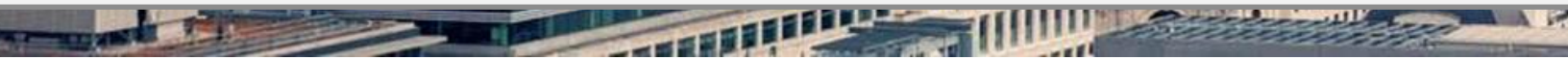
TCFD Report 2021

London CIV



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Foreword

London CIV are committed to protecting the interests of our clients and members by acknowledging that climate-related risks and broader environmental, social and governance ("ESG") factors are a source of financial risk and thus part of our fiduciary duty. We believe that responsible investment is not just a moral imperative but an economic necessity. London CIV's vision is to be a best-in-class asset pool that delivers value for Londoners through responsible investment strategies. In collaboration with all our stakeholders we are building better futures by investing for a world worth living in.

Climate change presents an immediate systemic risk to the ecological, societal, and financial stability of every economy, country, asset type and sector on the planet. It will have significant physical and economic impacts on most aspects of human activity and consequently multiple implications for our clients and their beneficiaries. Which is why addressing climate change remains a key concern for our clients, 28 of whom have declared a climate emergency[1]. Climate change risk management is therefore an important part of our fiduciary duty and a strategic investment priority for London CIV. As such, we aim to make long-term sustainable investments supported by data-led and transparent processes.

London CIV have been a signatory to the Task Force on Climate Related Financial Disclosures ("TCFD") since June 2020 and have committed to reporting annually in line with its recommendations. While this is currently on a voluntary basis, the United Kingdom has announced its intention to make TCFD-aligned disclosures mandatory across the economy by 2025. London CIV strongly supports this decision and believes that allowing industry to price climate-related risks and policy makers to address market failures will serve our clients' best interests. By aligning with the TCFD recommendations financial institutions can demonstrate that they are taking action towards building a more resilient financial system through climate-related disclosures.

Assessing the potential financial impact of climate-related risks and opportunities on an investment portfolio is an essential part of the TCFD framework. London CIV conducted this exercise in 2020, focusing on a range of climate impact and risk metrics. The full results of this assessment can be found in the **Climate Change-Related Risks and Opportunities Metrics Report.** However, we do not view TCFD reporting as an endpoint. Rather, we consider the adoption of effective climate risk management, comprehensive governance processes and techniques such as scenario analysis to be as integral to the implementation of the TCFD recommendations as the disclosures themselves. This report therefore serves as a useful framework to describe our journey towards improving the resilience of our funds to climate-related risks. We will continue to prioritise climate change issues at London CIV and aim for improved disclosure in the next reporting year.

1. As of the 1st of April 2021.

The Task Force on Climate-Related Financial Disclosures

The Task Force on Climate-Related Financial Disclosures was established in 2015 by the Financial Stability Board ("FSB") at the request of the G20 to review how the reporting on climate-related issues in financial reporting could be improved. In June 2017, the TCFD published its final recommendations providing a framework for financial institutions and non-financial organisations alike to reflect and report on their climate-related risks and opportunities. As of October 2020, more than 1,500 organisations globally have become signatories to the TCFD, including over 1,340 companies with a market capitalisation of US$12.6 trillion and financial institutions responsible for assets of US$150 trillion.

The TCFD recommendations provide a framework organised around four themes, governance, strategy, risk management, and metrics and targets. (Figure 1). The following report has been structured to provide disclosures across each of these topics and is supplemented by the **London CIV Climate Change-Related Risks and Opportunities Metrics Report**.

Figure 1: Core Elements of Recommended Climate-Related Financial Disclosures

Governance
The organization's governance around climate-related risks and opportunities

Strategy
The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management
The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets
The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Climate-Related Risks

The effects of climate change pose considerable and far-reaching risks to the global economy. As highlighted in the 2017 guidelines of the TCFD, these can be divided into two major categories (1) risks related to the transition to a lower-carbon economy and (2) risks related to the physical impacts of climate change.

Physical risks associated with climate change can either be event driven (acute) or result from longer-term shifts (chronic) in climate patterns. While company exposure to acute and chronic physical impacts varies greatly depending on geographical asset positioning and relative degree of vulnerability, both may result in financial losses such as damage to assets, interruption of operations and disruption to supply chains.

Businesses also face risks associated with the transition to a low-carbon economy, including policy changes designed to discourage carbon-intensive activities, technological changes, shifts in consumer demand, investor sentiment, and disruptive business model innovation. For instance, measures to increase the costs of carbon emitting activities are transforming the underlying economics to favour lower carbon technologies and products across all sectors. Depending on the nature, speed, and focus of these regulatory changes, transition risks may produce varying levels of financial exposure for organisations. Conversely, inaction will result in the exacerbation of climate change along with the physical risks to assets, operations, and supply chains.

The interplay between transition and physical risks clearly highlights the importance for trustees to adopt climate scenario analysis models within risk management practices. Given the long timeframe during which climate risks could materialise, scenario analysis can help inform projected fund performance into the short, medium, and long-term of various scenarios of warming or climate transition. In turn, these results can help to build climate-resilient strategies and ensure defined members' benefits are delivered over these timescales.

