Pension Fund Investment Sub-Committee

Date: Monday 13 June 2022
Time: 10.00 am
Venue: Council Chamber, Shire Hall

Membership
Councillor Christopher Kettle (Chair)
Councillor Bill Gifford
Councillor Brian Hammersley
Councillor Sarah Millar
Councillor Mandy Tromans

Items on the agenda:

To consider passing the following resolution:

'That members of the public be excluded from the meeting for the items mentioned below on the grounds that their presence would involve the disclosure of exempt information as defined in paragraph 3 of Schedule 12A of Part 1 of the Local Government Act 1972.'

Monica Fogarty
Chief Executive
Warwickshire County Council
Shire Hall, Warwick

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Disclaimers

Disclosures of Pecuniary and Non-Pecuniary Interests
Members are required to register their disclosable pecuniary interests within 28 days of their election of appointment to the Council. Any changes to matters registered or new matters that require to be registered must be notified to the Monitoring Officer as soon as practicable after they arise.

A member attending a meeting where a matter arises in which they have a disclosable pecuniary interest must (unless they have a dispensation):

- Declare the interest if they have not already registered it
- Not participate in any discussion or vote
- Leave the meeting room until the matter has been dealt with
- Give written notice of any unregistered interest to the Monitoring Officer within 28 days of the meeting

Non-pecuniary interests relevant to the agenda should be declared at the commencement of the meeting.

The public reports referred to are available on the Warwickshire Web https://democracy.warwickshire.gov.uk/uuCoverPage.aspx?bcr=1

COVID-19 Pandemic
Any member or officer of the Council or any person attending this meeting must inform Democratic Services if within a week of the meeting they discover they have COVID-19 or have been in close proximity to anyone found to have COVID-19.

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Pension Fund Investment Sub-Committee

Monday 7 March 2022

Minutes

Attendance

Committee Members
Councillor John Horner (Chair)
Councillor Bill Gifford (Vice-Chair)
Councillor Christopher Kettle
Councillor Sarah Millar
Councillor Jill Simpson-Vince

Officers
Neil Buxton, Technical Specialist - Pension Fund Policy and Governance
John Cole, Democratic Services Officer
Andrew Felton, Assistant Director, Finance
Shawn Gladwin, Senior Finance Officer, Pensions Investment
Chris Norton, Strategy and Commissioning Manager (Treasury, Pension, Audit & Risk)
Sukhdev Singh, Senior Accountant, Pensions Investment
Nichola Vine, Strategy and Commissioning Manager (Legal and Democratic)

Others Present
Robert Bilton, Hymans Robertson
Anthony Fletcher, Independent Advisor
Philip Pearson, Hymans Robertson
Bob Swarup, Independent Advisor
Richard Warden, Hymans Robertson

1. **General**

(1) Apologies

There were none.

(2) Members' Disclosures of Pecuniary and Non-Pecuniary Interests

Councillor Millar stated that she was a member of the Local Government Pension Scheme from previous employment.

Warwickshire County Council

(3) Minutes of the previous meeting

Resolved:

That the minutes of the meeting held on 13 December 2021 be approved as a correct record and signed by the Chair.

There were no matters arising.

2. Review of the Local Pension Board minutes of the meeting of 20th October 2021

Resolved:

That the Pension Fund Investment Sub-Committee notes the minutes of the Local Pension Board meeting of 20 October 2021.

3. Forward Plan

Neil Buxton (Technical Specialist - Pension Fund Policy and Governance) introduced the report which provided an updated Forward Plan for the Pension Fund Investment Sub-Committee rolled forward to cover the year ahead. He encouraged members to participate in the Knowledge Assessment and take advantage of upcoming training opportunities.

Councillor Simpson-Vince expressed sympathy for the plight of Ukrainians, stating that it was likely that the war in Ukraine would have a long-term impact on the Pension Fund. She suggested that a standing item be added to the Forward Plan to enable the issue to be considered at future meetings. This was agreed.

Resolved:

That the Pension Fund Investment Sub-Committee notes the Forward Plan which will be updated with a standing item relating to the ongoing implications of the war in Ukraine.

4. Warwickshire Pension Fund Business Plan 2022/23

Chris Norton (Strategy and Commissioning Manager – Treasury, Pension, Audit & Risk) presented this report which set out the Business Plan for Warwickshire Pension Fund for 2022/23, including objectives, strategic priorities, and an action plan. He stated that the total membership of the Fund had increased by 5% over the course of a year. The objectives of the Fund remained unchanged and actions to monitor activity for the coming year had been set out within the Plan.

Councillor Gifford praised the commitment within the Plan to continue to develop Environmental, Social and Governance (ESG) monitoring and to respond to climate change. He stated that the implications of the war in Ukraine further demonstrated the need to transition away from fossil fuels.

In response to the Chair, Chris Norton advised that membership of the Fund had expanded due to an increase in the number of people changing jobs and moving between organisations, as well as an influx of personnel employed by academy trusts.

Councillor Kettle stated that, although Risk Monitoring would be covered as a separate agenda item, it was important that the Business Plan refer to specific risks. For example, the war in Ukraine constituted a political risk which required consideration when managing a global portfolio. He stated that a 5% increase in membership was positive; however, this also presented an economic risk should demographics change in the longer-term.

Councillor Kettle stated that it was positive that the Plan recognised the importance of cashflow management; however, inclusion of a five-year projection would be informative. He stated that there was a good understanding of the Fund's liabilities but suggested that evidence of the scale of cashflow operations (and underlying asset management) be included.

Councillor Kettle highlighted reference in the Business Plan to pooling. He emphasised that Border to Coast Pension Partnership (BCPP) was not the Fund's sole partner and raised concerns at the prospect of BCPP diversifying. He stated that there was a need for well-researched products, adding that specific attention was required to the potential risks of the Fund working with multiple partners.

The Chair observed that, unlike the Pension Fund Business Plan, most commercial business plans were not made publicly available. He asked what scope was present to include detailed information relating to the Fund's strategy.

Chris Norton advised that more detail could be added to the Plan without compromising confidentiality, including information relating to risk monitoring and cashflow.

In response to the Chair, Andrew Felton (Assistant Director, Finance) advised that Investment Beliefs agreed by the Sub-Committee had set pooling as the preferred approach; however, there was scope to move in other directions.

Councillor Gifford commented that pooling had been introduced with the intention of cutting costs and providing a means to fund domestic infrastructure projects. He suggested that it would be informative to ascertain if a reduction in fees had been realised.

The Chair stated that, as a shareholder of BCPP, Warwickshire Pension Fund could exert influence; however, if the Fund's objectives were not being met, it could withdraw from the arrangement. He emphasised that government policy continued to advocate pooling; however, new guidance was anticipated later in the year.

Councillor Kettle stated that information such as the value of the Fund and the number of contributors was already publicly available in audited accounts. He stated that having this information in the Business Plan would contribute to an improved understanding of the status of the Fund for interested parties.

There was discussion of additional material to be added to the Business Plan. The Chair sought a view on whether to approve the Business Plan or request changes.

It was suggested that amendments be made to the Business Plan prior to delegated approval being sought from the Chair. Details would be circulated to members of the Sub-Committee.

Resolved:

That the Pension Fund Investment Sub-Committee delegates responsibility for approval of a reworked Warwickshire Pension Fund Business Plan for 2022/23 to the Chair with input from the Assistant Director for Finance, prior to circulation of the finalised document to members of the Sub-Committee.

5. Pension Fund Risk Monitoring

Chris Norton (Strategy and Commissioning Manager – Treasury, Pension, Audit & Risk) presented this report which provided an update on risks to the Fund and actions taken to manage them. He advised that significantly more time was now being dedicated to analysis of risk; however, it was not possible to foresee all eventualities. Measures were in place to improve preparedness for unexpected circumstances.

Andrew Felton (Assistant Director, Finance) stated that, although the initial effect of COVID-19 was severe, it had been resolved to take a long-term view. As an outcome, the Pension Fund was in a better position. He recommended that decision-making take account of the long-term nature of the Fund.

Councillor Gifford highlighted the risk posed by rising inflation. He stated that wage inflation could be significantly detrimental to the Fund.

Councillor Kettle stated that a long-term view was required. He highlighted the impact of the war in Ukraine and the likely economic and geo-political outcomes which could take up to 30 years to manifest.

The Chair stated that, despite the challenges of risk forecasting, it was possible to demonstrate a broad awareness of potential risks. For example, there has been widespread speculation of the risk posed by future global pandemics.

There was discussion of macro risk and possible outcomes of the war in Ukraine.

Resolved:

That the Pension Fund Investment Sub-Committee notes the report.

6. Macroeconomic Update

Bob Swarup (Independent Advisor to the Sub-Committee) presented this report which provided a six-monthly update on factors influencing the Pension Fund from a macroeconomic perspective. The report focused on four key areas: negative real interest rates in the UK; inflation, including supply chain issues; geopolitics; and investors' capital deployment. Attention was also given to the implications of the war in Ukraine.

Members praised the quality of the update, stating that the macroeconomic forecast presented some daunting prospects.

In response to Councillor Simpson-Vince, Dr Swarup advised that deglobalisation was a forecasted trend, characterised by nations seeking to withdraw from supply chains outside of their control. Energy security presented a challenge, evidenced by US and European interest in accessing oil and gas resources from Venezuela to break free of dependency on Russia. Bilateralism was an emerging trend as nations acted for themselves. He stated that with risks came opportunities; nuclear power was likely to experience a renaissance, alongside investment in resources to achieve efficiencies and improved security, such as vertical farming.

In response to Councillor Kettle, Dr Swarup stated that a positive outcome could result from China choosing to prioritise trading interests with the West. However, China had demonstrated a limited regard for the interests of other nations and was focused primarily on its own ambitions. It was prudent to plan for both scenarios to protect the interests of the Pension Fund.

Philip Pearson (Hymans Robertson) advised that deglobalisation could lead to higher inflation. It was prudent to consider how all possible scenarios could impact upon the Fund.

Resolved:

That the Pension Fund Investment Sub-Committee notes the content of the report.

7. Reports Containing Exempt or Confidential Information

Resolved:

That members of the public be excluded from the meeting for the items mentioned below on the grounds that their presence would involve the disclosure of exempt information as defined in paragraph 3 of Part 1 of Schedule 12A of the Local Government Act 1972.

8. Precepting Employers' Contribution Rates

Resolved:

That the Pension Fund Investment Sub-Committee:

1. Notes the report;
2. Agrees to maintaining the current funding strategy for all of the precepting employers at the 2022 valuation;
3. Agrees to continue to apply a long-term contribution stabilisation mechanism;
4. Agrees that for the three-year period beginning on 1 April 2023, the contribution rates be as follows:
   i. Stratford-on-Avon District Council and Nuneaton and Bedworth Borough Council rates to reduce by 1% p.a. over each of the next 3 years
   ii. Rates for the other five precepting employers (Warwickshire County Council, Warwickshire Police, North Warwickshire Borough Council, Warwick District Council and Rugby Borough Council) to be frozen at their current (2022/23) levels.

9. Investment Monitoring Report

Resolved:

That the Pension Fund Investment Sub-Committee notes the report.

10. Asset Liability Modelling

Resolved:

1. That the Pension Fund Investment Sub-Committee (PFISC) notes the report.
2. That the PFISC agrees to 'Proposal 3 – Blended Approach' as the Fund's long term investment strategy.
3. That the Fund commissions a paper from Hymans Robertson covering implementation considerations such as the equity portfolio mix, property portfolio mix, protection assets allocation and decarbonisation options
4. That the Investment Strategy Statement is updated in line with the decisions made.

