



S&P Dow Jones Indices
ESG Analysis

Carbon Footprint

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CEPB

Carbon footprint analysis quantifies greenhouse gas emissions (GHG) embedded within the portfolio presenting these as tonnes of carbon dioxide equivalents (tCO₂e). Comparing the total GHG emissions of each holding relative to annual revenue, gives a measure of carbon intensity that enables comparison between companies, irrespective of size or geography.

The carbon footprint is an analysis of the GHG embedded within the portfolio. This is achieved by carrying out a carbon footprint for each individual holding encapsulating both direct and first tier indirect impacts.

owned vehicles, emissions from any manufacturing operations and waste produced.

First tier indirect impacts, also termed supply chain impacts, occur because of the goods or services a company procures. This includes purchased electricity, business travel and logistics.

Direct emissions result from a company's own operations and include GHG emissions from boilers and company

PORTFOLIO: CEPB

BENCHMARK: S&P Developed Large Mid Cap

DATE OF HOLDINGS: December 31, 2017

DATE OF ANALYSIS: May 15, 2018

Each holding's contribution to the carbon footprint of the portfolio is calculated on an equity ownership basis. The carbon footprint of the fund is the sum of these contributions, normalized by revenue owned.



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CARBON FOOTPRINT

Carbon Footprint analysis measures the carbon risks and opportunities not captured by standard portfolio analysis and presents a systematic assessment of carbon impacts relative to your benchmark

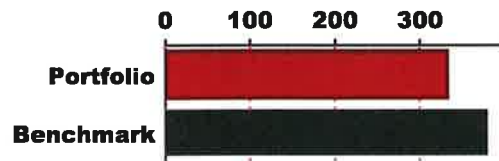
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1 Summary Information

Carbon footprint analysis was carried out on 15 May 2018 for holdings data as at 31 December 2017. The benchmark used for this analysis was the S&P Developed Large Mid Cap.

	Number of Companies	Value of Holdings (£ mn)	Total Carbon Emissions (tCO ₂ e)	Total Footprint (tCO ₂ e/£mn)
Portfolio	2,309	2,284.47	274,363	331.50
Benchmark	1,850	2,284.47	286,289	379.26

The carbon footprint of the portfolio is 331.50 compared to the benchmark which is 379.26.



The portfolio is 12.59% less carbon intensive than its benchmark, S&P Developed Large Mid Cap.

KEY FINDINGS

The portfolio is 12.59% less carbon intensive than S&P Developed Large Mid Cap benchmark.

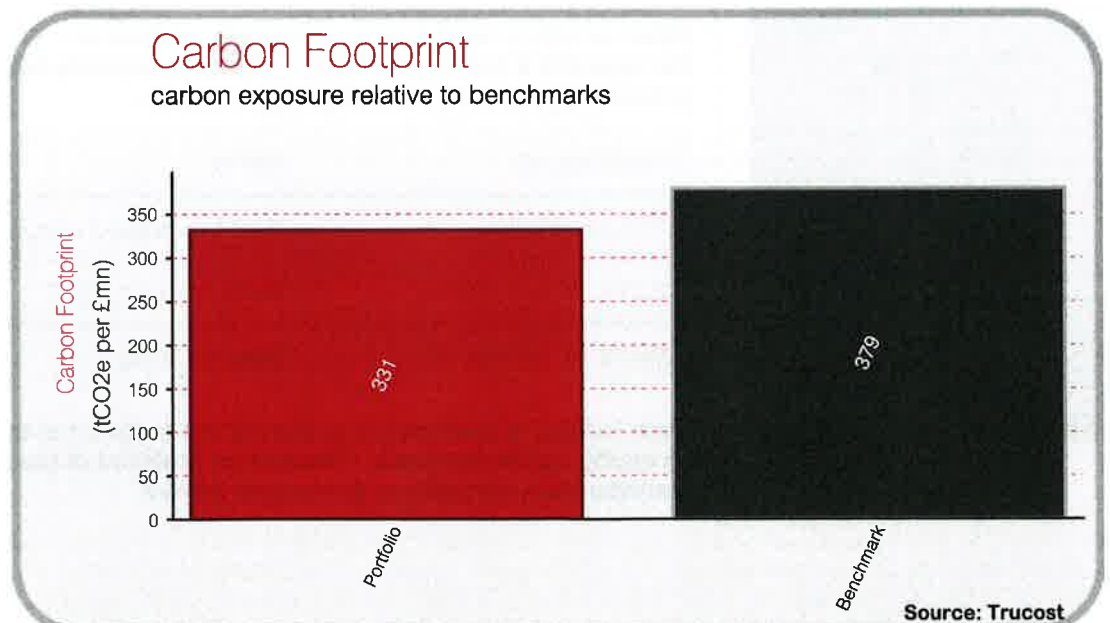
This efficiency is due to a combination of 3.43% positive sector allocation effects and 9.16% positive stock selection effects.