GOVERNANCE

The TCFD's recommendations highlight the importance of good governance structures to ensure effective oversight of climate-related risks and opportunities.

A. Describe the Board's oversight of climate-related risks and opportunities.

The London CIV Board approves and is collectively accountable for London CIV's **Climate Change Policy**, **Responsible Investment Policy** and **Stewardship Policy**. The Investment Oversight Committee ("IOC") oversees the implementation of London CIV's investment strategy and the Compliance Audit and Risk Committee ("CARCO") oversee London CIV's climate change risk mitigation strategy. The Shareholder Committee report back to the Board and its IOC and CARCO on a quarterly basis.

The Board also executes responsibilities for climate-related oversight via review of key climate related disclosures such as TCFD reporting and approval of emissions reduction targets. It delegates the implementation of London CIV's **Climate Change Policy** and other responsible investment activities to the Executive Directors responsible for administering the strategy.

Informal pool member engagement groups also such as the Responsible Investment Reference Group ("RIRG") also support climate-related risk oversight. The RIRG includes representatives from client funds, London CIV, and an appointed ESG Champion from the Board. The group meets monthly to discuss a number of ESG issues with a specific focus on climate change risk.

B. Describe management's role in assessing and managing climate-related risks and opportunities.

The Executive Team, led by the Chief Executive Officer ("CEO"), is responsible for the day-to-day management of London CIV, including delivery and development of London CIV's climate change strategy. The Chief Investment Officer ("CIO") is responsible for managing the integration of climate change into the portfolio construction, implementation and overall investment decision making.

Operational accountability is led by the Head of Responsible Investment ("HRI") who reports to the CIO. The integration and mitigation of climate change risk is explicit in the roles of all members of the investment team. The team monitors climate performance across key exposure and impact metrics and meets with fund managers on a quarterly basis to monitor compliance with London CIV's **Climate Policy** and **Stewardship Policy**. These efforts are further supported by specialist service providers.

STRATEGY

The TCFD's recommendations call on asset owners to describe how climate-related risks and opportunities are factored into investment strategies.

A. Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

The TCFD categorises the financial risks posed by climate change as transition and physical risks. Risks and opportunities identified using the TCFD framework are listed in Table 1.

Table 1: Climate-related risks and opportunities

Category	Type
Transition Risks	Policy/Legal Developments
	Technology Transition and Innovation
	Market Adjustments
	Reputational Risks
Physical Risks	Water Stress
	Floods
	Heatwaves
	Coldwaves
	Hurricanes
	Wildfires
	Sea Level Rise
Opportunities	Resource Efficiency Improvements
	Renewables and Clean-tech Exposure
	Substitution to Low-carbon Products/Services
	Market Access and Incentives
	Resilience to Climate-Related Physical Impacts

Our exposure to this set of climate risks and opportunities has been assessed across multiple scenarios and time horizons (short, medium, and long-term). The assessment has highlighted the importance of in-depth asset and company-level risk analysis as most holdings do not conform to clear patterns of exposure. Although physical risk can be determined by the geographic location of company operations, and industries with high carbon emissions are generally more vulnerable to climate-related regulatory developments, this level of analysis is not sufficient alone to inform risk management strategies.

Climate change risk presents a complex interplay between company-specific characteristics, as well as transition and physical risks under a range of different climate change scenarios. Strong action to reduce emissions and limit climate change may avoid the worst physical impacts of climate change but presents significant market, technology, and regulatory transition risks for market participants. Conversely, failure to adequately reduce greenhouse gas emissions may limit transition risks but will

result in increasing climate change and associated physical risks. London CIV will continue to review potential risks and will work to measure their impact on future company valuations.

B. Describe the impact of climate-related risks and opportunities on the organisation's business, strategy, and financial planning.

London CIV has developed a three-step strategy to mitigate the risks associated with climate change. It is structured as follows:

1. **Integration**: Embedding responsible investment into investment decision and design
2. **Engagement**: Collaboration with companies, managers, peers and participants
3. **Disclosure**: Transparent reporting in line with best practice

Climate change issues are dynamically integrated within each of these stages and are underpinned by a set of governance principles to ensure accountability and strategic responsibilities are clearly defined within the organisation. The London CIV **Climate Policy** details how we manage climate-related risks throughout the investment process and sets objectives to ensure these can be monitored and measured over time.

Recognising the range of climate impacts across different funds, our overall investment portfolio must be resilient under a range of climate scenarios that support both mitigation and adaptation. London CIV also understands the challenges associated with managing climate-risks within multi-asset funds. This will depend in large part on the availability of "sustainable options" across different asset classes. For instance, alternative asset classes (Real Assets, Commodities, Derivatives) are often regarded as more difficult to manage from an ESG perspective. London CIV understands the importance of displaying a strategic asset allocation that minimises short-term risks through diversification. So rather than excluding asset classes which are "problematic" in terms of ESG integration, London CIV has committed to work closely with its fund managers by reviewing leading Responsible Investment ("RI") practices and improving processes on a best-efforts basis.

Although climate stewardship is an essential part of our manager selection process, London CIV does not currently stipulate specific investment strategies or minimum levels of climate ambition. This is left at the full discretion of investment managers, which enables them to tender with optimal strategies, contingent upon the nature and requirements of fund mandates as defined by London CIV.