11. Alternatives Commitments

Resolved:

That the Pension Fund Investment Sub-Committee:

1. Notes the report
2. Approves the investment of £40m in Border to Coast Pension Partnership's (BCPP) Series 2a Private Equity Fund
3. Approves the investment of £30m in BCPP's Series 2a Infrastructure Fund
4. Approves the investment of £30m in BCPP's Series 2a Private Debt Fund
5. Approves the indicative commitment amounts for 2023 and 2024 as set out in Table 8 of Appendix 1 of the report (and below):

Table 8 – proposed commitments to alternatives for the next 3 years

Commitment	Private Equity	Infrastructure	Private Debt
2022	£40m to BCPP Series 2	£30m to BCPP Series 2	£30m to BCPP Series 2
2023 – *indicative*	£40m to BCPP Series 2	£30m to BCPP Series 2 £75m to one/two alternative managers	£30m to BCPP Series 2 £105m to one/two alternative managers
2024 – *indicative*	£40m to BCPP Series 2	£30m to BCPP Series 2	£30m to BCPP Series 2

6. Commissions Hymans Robertson to carry out third party fund manager evaluations for the non-BCPP commitments set out in Appendix 1 Table 8 (also above) and supports the officer recommendation that a mix of fund managers are included in the market exercise rather than just incumbents and GLIL as recommended by Hymans.

12. General activity update

At 13:00, the Chair moved that the meeting continue beyond three hours' duration. Councillor Gifford seconded the motion.

The motion was unanimously accepted.

Resolved:

That the Pension Fund Investment Sub-Committee notes the report.

13. LGPS Pooling

Resolved:

That the Pension Fund Investment Sub-Committee notes the report.

14. UK Stewardship Code

Resolved:

That the Pension Fund Investment Sub-Committee (PFISC):

1. Notes the report.
2. Delegates final approval of the UK Stewardship Code report submission to the Strategic Director for Resources in consultation with the Chair of the PFISC.
3. Commissions officers to procure a carbon footprinting exercise for the Fund.

15. Exempt Minutes of the Previous Meeting

Resolved:

That the exempt minutes of the meeting held on 13 December 2021 be approved as a correct record and signed by the Chair.

There were no matters arising.

The meeting rose at 13:12.

……………………………….
Chair

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Pension Fund Investment Sub-Committee

Tuesday 17 May 2022

Minutes

Attendance

Committee Members
Councillor Christopher Kettle (Chair)
Councillor Bill Gifford
Councillor Sarah Millar
Councillor Mandy Tromans

1. General

(1) Apologies

Apologies were received from Councillor Brian Hammersley.

(2) Members' Disclosures of Pecuniary and Non-Pecuniary Interests

There were none.

2. Appointment of Chair

Councillor Mandy Tromans proposed that Councillor Christopher Kettle be Chair of the Sub-Committee and was seconded by Councillor Sarah Millar.

There were no other nominations.

Resolved:

That Councillor Christopher Kettle be appointed Chair of the Pension Fund Investment Sub-Committee.

3. Appointment of Vice Chair

Appointment of a Vice Chair will be determined at the meeting of the Sub-Committee on 13 June 2022.

The meeting rose at 13:15

……………………………….
Chair

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Agenda Item 3

Pension Fund Investment Sub-Committee

13 June 2022

Governance Report

Recommendation

That the Pension Fund Investment Sub-Committee considers and comments on the contents of this paper.

1. Executive Summary

1.1 This Report sets out to provide the latest Governance information relating to Warwickshire Pension Fund Forward Plan, Risk Monitoring, Training and Policies.

2. Financial Implications

2.1 None

3. Environmental Implications

3.1 None

4. Supporting Information

Forward Plan

4.1 The purpose of this item is to provide an updated forward plan for the Pension Fund Investment Sub-Committee rolled forward to cover the year ahead. The plan is set out in Appendix 1.

4.2 In order to provide a complete picture of policy activity, a schedule of policy review activity to be considered by the Staff and Pensions Committee is also provided for in Appendix 1.

Risk Monitoring

4.3 The purpose of this item is to provide an update on the risks facing the fund and management actions required to address them. Fund officers have reviewed the risks facing the fund and have updated the risk register with actions and revisions as appropriate. Appendix 2 reproduces the Fund's risk appetite. Appendices 3 and 4 reproduce the criteria for scoring risks and Appendix 5 provides an updated risk register. Any new updates to the commentary in the risk register since the previous report to the Investment Sub-Committee are presented in red font, and where future actions have become current actions, these are highlighted in a green font.

4.4 The Committee is advised that the risk scores have remained the same since the previous report to the Investment Sub-Committee.

4,5 Officers propose to remove ‘Covid’ specific items on the risk register moving forward as these risks will be included within the other general items covered by the register.

4.6 The net risks facing the Fund after having regard to existing management actions are summarised in Chart 1.

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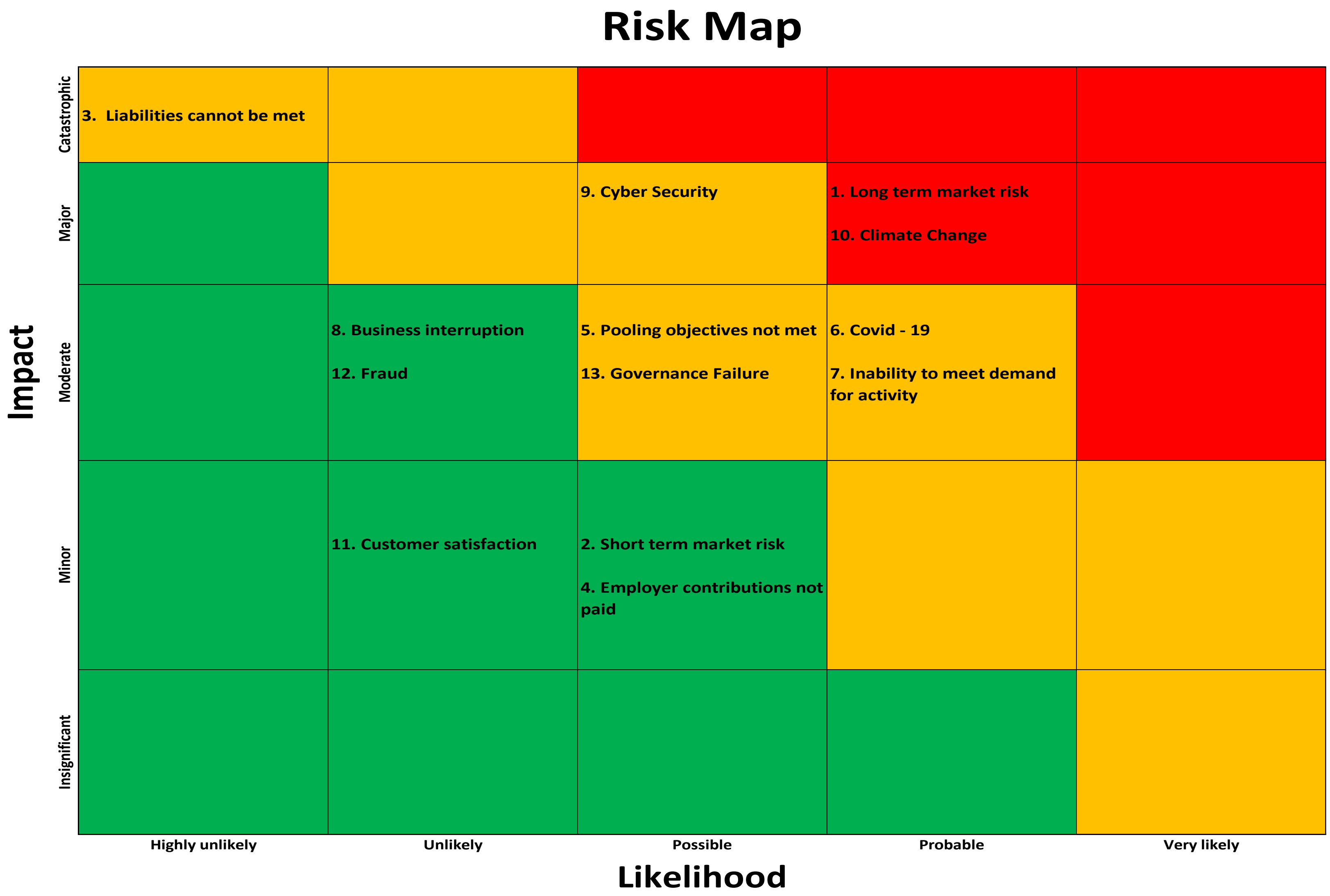
Chart 1 – Net Risk Summary



The likelihood and the impact of all the risks remain the same as last presented to the PFISC on the 13th December 2021

Training

4.7 The results from the recent Hymans Robertson Knowledge and Skills Assessment have now been received and circulated to both the Committee members and the Local Pension Board.

4.8 This Assessment was slightly different to the 2020 National Assessment, as Hymans Robertson didn't include benchmarking for the most recent report. Their current plan is to make available a national benchmark assessment every 2 years. As such they are working towards a 2022 National Knowledge assessment being released in August/September this year. That assessment will give members both their current benchmark against other participating LGPS funds and also the comparison to the Fund's progress since the 2020 assessment.

4.9 Having examined the results of the Assessment and discussed them with Hymans Robertson, the Fund has developed a Training Schedule which will offer some inhouse and external training opportunities to members of the Committee and the Local Pension Board and to officers.

4.10 A copy of the Training Schedule can be found in Appendix 6

Voting and Stewardship Policy

4.11 Officers have reviewed the Voting and Stewardship Policy and are content that it does not require any amendments

Investment Strategy Statement

4.12 The Fund has worked with Hymans Robertson to update its investment strategy statement

4.13 Warwickshire Pension Fund are required by Regulation 7 of The Local Government Pension Scheme (Management of Investment of Funds) Regulations 2016 to publish and maintain their Investment Strategy Statement

4.14 Hymans Robertson have reviewed the current document and a marked up copy can be found in Appendix 7. Officers recommend that these changes are adopted by the Investment Sub-Committee.

5. Timescales associated with the decision and next steps

5.1 None

Appendices

1. Appendix 1 The Forward Plan
2. Appendix 2 Risk Appetite
3. Appendix 3 Risk Scoring Convention and Likelihood Definitions
4. Appendix 4 Risk Impact Definitions
5. Appendix 5 Risk Register
6. Appendix 6 Warwickshire Pension Fund Training Schedule
7. Appendix 7 Investment Strategy Statement

Background Papers

None

	Name	**Contact Information**
Report Author	Martin Griffiths, Victoria Moffett	martingriffiths@warwickshire.gov.uk, victoriamoffett@warwickshire.gov.uk
Assistant Director	Andy Felton, Assistant Director Finance	andrewfelton@warwickshire.gov.uk
Strategic Director	Rob Powell, Strategic Director for Resources	robpowell@warwickshire.gov.uk
Portfolio Holder	Portfolio Holder for Finance and Property	peterbutlin@warwickshire.gov.uk

The report was circulated to the following members prior to publication:

Local Members: n/a
Other members: Cllrs Kettle and Gifford

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APPENDIX 1

Pension Fund Investment Sub-Committee

Forward Plan

Standing items

Governance paper (covering forward plan, risk monitoring, training and policies)
General Investment Activity Update (including LGPS pooling update)
Investment Fund Performance
Local Pension Board Minutes of Meeting

Specific items

12 September 2022	12 December 2022	6 March 2023	T.B.C
Valuation 2022 – Whole Fund Results	Valuation 2022 – Employer funding strategies	Valuation 2022 – Final Fund Report and Funding Strategy Statement	
Ill-health Early Retirement	Private debt and infrastructure manager selection	Equity manager selection	
Property portfolio review	Protection portfolio review	Property manager selection	
		Protection manager selection	

Manager Presentations (Regular Border to Coast Partnership Presentations)

These will not take place during committee time but after monthly monitoring sessions. A plan for these is currently being put together.

Committee members will be invited to these sessions as soon as they have been organised.

