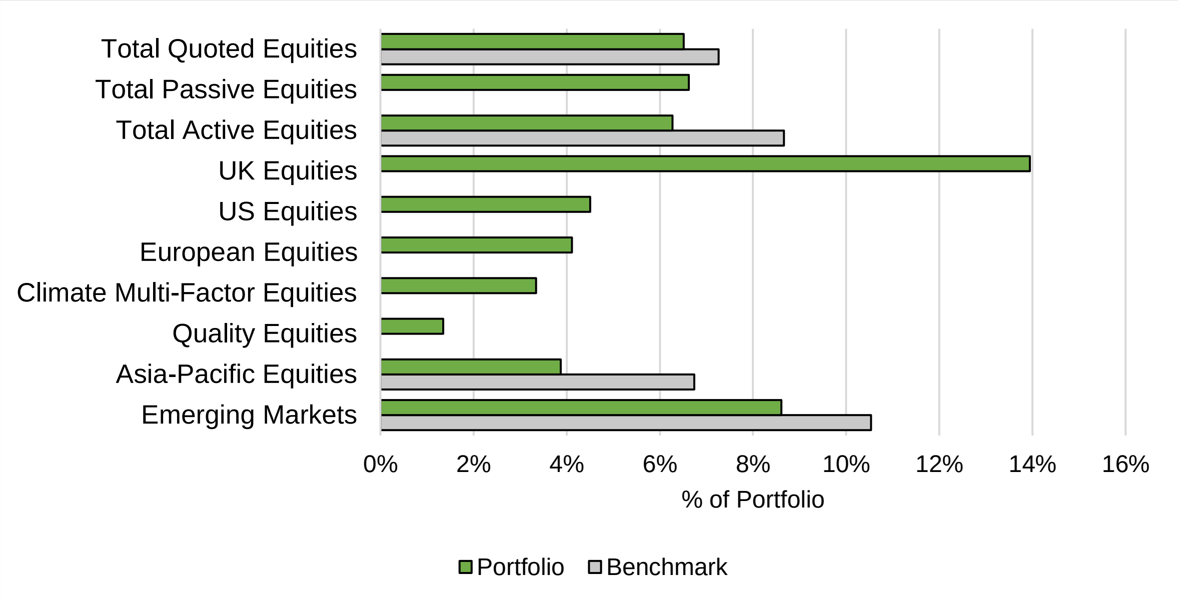


Figure 6: Exposure to coal fuel reserves in each regional equity portfolio[7]