London CIV's strategy is also underpinned by the understanding that investee companies with robust governance structures are better positioned to handle the effects of shocks and stresses of future events. There is risk but also opportunity in holding companies with exposure to climate-related risks and weak governance. Thus, we adopt a policy of risk monitoring and active engagement to positively influence company behaviour and enhance stakeholder value, influence that would be lost through a divestment approach. We extend the principle of 'engagement for positive change' to the due

diligence, appointment and monitoring of external investment managers who are at an early stage of developing their RI approach. London CIV believes that it will improve its effectiveness by acting collectively with other like-minded investors because it increases the likelihood that it will be heard by the company, fund manager or other relevant stakeholder compared with acting alone. This extends to other Local Government Pension Scheme ("LGPS") pools and other public and private investors.

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

The TCFD's final report highlighted that the most significant effects from climate change are likely to emerge over the medium to long term. However, the precise timing and magnitude these impacts may have on company financial performance is highly uncertain.

In an effort to gain insight into the potential resilience of our investment strategies to climate change, we commissioned Trucost part of S&P Global to conduct a climate risk scenario analysis across all Listed Equity, Corporate Fixed Income and Sovereign Debt securities. This assessment was used to evaluate our consolidated fund exposure to physical and transition risks. The results have been published in full in our **Climate Change-Related Risks and Opportunities Metrics Report.**

Our approach is aligned with the Department of Work and Pensions guidance on implementing Scenario analysis and TCFD recommendations for Pension fund trustees.[2] Whilst we recognise some of the methodological limitations associated with estimation models, we believe that they can provide useful information for decision-making. The financial materiality of climate change risk to beneficiaries' pension savings, coupled with the social opportunity to limit the damage means that the financial sector should not wait until it has "perfect" data to act.

Over the past year, we have also worked with our investment managers to improve our financial resilience to climate change by reducing the climate-related risk exposure of existing investment products and increasing the range of offerings that contribute to climate mitigation and adaptation objectives. We will continue to develop products in collaboration with our clients to consolidate our resilience to climate change under a range of climate scenarios, whilst helping beneficiaries to meet their own climate goals.

2. Department for Work and Pensions (26 August 2020)**:** Taking action on climate risk: improving governance and reporting by occupational pension schemes.

RISK MANAGEMENT

The TCFD recommendations calls on asset owners to describe the processes in place to identify and manage climate-related risks.

A. Describe the organisation's process for identifying and assessing climate-related risks.

Investment managers review exposure to climate risks during pre-investment and post-investment analysis. Both involve the application of risk modelling tools such as scenario analysis and qualitative due diligence. The accuracy of the climate risk metrics is contingent upon the quality of the data available and the rigour of the analytical approaches employed. For instance, climate risks associated with alternative asset classes such as Real Assets, Commodities, Derivatives, and Non-listed Corporate issuers are often regarded as more challenging to measure. Depending on the nature of the asset class and the precision of the data available, risks may also be reviewed either at the security, issuer, or sector-level. Investment managers are ultimately responsible for developing their own climate risk assessment tools and reviewing leading practice to improve processes on a best-efforts basis.

To enhance the understanding of climate risks and identify specific areas of exposure, London CIV has also developed in-house risk-assessment tools leveraging data from third-party providers. All climate impact and exposure metrics calculated by London CIV have been developed in line with best practice, and with reference to the recommendations provided by established organisations such as the TCFD and the Greenhouse Gas Protocol. Climate-risk analysis covering corporate equity and fixed income instruments is conducted across all London CIV sub-funds on a quarterly basis, and the results from such assessments may be used for monitoring levels of climate risk exposure and engaging with corporate issuers.

B. Describe the organisation's process for managing climate-related risks.

Managing risks associated with climate change is a fundamental part of our investment strategy. To reflect their importance, they have been integrated into all stages of our engagement with investment managers as well as the design, selection and management of our investment decisions. This approach was established in partnership with the RIRG and supported by oversight of the Board's IOC and CARCO.

All investment managers must be able to clearly demonstrate their approach to identifying and mitigating exposure to climate risk and articulate how their investment objectives support the transition to the low carbon economy. This is assessed based on sub-fund climate policies and their set

of responses to the London CIV ESG Due Diligence questionnaire. Contractual agreements with external managers also include climate-related clauses such as disclosure in line with the TCFD, and stewardship commitments in line with the UN Principles for Responsible Investment ("PRI"). Moreover, we meet with our investment managers on a quarterly basis to assess their climate performance across key risk exposure and impact metrics. We may also challenge managers to provide case studies or examples of investment decisions that were influenced by the integration of climate factors in decision-making.

London CIV also recognises that accurate and timely disclosure of climate-related financial information is central to the development of effective risk-mitigation strategies. For instance, corporate issuers continue to report their greenhouse gas emissions to varying degrees of quality and detail. Some disclosures are made in accordance with global reporting standards and verified by external parties, but others are fragmentary and prone to errors. We aim to address this by encouraging investee companies to improve the quality of their climate-data disclosures in alignment with the TCFD recommendations or the Sustainability Accounting Standards Board ("SASB"). These efforts may be supported by our fund managers, direct dialogue, or through membership in industry associations such as ClimateAction100+.

