Title of Report	Carbon Risk Audit 2022 – Full Results & Presentation (TruCost)
For Consideration By	Pensions Committee
Meeting Date	15th June 2022
Classification	Open & Exempt Appendix
Ward(s) Affected	All
Group Director	Ian Williams, Group Director Finance & Corporate Resources

1. Introduction

1.1 This report presents the results of a carbon risk audit carried out on the Fund's equity portfolio to measure the Fund's carbon footprint and exposure to future CO_2 emissions, and to assess progress made against the Fund's target to reduce exposure to future CO_2 emissions by 50% by 2022.

1.2 The results show that the Fund has reduced its exposure to carbon reserves by 96.9% between July 2016 and November 2021. This demonstrates significant outperformance of the Fund's original target to reduce exposure by 50% by 2022.

1.3 We are proud to have responded to this issue early and to have been one of the first LGPS funds to set and transparently monitor performance against a carbon reduction target. The target has helped highlight the areas of greatest risk within the Fund's investment strategy and helped the Fund integrate carbon risk into the strategy setting process. The changes made have delivered very significant reductions in risk.

1.4 The audit was carried out by S&P Global Trucost, a specialist provider of data on climate change, natural resource constraints, and broader environmental, social, and governance (ESG) factors. Trucost will be attending the Committee meeting to present the results of the exercise.

2. Recommendations

2.1 The Pensions Committee is recommended to:

- Note the reduction in exposure to future CO_2 emissions by 96.9% since 2016, which significantly outperforms the Fund's target of a 50% reduction.

3. Related Decisions

- Pensions Committee - 10th March 2022 - Carbon Risk Audit - 2022 Results
- Pensions Committee - 17th February 2020 - Carbon Risk Audit
- Pensions Committee - 19th September 2016 - Update on climate change recommendations and presentation of carbon footprinting results.
- Pensions Committee - 28th January 2016 - Future Workstreams - Climate Change

4. Comments of the Group Director of Finance and Corporate Resources

4.1 The Pensions Committee acts as Scheme Manager for the Pension Fund and is therefore responsible for the management of £1.8 billion worth of assets and for ensuring the effective and efficient running of the Pension Fund. The investment returns that the Fund is able to deliver have significant financial implications, not just for the Fund itself but also on the Fund's employers in terms of the level of contributions they are required to make to meet the Fund's pension promises, which are underwritten by statute.

4.2 The Fund recognises that investment in fossil fuels and the associated exposure to potential stranded assets scenarios pose material financial risks. These risks apply not only to the Fund's investment portfolio but also, when considered on a wider scale, to long term global economic growth.

4.3 In recognising the risks that climate change and stranded assets scenarios could pose to the Fund, the Committee needs to understand where these risks might apply and how they can best be mitigated within the investment management framework within which LGPS funds operate. This report provides the Committee with a greater understanding of where climate risks are concentrated within its investment portfolio, which can then be used to help mitigate those risks within its investment strategy.

4.4 The Group Director is very pleased to report the reduction in exposure to future CO_2 emissions by 96.9% since 2016, which indicates that the Fund has significantly outperformed its target of a 50% reduction by 2022. The reduction is fully compatible with the Fund 's wider investment strategy and has been achieved with no negative impact on performance; the Fund's performance has improved relative to its peer group (other local authority pension funds) over the 6 year period since the introduction of the target.

5. Comments of the Director of Legal, Democratic and Electoral Services

5.1 The Pensions Committee has delegated authority for managing all aspects of the Pension Fund including the following from the Committee's Terms of Reference:

- To formulate and publish an Investment Strategy Statement
- To set the overall strategic objectives for the Pension Fund, having taken appropriate expert advice, and develop a medium term plan to deliver the objectives.
- To determine the strategic asset allocation policy

5.2 Regulation 7 of the Local Government Pension Scheme (Management and Investment of Funds) Regulations 2016 requires the Administering Authority to formulate an Investment Strategy Statement (ISS) in line with guidance published by the Secretary of State. The guidance requires the Fund to include a section on its approach to Environmental, Social and Governance (ESG) factors within its ISS.

