Osmosis’ Footprint Methodology

Introduction

Investment portfolio footprinting is the process of assessing the environmental impact of an investment portfolio. This involves analysing the environmental footprint associated with the companies and assets within the portfolio to understand their contribution to climate change and environmental degradation. While portfolio footprinting is most often applied to carbon emissions, at Osmosis we apply the same methodology to water consumption and waste generation. By measuring these environmental exposures, we can gauge the sustainability of our investments and calculate the savings in natural resource consumption of our portfolios.

The importance of investment portfolio footprinting lies in its ability to inform investors about the sustainability of their investments. As awareness of climate change and its consequences grows, stakeholders—including consumers, regulatory bodies, and the broader community—are demanding greater accountability from corporations. Footprinting provides critical insights that help investors make informed decisions, shift towards greener investments, and manage risks associated with climate-related regulations and market shifts. Furthermore, it enables the measurement of progress toward sustainability goals, enhancing transparency and accountability in investment practices.

However, investment portfolio footprinting comes with its challenges, and correctly interpreting footprint figures can be more difficult than it seems. For example, when Energy rallied following the war in Ukraine, portfolio carbon footprints went up, while there was no evidence that individual stocks were performing any better or worse. The increase in the carbon footprint was due to the increased weight of Energy stocks within the portfolio, rather than due to individual stocks. Similarly, bringing in some lower intensity sectors in overweight positions will reduce the portfolio footprint, while it may not be indicative of good environmental performance. It therefore remains difficult to compare different portfolios to each other, or even compare current portfolios to their previous composition. The challenge also remains to distinguish real world decarbonisation from portfolio decarbonisation.

Methodology

There are several different methodologies to footprint portfolios, including total emissions, total intensity, or weighted average intensity, amongst others. Osmosis opts for the Weighted Average Intensity (WAI) methodology to compute portfolio and benchmark footprints. We favour WAI because it computes portfolio emissions and other environmental impacts without distortions owing to size, and minimizes the bias from market valuation of the underlying assets. WAI allows investors to understand not just the total emissions but also the efficiency of their investments, promoting a more strategic approach to reducing environmental exposure while navigating the complexities of sustainable investing.

The methodology uses data from Osmosis' proprietary database. Utilising publicly disclosed corporate environmental data from 2005 onwards, our in-house research team standardises carbon, water and waste data to sector specific frameworks. Our stock specific Resource Efficiency factor score provides context and relative comparability to the environmental balance sheets of companies within 34 sectors.

The WAI is computed by taking the weighted average of the intensities of all assets in the portfolio or benchmark from our proprietary database. This is done by multiplying each asset's carbon, water and waste intensity by its weight in the portfolio or benchmark and then summing these values across all holdings in the portfolio or benchmark. The final result provides an aggregated measure of the portfolio's carbon emissions, water use and waste generation per unit of economic output, reflecting the overall exposure.

Weighted Average Intensity is computed using the following equations.

$$Portfolio\ Carbon\ Intensity_t = \sum_{i=1}^{N} w_{p,i,t}\, C_{i,t} \qquad Benchmark\ Carbon\ Intensity_t = \sum_{j=1}^{M} w_{b,j,t}\, C_{j,t}$$

$$Portfolio\ Waste\ Intensity_t = \sum_{i=1}^{N} w_{p,i,t} W_{i,t} \qquad Benchmark\ Waste\ Intensity_t = \sum_{j=1}^{M} w_{b,j,t} W_{j,t}$$

$$Portfolio\ Water\ Intensity_t = \sum_{i=1}^{N} w_{p,i,t} WA_{i,t} \qquad Benchmark\ Water\ Intensity_t = \sum_{j=1}^{M} w_{b,j,t} WA_{j,t}$$

Where

$$C_{k,t} = \frac{Carbon\ Emissions_{k,t}}{Revenue_{k,t}} \qquad W_{k,t} = \frac{Water\ Use_{k,t}}{Revenue_{k,t}} \qquad WA_{k,t} = \frac{Waste\ Generated_{k,t}}{Revenue_{k,t}}$$

And

- $w_{p,i,t}$ *is the weight of the ith holding in the portfolio at time t*
- $w_{b,j,t}$ *is the weight of the jth holding in the benchmark at time t*
- $Carbon\ Emissions_{k,t}$ *is annual carbon emissions of company k at time t in tonnes of CO2e*
- $Water\ Use_{k,t}$ *is annual water use of company k at time t in cubic meters*
- $Waste\ Generated_{k,t}$ *is annual waste generation of company k at time t in tonnes*
- $Revenue_{k,t}$ *is annual sales of company k at time t in US$ millions*
- *N is the number of holdings in the portfolio*
- *M is the number of holdings in the benchmark*

Sources

- *Carbon Emissions, Water Use and Waste Generation are sourced from the internal Osmosis environmental database*
- *Revenue is sourced from company annual reports*

Treatment of Missing Data

Companies with missing data are handled in two ways.

For non-financial companies, we assign the average sectoral intensity applying the Osmosis sector definitions. We compute the average sector intensity as a weighted average of all stocks in the sector using market cap as the weighting metric. In this way, industrial companies with missing data do not positively or negatively bias the calculation.

We do not compute a Resource Efficiency score for Financial (Banks, Utilities, Brokerages, Investment Firms) and Real Estate companies, and therefore do not maintain any environmental data for these sectors in our database. This exposure is ignored in the calculation, effectively neutralising financials and real estate for both the portfolio and benchmark. This treatment assumes that the overall intensity of the financial and real estate portions of the portfolio or benchmark is equal to the non-financial intensity of the portfolio or benchmark.

The final footprint figures are calculated in tonnes CO2e/million US$ for Carbon Emissions, m3/million US$ for Water Use, and tonnes/million US$ for Waste Generation for each of the portfolio and benchmark, while the savings are shown in % reduced versus the benchmark.

Increasing comparability

While we communicate the overall portfolio footprints alongside the footprint savings versus the benchmark, we are acutely aware of the shortcomings as described earlier. To overcome some of these shortcomings, we also calculate and communicate footprints and savings on a sectoral level. This allows us to show the environmental performance of portfolio companies relative to their peers, and eliminates any footprint savings that are due to sector over- and underweights versus the benchmark.

Osmosis Investment Management UK Limited (9960550)

Registered Office: 36-38 Botolph Lane, London EC3R 8DE
Office telephone number: +44(0)203 928 6555
Website: https://www.osmosisim.com/