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

The London CIV Risk Management Framework ("RMF") establishes the three core pillars of its risk management defense model, including (1) Roles and Responsibilities (2) Key risk management tools and processes, and (3) Reporting requirements and governance. The RMF is used to identify threats to London CIV and outlines the process for mitigating those risks. Climate change considerations are embedded within each of the three lines of defense. This ensures that they are adequately compensated for throughout our investment lifecycle.

We also have an established set of principles that underpin the way we invest. Our fiduciary duties as well as our commitment to responsible investing and sound risk management are enshrined in our **Investment Beliefs**.

METRICS AND TARGETS

A. Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

London CIV considers both forward-looking and historical metrics to inform internal risk management and investment strategies. These have all been produced in line with the TCFD recommendations. London CIV commissioned Trucost part of S&P Global to conduct the climate risk analysis all Listed Equity, Corporate Fixed Income and Sovereign Fixed Income securities. This was complemented by an in-house carbon footprint assessment of the infrastructure sub-fund utilising the EcoInvent life cycle inventory. This segmented climate-risk analysis covers 91% of the consolidated pool's AUM[3].

Table 2: Climate-related exposure and impact metrics

<table>
<tr><th>Data Provider</th><th>Asset Class</th><th>Indicators</th></tr>
<tr><td rowspan="3">Trucost, part of S&P Global</td><td>Listed Equity</td><td rowspan="2">Historical Performance
• Carbon Footprint Metrics
• Fossil Fuel & Stranded Assets Exposure Metrics

Forward-Looking Metrics
• Two-Degree Alignment: Energy Generation Mix
• Two-Degree Alignment: GHG Transition Pathway Assessment
• Transition Risks: Unpriced Carbon Costs
• Physical Risks: Raw and Sensitivity adjusted Scores</td></tr>
<tr><td>Corporate Fixed Income</td></tr>
<tr><td>Sovereign Fixed Income</td><td>Historical Performance
• Carbon Footprint Metrics
• Carbon Disclosure Metrics

Forward-Looking Metrics
• Two-Degree Alignment: Energy Generation Mix</td></tr>
<tr><td>EcoInvent</td><td>Infrastructure</td><td>• Carbon Footprint Metrics</td></tr>
</table>

3. Includes the following asset classes (1) Listed Equity, (2) Fixed Income - SSA, (3) Fixed Income - Corporate, (4) Real-Estate, (5) Infrastructure. Unallocated fund commitments and off-balance sheet items have been removed.

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

1. Carbon Footprint

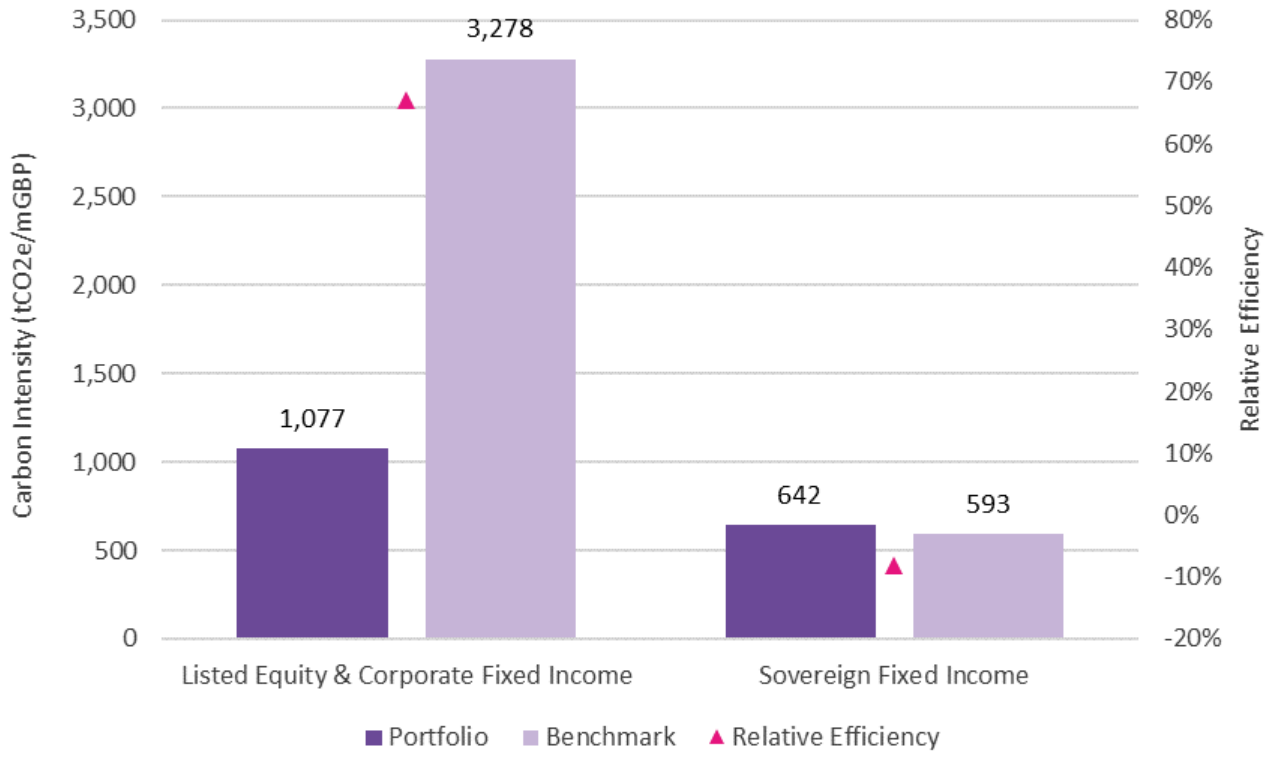
Carbon audits allow for a systematic assessment of the carbon related impacts within the consolidated pool at a given point in time. Emissions associated with investee companies may range from those generated by direct operations, to those generated throughout the entire value chain. These emissions may then be 'normalised' by a financial indicator (such as annual revenues) to provide a measure of carbon intensity[4]. London CIV considers the TCFD recommended weighted average carbon intensity metric as the most appropriate measure of carbon risk exposure. The Weighted Average Carbon Intensity is calculated by summing the product of each holding's weight in the fund with the company level carbon to revenue intensity. The metric provides an indication of exposure to carbon intensive companies and countries and circumvents the need for apportioning ownership of carbon or revenues to individual holdings.