5.3 In 2014, the Law Commission produced guidance on the fiduciary duties of investment intermediaries, which indicated that investors should have regard to ESG factors where they are financially material. In its guidance to occupational schemes, the Pensions Regulator has given a clear indicator that it believes this to be the case for climate change.

5.4 This report helps to demonstrate that the Committee is factoring climate risk into its investment strategy setting process as a material financial risk and will make clear disclosures with regards to its approach in the ISS as required by the LGPS (Management and Investment of Funds) Regulations 2016.

6. Background to the report

6.1 In January 2016, the Fund held its initial strategy meeting to consider in detail the Fund's approach to investment in fossil fuels and management of the financial risks posed by climate change. At that meeting, the Committee considered and approved a set of recommendations reflecting both its recognition of these risks and a strengthened commitment to factor them into its investment approach. The recommendations were as follows:

- Develop a policy statement regarding the London Borough of Hackney's approach to fossil fuel investment with a view to inclusion as a section within the new Investment Strategy Statement (ISS)
- Agree to monitor carbon risk within the London Borough of Hackney Pension Fund and to appoint a specialist contractor to conduct a carbon footprint of the Fund
- Review options for the Pension Fund's passive UK equity mandate
- Continue engagement activities with the Fund's investment managers on their approach to fossil fuel and to promote consideration of climate change issues with managers when making investment decisions.
- Maintain an active approach to climate change issues with investee companies and look for further opportunities to work with others on issues of ESG importance

- Consider options for an initial active investment of approximately 5% of the Fund in a sustainability/low carbon or clean energy fund(s)
- Review options for switching some of the existing property mandate into a low carbon property fund
- In recognition of the financial risks posed by climate change, resolve to amend the Fund's risk register to reflect this as a risk

6.2 The Fund has now completed work on all of the above recommendations. Since 2016, the Fund has:

- Included a carbon reduction policy statement within the ISS, clearly setting out the carbon reduction target
- Commissioned 3 carbon footprint reports (2016, 2019 and 2022) - these have been used to set and monitor the Fund's carbon reduction target
- Reviewed exposure to UK passive equities (one of the Fund's most significant sources of exposure to reserves) and removed this allocation from the Fund's investment strategy
- Changed the Fund's active equity managers, ensuring that the new managers consider carbon risk as an integral part of decision making. The Fund continues to engage with both its active and passive equity managers
- Stepped up involvement with the work of the Local Authority Pension Fund Forum (LAPFF), which engages collectively on behalf of local authority pension funds. Cllr Chapman, Chair of the Pensions Committee, is now a member of the LAPFF executive and attends engagement meetings on behalf of the group
- Invested 35% of the Fund in sustainable/low carbon equity funds, far above the initial commitment of 5%
- Switched £25m of the Fund's property mandate into Threadneedle's Low Carbon Workplace Fund, which is a partnership between Columbia Threadneedle Investments, the Carbon Trust and property developer Stanhope. Through the fund, the partnership acquires commercial office buildings and refurbishes them, turning them into energy efficient workplaces. Once occupied, the buildings' energy and carbon performance are monitored against standards set by the Carbon Trust, who also provide support to occupiers to help reduce their energy usage
- Amended the Fund's risk register to include carbon risk/stranded assets within the Fund's Environmental, Social and Governance risks

6.3 We are very pleased by the progress made on implementing these recommendations. The Fund has gone significantly beyond the original recommendation in many cases, perhaps most notably in the case of the carbon footprinting recommendation and investment in sustainable and low carbon equity funds.

7. **Carbon Risk Audit & Target Setting**

7.1 The Fund undertook its first carbon risk audit in summer 2016, following the recommendation made at the January 2016 meeting to commission a carbon footprint report for the Fund. Carried out by Trucost, the audit assessed not only the carbon footprint of the Fund's equity portfolio, but also its exposure to future emissions through fossil fuel reserves.