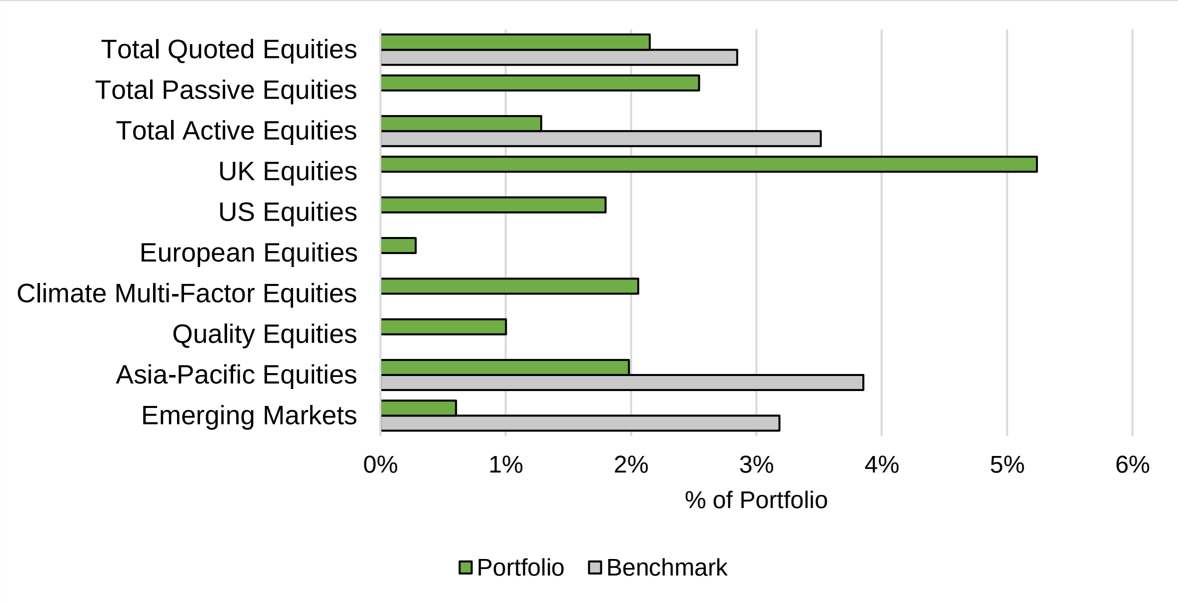
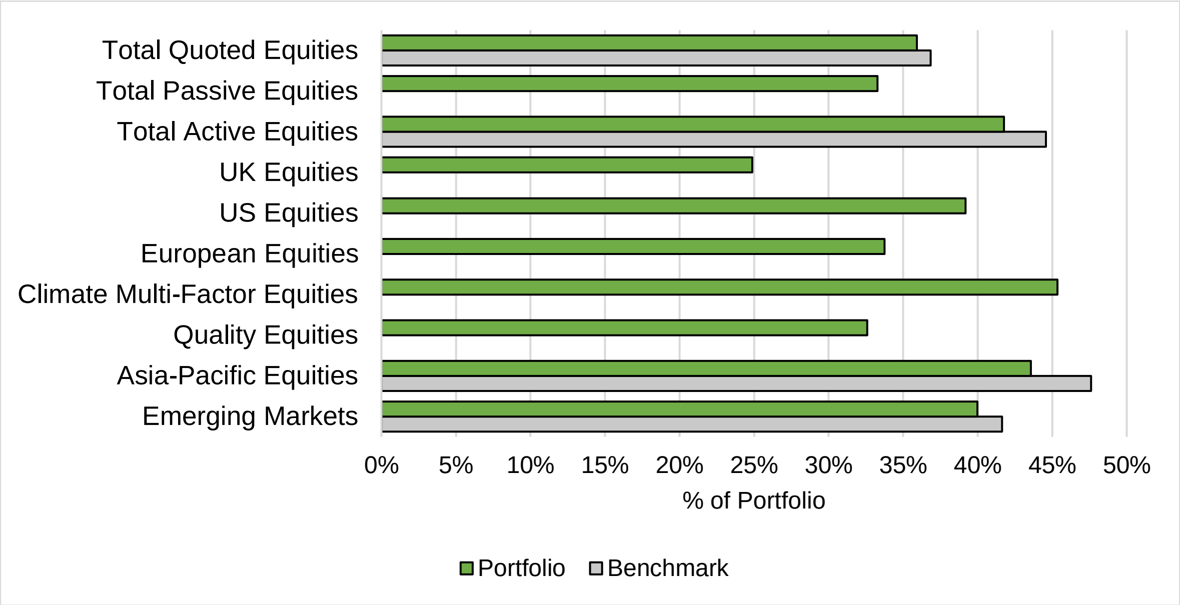


Figure 7 below indicates that the Fund’s Total Quoted Equities portfolio has slightly less exposure to clean technology compared to the blended portfolio benchmark. The Fund notes that this measure should be viewed with some caution as there appears to be a moderate

[6] Certain information ©2021 MSCI ESG Research LLC. Reproduced by permission.
[7] Certain information ©2021 MSCI ESG Research LLC. Reproduced by permission.

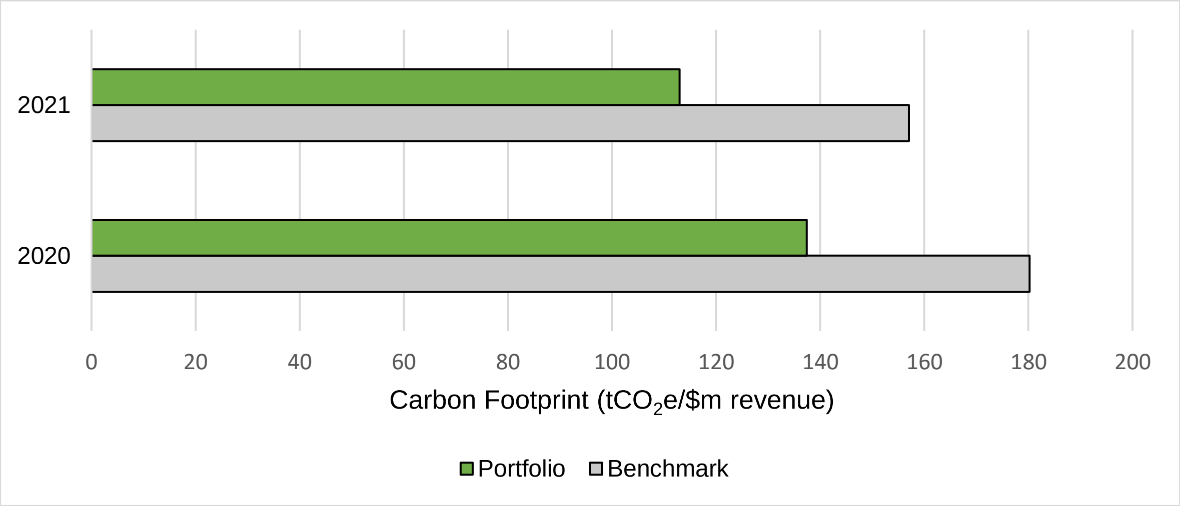
positive correlation in the dataset between sectors that have a high carbon intensity (or a higher weight in fossil fuel reserves) and those that have a higher weight in clean technology. For example, Utilities and Oil & Gas are the sectors with the third and fourth highest weight in clean technology. 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. Furthermore, the analysis takes no account of the Fund's unquoted on-shore & offshore, solar, and hydro renewable energy infrastructure investments.