$$\textbf{Weighted Average Carbon Intensity} = \sum_{i}^{n} \left[\frac{\boldsymbol{Emissions\ issuer_i}}{\boldsymbol{Revenues\ issuer_i}} * \boldsymbol{weight_i} \right]$$

The figure on the next page displays the weighted average carbon intensity of the Listed Equity and Corporate Fixed Income ("LE & CFI") holdings as well as the Sovereign Fixed Income securities as of the 30/11/2020. The results indicate that the LE & CFI holdings are underweight in typically carbon intensive sectors and companies. On the other hand, the Sovereign Fixed Income securities are tilted towards more carbon intensive countries[5].

4. The relative performance of the LE & CFI holdings was calculated against the MSCI World. The scopes used were Scopes 1, 2 and 3 emissions. The relative performance of the Sovereign Fixed Income holdings was calculated against the S&P Global Developed Sovereign Index. The scopes used were Direct, Exported and Imported emissions. More information can be found in the **Climate Change-Related Risks and Opportunities Metrics Report**.

Figure 2: Weighted Average Carbon Intensity (Source: S&P Global Trucost)



London CIV has also calculated the carbon footprint of its infrastructure portfolio and estimated the avoided emissions resulting from the displacement of conventional power generation sources by Renewable energy assets. A net benefit analysis consists of a comprehensive evaluation of impacts attributable to a venture. As such, this net benefit analysis was realized by conducting an assessment of the emissions of greenhouse gases (CO2e) associated with the construction and operation of the projects. This assessment is compared to a baseline, which reflects the lifetime impacts that would occur absent the development of the renewable energy projects.

The results indicate that the fund commitments towards renewable energy infrastructure will contribute towards 335,040 tCO2e of avoided emissions during the project lifetimes[6]. This corresponds to 14,287 tCO2e of avoided emissions on an annual basis. Based on this assessment London CIV concluded that the investments contributed to 4 of the 17 SDGs (Figure 3).

6. The content above was prepared by London CIV with data derived from the Ecoinvent LCA inventory, Bloomberg New Energy Finance, and the EPA Greenhouse Gas equivalencies calculator.

Figure 3: Contribution to the United Nations Sustainable Development Goals

2. Fossil Fuels & Stranded Assets

Future emissions from fossil fuel reserves far outweigh the allowable carbon budget that will limit global warming to 2 degrees Celsius above pre-industrial levels. Industry experts refer to assets that may suffer from unanticipated or premature write-downs, devaluations or conversion to liabilities as stranded assets. London CIV assesses exposure to such assets by showing the combined value of holdings with business activities in either fossil fuel extraction or fossil fuel energy generation industries. This helps us to identify potential stranded assets that may become more apparent as economies move towards a low carbon economy.

Exposure to potential stranded assets was assessed by on the basis of two indicators:

1. The sum of the weights of the companies in the portfolio exposed to such assets (expressed as % of holdings value). The given indicator is calculated by summing up the weights of holdings in companies that have a revenue dependency on the sectors in question.