Policy Reviews

12 September 2022	12 December 2022	6 March 2023	
ESG, Climate change and Responsible Investment Policy	Risk Policy	Risk Management Review	Voting and Stewardship Policy
Responsible Investment Policy		Training Policy	Investment Strategy Statement
		Funding Strategy Statement	

Policy Reviews by the Staff and Pensions Committee

12 September 2022	12 December 2022	6 March 2023	
Administration Strategy	Cyber Security Policy	Fraud Prevention Policy	Breaches Policy
Admissions and Termination Policy	Governance Statement	Business Continuity Policy	Communications Policy
Conflicts of Interest Policy	Risk Policy	Internal Disputes Resolution Procedure Review	
		Fund Discretions	
		Governance Process Review	
		Business Plan	

Training Schedule can be found in Appendix 6

Risk Appetite

Appendix 2

Risk Category	Description	Risk Appetite
Liability profile	Risk that actual benefit costs are higher than expected leading to increased contributions or investment risk to make up the shortfall. This includes higher inflation, increased longevity and changes to the composition of membership i.e. maturing fund	Minimalist
Governance	Actuarial, legal or investment advice is not sought, or is not heeded, or proves to be insufficient in some way. This includes Committee and officer skills, the decision-making structure and operational abilities.	Minimalist
Climate risk	Climate change affects liabilities (increased mortality), operational processes (physical disruption), and investment returns (pricing into company returns and covenant).	Cautious
Data	Administering Authority holds incorrect data so the Fund collects incorrect contributions and/or sets an inappropriate funding plan. This could impact the funding level.	Averse
Financial - Matching Assets (strategic)	Requirement to manage operating cashflows and ensure assets meet liabilities over the lifetime of the Scheme.	Cautious
Financial - Non-matching Assets (implementation)	Requirement to generate enough returns to meet future liabilities whilst minimising employer contributions.	Open
Regulatory	Changes by Government to LGPS rules e.g. employer participation, altered requirements. Also includes direct intervention. Could impact on funding and/or investment strategies	Averse
Administration	Pensions Act/GDPR or other breaches because of process risks around holding data, in particular member data, but also asset administration and the Pension /Fund's payroll.	Averse

Risk Appetite	Risk Appetite Description
Averse	Avoidance of risk and uncertainty is a key organisational objective
Minimalist	Uncertainty is to be avoided unless essential; only prepared to accept the possibility of very limited financial loss
Cautious	Tolerance for risk taking is limited to events where there is little chance of significant downside impact
Open	Tolerance for decisions with potential for significant risk, but with appropriate steps to minimise exposure
Hungry	Eager to pursue options offering potentially higher rewards despite greater inherent risk

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Risk Scoring Convention and Likelihood Definitions Appendix 3

Scoring Convention

Risks are assessed on a five-point scale across likelihood and impact, with impact weighted as follows:

Total Risk = (Likelihood x Impact) + Impact

Risks with a high impact / low probability are therefore more highly prioritised because over a long time span low probability events are more likely to occur eventually.

Likelihood Definitions

Score	Description		Likelihood of Occurrence
1	Highly Unlikely	The event may occur in only rare circumstances (remote chance)	1 in 8 + years
2	Unlikely	The event may occur in certain circumstances (unlikely chance)	1 in 4-7 years
3	Possible	The event may occur (realistic chance)	1 in 2-3 years
4	Probable	The event will probably occur (significant chance)	1 in 1-2 years
5	Very Likely	The event is expected to occur or occurs regularly	Up to 1 in every year

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Impact Score Definitions

Appendix 4

Score	Description	Members and Employers	Investments and Funding	Administration
1	Insignificant	Negligible impact - not noticeable by members or employers, no complaints or issues likely to be raised by members or employers. Example - Member or employer communication newsletter issued a few days later than planned.	Negligible impact - of a level that would not register for investment action. Example - Normal volatility levels being experienced in the investment portfolio.	Negligible impact - low level administrative usues resolved internally with no impact on key performance indicators Example - A manageable backlog of data to be uploaded to the administration system that has no impact on actual member payments.
2	Minor	Minor impact on members and/or employers which may cause correspondence about issues that can be resolved at source. Example - A member not being given the correct information first time when corresponding with the Fund and this having to be corrected, but having no impact on benefits paid	Minor impact on investment operations requiring monitoring and attention but not requiring anything other than business as usual actions. Example - minor adverse fund investment event, such as a credit default within a private credit portfolio which is of a business as usual nature.	Minor impact on administration performance requiring action within business as usual parameters. Example - an employer experiencing persist difficulty in providing correct data resulting in the need for extra training/support/correspondence to resolve
3	Moderate	Material adverse impact on members or employers that is of cause for concern to them and the Fund and requires escalation for non-business as usual resolutions More likely to be isolated issues but could have some scale. Example - Inability to finalise and sign off an admission agreement with a new employer resulting in escalation.	Material impact requiring bespoke corrective action, but manageable within the existing Investmetn Strategy Examples - Significant drift or step change in actual in asset allocation taking the Fund risk profile out of tolerances, or significant slippage in the implementation of a significant Fund transfer	Material impact on administration performance, but manageable within approved policies and procedures. Examples - Inability to agree a transfer of membership and liabilities from another fund, requiring arbitration by a third party, or disappointing data quality scores resulting in a need for an improvement plan.
4	Major	Significant adverse impact on members or employers that result in a direct impact on benefits paid or contributions due or member or emnployer satisfaction with Fund performance. Likely to result in complaints. More likely to be systemic issues. Examples - A significant delay in the issue of member annual benefit statements, or persistently charging an employer an incorrect contribution rate.	Major impact requiring significant corrective action and a change in Investmet Strategy or Funding Strategy, or the significant sale of assets under distress. May result in noticeable changes to employer contributions. Examples - Major change in the world economic outlook, or in the present value of future liabilities requiring a change in strategy, or inability to implement a significant Fund lauch.	Major failure of administration function, likely to be systematic in nature, of a high profile nature to members and employers. Example - Widespread and persistent failure to meet key performance indicators such as dealing with certain types of administration query or action within deadlines, and reciept of significant numbers of complaints from members.
5	Catastrophic	Serious and systematic errors in benefits payments or administration KPIs, or significant volatility or increase in employer contributions. Significant breaches of the law Serious complaints and reputational harm caused Example - Systematic failure to monitor employer contributions resulting in subsequent identification of a large number of contribution deficits that employers cannot then catch up with.	Resulting in significant volatility or increase in employer contributions, inabilty to pay member benefits, or a need to significantly increase investment risk exposure. Significant failure to meet legal or regulatory requirements. Serious reputaitonal harm caused Example - Catastrophic deterioration in the ability or employers to pay contributions resulting in a need for emergency investment and cashflow measures in order to keep paying benefits.	Catastrophic failure of administration function leading to inability to pay benefits accurately or at all on a large scale. Significant breaches of the law Serious complaints and reputational harm caused Example - Wholesale failure of the pension payroll funciton resulting in no member payments being made.

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WPF Risk Register

Appendix 5

Risk Identification				Inherent Risk Scoring			Existing Risk Controls	Residual Risk Scoring			Further Risk Controls
Risk No.	Risk Description	Risk Causes	Risk Consequences (Effect)	Likelihood	Impact	Risk Score		Likelihood	Impact	Risk Score	
1	Long term market risk	• Inappropriate strategic asset allocation • Inability to implement strategic asset allocation • Poor fund manager performance • Fundamental long-term events e.g. climate change, systemic risk, inflation • Covid-19 • Inappropriate products developed by the Border to Coast Pension Partnership • Inappropriate (too high) expectations	• Asset values do not meet expectations • Employer contributions forced to increase above expectations or by a large amount at short notice • Investment risk is forced to increase • Future benefits cannot be paid by the Fund out of existing assets • Positive inflation would increase liabilities and potentially asset values	4.00	5.00	25.00	• BAU policy and governance arrangements including the setting of an appropriate investment strategy and funding strategy, the use of professional staff, consultants, and advisers, quarterly reporting to committee, appropriate asset allocation. • Only anticipate long-term returns on a relatively prudent basis to reduce risk of under-performing • Engagement with Border to Coast - developing funds and monitoring fund performance. • Appropriate monitoring of investment behaviour and performance. • Introduction of a climate risk policy in 2020/21 • Inflation is a key feature of investment strategy review and monthly monitoring of the portfolio • Strategic Asset Allocation reviewed as at March 2022	4.00	4.00	20.00	• Review climate risk and responsible investment policy and evaluate exposure to climate risk and other Environmental, Social and Governance factors. • Regular review of Strategic Asset Allocation
2	Short term market risk	• Significant reductions in asset values • Active management (BCPP) • Rapid changes in the economic environment • Inappropriate asset allocation • Poor fund manager performance • Covid-19 • Global political and trade tensions • Brexit • Asset bubbles • Poor fund development and procurement • Natural fund and market volatility • Possibility of market values reducing to the long-term average	• Asset values do not meet expectations • Cashflow requirements cannot be bet efficiently or effectively • Being unable to meet payment deadlines • Being forced to sell assets under distress • Being unable to pay benefits to members due to liquidity constraints • Introducing volatility to employer contributions or those employers close to exit	5.00	3.00	18.00	• Diversification of assets • Regular committee and officer monitoring of investment asset allocations and fund manager performance relative to benchmarks and absolute. • Cashflow planning to avoid selling assets under distress • Maintain sufficient allocation to liquid assets. • Long term approach to employer contributions, promoting their stability • Rota of fund manager presentations to the investment subcommittee.	3.00	2.00	8.00	• Regular review of Strategic Asset Allocation.
3	Financial mismatch	• Fund assets fail to grow in line with the developing cost of meeting liabilities • Inadequate contributions asked of employers • Employers do not pay contributions required • Investment returns lower than expected • Inflation risk • Inappropriate funding assumptions used • Actual membership experience materially different from expectations • Incorrect membership or cashflow data used to determine funding strategy • Cashflow negative	• Funding level deteriorates • Higher investment risks being taken • Employer contributions increasing • Being unable to pay benefits to members out of fund assets	2.00	5.00	15.00	• Fund valuation process driving an updated Investment Strategy and Funding Strategy on a periodic basis. • Triennial valuations for all employers • 6-monthly reporting on funding evolution to Committee, using rolled-forward liabilities. • Annual monitoring of longevity risk via Club Vita participation. • Use of professional advisors to support setting of appropriate funding assumptions. • Asset liability modelling focuses on probability of success and level of downside risk	1.00	5.00	10.00	2022 revaluation preparedness review during 2021/22 • Understand the assumptions used in any analysis and modelling. Compare these with own views and risk levels. • Annual data quality review

4	Employer risk	• Orphaned employers • Covid-19 • General economic / financial pressure on employers • Deterioration in employer financial positions • Deterioration in quality of employer administration function • Inadequate support from the Fund to employers • Inadequate monitoring of employers by the Fund • Admissions agreements inadequate or not agreed • Employer contribution rates higher than deemed affordable • Some significant changes in employer base (e.g. large staff transfers between employers, and a large number of further academy conversions expected in the next year)	• Employers cannot pay the required contributions because contribution requirements increase too quickly or too far • Employers cannot pay the required contributions because employer financial viability reduces • Increased administration costs • Reputational damage to the Fund and to employers • Paying employers having to pick up costs of non paying employers • Liabilities falling back to underwriting employers • Overly cautious investment strategy requiring higher contribution rates	3.00	3.00	12.00	• Cessation debt or security/guarantor • Spread pro-rata among all employers • Employer covenant review • Stabilisation mechanism to limit sudden increases in contributions • Breaches monitoring • Employer training day • Fund AGM • Admissions and Terminations Policy • Cashflow planning to provide cashflow resilience if contributions reduce FSS having appropriate regard to risk and meeting the Funds objectives	3.00	2.00	8.00	• Review and enhance breaches monitoring Additional liaison with known future employers on pension fund matters • iConnect implementation •
5	Pooling objectives not met	• Failure to monitor the delivery of pooling benefits. • Failure to assess benefits when making pooling decisions. • Failure to influence fund design discussions • Partner funds not collectively holding the pool to account • Pool fails to deliver on objectives • Pool does not deliver further alternatives products at pace or implement existing commitments at pace • Staff turnover and recruitment challenges	• Lack of appropriate products for the Fund to invest in • Investment in products that do not meet the objectives of the Fund • Persistent and unaddressed fund performance issues	3.00	3.00	12.00	• Engagement at Joint Committee, Section 151 meetings, and operational officer groups • Exercising shareholder rights and responsibilities • Engaging with other partner funds in the pool • Pooling decisions made by Investment Sub-Committee • Border to Coast attendance at and performance reporting to investment subcommittee meetings • Independent due diligence of funds offered, and ongoing monitoring of the Pool	3.00	3.00	12.00	• Input into the development of new products - in particular property, alternatives, and products having regard to RI and climate change • Documentation of the Fund's position on product developments
6a	Covid Pandemic (Investment Related)	• Covid-19 pandemic (financial pressure on individuals and institutions, and • more transactions being made online) • Further restrictive lockdowns • Staffing capacity impacted by both short- and long-term health implications of infection • Risk of a new unrelated pandemic	•	5.00	5.00	30.00	• IT systems supporting remote and flexible working • Fund policies that account for the scenario experienced • Higher profile for cashflow management, and retain cash buffer to mitigate liquidity risk • Maintain diversified portfolio of assets, and regularly monitor performance of assets and wider market	4.00	3.00	15.00	• Use of extraordinary committee or board meetings where necessary • Continue to develop flexible and remote working practices • Review electronic signatory processes
6b	Covid Pandemic (Administration and People Related)	• Covid-19 pandemic (financial pressure on individuals and institutions, and more transactions being made online) • Further restrictive lockdowns • Staffing capacity impacted by both short- and long-term health implications of Infection • Risk of differing views (at the level of individuals and organisations) about how to manage risks post-lockdown, for example whether to hold physical or virtual meetings • Risk of a new unrelated pandemic	• Members do not receive a high-quality service • Business interruption • High costs in order to maintain service resilience • Staff health, wellbeing and productivity • Impairment of the financial situation of employers • Inability to make quick decisions in an emergency	5.00	5.00	30.00	• Office presence for processes that require it (e.g., physical post) • IT systems supporting remote and flexible working • Flexible working policies for staff • Health and safety protocols for staff • Fund policies that account for the scenario experienced	3.00	3.00	12.00	• Use of extraordinary committee or board meetings where necessary • Continue to develop flexible and remote working practices • Review electronic signatory processes