7.2 The Fund's view was that exposure to future emissions most accurately represented the risk to the Fund from investing in fossil fuel companies. Assessing exposure to emissions from reserves in this way helped the Fund to take a view on its exposure to potentially stranded assets that may prove unusable as a result of the transition to a low carbon economy.

7.3 After careful consideration of how carbon risk could best be reduced within the investment management framework in which LGPS funds operate, and after taking proper advice, the Committee considered it appropriate to propose a quantifiable, time-bound target for a reduction in the Fund's exposure to future fossil fuel emissions. The Committee agreed that the Fund should:

- Reduce its relative exposure to future emissions from fossil fuel reserves (measured in $MtCO_2e$ – million tonnes of CO_2 emissions) by 50% over 2 valuation cycles (6 years)
- Measure the reduction relative to the Fund's position as at July 2016 and adjusted for Assets Under Management (£AUM)

7.4 The proposal represented an initial step in ensuring that the Fund is prepared for transition to a low carbon economy. It clearly set out the timeframe for decarbonisation and defined how it should be measured, making it the most ambitious carbon reduction target amongst the London LGPS funds.

7.5 As the target was to be assessed over 2 valuation cycles, the Committee had an interim audit carried out at the 3 year point to review progress against the target and assist with decision making for the 2020 investment strategy. The interim audit showed that the Fund had reduced its exposure to carbon reserves by 31.4% between July 2016 and November 2019. This placed the Fund well over halfway to its target of 50%, and also highlighted some clear areas for improvement.

7.6 The Fund made a number of investment strategy changes during 2021, with relatively few changes to the equity mandates planned for 2022. The decision was therefore made to bring forward the final assessment date for the target to 30th November 2021. This report presents the detailed results of that final assessment, setting out the Fund's outperformance against its 50% target.

8. **Summary of performance against target**

8.1 The audit shows that the Fund has reduced its exposure to carbon reserves by 96.9% between July 2016 and November 2021.

8.2 Trucost has analysed the carbon emissions embedded within the fossil fuel reserves that are disclosed by the underlying companies within the Fund's equity portfolio. The emissions measured are the carbon emissions embedded within company owned fossil fuel reserves which can be considered 'unburnable' if the Paris Agreement targets are to be achieved. The Committee has used this metric to set its target as it gives an indication of the extent to which the Fund is exposed to assets (i.e. coal, oil and gas reserves) that may be at risk of stranding.

8.3 The results shown here are normalised by asset value; the future emissions measured for each portfolio (2016 and 2022) have been divided by the value of holdings for that portfolio. This gives a figure for emissions intensity. The figures for 2016 have been restated from previous assessments to allow for changes in Trucost's methodology since 2016. The range of carbon data available and the tools for analysing it have developed significantly since 2016, and Trucost now use a different method of apportioning emissions to companies, that takes account of bondholders as well as equity owners. It has therefore been necessary to restate the figures from 2016 to ensure a comparable dataset.

8.4 The Fund's equity portfolio as at 31st August 2016 (as used in the initial assessment) had an emissions intensity of 5,497.25 tCO_2e/mGBP (tonnes of future CO_2 emissions divided by value of holdings (£million)), whilst the equity portfolio as at 30th November 2022 has an emissions intensity of 174.51 tCO_2e/mGBP. This represents a reduction of 96.9% since 2016, well in excess of the Fund's original target.