Figure 7: Exposure to clean technology in each regional equity portfolio[8]



As per Figure 8, the Fund's carbon footprint has improved between 29th May 2020 and 30th November 2021. Within this timeframe, the carbon footprint of the Total Equities portfolio decreased by 17.77%. The Total Equities' exposure to fossil fuel reserves, thermal coal exposure and weight in clean technology remained largely unchanged year on year.

Figure 8: Total Equity portfolio carbon footprint, May 2020 vs November 2021[9]



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[8] Certain information ©2021 MSCI ESG Research LLC. Reproduced by permission.
[9] Certain information ©2021 MSCI ESG Research LLC. Reproduced by permission.

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 Fund has reviewed the use of targets. As per the Climate Change Risk Strategy, the Fund has set the following targets:

No.	Target	Progress
1	Reduce the carbon footprint (Scope 1 & 2) of the Fund's listed equity portfolio compared to its weighted benchmark in 2020 by the end of 2021; and look to set a future target by March 2022.	Between 29th May 2020 and 30th November 2021, the Fund experienced a 17.77% reduction in its Total Equities portfolio carbon footprint, resulting in the fund being 28% more carbon efficient than the blended benchmark.
2	Invest a proportion of the Fund's portfolio in low carbon & sustainable investments by the end of 2021.	• In November 2021, the Fund invested £200m into a Climate Multi Factor Fund. • Transitioned £100m of assets from a carbon intensive passive fund into an existing passive fund that has a very low carbon footprint. • Invested £50m into a Forestry Growth & Sustainability Fund. • Invested £75m into an infrastructure fund with strategic objectives that combines return generation and a positive contribution to environmental and social challenges.

APPENDIX 1

Introduction to the TCFD

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.

About this report

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

The report follows the release of WPF's Climate Strategy in early 2021. The Climate Strategy draws, in part, from the findings of the Fund's first Climate Risk Report; an in-depth review of the Fund's climate risks under different climate change scenarios from the Fund's pooling company, LGPS Central Ltd. The Fund has since received its second Climate Risk Report from LGPS Central Ltd.