7	Inability to meet demand for activity	• Growth in membership numbers • Growth in employer numbers • Growth in complexity and difficulty of employer issues • New and complex LGPS regulations (e.g. McCloud, £95k exit cap) • Increasing value of fund investments • Increasing complexity of fund investments • Erosion of staff capacity/resilience due to long term remote working • Inability to recruit / retain appropriately skilled staff • Inability of the Fund officers to keep up with demand (capacity or skills) • Persistently increasing customer expectations • Unpopular government decisions impacting on LGPS • Inability to secure agreement to increasing resources • Capacity at contract / service providers	• Quality of services reduces • Governance failures • Key administration performance measures not met • Sub optimal investment decisions made	5.00	3.00	18.00	• Medium term forecasting of demand and planning for the capacity and resources required • Investing in quality and productivity of staff through training and development • Investing in systems development • Use of management information to monitor and manage performance • Succession planning • Procuring appropriate services through contracts KPI and workload monitoring for administration team staff training Data quality reviewed annually Maintenance of governance arrangements and actions Responding to Government consultations • Independent Pensions Specialist tender being progressed - Post now filled	4.00	3.00	15.00	• McCloud project (already commenced) 2022 Revaluation preparedness review during 2021/22 • Introduction of medium term resource planning (Admin and investment) - - - Implementation of Member Self Service (MSS) • Investing in systems development and systems thinking
8	Business interruption	• Covid-19 • Industrial action • Small specialist teams with single person risks • Significant changes in adviser and consultant personnel • Further high impact Covid events (e.g. infection waves, lockdowns) • Lack of systems maintenance • Systems failure • Covid impact on Fund staff • Disaster event - fire, flood, etc • Lack of remote working facilities • Risk of another pandemic unrelated to Covid	• Delays in decisions or their implementation • Failure to meet performance targets • Reputational damage • Data quality deterioration • Workload backlogs • Significant restoration costs • Asset allocation drifts off target • Fund investment risks and performance cannot be monitored	3.00	4.00	16.00	• Building resilience requirements into service contracts • Digital record keeping • Storing data backups off site • Custodian holding investment data • Maintaining close links with advisers, consultants, and external organisations. • Use of IT systems to work remotely	2.00	3.00	9.00	• Implementation of Cyber Security policy • Review and update disaster recovery plan • Completion of documentation of investment practices • Business continuity planning session with consultants
9	Cyber Security	• Systemic cybersecurity events (e.g. taking down financial trading institutions globally) • Local cyber security events (e.g. targeting the Council) • Personal cyber security events (e.g. phishing emails targeting staff) • Inadequate system security • Inadequate staff training and staff vigilance	• Loss of data and/or data disruption • Reputational damage • Breaches of the law • Fines • Costs of fixing issues • Business interruption	4.00	5.00	25.00	• Use of scheme administrator systems and system security • Staff training • Bespoke Fund Cyber security policy .	3.00	4.00	16.00	• Implementation of Cyber security policy • Arrange for IT to test our systems • Arrange for an audit once Member Self Service is live

10	Climate Change	• Net global carbon production in excess of Paris Agreement 2 degree target • Policy responses and actions globally and nationally to combat climate change or to build resilience to it • Fund actions or inactions exacerbating climate change and its impact	• Expected transition to a low-carbon economy • Impact on the value of assets held, for example stranded/obselete assets, or impact on the productivity and profitability of certain sectors, companies, etc • Impact on future quality of life and life experience (e.g. longevity) of members • Impact on future inflation and value of benefits paid to members	5.00	5.00	30.00	• Fund considers this when allocating assets and appointing Fund Managers • Global, national and industry regulations • Climate Risk Strategy • ESG Policy • Regular training on Climate Risk and mitigation actions • BCPP sign up to net zero carbon by 2050	4.00	4.00	20.00	• Review and update climate risk policy • Review 2020 UK Stewardship Code requirements and take steps to become a signatory • Develop Fund actions and response to Task Force on Climate Related Financial Disclosures (TCFD) requirements • Develop robust reporting metrics and set targets for driving change.
11	Data Quality	• McCloud impact • Persistently increasing customer service expectations • Covid impact on member health and wellbeing - increasing the adverse impact of any problems with pensions • Member benefits paid incorrectly • Employer contributions higher than deemed affordable or thought necessary • Inadequate data quality • Inadequate administration systems and processes • Poor data provided by employers	• Inadequate payroll services • Overly cautious investment strategy requiring higher employer contributions • Incorrect benefit payments to scheme members • Complaints and disputes from scheme members • Negative reputational impact	3.00	3.00	12.00	• Administration governance review actions and maintenance of those standards • SLA with Council payroll service • Maintenance of Fund website • Funding Strategy having appropriate regard to risk and the meeting of Fund objectives • Data quality scores and reviews • Staff training • Performance monitoring of employer data quality • Performance monitoring of administration team KPIs • iConnect implemented	2.00	2.00	6.00	• UK Stewardship Code 2020 • Member Self Service project • Light review of compliance with Code of Practice 14
12	Fraud	• Covid-19 impact on the application of controls in the Fund or with employers • Increased financial pressure on individuals due to Covid-19 and its impact on the economy and jobs • The passing of time since any previous targeted review of Fraud risk • Fraud instigated by any Fund stakeholders, e.g. members, private financial advisers (scams), officers, fund managers, custodian, and employers.	• Members lose benefits to fraudsters • Reputational risk • Time spent unpicking the fraud • Fraudulent members gain benefits they are not entitled to • Fund incurs costs to recover losses • Investment assets lost to fraud or irregularity • Investment losses not reported if covered up	3.00	3.00	12.00	• Application of Administering Authority code of conduct to fund officers, fraud strategy, and whistleblowing policy • Application of division of duties and signatory processes for financial transactions and administration • Periodic independent internal audit reviews of administration and investment activity and controls • Annual external audit reviews • Financial industry regulatory regimes governing fund manager conduct and processes • Fraud, Bribery and Corruption Framework • Employer's fines	2.00	3.00	9.00	• Internal audit of fraud arrangements Fraud risk review in 2021/22 • Test payments to ensure that the bank details provided are appropriate

13	Governance Failure	• Lack of capacity to service governance requirements • Lack of training • Lack of continuity in staffing, advisers, or committee / board members • Inadequate checking/review of standards compared to requirements and best practice • Complacency in light of recent governance improvements • Out of date policies and contracts • Local government elections impact on committee continuity •Covid-19 - impact on officer, adviser, and committee/board personnel health and availability •Uncertainty around overall governance structure and responsibility for decision making and actions '• Unpopular government decisions impacting on LGPS Inability to sign off pension fund accounts	• Adverse impact on Fund reputation • Exposure to unplanned risks or poor administration and investment performance • Breaches of the law • Poor decisions • Decisions that are not appropriately authorised Customer dissatisfaction	3.00	4.00	16.00	• Training plans for committees, Board, and staff • Quarterly committee and Board meeting cycles • Training needs analysis • All training provision to be made available to all committee and Board members • Management of a Contracts register • Management of a Fund policy schedule • Quarterly risk monitoring at committee and board • Quarterly monitoring of Business Plan delivery at board • Use of digital technology - remote working and remote meetings • Responding to government consultations • Recruitment to Local Pension Board vacancy	3.00	3.00	12.00	• Signing up to UK Stewardship Code 2020 • Light review of compliance with Code of Practice 14 • Use of National Knowledge Assessment to inform training plan • Simplification of governance to a single action plan and single risk register • Review of committee arrangements and Terms of Reference • Review capacity to support Fund Governance requirements • Review account reporting timescales •

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Training Plan for Warwickshire Pension Fund for 2022-2023

Month	Date	Title of Training	Delivered by:	Reason for Training
Apr-22				
May-22	6 May	Pension Administration	Vicky Jenks / Martin Griffiths	Identified by Knowledge and Skills Assessment
Jun-22	6 June	Equities and carbon Workshop	Hymans Robertson	Proposed changes to the Fund's equity portfolio
Jul-22	18 July	Valuation and Section 13	Hymans Robertson	Outcome of valuation
Aug-22	9 August	Property Workshop	Hymans Robertson	Proposed changes to property portfolio
Sep-22				
Oct-22	TBC	Investment Performance & Risk Management	Investment Team and Advisors	Identified in Knowledge and Skills Assessment
Nov-22				
Dec-22	TBC	Pensions Accounting and Audit Standards	Investment Team and Audit Colleagues	Identified in Knowledge and Shills Assessment
Jan-23	TBC	Good Governance and the Regulator's Code of Practice	Hymans Robertson	Identified in Knowledge and Skills Assessment
Feb-23				
Mar-23				

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Warwickshire Pension Fund

Investment Strategy Statement

May 2022

Introduction and background

This is the Investment Strategy Statement ("ISS") of the Warwickshire Pension Fund ("the Fund"), which is administered by Warwickshire County Council, ("the Administering Authority"). The ISS is made in accordance with Regulation 7 of the Local Government Pension Scheme (Management and Investment of Funds) Regulations 2016 ("the Regulations").

The ISS has been prepared by the Fund's Investment Sub Committee ("the Committee") having taken advice from the Fund's investment adviser, Hymans Robertson LLP. The Committee acts on the delegated authority of the Administering Authority.

The ISS, which was approved by the Committee on 12 March 2021, is subject to periodic review at least every three years and without delay after any significant change in investment policy. The Committee has consulted on the contents of the Fund's investment strategy with such persons it considers appropriate.

The Committee seeks to invest in accordance with the ISS any Fund money that is not immediately required to make payments from the Fund. The ISS should be read in conjunction with the Fund's Funding Strategy Statement, Responsible Investment and Climate Risk policies.

The suitability of particular investments and types of investments

The primary objective of the Fund is to provide pension and lump sum benefits for members on their retirement and/or benefits on death for their dependants, on a defined benefits basis. The funding position will be reviewed at each triennial actuarial valuation, or more frequently as required.

The Committee aims to fund the Fund in such a manner that, in normal market conditions, all accrued benefits are fully covered by the value of the Fund's assets and that an appropriate level of contributions is agreed by the employers to meet the cost of future benefits accruing. For employee members, benefits will be based on service completed but will take account of future salary and/or inflation increases.

The Committee has translated its objectives into a suitable strategic asset allocation benchmark for the Fund. This benchmark is consistent with the Committee's views on the appropriate balance between generating a satisfactory long-term return on investments whilst taking account of market volatility and other risks and the nature of the Fund's liabilities.