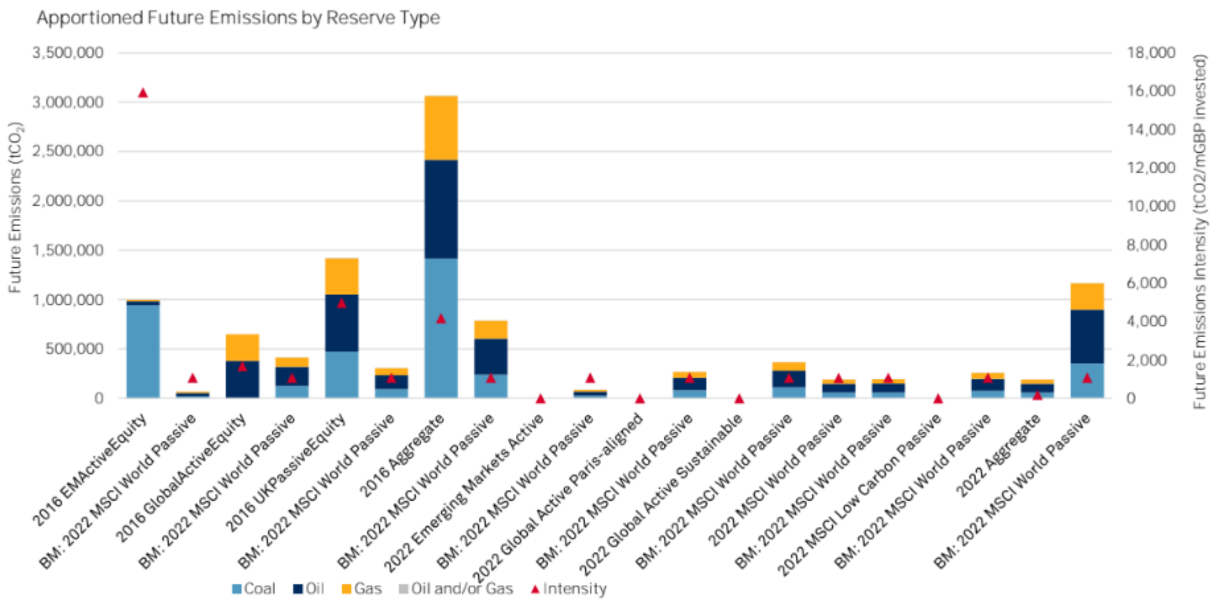
8.5 We are extremely pleased with this result and are proud to have been one of the first LGPS funds to set and transparently monitor performance against a carbon reduction target. Setting a clear target has helped highlight the areas of greatest risk within the Fund's investment strategy and helped the Fund integrate carbon risk into the strategy setting process; the changes made have delivered very significant reductions in carbon risk exposure.

8.6 It should be remembered that carbon risk data is complex and has certain inherent limitations. One key issue is that of disclosure - the usefulness of any metric will depend on the reliability of the data submitted at the company level. The Fund's approach has been to use this carbon risk audit as a guide to where the most significant risks are concentrated and to use this to inform decision-making around strategy setting and risk management. The metrics disclosed are also used to inform the Fund's engagement with its managers and investee companies, as well as potentially assisting us in improving climate-related disclosures.

9. <u>Reduction in exposure to Reserves- Breakdown by Mandate</u>

9.1 As well as measuring the exposure across the aggregate equity portfolios for both 2016 and 2019, the audit assessed exposure to future emissions for each of the Fund's underlying equity mandates. The exposure to reserves from coal, oil and gas was measured for each mandate for both 2016 and 2022, and compared to the exposure for a portfolio of the same value tracking the MSCI World. The benchmark should not be considered as representing the Fund's overall equity investment strategy; rather it provides a useful way of comparing exposure across portfolios of different sizes.

9.2 The chart below sets out the exposure for each of the Fund's equity mandates for both 2016 and 2022, measured using current data. As set out above, each mandate is benchmarked against the MSCI World to indicate the intensity of its exposure. For each mandate, the benchmark exposure represents the level of exposure that would be expected for a portfolio of the same size tracking the MSCI World. A larger version of the chart can be found in Appendix 1 to this report.



9.3 the 96.9% reduction in exposure has been achieved. The key drivers have been disinvesting from the UK passive equity mandate, moving to active and passive global equity mandates with very low exposure to fossil fuel reserves, and changing the emerging markets equity mandate by moving to a pooled option through the London CIV.

