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Carbon footprinting FAQ

1. What is carbon footprinting and why is it important?

Carbon footprinting is the practice of measuring the carbon emissions and reserves associated with an individual, company or organization. At LGIM, we measure carbon emissions associated with the companies in our investment portfolios. We believe carbon footprinting is important as it helps enable investors to:

i. Understand the impact of climate change on portfolios (i.e. how exposed would a portfolio be to climate regulation such as higher carbon taxes).

ii. Understand a portfolio's impact on climate change (i.e. what is the portfolio's contribution to climate change).

2. What metrics do we use and how is it calculated?

a. Carbon emissions intensity

This metric provides a measure of the carbon emissions intensity of a company's activities, adjusted by a factor to approximate for the company's size. To calculate a company's carbon intensity, the carbon dioxide equivalent emissions that it produces directly (scope 1) and indirectly through its purchased energy (scope 2) is summed and divided by its revenues.

(Carbon emissions (scope 1+ scope 2)) / $m revenues

At the fund level we obtain the overall carbon emissions intensity using a money weighted approach. Missing data is assumed equal to the average carbon intensity within the available companies in the portfolio. This measure is also known as WACI – weighted average carbon intensity.

This metric helps enable the user to assess the carbon efficiency of the companies they invest in at a fund level.

b. Carbon reserves intensity

The carbon reserves intensity metric represents the embedded carbon in the fossil fuel reserves owned by a company, divided by its market capitalisation, to adjust for company size.

At the fund level we obtain the overall carbon reserves intensity with a money weighted approach.

The carbon reserves intensity of a portfolio provides a blunt assessment of the potential "stranded asset risks" a portfolio faces which is based on the fact that a significant portion of company's proven fossil fuels reserves must remain in the ground to meet the targets of the Paris agreement and therefore may not be subject to monetization.

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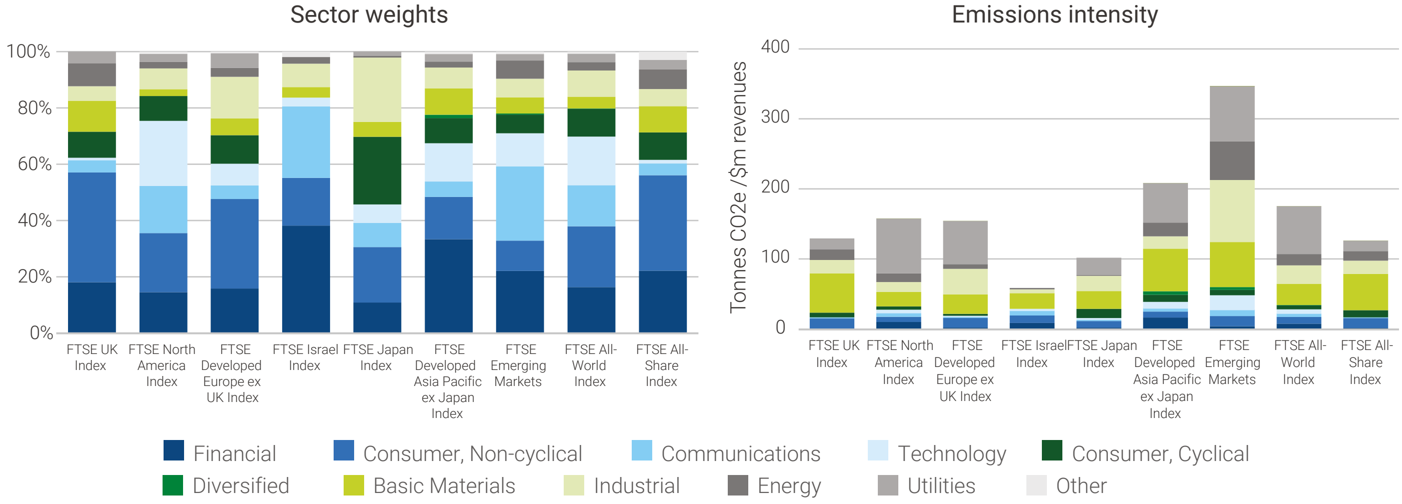
3. How can I interpret my funds' carbon footprint?

