



MSCI CARBON FOOTPRINT INDEX RATIOS METHODOLOGY

MSCI Methodology for Carbon Footprint Index Ratios

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INTRODUCTION

MSCI reports the carbon footprint of its flagship global indexes for investors who are looking to understand, measure and manage carbon risk.

MSCI measures carbon emissions and intensity associated with companies in the indexes, drawing on carbon expertise and research provided by MSCI ESG Research.

Based on the carbon emission data, MSCI calculates **Index Weighted Average Carbon Emission Intensity** ratio which will help to understand the exposure to carbon intensive companies for its investors.

1 DEFINITION AND CALCULATION METHODOLOGY

1.1 SECURITY CARBON EMISSION INTENSITY

MSCI ESG Carbon Metrics evaluates approximately 8,500 companies, including all constituents of the MSCI ACWI Investible Market Indexes. Using MSCI ESG Carbon Metrics, MSCI provides a variety of metrics for assessing the carbon characteristics of an index or investment portfolio. Based on both reported and estimated Scope 1 & 2 carbon emissions, MSCI measures the carbon responsibility, efficiency, and exposure attributed to the MSCI Indexes.

When reported carbon emissions data is not available, Scope 1 & 2 carbon emissions are estimated using MSCI ESG Research’s proprietary carbon estimation model.

Security Carbon Emission Intensity is defined as

$$\left\{ \begin{array}{l} \frac{\text{Carbon Emissions}}{\text{Sales}}, \text{ when sales data is available} \\ \text{Null, when sales or emission data is missing} \end{array} \right.$$

1.2 INDEX WEIGHTED AVERAGE CARBON EMISSION INTENSITY

Since companies with higher carbon intensity are likely to face more exposure to carbon-related market and regulatory risks, this metric indicates a portfolio’s exposure to potential climate change-related risks relative to other portfolios or a benchmark. Agnostic to ownership share, it also facilitates comparison with non-equity asset classes.

Index Weighted Average Carbon Emission Intensity is computed as

$$\sum \textit{Security Weight in Index} * \textit{Security Carbon Emission Intensity}$$

Index Weighted Average Carbon Emission Intensity is calculated only over those securities which have available sales data. ‘Security Weight in Index’ is re-normalized accordingly.

2 FREQUENCY OF CALCULATION

Ratios are calculated as of the last business day of every month.

Note that ratios are calculated with a 1 month lag for Carbon data. This means that if ratios are calculated for 31st Jan 2018, then the Carbon raw data used to calculate the ratios are as of 31st Dec 2017.

3 CORRECTION POLICY

The rules for Carbon ratios correction are as follows:

- If the incorrect index level ratios are within the 20% of the correct ratios, no index level revision is done. No announcement is made by MSCI.
- If the incorrect index level ratios are **not** within the 20% of the correct ratios, new index level ratios are calculated, for all the indexes in which correction at the security level have been implemented. For all the indexes where the incorrect ratios lie outside the stated threshold, an announcement is made by MSCI with the revised Carbon Ratios.

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Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research.

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