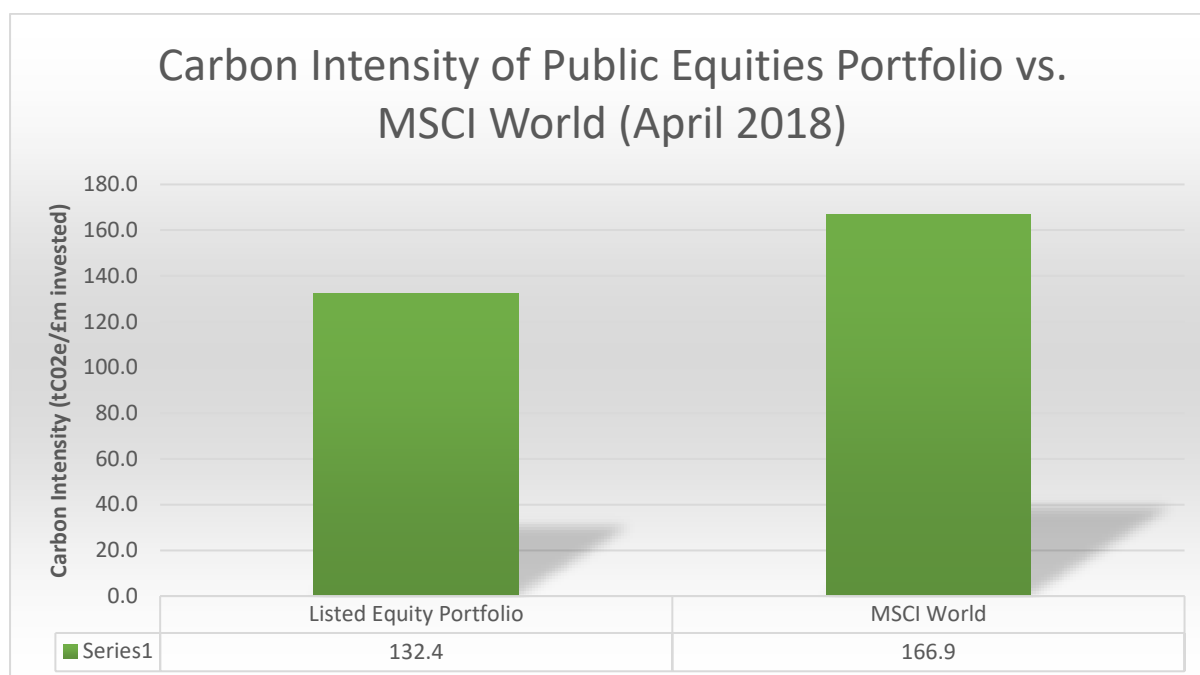


Carbon footprint the USS Public Equity Portfolio 2018

Summary

Universities Superannuation Scheme (USS) is a proud signatory to the Montréal Pledge¹. As part of our commitment to the Pledge, we have calculated the carbon intensity of the USS public equity portfolio and compared it against the MSCI World Index. In addition to being able to estimate a total footprint for public equities against the benchmark, the footprint also enables us to identify and analyse the most carbon intensive companies in each equity portfolio, helping to inform our engagement and voting activity and allowing carbon risk to be integrated into our investment analysis.

The overall footprint of the scheme's public equity portfolios, when assessed on 30 April 2018, was as follows:



For this analysis, carbon intensity is defined as thousands of metric tons of carbon dioxide emitted per million £ invested (tCO₂e/ £m invested). On this measure the USS public equity portfolio has a carbon footprint approximately 20% below that of the MSCI World Index. In addition, if we compare the portfolio vs. a composite benchmark made up of an asset weighted combination of the underlying benchmarks against which each portfolio is managed, the USS portfolio is 41% lower than this composite benchmark.

As USS is an active manager, the holdings in its portfolio will change over time as it invests in different companies in line with its evaluation of attractive risk-return opportunities and its fiduciary responsibilities. As a result, the USS carbon footprint will also fluctuate over time. In addition, as more companies begin to disclose their actual carbon emissions data, the MSCI World carbon footprint will change.

Comparing the 2018 results to 2016 analysis using the same carbon emissions scope and the carbon to invested capital method for calculating carbon intensity, some key takeaways include:

- All the USS public equity portfolios apart from one have lower carbon intensities than their benchmarks.
- All the portfolios have improved in terms of their absolute carbon intensity compared to the 2016 analysis. The biggest improvements were seen in the North American and the Low Volatility portfolios.

¹ <http://montrealpledge.org/>

- All portfolios increased their relative efficiencies compared to their respective benchmarks except for the Sustainable Income portfolio which saw a small increase due to a higher exposure to certain oil and gas stocks (but it remains significantly more carbon efficient than the benchmark).

One highlight is the Low Volatility factor portfolio, which in the previous footprinting exercise had a much higher carbon footprint than our other public equity portfolios. This was not unusual for a Low volatility portfolio as by their nature they tend to have higher allocations to defensive stocks² such as utilities, and utilities tend to be carbon intensive. The volatility factors included in our original investment process were relatively short horizon in nature and did not capture the longer term risk which climate change poses to asset values. To incorporate this risk more effectively we analysed the implications of applying a low carbon tilt to the portfolio, and concluded that it would materially cut carbon exposure without materially impacting returns. The investment process has now been updated to include a more explicit carbon factor and as a result we have reduced the footprint by over 70% from 434 tCO₂e/ £m invested in 2016 to 101 tCO₂e/ £m invested in this portfolio.

USS use of the data

Calculating carbon intensity allows us to compare the carbon efficiency of companies across different industries in order to identify the companies that make the biggest contribution to the overall carbon intensity of the portfolio. This contribution is a function of a company's weighting within the portfolio and its carbon intensity.

The most carbon intensive companies in the portfolio can be compared to their peer group to identify if any of USS's holdings are outliers in terms of carbon intensity. The footprinting data provided to each of the equity desks includes their overall footprint vs. their individual benchmark, and the top ten assets which contribute to this exposure. The footprinting process enables us to identify carbon hotspots in the equity portfolio, ensuring that managers are aware of the carbon-related risks they are taking.

Identifying the most carbon intensive companies in portfolios enables us to target our stewardship and engagement most effectively, encouraging companies to manage their exposure. An additional benefit of this process is that it allows us to identify non-reporting companies and engage with them if they operate in a carbon intensive industry and we think they should be disclosing carbon data. This is in addition to the support USS has been giving to the Carbon Disclosure Project (CDP) since its inception in 2000.

Carbon footprinting by its nature is a backward looking assessment of risk. USS invests on a forward looking basis evaluating future risks and expected returns, in line with its fiduciary responsibilities. This means in future that we may invest in companies that increase the scheme's carbon footprint.

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² <http://www.investopedia.com/terms/d/defensivestock.asp>