9.4 All of the Fund's equity mandates now have reserves exposures at or below the benchmark, compared to none in 2016. In 2016, 25% of total Fund assets were held in a UK Passive Equity mandate, tracking the FTSE Allshare. This mandate represented the Fund's significant exposure to fossil fuel reserves in absolute terms (approx. 1.4m tCO_2), largely driven by the presence in the FTSE Allshare index of several large diversified miners as well as a substantial oil and gas sector. Disinvesting from this mandate therefore significantly reduced the Fund's exposure to reserves.

9.5 Another significant driver of the Fund's exposure to fossil fuel reserves in 2016 was the emerging markets active equity mandate. Although much smaller than the UK passive mandate (approx. 5% of total Fund assets), this mandate had an extremely high emissions intensity of nearly 16,000 tCO_2e/mGBP. This was driven largely by exposure to a single company, a coal miner. Coal has a greater emissions intensity than either oil or gas; for a certain monetary value, investment in coal will result in a greater exposure to future emissions.

9.6 Whilst the Fund maintains exposure to emerging market equities, it has changed the Fund in which it invests as a result of moving this allocation to the London CIV. The current EM equities fund reports no exposure to fossil fuel reserves, therefore reducing the emissions intensity of the Fund's overall equity portfolio.

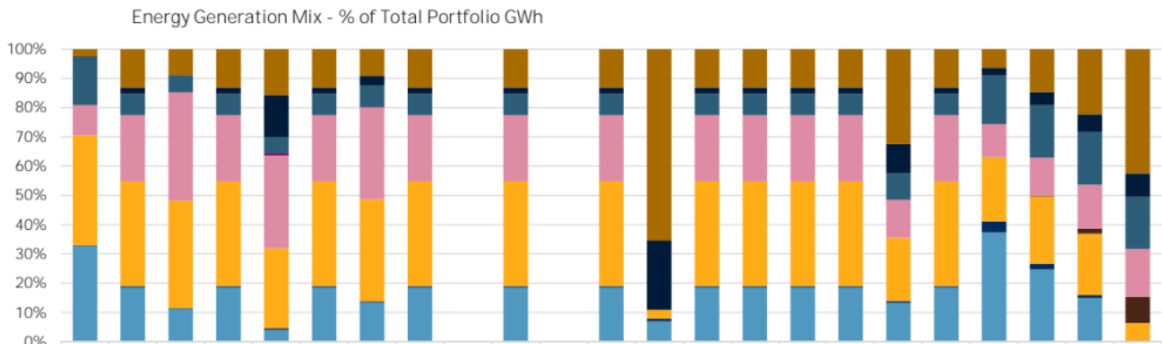
9.7 The Fund's global equity exposure is now split between 2 passive and 2 active mandates, all of which have emission intensities equal to or lower than the MSCI World benchmark. 3 of the mandates (MSCI Low Carbon Passive, Global Active Sustainable and Global Active Paris-aligned) report no exposure to apportioned future emissions from fossil fuel reserves.

10. <u>Alignment with Paris Agreement goals</u>

10.1 Another key metric for the Committee to consider is alignment with the goals of the Paris Agreement, which sets out a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C.

10.2 Historically, investment portfolios have been measured against traditional financial benchmarks which reflect the economy today rather than the low carbon economy needed for the future. This over-represents traditional fossil fuel energy sectors and under-represents greener energy providers. To help overcome this issue, Trucost has compared the current energy mix of the Fund's portfolio to a two degree warming scenario to illustrate how to work toward an energy transition goal. This allows the Fund to assess its transition impact and consider how it can make a positive contribution to a lower carbon economy.

10.3 The chart below shows the percentage share in the overall energy mix of each unit of energy apportioned to the Fund's 2016 and 2022 portfolios and MSCI World benchmark, by type. These are then compared to the IEA's '2 degree aligned' energy mix scenarios for the world in 2016, 2025, 2030 and 2050 respectively. A larger version of this chart can be found in Appendix 1 to this report.