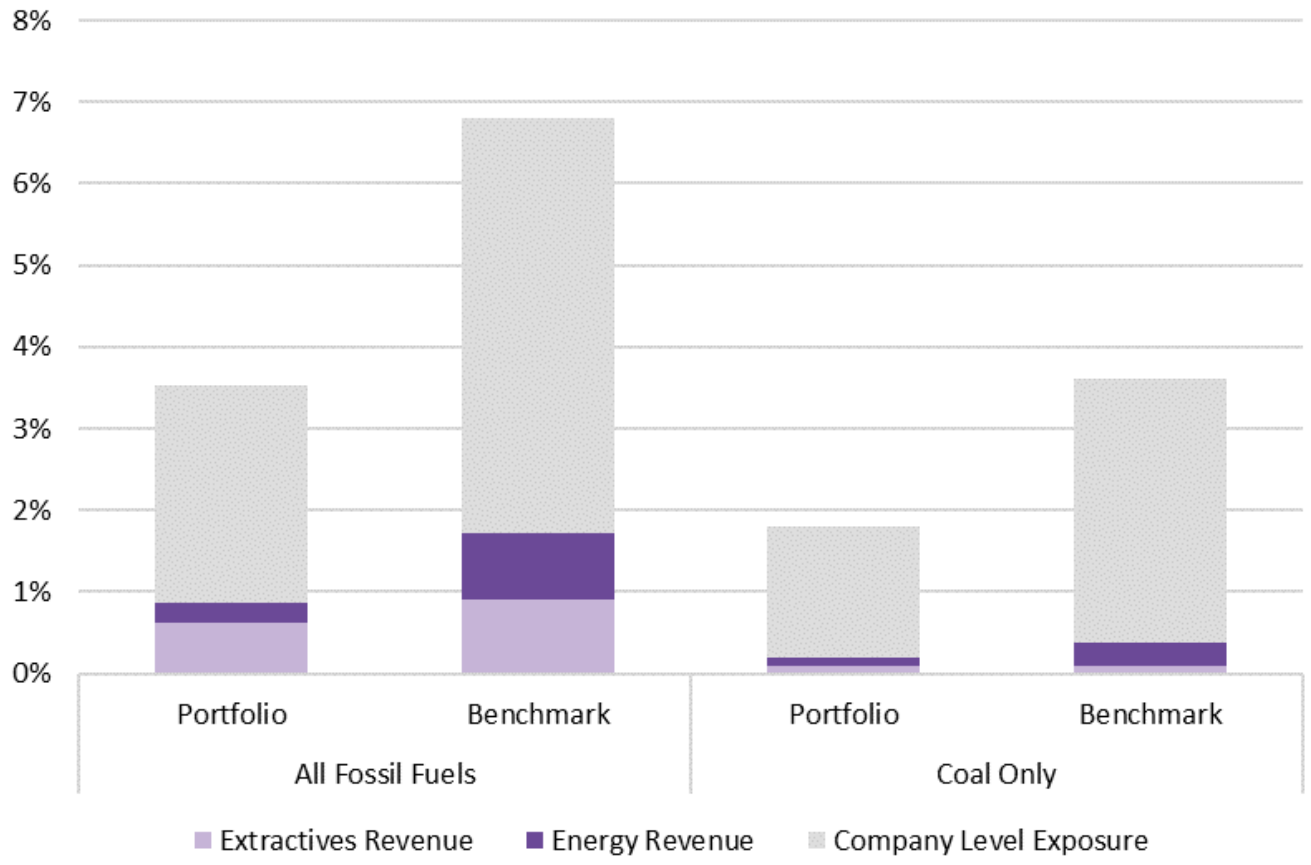
$$\textbf{Exposure} = \sum_{i}^{n} [\boldsymbol{Weight}_i]$$

2. The proportion of the revenues of the companies involved in the mentioned activities (expressed as a % of the revenues), being the ratio of the summed up apportioned revenues from the reference activity and the summed up total apportioned revenues of all companies in the portfolio.

$$\textbf{Exposure} = \frac{\sum_{i}^{n} \boldsymbol{Apportioned\ revenues\ activity}_{ref,i}}{\sum_{i}^{n} \boldsymbol{Apportioned\ revenues}_{ref,i}}$$

The results of the analysis indicate that the consolidated LCIV pool has a lower fossil fuel exposure according to both set of metrics (Figure 4). The total value at holdings exposure is at 3.5% against 6.8% for the benchmark.

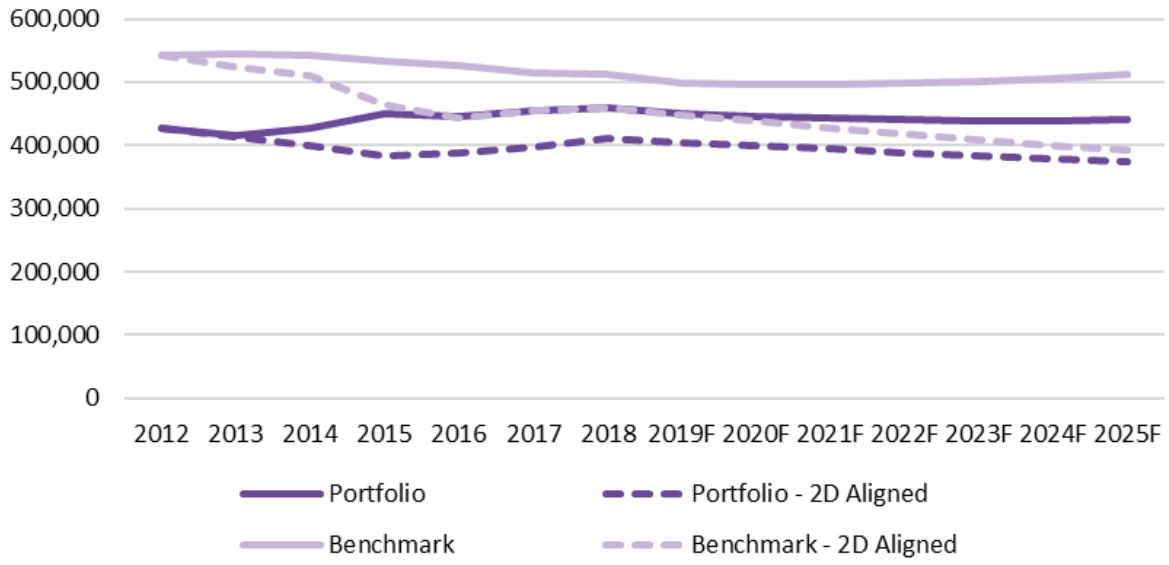
Figure 4: Exposure to Fossil Fuel Activities (Source: S&P Global Trucost)