The broad approach that the Fund has taken to setting an appropriate investment strategy is as follows:

- In order to generate attractive long term returns on the portfolio, a proportion of the investments will be in growth assets such as equities.
- To help diversify equity risk and assist with cash flow, a proportion of the investments will also be in income assets, such as property and infrastructure, which are structured to deliver both capital growth and a regular income stream.
- To reduce the volatility of investment returns, and to help protect its capital value, the remaining portfolio will be invested in protection assets which are lower risk and have a low correlation with equity and other growth markets.
- The Fund will maintain a sufficient level of liquidity in the investment portfolio, such that it can facilitate the normal cash flow requirements of the scheme, such as paying pensions, without becoming a forced seller of assets.

It is intended that the Fund's investment strategy will be reviewed at least every three years following actuarial valuations of the Fund.

In 2022, the Fund carried out an asset liability modelling exercise in conjunction with the 2022 actuarial valuation. The Fund's liability data from the valuation was used in the modelling, and the implications of adopting a range of alternative contribution and investment strategies were assessed. The implications for the future evolution of the Fund was considered under a wide range of different scenarios.

The Committee assessed the likelihood of achieving their long term funding target – which was defined at that time as achieving a fully funded position within the next 19 years. They also considered the level of downside risk associated with different strategies by identifying the impact on funding levels of a range of adverse economic/market scenarios.

A summary of the expected returns and volatility for each asset class included in the modelling is included in Appendix 1.

This approach helps to ensure that the investment strategy takes due account of the maturity profile of the Fund (in terms of the relative proportions of liabilities in respect of pensioners, deferred and active members), together with the level of disclosed surplus or deficit (relative to the funding bases used).

It is anticipated that a further detailed review of the investment strategy will be carried out during 2025/26 in conjunction with the then proximate actuarial valuation.

In addition, the Committee monitors the investment strategy on an ongoing basis, focusing on factors including, but not limited to:

- Suitability given the Fund’s level of funding and liability profile
- The level of expected risk
- Outlook for asset returns
- Environmental, Social and Governance (ESG) factors.

The Committee also monitors the Fund’s actual allocation on a regular basis to ensure it does not deviate inappropriately from the target allocations set for each asset class. The Committee has set ranges around the strategic asset allocation and will seek advice on re-balancing the portfolio if any individual asset class moves outside its agreed range.

Investment of money in a wide variety of asset classes

The Fund may invest in quoted and unquoted securities of UK and overseas markets including equities, fixed interest and index linked bonds, loans, property, infrastructure, alternative credit and cash either directly or through pooled funds.

The Fund may also make use of contracts for differences and other derivatives either directly or in pooled funds, investing in these products for the purpose of efficient portfolio management or to hedge specific risks.

The Committee reviews the nature of Fund investments on a regular basis, with particular reference to suitability and diversification. The Committee seeks and considers written advice from a suitably qualified person in undertaking such a review. If, at any time, investment in a security or product not previously known to the Committee is proposed, appropriate advice is sought and considered to ensure its suitability and diversification.

The Fund’s current investment strategy is set out below. The table also includes the control ranges agreed for re-balancing purposes and therefore the maximum percentage of total Fund assets that it will invest in these asset classes. In addition, the Committee have agreed a new long term strategic target asset allocation, reflecting the likely ‘direction of travel’ between now and the next actuarial valuation. The Fund will take incremental steps in implementing this strategy as suitable investment opportunities become available.

In line with the Regulations, the authority’s investment strategy does not permit more than 5% of the total value of all investments of fund money to be invested in entities which are connected with that authority within the meaning of section 212 of the Local Government and Public Involvement in Health Act 2007.

Asset class %	Current Target	Control range	Long term target
UK equities	16.0	+/-2.5	8.0
Developed markets (ex UK) equities	25.5	+/-2.5	28.0
Emerging markets equities	3.0	+/-2.5	6.0
Private equity	4.0	-	6.0
Total Growth	**53.0**	-	**37.0**
Property	10.0	-	10.0
Infrastructure	7.0	-	10.0
Private debt	5.0	-	7.0
Multi-asset credit	10.0	-	10.0
Total Income	**32.0**	-	**37.0**
UK corporate bonds	10.0	+/-1.5	10.0
UK index linked bonds	5.0	+/-0.5	5.0
Total Protection	**15.0**	-	**15.0**
Total	**100.0**	-	**100.0**

Restrictions on investment

The Regulations have removed the previous restrictions that applied under the Local Government Pension Scheme (Management and Investment of Funds) Regulations 2009. The Committee's approach to setting its investment strategy and assessing the suitability of different types of investment takes account of the various risks involved and a rebalancing policy is applied to maintain the asset split close to the agreed asset allocation target. Therefore it is not felt necessary to set additional restrictions on investments.

Managers

The Committee has appointed a number of investment managers all of whom are authorised under the Financial Services and Markets Act 2000 to undertake investment business.

The Committee, after seeking appropriate investment advice, has agreed specific benchmarks with each manager so that, in aggregate, they are consistent with the overall asset allocation for the Fund. The Fund's investment managers will hold a mix of investments which reflects their views relative to their respective benchmarks. Within each major market and asset class, the managers will maintain diversified portfolios through direct investment or pooled vehicles. The manager of the passive funds in which the Fund invests holds a mix of investments within each pooled fund that reflects that of their respective benchmark indices.

The individual investment manager mandates in which the Fund assets are currently invested are as follows:-

Investment Manager	Asset Class	Fund type	Style
Legal and General Investment Manger	Regional Equities, Investment Grade Credit, Index-Linked Bonds	Pooled fund	Passive
Legal and General Investment Manager	Fundamental Global Equity	Pooled fund	Quasi-active
Border to Coast Pensions Partnership (BCPP)	UK Equities, Global Equities, Multi-Asset Credit, Investment Grade Credit	Pooled fund	Active
Border to Coast Pensions Partnership (BCPP)	Private Equity, Private Debt, Infrastructure	Fund of Funds	Active
Schroders	UK Property	Fund of Funds	Active
Threadneedle	UK Property	Pooled Fund	Active
Alcentra	Private Debt	Pooled Fund	Active
Partners Group	Private Debt	Pooled Fund	Active
Harbourvest	Private Equity	Fund of Funds	Active
Aberdeen Standard	Infrastructure	Pooled Fund	Active
Partners Group	Infrastructure, Private Debt	Pooled fund	Active

The approach to risk, including the ways in which risks are to be measured and managed

The Committee is aware that the Fund has a need to take investment risk to help it achieve its funding objectives. It has an active risk management programme in place that aims to help it identify the risks being taken and put in place processes to manage, measure, monitor and (where possible) mitigate the risks being taken. One of the Committee's overarching beliefs is to only take as much investment risk as is necessary to achieve its objectives.

The principal risks affecting the Fund are set out below. We also discuss the Fund's approach to managing these risks and the contingency plans that are in place:

Funding risks

- Financial mismatch – The risk that Fund assets fail to grow in line with the developing cost of meeting the liabilities.
- Changing demographics – The risk that longevity improves and other demographic factors change, increasing the cost of Fund benefits.
- Systemic risk - The possibility of an interlinked and simultaneous failure of several asset classes and/or investment managers, possibly compounded by financial ‘contagion’, resulting in an increase in the cost of meeting the Fund’s liabilities.

The Committee measures and manages financial mismatch in two ways.

- As indicated above, the Committee has set a strategic asset allocation benchmark for the Fund. This benchmark was set taking into account asset liability modelling which focused on probability of success and level of downside risk. The Committee assesses risk relative to the strategic benchmark by monitoring the Fund’s asset allocation and investment returns relative to the benchmark.
- The Committee also assesses risk relative to liabilities by monitoring the delivery of benchmark returns relative to liabilities.

The Committee also seeks to understand the assumptions used in any analysis and modelling so they can be compared to their own views and the level of risks associated with these assumptions to be assessed.

The Committee seeks to mitigate systemic risk through a diversified portfolio but it is not possible to make specific provision for all possible eventualities that may arise under this heading.

Asset risks

- Market risk – The risk that the market value of the Fund’s assets falls.
- Concentration - The risk that a significant allocation to any single asset category and its underperformance relative to expectation would result in difficulties in achieving funding objectives.
- Illiquidity - The risk that the Fund cannot meet its immediate liabilities because it has insufficient liquid assets.
- Currency risk – The risk that assets denominated in foreign currencies are devalued relative to Sterling (i.e. the currency of the liabilities).
- Environmental, Social and Governance (“ESG”) risks – The rusk that ESG related factors reduce the Fund’s ability to generate long-term returns.

- Climate risk - The extent to which climate change causes a material deterioration in asset values as a consequence of factors including but not limited to policy change, physical impacts and the expected transition to a low-carbon economy.

- Manager underperformance - The failure by the fund managers to achieve the rate of investment return assumed in setting their mandates.

The Committee measure and manage asset risks as follows.

The Fund's strategic asset allocation benchmark invests in a diversified range of asset classes. The Committee has put in place re-balancing arrangements to ensure the Fund's actual allocation does not deviate substantially from its target. The Fund invests in a range of investment mandates each of which has a defined objective, performance benchmark and manager process which, taken in aggregate, help reduce the Fund's asset concentration risk. By investing across a range of assets, including liquid quoted equities and bonds, as well as property and other income assets, the Committee has recognised the need for access to liquidity in the short term.

The Fund invests in a range of overseas markets which provides a diversified approach to currency markets; the Committee also assess the Fund's currency risk during their risk analysis.

Details of the Fund's approach to managing climate and other ESG risks is set out later in this document.

The Committee has considered the risk of underperformance by any single investment manager and has attempted to reduce this risk by appointing more than one manager and having a proportion of the Fund's assets managed on a passive basis, and will take steps, including potentially replacing one or more of their managers, if underperformance persists.

Other provider risk

- Transition risk - The risk of incurring unexpected costs in relation to the transition of assets among managers. When carrying out significant transitions, the Committee seeks suitable professional advice.

- Custody risk - The risk of losing economic rights to Fund assets, when held in custody or when being traded.

- Credit default - The possibility of default of a counterparty in meeting its obligations.

- Stock-lending – The possibility of default and loss of economic rights to Fund assets.

The Committee monitors and manages risks in these areas through a process of regular scrutiny of its providers, and audit of the operations it conducts for the Fund, or has delegated such monitoring and management of risk to the appointed investment managers as appropriate (e.g. custody risk in relation to pooled funds). The Committee has the power to replace a provider should serious concerns exist.

A separate schedule of risks that the Fund monitors is set out in the Fund's Funding Strategy Statement.

The approach to pooling investments, including the use of collective investment vehicles and shared services

The Fund is a participating scheme in the Border to Coast Pensions Partnership (BCPP). The proposed structure and basis on which the BCPP pool will operate was set out in the July 2016 submission to Government.

Assets to be invested in the Pool

The Fund's intention is to invest its assets through the BCPP pool as and when suitable investment solutions become available. An indicative timetable for investing through the Pool was set out in the July 2016 submission to Government. The key criteria for assessment of Pool solutions will be as follows:

1 That the Pool enables access to an appropriate solution that meets the objectives and benchmark criteria set by the Fund.

2 That there is financial benefit to the Fund in investing in the solution offered by the Pool.

BCPP launched their first sub-funds in 2018 and there is a timetable in place covering the proposed fund launches over the coming years. The Fund has invested assets in the UK Equity Alpha fund, Global Equity Alpha fund, Investment Grade Credit fund, Multi-Asset Credit fund and Alternatives sub-funds (private equity, infrastructure and private debt).

The Fund retains the following assets outside of the BCPP pool:

- Passive investments with Legal and General are currently held through life policies and these will continue to be directly held by the Fund. However, the Fund benefits from fee savings through joint fee negotiations with other partner funds within BCPP.

- The Fund has investments in a number of closed end funds as part of its private markets programme. These funds invest in underlying private equity, private debt and infrastructure investments. Each of the individual funds has a fixed life with all assets being returned to investors within a specified period. There is no liquid secondary market for these types of investment – and there is a risk that sales would only be possible at material discounts to net asset value. Therefore, the Committee believes that it is in the best interests of the Fund to retain these investments.

The Fund also retains the option to undertake local impact investing either outside of the pool or inside the pool as best meets Fund objectives.

Any assets which are not invested in the BCPP pool will be reviewed at least every three years to determine whether the rationale remains appropriate, and whether it continues to demonstrate value for money. The next such review will take place no later than 2026.