	2016 EMActive Equity	BM: 2022 MSCI World Passive	2016 GlobalActiveEquity	BM: 2022 MSCI World Passive	2016 UKPassiveEquity	BM: 2022 MSCI World Passive	2016 Aggregate	BM: 2022 MSCI World Passive	2022 Emerging Markets Active	BM: 2022 MSCI World Passive	2022 Global Active Paris-aligned	BM: 2022 MSCI World Passive	2022 Global Active Sustainable	BM: 2022 MSCI World Passive	2022 MSCI World Passive	BM: 2022 MSCI World Passive	BM: 2022 MSCI World Passive	2022 Aggregate	BM: 2022 MSCI World Passive	IEA (World) 2016 2 Degree Scenario *	IEA (World) 2025 2 Degree Scenario *	IEA (World) 2030 2 Degree Scenario *	IEA (World) 2050 2 Degree Scenario *
Other Renewables	2.49%	13.10%	8.82%	13.10%	15.79%	13.10%	9.18%	13.10%	0.00%	13.10%	0.00%	13.10%	65.39%	13.10%	13.10%	13.10%	13.10%	32.31%	13.10%	6%	15%	22%	43%
Biomass	0.30%	2.20%	0.16%	2.20%	14.18%	2.20%	3.09%	2.20%	0.00%	2.20%	0.00%	2.20%	23.73%	2.20%	2.20%	2.20%	2.20%	10.14%	2.20%	3%	5%	6%	8%
Hydroelectric	16.35%	7.24%	5.73%	7.24%	5.64%	7.24%	7.53%	7.24%	0.00%	7.24%	0.00%	7.24%	0.00%	7.24%	7.24%	7.24%	7.24%	8.99%	7.24%	17%	18%	18%	18%
Other sources	0.07%	0.08%	0.01%	0.08%	0.67%	0.08%	0.16%	0.08%	0.00%	0.08%	0.00%	0.08%	0.00%	0.08%	0.08%	0.08%	0.08%	0.06%	0.08%	0%	0%	0%	0%
Nuclear	10.26%	22.58%	37.10%	22.58%	31.71%	22.58%	31.39%	22.58%	0.00%	22.58%	0.00%	22.58%	0.00%	22.58%	22.58%	22.58%	22.58%	12.94%	22.58%	11%	13%	15%	16%
Fossil energy with CCS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0%	0%	2%	9%
Natural Gas	37.60%	35.81%	36.66%	35.81%	27.43%	35.81%	34.91%	35.81%	0.00%	35.81%	0.00%	35.81%	2.97%	35.81%	35.81%	35.81%	35.81%	21.67%	35.81%	22%	23%	21%	6%
Petroleum	0.22%	0.48%	0.38%	0.48%	0.54%	0.48%	0.38%	0.48%	0.00%	0.48%	0.00%	0.48%	0.99%	0.48%	0.48%	0.48%	0.48%	0.64%	0.48%	4%	2%	1%	0%
Coal	32.71%	18.51%	11.14%	18.51%	4.03%	18.51%	13.36%	18.51%	0.00%	18.51%	0.00%	18.51%	6.92%	18.51%	18.51%	18.51%	18.51%	13.24%	18.51%	37%	25%	15%	0%

* The content within the table above was prepared by S&P Trucost Limited, with data derived from the 2 Degree Scenarios devel oped by the International Energy Agency. ©OECD IEA 2017. The content within the table above does not necessarily reflect the views of the International Energy Agency.

10.4 It is worth noting that the portfolio and benchmark generation mixes are based only on disclosed energy production data. Companies operating in the energy sector but not disclosing units of energy produced are not included in the grid mix presented here. For example, the Fund's Emerging Markets Active and Global Active Paris-Aligned portfolios do not have exposure to any companies disclosing figures for energy generation and therefore have no results included within this analysis.

10.5 The 2022 Aggregate portfolio is reasonably well aligned with the 2ºC scenario for 2030 in terms of fossil fuel exposure within its energy mix (35.55% vs 39%). However, to align with the 2025 scenario, it would need to increase its exposure to renewable energy within the energy generation mix from 51.44% to 69%. This cannot be done through reduction in exposure to fossil fuel companies alone; as this analysis focuses on the percentage energy mix, the Fund would need to make positive decisions around renewable energy generation and green revenues to improve its alignment.