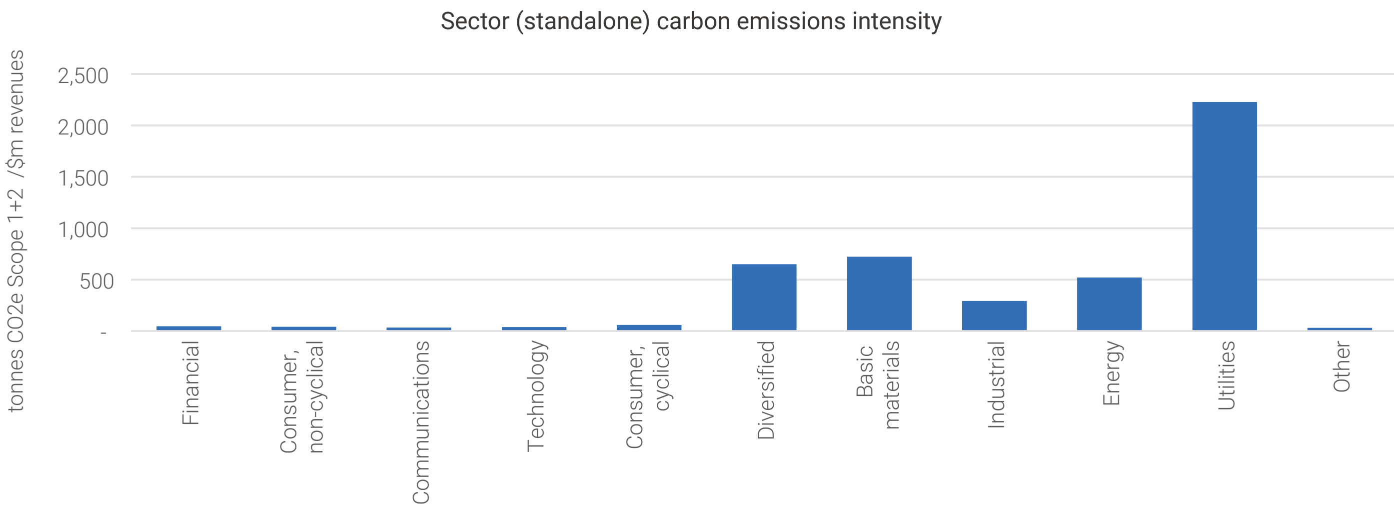
A fund's carbon emissions metric is in large part the product of the fund's investment mandate. Most investment mandates are governed solely by financial considerations such as risk, returns and benchmarks. Benchmarks play an outsized role in determining a fund's carbon footprint as it guides the industry and geographic composition required to fulfil that mandate. This is because the carbon intensity of industries and regions differ significantly.

Figure 1



Source: FTSE, Trucost. Calculations: LGIM. Illustrative example; market data as at 30/09/2020; carbon data as at 31/03/2020.

Figure 2



Illustrative example. Source: FTSE, Trucost. Calculations: LGIM. Exposure as at 11/05/2020 and ESG data 31/03/2020. The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested.

For index funds, the underlying industry composition required to fulfil the mandate is determined almost exclusively by the fund's benchmarks. As a result, this may lead to a higher or lower carbon emission number which may also change over time based on changes to the fund's benchmark.

LGIM has been working with clients who seek to incorporate ESG considerations such as climate change into their investment mandates alongside their traditional financial objectives. Here we report the carbon intensity of select index and multi-asset funds that incorporate climate considerations that aim to help investors contextualize the carbon performance of their funds. The funds presented are strictly for informational purposes only and any comparison between funds requires a holistic assessment between a fund's investment mandate and objectives.

Figure 3

Responsible investing funds

Equities

Tonnes of CO_2e per $1 million of sales	Fund
119	Future World Asia Pacific Ex-Japan Equity Index Fund
143	Future World Emerging Markets Equity Index Fund
87	Future World Europe Ex-UK Equity Index Fund
62	Future World Japan Equity Index Fund
93	Future World North America Equity Index Fund
60	Future World UK Equity Index Fund

Fixed income

Tonnes of CO_2e per $1 million of sales	Fund
97	Future World GBP Corporate Bond Index Fund
134	Future World EUR Corporate Bond Index Fund
94	Future World USD Corporate Bond Index Fund

Non-ESG integrated funds

Equities

Tonnes of CO_2e per $1 million of sales	Fund
208	L&G Asia Pacific Ex-Japan Equity Index
351	L&G World Emerging Markets Equity Index
153	L&G Europe Ex-UK Equity Index
101	L&G Japan Equity Index
157	L&G North America Equity Index
123	L&G UK Equity Index

Fixed income

Tonnes of CO_2e per $1 million of sales	Fund
221	L&G Euro Corporate Bond Fund
176	L&G Short Dated Sterling Corporate Bond Fund

Funds shown for illustrative purposes only.

4. Why is reducing carbon and reserves intensity important?

Our planet has already warmed by approximately 1°C relative to pre-industrial averages (IEA, 2018). In order to avoid irreversible and severe environmental damage, which will undoubtedly lead to significant economic disruption, the average temperature rise must be stabilised at well below 2°C, as outlined in the Paris Agreement. Achieving this will require immediate, drastic and sustained emissions cuts by companies and for much of global fossil fuel reserves to remain in the ground.