Structure and governance of the BCPP Pool

The July 2016 submission to Government of the BCPP Pool provided a statement addressing the structure and governance of the Pool, the mechanisms by which the Fund can hold the Pool to account and the services that will be shared or jointly procured. Government approved this approach on 12 December 2016.

A Financial Conduct Authority (FCA) regulated company has been established to manage the assets of BCPP Funds. The Board of Directors for the new company has been appointed and a senior management team put in place. Based on legal advice describing the options on holding shares in this company, BCPP Limited, the Fund holds all voting and non-voting shares rather than the Council. This is because the purpose of the company is to meet the needs of the BCPP Funds in complying with the regulations on pooling, rather than for a Council specific purpose.

As the Pool develops, the Fund will include further information in future iterations of the ISS.

ESG Policy: How social, environmental or corporate governance (“ESG”) considerations are taken into account in the selection, non-selection, retention and realisation of investments

It is recognised that ESG factors, including climate change, are financially material to the Fund’s investments at all stages of the investment process as they have the potential to significantly affect long term investment performance and the ability to achieve long term sustainable returns. The Committee considers the Fund’s approach to responsible investment in two key areas:

- Sustainable investment / ESG factors – considering the financial impact of environmental, social and governance (ESG) factors into account in investment decision making.
- Stewardship and governance – acting as responsible and active investors/owners, through considered voting of shares, and engaging with investee company management as part of the investment process.

The Committee takes ESG matters, including climate change, seriously and regularly reviews its policies in this area and its investment managers' approach to ESG.

The Fund believes in collective engagement and is a member of the Local Authority Pension Fund Forum (LAPFF), through which it collectively exercises a voice across a range of corporate governance issues. The Fund will also engage collectively with partner funds through its relationship with BCPP.

The Fund has developed a separate more in-depth Responsible Investment Policy and Climate Risk Policy. These policies can both be found on the Fund's website. They outline how the Fund implements, monitors and discloses its approach to ESG related risks.

In Q1 2021, the Committee and officers undertook a dedicated training session on the risks climate change poses to the Fund. This included climate change scenario modelling which aimed to illustrate how the Fund's funding position could be impacted in the future by climate and ESG risks under a variety of scenarios. The Fund aims to take further action with regards to ESG governance and oversight, in conjunction with BCPP. Work is expected to include; ESG reporting, carbon footprinting, and setting measureable metrics and targets for driving change.

Investments made via BCPP are subject to its responsible investment policies that can be found here:

https://www.bordertocoast.org.uk/?dlm_download_category=download-responsibleinvestment-policy

The Committee has reviewed BCPP's responsible investment policies and is satisfied they are consistent with the Fund's own policies. The Fund will regularly monitor BCPP's responsible investment policies and actively engage with the pool to facilitate change as required.

Historically the Fund's approach to social investments has largely been to delegate this to their underlying investment managers as part of their overall ESG duties. The Fund's managers reported on this matter as part of the Fund's annual ESG review.

The Fund does not currently hold any assets which it deems to be social investments.

The exercise of rights (including voting rights) attaching to investments

Voting rights

The Committee have approved its own voting policy with the objective of preserving and enhancing long term shareholder value.

Historically the Fund actively voted on the Fund's segregated equity holdings through a voting platform. The Funds segregated equities have now been transitioned into

BCPP equity pooled funds. As a result, BCPP vote on behalf of the Fund in line with the BCPP voting and engagement policy. The BCPP voting and engagement policy has been reviewed by the Committee.

The funds past voting record can be found here:
https://www.warwickshirepensionfund.org.uk/home/investments/1

The voting record of assets invested via BCPP can be found on its website here:
https://www.bordertocoast.org.uk/sustainability/

Both the Fund and BCPP's voting policies are reviewed on a regular basis.

Stewardship

An enhanced UK Stewardship Code 2020 took effect on 1 January 2020. The Committee expects both BCPP and any directly appointed fund managers to comply with the Stewardship Code and is monitored on an annual basis.

At the FRC's most recent review, BCPP were rated as tier 1 signatories.

Appendices

Appendix 1 – Expected returns

Appendix 2 – Statement of compliance with UK Stewardship Code 2012

Appendix 3 – Investment Guiding Principles

Appendix 1 - Expected returns and volatilities

The table below shows the absolute expected returns (20 year geometric averages), net of fees, and the absolute volatilities (first year's standard deviations) used in the 2022 investment strategy review and asset liability modelling.

As at 31 March 2021	Expected return % p.a.	Volatility % p.a.
UK equity	5.8	17
Developed markets ex UK equity	5.7	18
Emerging markets equity	6.0	26
Private equity	6.8	32
Property	4.2	15
Private debt	5.5	6
Infrastructure equity	5.9	23
Multi-Asset Credit	4.6	6
Corporate Bonds (A-rated average)	1.6	8
Index Linked Gilts (long)	-1.4	10
Cash	2.0	0

Appendix 2 – Investment Guiding Principles

The Fund adopts the following principles when considering investments and investment strategy.

Purpose

1. The Fund's primary purpose is to pay pension benefits to its members.
2. The Committee should focus on ensuring the Fund has sufficient financial resources to meet its obligations, including efficient management of the Fund's cash position.
3. The Committee should ensure that accrued benefits are fully funded (on a 20-year view).
4. The Fund should set a stable and affordable level of contributions for each employer to fund future service benefits. Long-term stability and affordability are more important than the short-term level of contribution rates.
5. The Fund is a long-term investment vehicle which should be managed to generate sustainable investment returns over the long-term. This will be achieved by Responsible Investment ("RI"), which is the practice of integrating consideration of Environmental, Social and Governance ("ESG") factors, including climate change, into the investment process (as further defined by the UN Principles for Responsible Investment – www.unpri.org).

Strategy

6. The Fund should take a long-term view when setting investment strategy although the impact of short-term volatility should also be considered.
7. Strategic asset allocation is the most important determinant of investment outcomes and it is here that the optimum balance of risk and return is set.
8. The Fund's investment strategy and risk appetite should be set with due consideration for its liabilities and funding strategy which is reviewed at each actuarial valuation.
9. The Fund should consider as broad a range of investment opportunities as possible, subject to these being compatible with its risk appetite and RI considerations
10. Investment risk should only be taken where the Committee believes it will be rewarded over the longer term.
11. Appropriate diversification of asset and manager risks reduces overall risk but may lower returns; excessive diversification creates complexity and may increase risk.
12. The Fund invests for the long-term, so ESG factors are expected to have a material impact on investment outcomes.

13. The Committee believes that climate change and the expected transition to a low carbon economy will have a significant long-term impact on the Fund and considers managing the associated financial risks to be part of its fiduciary duty.

14. The Committee believes that the transition to a low carbon economy will create investment opportunities and will mandate the Fund's investment managers to seek out these opportunities.

15. The Committee believes that an RI approach will enhance long-term investment outcomes as well as benefiting the economies and societies in which the Fund invests, and is therefore consistent with the Fund's primary purpose.

16. The Committee believes that, in relation to the management of ESG factors, ongoing engagement with portfolio companies is preferable to divestment. Divestment should remain an option if engagement proves unsuccessful.

Implementation

17. Pooling presents an opportunity to access best in class investments at a low cost. The Fund has a bias to using pool products but will only invest if they are aligned with its investment strategy and offer comparable outcomes to best-in-class external solutions.

18. Both active and passive management strategies, where available, will be considered as implementation options. Active managers will be expected to demonstrate a strong track record of delivering expected returns, with performance assessed over a suitably long period.

19. Foreign currency exposure is inherent to a global portfolio of investments. The Committee believes the strategic hedging of currency exposure from volatile asset classes such as equities has limited benefit to long-term investment returns.

20. Fees and costs incurred within investment manager mandates are important though the primary focus should be on achieving the best risk-adjusted returns net of fees.

21. Systematic rebalancing, subject to appropriate tolerances, can add value over the longer term.

Governance

22. Effective governance not only ensures appropriate levels of control over the Fund but can add value through improved decision making and resource allocation.

23. Staff and members of the Fund's Investment Sub-Committee must have, or have access to, the correct level of skills and investment knowledge to take investment decisions and manage risk effectively.

24. The Fund should retain responsibility for setting RI policy but will delegate much of the implementation to BCPP and its other investment managers. The Committee regularly monitors and evaluates its investment managers' approach to RI.

25. The Fund should only invest with managers who comply with relevant regulations and codes of practice (eg UK Stewardship Code) and have committed to provide full disclosure on ESG issues.

26. The Fund expects its investment managers to invest responsibly and to engage proactively with the management of portfolio companies on key ESG issues, including climate change, wherever it is cost effective to do so. The aim of such engagement should be to enhance investment returns and risk profile by positively influencing portfolio companies on such matters.

27. The Committee believes engagement is more effective when carried out in collaboration with other investors (eg via BCPP or LAPFF).

28. Full disclosure of the Fund’s RI policy and activity strengthens accountability and should be embraced.

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Pension Fund Investment Sub-Committee

13 June 2022

Carbon Footprint Report

Recommendations

That the Pension Fund Investment Sub-Committee (PFISC):

1. Considers the content of this Report and approves the adoption of the metrics at paragraph 1.3; and
2. Requests that an annual report be brought to the PFISC setting out progress towards the metrics chosen.

1. Executive Summary

1.1 The purpose of this paper is to inform the PFISC about the Fund's carbon exposure as at 31 March 2021 and to seek approval for the adoption of a set of metrics against which that exposure can be measured and tracked.

1.2 The report of the Fund's investment consultant Hymans Robertson at Appendix 1 sets out some key metrics for the Fund's listed holdings. These metrics take on board guidance from the Partnership for Carbon Accounting Financials (PCAF) or the Taskforce for Climate-Related Financial Disclosures (TCFD).

1.3 The proposed metrics are

1.3.1 Weighted average carbon intensity;
1.3.2 Carbon emissions;
1.3.3 % of portfolio in green revenues; and
1.3.4 % of portfolio with ties to fossil fuels.

1.4 The definitions of each of the metrics are set out in the report at Appendix 1 (within the glossary on page 10). However, each of the metrics can be summarised as follows:

1.4.1 *Weighted average carbon intensity* measures a portfolio's exposure to carbon-intense companies. It does this by measuring the tons of CO2 equivalent emitted per million dollars of revenue, weighted by the size of the allocation to each company;
1.4.2 *Carbon emissions* are defined as the portfolios' estimated Scope 1 and Scope 2 greenhouse gas emissions expressed in terms of thousand tons of CO2 equivalent emitted by the companies invested in, weighted by the size of the allocation to each company;

1.4.3 *% of portfolio in green revenues* sets out the weighted average percentage of revenue for portfolio companies derived from any of the following environmental impact themes: alternative energy, energy efficiency, green building, pollution prevention, sustainable water, or sustainable agriculture; and

1.4.4 *% of portfolio with ties to fossil fuels* which states the percentage of the portfolio invested in companies with an industry tie to fossil fuels (thermal coal, oil and gas).

To provide the PFISC with greater support around interpreting this data, there is a training session on 6 June 2022 which will include some time on carbon metrics.

1.5 Some of the key findings are that:

1.5.1 The Fund could do more to ensure that climate risk is integrated in the investment process

1.5.2 The Fund could engage more with managers around company engagements that have taken place, for instance voting at AGMs on climate-related matters and speaking with the management teams. At present there are quarterly notes provided to the PFISC covering voting at a high-level, and so more detail could be included on the underlying topics.

1.5.3 The Fund may wish to consider engaging with the managers not included in this report to provide support for more carbon reporting.

2. Financial Implications

2.1 Climate risk, as set out in the Fund's Investment Beliefs, is expected to have a material impact on the Fund's investment outcomes (Principle 12). The Committee believes (Principle 16) that a Responsible Investment approach will enhance long-term investment outcomes as well as benefiting the economies and societies in which the Fund invests and is therefore consistent with the Fund's primary purpose, to pay pension benefits to its members (Principle 1).

3. Environmental Implications

3.1 The prospective environmental implications of the proposal are set out in further detail in Appendix 1. The purpose of this report is to start a discussion about future reporting around carbon metrics and priorities with an awareness that data collection currently remains a limiting factor within the industry. Steps are being taken at a market level to improve reporting.