3. Paris Alignment

The Paris Agreement calls for coordinated efforts ensuring global temperature rise as a result of GHG emissions is limited to 1.5°C or below. The consolidated LCIV pool was evaluated by Trucost on the basis of their alignment with the objectives defined by the Paris Agreement. The approach employed by Trucost can be described as an assessment of a company's transition trajectory, i.e. an analysis of the adequacy between each company's emission reductions and the reductions required to achieve a given scenario. The analysis takes into account historical carbon data as well as future carbon footprints based on scope 1 and scope 2 emissions. More information on the methodology can be found in the Climate Related Opportunities and Metrics Report.

Figure 5: Emissions Trajectory (Source: S&P Global Trucost)



The results of the analysis have indicated the consolidated LCIV pool shows a transition path which is not compatible with a warming below 2°C. In terms of apportioned emissions, these are approximately 11.5% higher than the emissions allowed for a 2°C carbon balance over the period 2012 to 2025 (Figure 5). The analysis confirms that a significant level of decarbonisation is required by investee companies across the consolidated LCIV pool to be in alignment with 1.5°C of warming.

4. Scenario Analysis – Transition and Physical risks

The TCFD categorizes the financial risks posed by climate change as Transition Risks (including policy and legal risks, technology risk, market risk and reputational risk) and Physical Risk (both acute and chronic).

a. Transition risks

Carbon pricing mechanisms are an essential policy tool to reduce GHG emissions and redirecting capital towards lower-carbon solutions. S&P Global Trucost have developed a dataset of scenario based future and current carbon prices based on present emission trading schemes, carbon and fossil fuel taxes. Integral to this analysis is the quantification of the carbon risk premium – the difference between what a company pays for emitting carbon today and what it may pay in the future. The Carbon Price Risk Premium varies by geography due to government policy differences, and by sector due to the differential treatment of sectors in many climate change policies. Calculating such a risk premium allows to determine the future costs of carbon faced by companies. This helps to inform the potential financial impact of carbon prices at fund level under a range of scenarios. The results presented in table 2 have been calculated according to a “High Scenario” of carbon prices using 2030 as a reference year. For more information, please refer to the Climate Related Opportunities and report.

$$\textbf{Future carbon costs}_i = \boldsymbol{Carbon\ footprint}\ (\boldsymbol{tCO2e})_i * \boldsymbol{Risk\ premium}_i$$

Table 2: Carbon Earnings at Risk – Financial Impacts (Source: S&P Global Trucost)

Metric	Unit	Portfolio	Benchmark
EBITDA at Risk	**%**	4.95%	6.29%
EBITDA Margin Reduction	**% points**	-1.06%	-1.53%
Weight with >10% EBITDA at Risk	**%**	7.65%	10.87%
Weight with Negative Margins	**%**	1.12%	1.14%

The EBITDA at risk is the share of a portfolio's earnings exposed to a carbon price increase. It provides a useful indication of fund vulnerability against an increase in carbon prices. The indicator has been calculated as the weighted average of company future carbon costs divided by earnings (EBITDA).

$$\textbf{EBITDA ar risk} = \sum_i^n \left[\frac{\boldsymbol{Future\ carbon\ costs}_i}{\boldsymbol{EBITDA}_i}\right] * \boldsymbol{Weight}_i$$

According to the analysis, the share of earnings at risk for the consolidated LCIV amounted to 4.95% against 6.29% for the benchmark.

b. Physical risks

Physical risks resulting from climate change can be acute (driven by an event such as a flood or storm) or chronic (arising from longer term shifts in climate patterns) and may have financial implications for organizations such as damage to assets, interruption of operations and disruption to supply chains. S&P Global Trucost Climate Change Physical Risk Analytics offer an asset level approach to the assessment of physical risk at the company and portfolio level, and in the future, modelling of the magnitude of the potential impact of such risks on financial performance. These assets are assessed based on their exposure and vulnerability to seven physical risks (water stress, fires, floods, heat waves, cold waves, hurricanes and rising water levels).

Companies are rated from 1 to 100 for each of the seven risks in all three scenarios. The lowest rating is 1, while a rating of 100 indicates the highest possible level of risk exposure. Scores are adjusted for the potential materiality of the events they are exposed to (Table 3). The average of the seven scores is then calculated to obtain a composite physical risk score at company level. For more information, please refer to the Climate Related Risks and Opportunities Metrics report.