10.6 This analysis focuses on a 2ºC warming scenario, using data derived from the International Energy Agency's (IEA) World Energy Outlook (WEO) scenarios. The WEO is used by businesses, investors and governments as the global benchmark for modelling the energy industry. The 2 degree warming scenario used here is an earlier iteration of the IEA's Sustainable Development Scenario (SDS) intended to meet the targets of the Paris Agreement.

10.7 The Fund is very conscious of the IPCCs Special Report on Global Warming of 1.5°C, and that the IEA has since updated the SDS and published a new Net Zero Emissions by 2050 Scenario. This charts a narrow but achievable roadmap to a 1.5 °C stabilisation in global temperatures and the achievement of other energy-related sustainable development goals.

10.8 One of the Fund's key next steps is to consider how best to include alignment with newer 1.5 degree scenarios in its analysis as well as moving towards a broader assessment of investee companies' Paris-alignment. This will require looking beyond the energy generation mix to consider the carbon intensity reductions required across different sectors.

10.9 The Fund is now beginning a new programme of work to implement a range of metrics in line with the recommendations from the Task Force on Climate-Related Financial Disclosures (TCFD). This work will help support the Fund's ambition to achieve net zero emissions by 2040, by providing information to allow the Fund to set robust interim targets against which to measure progress. More information can be found in Agenda Item 5 (Responsible Investment - Next Steps), which sets out details of the Fund's new programme of work.

11. **Other Metrics**

11.1 Sections 8-10 set out the key metrics for the Fund in terms of carbon risk exposure and alignment with the Paris Agreement goals. However, Trucost's audit also assessed a number of other metrics, which are set out in more detail in the Key Findings Report at Appendix 1. They will also covered in more detail during

Trucost's presentation. These metrics include:

- Carbon footprinting metrics
    - Carbon footprint by scope (Measures carbon emissions and classifies into Scopes 1,2&3)
    - Carbon intensity by method (Compares portfolios by normalising the carbon footprint by revenues or by value invested)
    - Sector VOH (value of Holdings) share vs carbon share (w compares each sector's value-based weight in a portfolio or benchmark to its share of the total apportioned carbon emissions)
    - Sector carbon intensities (shows the carbon to revenue intensities of the portfolio at the sector level)
    - Top contributors (shows the top contributors to the carbon intensity of the portfolios analysed)
    - Attribution analysis (shows the relative contribution of sector allocation and company selection decisions)
- Carbon disclosure metrics
    - Disclosure analysis (assesses the overall level of disclosure in each portfolio)
    - Top modelled contributors (shows the top contributors to each portfolio's Carbon/Revenue intensity whose Scope 1 CO2e is classified as modelled)
- Stranded assets and energy transition metrics
    - Financial Exposure to Fossil Fuel Activities (assesses exposure to fossil fuel assets by showing the combined weight of holdings with business activities in either fossil fuel extraction or fossil fuel energy generation industries)
    - Fossil Fuel Activities Breakdown by Sector (breaks down the 'extractives and energy revenue exposure into specific industry exposures)
    - Top Contributors to Fossil Fuel Revenues (shows the top 10 contributors to the portfolio's weighted average fossil fuel revenues exposure)
    - Top Contributors to Coal Revenues (shows the top 10 contributors to the portfolio's weighted average coal revenues exposure)
    - Emissions from Reserves - **See Sections 8 & 9**
    - CAPEX (shows the total apportioned capital expenditure on fossil fuel related activites split by reserve type)
    - Top Contributors to Future Emissions from Reserves (shows the top contributors to the portfolio's apportioned emissions from reserves)
    - Energy Mix - **See Section 10**
    - Financial Exposure to Energy Revenues (assesses exposure to energy 'aggravators' (fossil fuels) and 'mitigators' (renewables) based on sources of revenue).

Appendices

Appendix 1 (EXEMPT) - Trucost Multi-portfolio Report

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