4. Supporting Information

4.1 None

5. Timescales associated with the decision and next steps

5.1 If the PFISC wishes to pursue a climate risk dashboard approach, there would be additional support given over summer 2022, with further decision-making on priorities at the September 2022 PFISC.

Appendices

Appendix 1 – Climate Risk Report (Hymans Robertson)

Background Papers

None

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The report was circulated to the following members prior to publication:

Local Members: n/a
Other members: Cllrs Kettle and Gifford

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Warwickshire Pension Fund

Climate Risk Report
Q2 2022

Philip Pearson, Senior Investment Consultant
Nazish Abdullah, Investment Consultant
Ross Rausch, Investment Analyst

HYMANS ROBERTSON

Executive Summary

This paper sets out some key metrics for the Fund's carbon exposure as at 31 March 2021.

This paper only focuses on the Fund's listed or public assets, and does not cover the private assets that the Fund invests in. We expect that the private asset funds reporting will improve over time.

There are several companies whose contribution to the Fund's carbon footprint significantly outweighs their allocation. We recommend that the Fund engages with its investment managers in relation to these companies, with the objective of managing and mitigating climate risk via proactive and effective engagement.

We note that in this report all data has been provided by the managers, and we have carried out high level sense checks rather than a detailed review of the data. We would be happy to provide a more detailed report should the Committee wish to take this approach.

Key Takeaways

Subject	Comments	Action
Climate Risk	• The Fund's managers are broadly exposed to lower levels of Climate Risk than their market benchmarks, this is based on numerous climate risk metrics.	• The Fund should engage with their managers to understand to what steps they take to ensure climate risk is integrated in the investment process and any recent manager engagements they have had.
Power Assets Holdings Ltd	• This asset represents c.0.2% of the LGIM Asia Pacific fund and less than 0.1% of the LGIM RAFI fund. • However it contributes c.45% and c.2% of the carbon intensity of the LGIM Asia Pacific fund	• The Fund should engage with LGIM to understand any recent engagement activity with the business on low carbon management strategies that they plan to put in place.
Data	• This report only covers c.50% of the Fund's total assets. • This lack of coverage is expected to improve over time. • We expect scope 3 emissions to be included in next year's reporting and more consistency in metrics used across managers.	• The Fund may wish to engage with LGIM to encourage them to provide benchmark data to ensure a consistent approach and comparability • The Fund may wish to consider engaging with the managers not included in this paper to provide support for more carbon reporting.

Funds reviewed

We have received data from the following managers:

- BCPP – UK Listed Equity Alpha fund and Global Equity Alpha fund
- LGIM – regional equity funds, RAFI Equity fund and Investment Grade Corporate Bond All Stocks Index fund

It is important to note that these managers have provided their reporting data in different formats, which makes a clear comparison between funds difficult to carry out. We expect that next year's reporting will be improved and there will be more consistency across manager reporting.

We have compared the two BCPP equity funds that the Fund invests in against their respective benchmarks using selected carbon metrics.

The funds outperform their respective benchmarks in three of the four metrics. However, both funds have a lower proportion of the assets in clean technology solutions. This is because BCPP categorisation is more stringent than MSCI ACWI index.

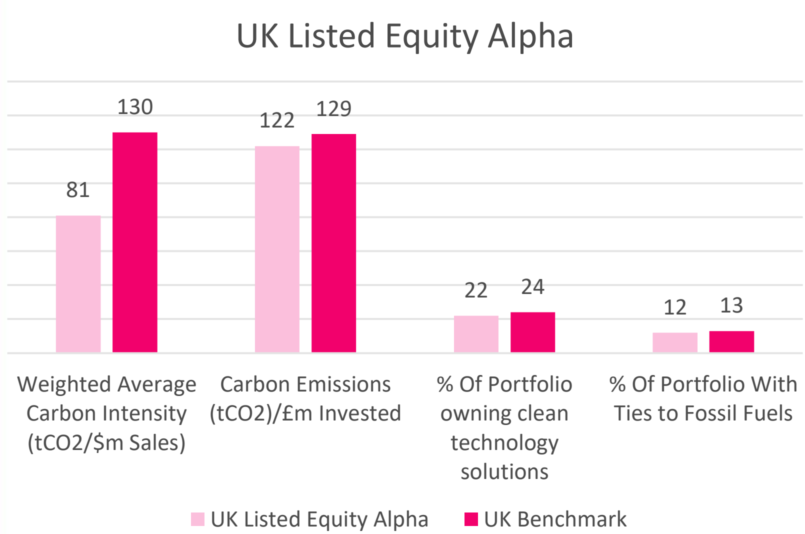
In terms of the Fund's private market investments, BCPP have stated that their portfolios are relatively immature and therefore BCPP expect carbon data coverage to develop over time.

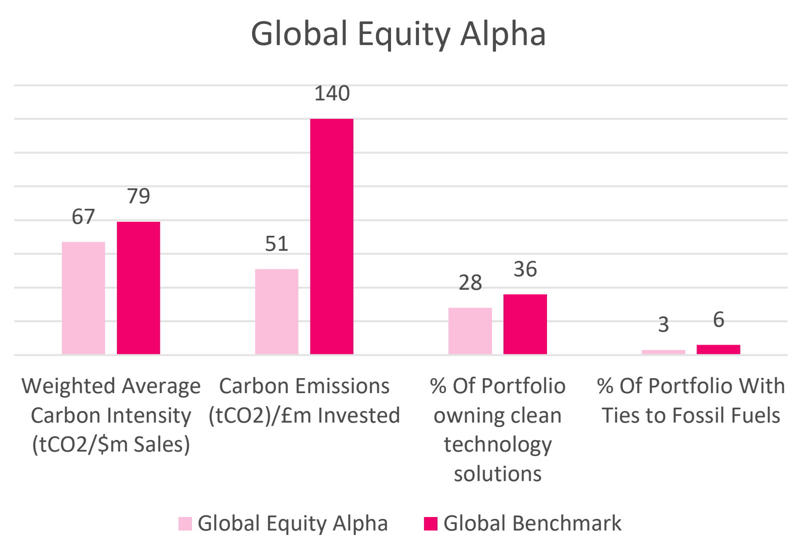
Key Takeaways/ Actions

- The two funds perform well from a climate perspective.
- It would be good to understand the manager's integration of carbon risk into the investment strategy.

BCPP funds

	Weighted Average Carbon Intensity (tCO2/$m Sales)	Carbon Emissions (tCO2)/£m Invested	Portfolio owning clean technology solutions	Ties to Fossil Fuels
UK Listed Equity Alpha	81	122	22%	12%
Benchmark	130	129	24%	13%
Relative	**-49**	**-7**	**-2%**	**-1%**
Global Equity Alpha	67	51	28%	3%
Benchmark	79	140	36%	6%
Relative	**-12**	**-89**	**-8%**	**-3%**





Source: BCPP.
Fund benchmark for UK Listed Equity Alpha is FTSE ALL Share Index and for Global Equity Alpha is MSCI ACWI

HYMANS ROBERTSON

Climate Risk Analysis

LGIM have shared details on the underlying fund exposures as at 31 March 2021. The Fund holds 9 funds with LGIM, which span regional/global equity, corporate bonds and gilts funds.

LGIM have been unable to provide data for each fund's benchmark. Therefore, we have provided similar benchmarks where possible for comparison. However, for some of these benchmarks the methodology may vary and this can mean that they are not necessarily the best (or even a good) comparison.

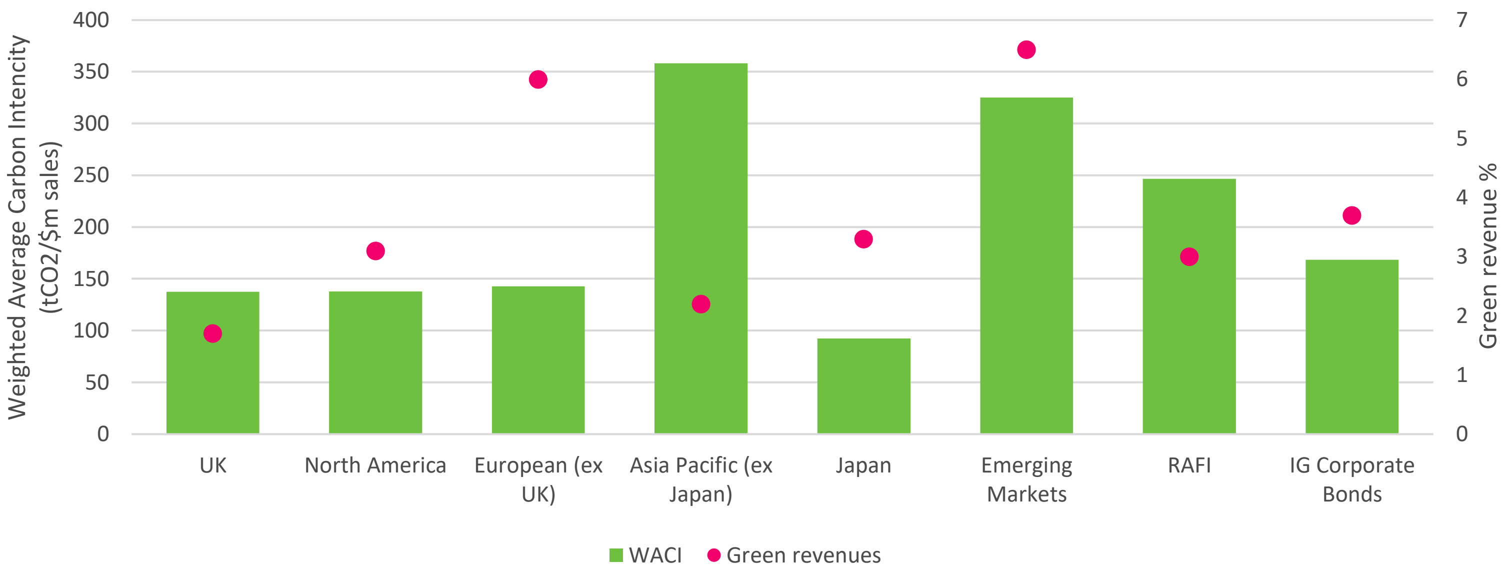
Please note that LGIM have not provided data on the All Stocks Index Linked Gilts fund, due to no guidance from PCAF or TCFD on how sovereigns and derivatives should be treated for carbon reporting.

Key Takeaways/ Actions

- We suggest that the Fund engages with LGIM with regard to some or all of these companies.

LGIM exposures

- As expected, the Asia Pacific (ex Japan) and Emerging Markets funds have the greatest WACI exposure. These regions tend to have more exposure to companies with a higher carbon footprint.
- The Emerging Markets and European (ex UK) funds have the highest proportion of assets with green revenue.
- We note that the LGIM RAFI fund, which invests based on a non-price weighted index strategy, has a higher WACI than most of the regional funds. This is due to the fund being heavily weighted towards value stocks, which tend to be in the oil/gas and utilities sectors.



Source: LGIM data, as at 31 March 2021. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue data.

Climate Risk Analysis

Both the UK Equity fund and the North America fund have a lower carbon impact and higher green revenues than comparable benchmarks.

Based on the top 5 emitters, we note that the UK fund has a number of stocks with contribute significantly more to emissions than their capital weight.

Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the underlying assets rather than a drift away from the benchmark.

UK Equity Fund

	Weighted Average Carbon Intensity (tCO2/$m revenue)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**137.5**	**84.8**	**1.7%**	**5.7%**
FTSE All-Share	138.9	n/a	1.6%	4.3%
Relative	**-1.4**	n/a	**+0.1%**	**+1.4%**

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/$m Sales)	Contribution to WACI	% of total Fund assets
Rio Tinto PLC	17.7	12.9%	2.8%
CRH PLC	16.6	12.1%	1.2%
Anglo American PLC	9.8	7.2%	1.6%
BHP Group PLC	7.6	5.5%	1.9%
SSE PLC	7.4	5.4%	0.7%

North American Equity Fund

	Weighted Average Carbon Intensity (tCO2/$m revenue)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**137.8**	**41.6**	**3.1%**	**2.5%**
FTSE North America	140.5	n/a	5.1%	12.5%
Relative	**-2.7**	n/a	**+2.0%**	**-10.0%**

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/$m Sales)	Contribution to WACI	% of total Fund assets
NextEra Energy Inc	10.5	7.6%	0.4%
Southern Co/The	7.4	5.4%	0.2%
Duke Energy Corp	6.6	4.8%	0.2%
American Electric Power Co Inc	5.7	4.1%	0.1%
Linde PLC	5.3	3.9%	0.4%

Source: LGIM data and graphs, as at 31 March 2021. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue data.
Fund benchmark for LGIM UK Equity Fund is FTSE All Share and LGIM North American Equity Fund is FTSE World North America.