Table 3: Physical Risk - Sensitivity factors and impacts (Source: S&P Global Trucost)

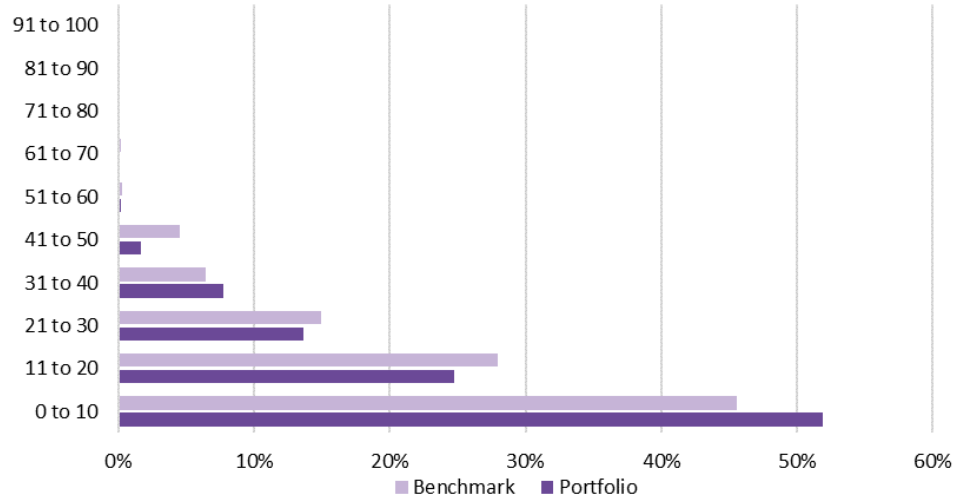
Sensitivity Indicator	Risk Type	Business Impact	Rationale
Water Intensity	Drought	Input Scarcity Increased Operating Expenses Stranded Assets	Businesses with high water dependency are more likely to be impacted by water scarcity
Capital Intensity	Flood Costal Flood Wildfire Hurricane	Asset Impairment Lost Inventory Production Disruption Critical Infrastructure Damage	Businesses with high capital intensity are more likely to be impacted by risk types that cause physical damage
Labour Intensity	Heatwave Coldwave	Productivity Losses	Businesses with high labour intensity are more likely to be impacted by the impairment of optimal working conditions

The figure below (Figure 6) provides a breakdown of sensitivity adjusted composite physical risk scores by decile. The scores have been calculated using the high scenario, with 2050 as the reference year. They can be interpreted as follows:

- Score between 1 and 33: Low risk
- Score between 34 and 66: Medium risk
- Score between 67 and 100: High risk

The analysis shows that the majority of companies within the consolidated LCIV pool have a low exposure to physical risk events – i.e. 52% of companies have received a score between 0 and 10.

Figure 6: Weight per Sensitivity Adjusted Composite Score Decile (Source: S&P Global Trucost)



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

London CIV is currently reviewing the adoption of climate performance targets and risk exposure thresholds. We will set an ambitious net-zero carbon emissions target alongside an interim emissions reduction target before COP26 in November 2021 following extensive consultation with our clients and Board approval.

The short-, medium- and long-term targets we set will be designed into our funds and integrated into future mandates to help us achieve our commitment. Our targets for transitioning London CIV to net-zero GHG emissions no later than 2050 will be explained in more detail in our TCFD Report 2021 and the **Climate Policy** in due course.

Appendix

Glossary

Acronyms and Terms	Definition
CARCO	Compliance Audit and Risk Committee.
CEO	Chief Executive Officer.
CIO	Chief Investment Officer.
COP26	The 26th UN Climate Change Conference of the Parties to be held in Glasgow in November 2021.
EcoInvent	EcoInvent is a not-for-profit association. The EcoInvent database provides well documented process data for thousands of products, helping you make truly informed choices about their environmental impact.
ESG	Environment, social and governance are issues that are identified or assessed in responsible investment processes. Environmental factors are issues relating to the quality and functioning of the natural environment and natural systems. Social factors are issues relating to the rights, well-being and interests of people and communities. Governance factors are issues relating to the governance of companies and other investee entities.
FSB	Financial Stability Board.
GHG	Greenhouse gas.
HRI	Head of Responsible Investment.
IOC	Investment Oversight Committee.
LE & CFI	Listed Equity and Corporate Fixed Income
LGPS	Local Government Pension Scheme.
mGBP	Million Great British Pounds.
QIR	The Quarterly Investment Report is a report sent to all London CIV Client Funds detailing the financial and ESG performance of London CIV funds on a quarterly basis.
RI	Responsible Investment.
RIRG	The Responsible Investment Reference Group – is a working group including representatives from Client Funds, London CIV, and the appointed ESG Champion from the Board.
RMF	Risk Management Framework.
Scope 1, Scope 2, Scope 3 Emissions	Greenhouse gas emissions broken down into three categories by the Greenhouse Gas Protocol to set clear boundaries and understand the source of emissions. Scope 1 refers to all direct emissions from activities under an organisation's control. Scope 2 refers to indirect emissions from electricity purchased and used by an organisation. Scope 3 refers to all other indirect emissions from activities of the organisation.
TCFD	Financial Stability Board's Task Force on Climate Related Financial Disclosures ("TCFD") was established with the goal of developing a set of voluntary climate-related financial risk disclosures which can be adopted by companies so that those companies can inform investors and other members of the public about the risks they face related to climate change.
tCO2e	Tonnes of carbon dioxide equivalent.
UN-backed PRI	UN Principles for Responsible Investment - A set of six principles that provide a global standard for responsible investing as it relates to environmental, social and corporate governance factors. Organisations follow these principles to meet commitments to beneficiaries while aligning investment activities with the broader interests of society.