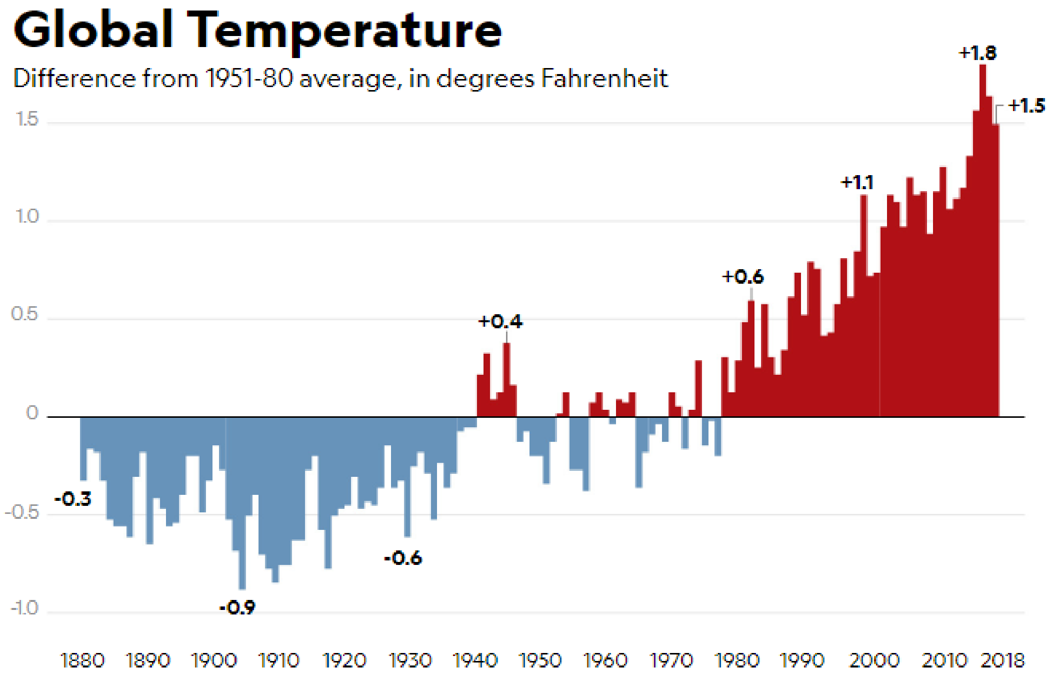
This climate-related disclosure report aims to provide an up-to-date overview of the Fund's approach to managing climate risk, encompassing both the recent changes to the Fund's climate strategy and the findings of the 2021 Climate Risk Report. In the interests of being transparent with the Fund's beneficiaries and broader stakeholder base, this report also discloses the Fund's most recent Carbon Risk Metrics analysis.

APPENDIX 2

Climate-related risks

Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels. 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 1 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 will be between 2°C and 4°C warmer, with significant regional variations. 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.

Figure 2: Selected extracts from the Paris Agreement on climate change.[10]

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.

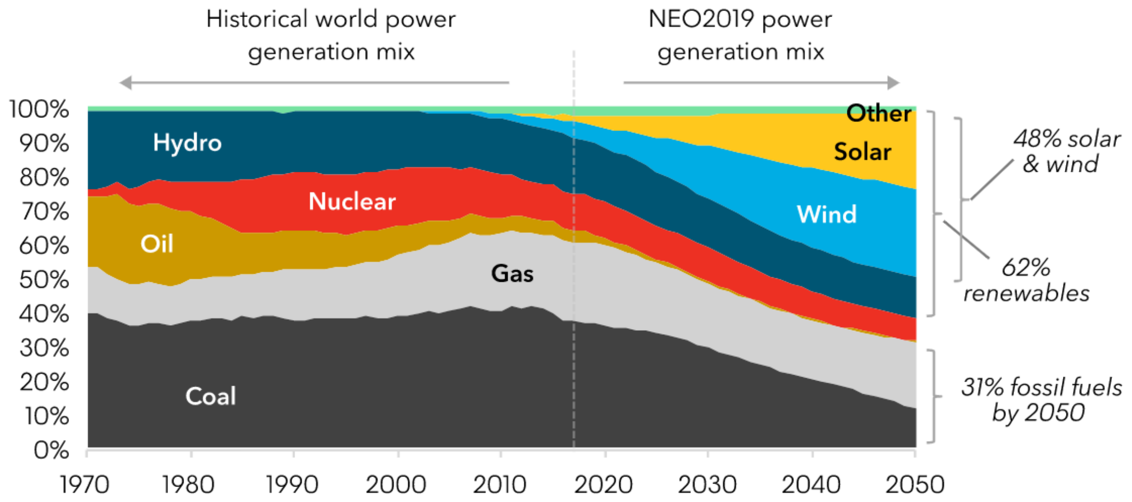
Given its contribution to global green-house gases (GHG) emissions, the energy sector is expected to play a significant role in the long-term decarbonisation of the economy. Figure 3 suggests that in one climate scenario the proportion of coal, oil, and gas in the global power generation mix will shrink to 31% of total by 2050. It is important to recognise however 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.

The issue faced by diversified investors (such as pension funds) is not limited to the oil & gas and power generation sectors, but also to downstream sectors. Investors focussing exclusively on primary energy suppliers could fail to identify material climate risks in other sectors. Research suggests that the oil & gas sector is not homogeneous with regards to climate risk: were climate policies to affect the oil price, those companies with assets lower down the cost curve are less likely to be financially compromised by those companies with higher cost assets. Investors that assume each fossil fuel company bears an equal magnitude of climate-related risk could be led towards sub-optimal decision-making.

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.

[10] Source: UNFCCC

Figure 3: 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

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Glossary of Terms

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.

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.

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

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.

Portfolio Carbon Footprint/ Carbon Footprint: 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.

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.

Abbreviations

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