Climate Risk Analysis

The European Equity fund has a lower carbon impact than a comparable benchmark. However, the Asia Pacific fund does not compare as favourably.

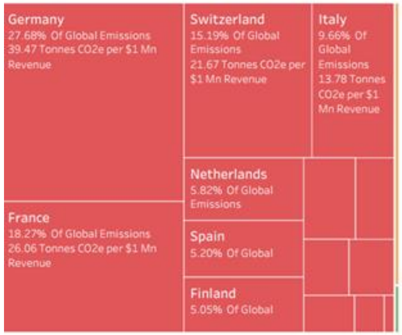
We note that the Asia Pacific fund's largest contributor to emissions actually contributes just under half of the fund's WACI.

Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the underlying assets rather than a drift away from the benchmark.

European (ex UK) Equity Fund

	Weighted Average Carbon Intensity (tCO2/$m revenue)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**142.6**	**97.9**	**6.0%**	**3.3%**
FTSE Europe (ex UK)	143.9	n/a	4.9%	10.4%
Relative	**-1.3**	n/a	**+1.1%**	**-7.1%**

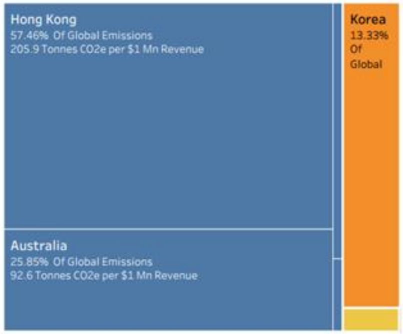
Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/$m Sales)	Contribution to WACI	% of total Fund assets
RWE AG	20.3	14.2%	0.3%
LafargeHolcim Ltd	15.8	11.1%	0.3%
Air Liquide SA	10.7	7.5%	0.9%
Enel SpA	8.0	5.6%	1.0%
ArcelorMittal SA	6.6	4.6%	0.3%



Asia Pac (ex Japan) Equity Fund

	Weighted Average Carbon Intensity (tCO2/$m revenue)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**358.3**	**99.7**	**2.2%**	**2.6%**
FTSE Asia Pacific ex Japan	206.3	n/a	4.6%	13.3%
Relative	**+152.0**	n/a	**-2.4%**	**-10.7%**

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/$m Sales)	Contribution to WACI	% of total Fund assets
Power Assets Holdings Ltd	156.3	43.6%	0.2%
CLP Holdings Ltd	22.3	6.2%	0.5%
CK Infrastructure Holdings Ltd	13.6	3.8%	0.1%
Woodside Petroleum Ltd	13.3	3.7%	0.5%
BHP Group Ltd	11.4	3.2%	3.1%



Source: LGIM data and graphs, as at 31 March 2021. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue data.
Fund benchmark for LGIM European (ex UK) Equity Fund is FTSE Developed Europe ex UK and LGIM Asia Pac (ex Japan) Equity Fund is FTSE Developed Asia Pacific ex Japan.

Both the European Equity fund and the Asia Pacific fund show a mixed performance against the carbon metrics, with a higher WACI but lower ties to fossil fuels.

Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the underlying assets rather than a drift away from the benchmark.

Japan Equity Fund

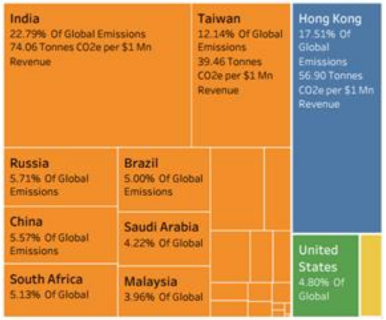
	Weighted Average Carbon Intensity (tCO2/$m revenue)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**92.4**	**77.0**	**3.3%**	**1.1%**
FTSE Japan	85.3	n/a	5.0%	7.9%
Relative	**+7.1**	n/a	**-1.7%**	**-6.8%**

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/$m Sales)	Contribution to WACI	% of total Fund assets
Shin-Etsu Chemical Co Ltd	6.7	7.2%	1.5%
Chubu Electric Power Co Inc	5.8	6.2%	0.2%
Nippon Steel Corp	5.4	5.8%	0.3%
Electric Power Development Co Ltd	4.1	4.5%	0.1%
JFE Holdings Inc	2.5	2.8%	0.1%

Emerging Markets Equity Fund

	Weighted Average Carbon Intensity (tCO2/$m revenue)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**325.0**	**177.9**	**6.5%**	**6.2%**
FTSE Emerging Markets	317.4	n/a	4.2%	11.1%
Relative	**+7.6**	n/a	**+2.3%**	**-4.9%**

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/$m Sales)	Contribution to WACI	% of total Fund assets
Taiwan Semiconductor Manufacturing Company	17.6	5.4%	6.9%
NTPC Ltd	13.4	4.1%	0.1%
UltraTech Cement Ltd	12.9	4.0%	0.2%
Anhui Conch Cement Co Ltd	9.5	2.9%	0.1%
Gazprom PJSC	7.3	2.2%	0.4%



Source: LGIM data and graphs, as at 31 March 2021. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue data.
Fund benchmark for LGIM Japan Equity Fund is FTSE Japan and LGIM Emerging Markets Equity Fund is FTSE Emerging.

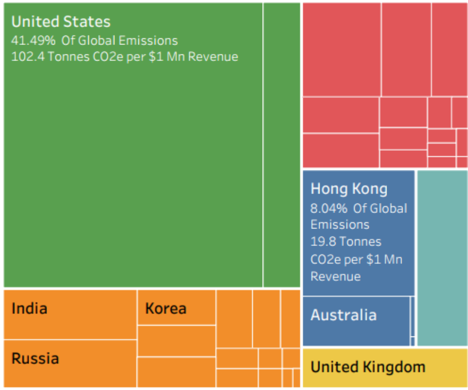
Climate Risk Analysis

Both the RAFI Equity fund and the Corporate bond fund show a mixed performance against the carbon metrics, with a higher WACI and lower ties to green revenues but lower proportion of ties to fossil fuels.

RAFI All World 3000 Equity Fund

	Weighted Average Carbon Intensity (tCO_2/$m Sales)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**246.7**	**147.5**	**3.0%**	**8.5%**
FTSE RAFI AW	237.4	n/a	3.4%	16.5%
Relative	**+9.3**	n/a	**-0.4%**	**-8.0%**

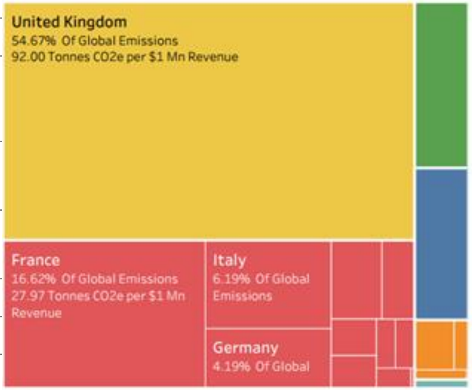
Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO_2/$m Sales)	Contribution to WACI	% of total Fund assets
Duke Energy Corp	6.0	2.4%	0.2%
Southern Co	5.6	2.3%	0.1%
Power Assets Holdings Ltd	5.1	2.1%	0.0%
Exxon Mobil Corp	4.8	1.9%	1.0%
RWE AG	4.5	1.8%	0.1%



Investment Grade Corporate Bond All Stocks Index

	Weighted Average Carbon Intensity (tCO_2/$m Sales)	Tonnes CO2e per $m Carbon Footprint (EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	**168.3**	**77.7**	**3.7%**	**3.2%**
Markit iBoxx Non-Gilts	115.8	n/a	5.1%	11.4%
Relative	**+52.5**	n/a	**-1.4%**	**-8.2%**

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO_2/$m Sales)	Contribution to WACI	% of total Fund assets
Western Power Distribution West Midlands PLC	11.2	6.7%	0.2%
Western Power Distribution East Midlands PLC	7.4	4.4%	0.1%
Engie SA	7.4	4.4%	0.5%
Central Networks East plc	5.6	3.3%	0.1%
Enel Finance International NV	5.1	3.0%	0.3%



Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the underlying assets rather than a drift away from the benchmark.

Source: LGIM data and graphs, as at 31 March 2021. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue data. Fund benchmark for LGIM RAFI All World 3000 Equity Fund is L&G FTSE RAFI Global Reduced Carbon Pathway 3.5, however the benchmark shown is L&G FTSE RAFI AW 3000 QSR, and for LGIM Investment Grade Corporate Bond All Stocks Index is Markit iBoxx GBP Non-Gilts Total Return

HYMANS ROBERTSON

Disclaimer

Scope and third party disclaimer

- This presentation is addressed to the Warwickshire Pension Fund. This presentation is for the sole purpose of helping the Trustees understand the Climate Risk metrics of the Warwickshire Pension Fund.
- This presentation is not intended for use for any other purpose.
- Hymans Robertson LLP does not accept any liability to any party other than the Committee, unless we have expressly accepted such liability in writing.

Risk Warnings

- Please note the value of investments, and income from them, may fall as well as rise. This includes equities, government or corporate bonds, and property, whether held directly or in a pooled or collective investment vehicle. Further, investments in developing or emerging markets may be more volatile and less marketable than in mature markets. Exchange rates may also affect the value of an overseas investment. As a result, an investor may not get back the amount originally invested. Past performance is not necessarily a guide to future performance.
- The paper may only be released or otherwise disclosed in a complete form, which fully discloses our advice and the basis on which it is given.

There are many different climate risk metrics used by managers.

The 4 rows highlighted in green show the metrics that we believe are TCFD compliant at the time of writing this paper. This may be subject to any changes in regulation or guidance.

Understanding Climate Risk Metrics

Metric	Description/ Methodology
Weighted Average Carbon Intensity	A measure of a portfolio's exposure to carbon-intense companies. This is expressed in terms of tons of CO2 equivalent emitted per million dollars of revenue, weighted by the size of the allocation to each company. Is measured using scope 1 + scope 2 emissions. Scope 1 emissions are those from sources owned or controlled by the company, typically direct combustion of fuel as in a furnace or vehicle. Scope 2 emissions are those caused by the generation of electricity purchased by the company.
Total Carbon Emissions	This represents the portfolios estimated Scope 1 + Scope 2 greenhouse gas emissions. This is expressed in terms of thousand tons of CO2 equivalent emitted by the companies invested in by the portfolio, weighted by the size of the allocation to each company.
Tonnes CO2e per $m Carbon Footprint (EVIC)	This shows the portfolio's carbon footprint. This is calculated by adding up the total carbon emissions and dividing by the portfolio's total EVIC (enterprise value including cash).
Green Revenues %	The weighted average % of revenue for portfolio companies derived from any of the six environmental impact themes including alternative energy, energy efficiency, green building, pollution prevention, sustainable water, or sustainable agriculture.
Low Carbon Transition Score	A company level score that measures a company's level of alignment to the Low Carbon Transition. Companies with higher Low Carbon Transition score are more aligned with the Low Carbon Transition compared to the companies with lower scores. (Score: 0-10)
Portfolio owning clean technology solutions	Companies involved in clean technology solutions earn more than 0% of their revenues in the following categories: Alternative Energy, Energy Efficiency, Green Building, Pollution Prevention, and Sustainable Water.
Portfolio With Ties to Fossil Fuels	The percentage of the portfolio invested in companies with an industry tie to fossil fuels (thermal coal, oil and gas), in particular reserve ownership, related revenues and power generation. It does not flag companies providing evidence of owning metallurgical coal reserves.

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Agenda Item 7

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