5. What are the limitations of carbon footprinting?

Carbon intensity is a snapshot in time, telling users about the current and historical emissions intensity of issuers within a fund. It does not answer questions about the underlying companies' future trajectories, or whether they may be investing to reduce emissions in-line with the Paris Agreement going forward. From this perspective, the exercise has limitations. However, when used to analyse progress over time, it can tell us about the trajectory of issuers and it allows the ability to identify the least emissions intensive companies within a peer group and tilt capital accordingly.

From a portfolio perspective, there's also the challenge of double-counting. This can occur when a portfolio has exposure to an electricity utility and any company which that utility supplies electricity to. Both will report on the same emissions, with the utility reporting them as scope 1 emissions and the companies as scope 2.

Other challenges include a lack of disclosure on scope 1 and 2 emissions by companies and companies not independently auditing reported emissions. This means greenhouse gas data providers often must rely on modelling to estimate emissions.

6. Why are scope 3 emissions not included?

Scope 3 includes all other indirect emissions that occur in a company's value chain i.e. the emissions that are generated before (upstream of) or after (downstream of) a company's operations. For example, scope 3 includes the CO_2 emissions that arise in a company's supply chain or as a result of business travel by its employees. Data quality for scope 3 emissions is hampered by poor disclosure and a lack of consistency in the parameters of measurement. The landscape is evolving at fast pace and we expect disclosure to improve to facilitate integration in portfolio construction and portfolio reporting over time.

7. How is LGIM tackling the climate emergency?

At LGIM, we continue to develop investment strategies which support the low-carbon transition. We are deepening the integration of climate and environmental factors into our investments, as an input into the active stock and bond selection process, and into the construction of low-carbon indices through the development of our proprietary ESG methodologies.

Our responsible investment offering has a number of funds which aim to reduce exposure to high-carbon industries and increase exposure to 'green' solutions, across asset classes and investment strategies. In our Real Assets division, we are setting carbon targets with a view to reaching net zero emissions in our real estate portfolio by 2050.

As outlined in our climate change policy, we engage with investee companies to ensure their strategies are aligned with global climate goals, to seek assurance that boards consist of individuals who can drive businesses to succeed through the energy transition, and to ensure companies are disclosing appropriate levels of risks and opportunities presented by the implications of climate change. We also work with policymakers to support policy efforts to meet emission reduction targets, to encourage capital deployment at scale in order to finance the transition towards a low-carbon economy, and to accelerate investments in climate change adaptation.

Our engagement activities – both individual and in collaboration with other investors – have contributed to a number of large companies and countries adopting net zero emissions targets. Under our flagship Climate Impact Pledge campaign, companies that fail to demonstrate sufficient action are voted against using the voting rights granted by our entire equity book and are divested from some select funds. Please see our latest Active Ownership report and Climate Impact Pledge pages for more case studies and details around our work on climate.

LGIM is also developing climate change analytical tools. Through our partnership with Baringa Partners, a leading management consultancy and specialist in climate and physical risk analysis, we have developed a bespoke climate risk framework, Destination@Risk. The model enables clients and our portfolio managers to identify climate risks embedded within portfolios by assessing scenario based forward-looking valuations of a company across the capital structure. Through a combination of historical and forward-looking measures, Destination@Risk offers the capability to quantify temperature alignment at a portfolio, sector and company level.

8. What assets are eligible for carbon footprinting?

Our carbon footprinting methodology prioritizes assets classes where data availability and reliability is high. As a result, we only include listed equities and corporate bonds in our calculations at this point in time. Best practice in measuring the emissions intensity of sovereign debt and derivatives are still developing and not included within our calculation. Cash is also not included as an eligible asset because it does not finance emissions.

9. Why are government bonds not included in our footprinting calculations?

Best practice with regards to measuring the emissions intensity of sovereign debt is still being developed. With regards to equities and corporate bonds, investors can be attributed a part of the company's total emissions, as they are either directly funding its activities, or own a percentage of the company. The logic behind sovereign debt is not quite as straightforward, as it is not clear that an investor can be assigned 'ownership' of the emissions generated in a country.

10. What level of data coverage is available?

Our data team works closely with our vendors to source the most appropriate data inputs. A number of materiality and sensitivity controls are in place on the semi-annual process to ensure sufficient carbon data quality. Tolerance checks are also implemented to validate the periodic change in the fund level carbon metrics.

To ensure that values provide a reasonable representation of the fund, we will only publish results where effective coverage of carbon emissions is greater than 60%. This is calculated using the value of securities for which we have carbon emission metrics as a percentage of the fund's assets under management.

Effective coverage
(i.e. assets with carbon data)
= **60%**

Assets with no carbon data
= **40%**

Contact us

For further information about LGIM, please visit lgim.com or contact your usual LGIM representative

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