In aggregate the carbon exposure of the fund is equivalent to 1.38% of the aggregate turnover of the fund.

To give context to the carbon performance, the portfolio has been compared to some key indices.

Carbon has been assessed based on an average annual price of £50

The price of carbon used in the Trucost model is based on academic research into the external damage costs of carbon emissions.





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2 Detailed Findings

The two principal reasons why the carbon exposure of the portfolio may differ from the benchmark are due to sector allocation decisions and stock allocation decisions.

Sector allocation decisions will cause the carbon intensity of the portfolio to diverge markedly from the benchmark where the sector/s are either carbon intensive or low carbon. If the portfolio is overweight in carbon intensive sectors the portfolio is likely to be more carbon intensive than the benchmark.

However, if the stocks within a carbon intensive sector are the most carbon efficient companies, it is possible that the portfolio may still have a lower carbon footprint than the benchmark.

Trucost has developed a carbon optimisation product that can help minimise the carbon footprint associated with a portfolio. For more information, please go to <http://www.trucost.com/investments>

Summary of Stock and Sector Allocation Effects

Portfolio

	Sector Weighting		Carbon Intensity (tCO2e/£mn revenue)		Carbon Footprint Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Sector Allocation	Stock Selection	Total Effect
Consumer Discretionary	13.15 %	12.31 %	135.56	109.15	0.48 %	-1.12 %	-0.64 %
Consumer Staples	7.34 %	9.19 %	257.76	251.58	0.05 %	-0.18 %	-0.13 %
Energy	4.59 %	6.13 %	765.64	888.78	2.49 %	1.81 %	4.30 %
Financials	20.20 %	18.09 %	31.06	38.18	-2.21 %	0.35 %	-1.86 %
Health Care	12.22 %	11.42 %	70.04	54.11	0.12 %	-0.38 %	-0.26 %
Industrials	11.45 %	11.74 %	263.06	304.39	0.26 %	1.66 %	1.92 %
Information Technology	17.54 %	17.12 %	101.00	93.89	1.70 %	-0.19 %	1.51 %
Materials	5.42 %	5.25 %	1,226.36	1,470.09	-3.38 %	4.62 %	1.24 %
Real Estate	3.24 %	3.01 %	279.77	163.18	0.27 %	-0.46 %	-0.20 %
Telecommunication Services	2.09 %	2.83 %	63.82	69.31	-0.94 %	0.03 %	-0.90 %
Utilities	2.76 %	2.92 %	2,448.97	2,792.99	4.58 %	3.04 %	7.62 %
Total	100.00 %	100.00 %	331.50	379.26	3.43 %	9.16 %	12.59 %

The portfolio is 12.59% less carbon intensive than the benchmark.

- The sector allocation of the portfolio is responsible for 3.43% of the higher carbon efficiency.
- The stock selection is responsible for 9.16% of the higher carbon efficiency.
- In aggregate, the two sectors that have the greatest positive effect on carbon efficiency are Utilities and Energy, which together contribute 11.92% of the increased carbon efficiency. The two worst performing sectors in the portfolio are Financials and Telecommunication Services, which contribute to 2.76% of reduced carbon efficiency.

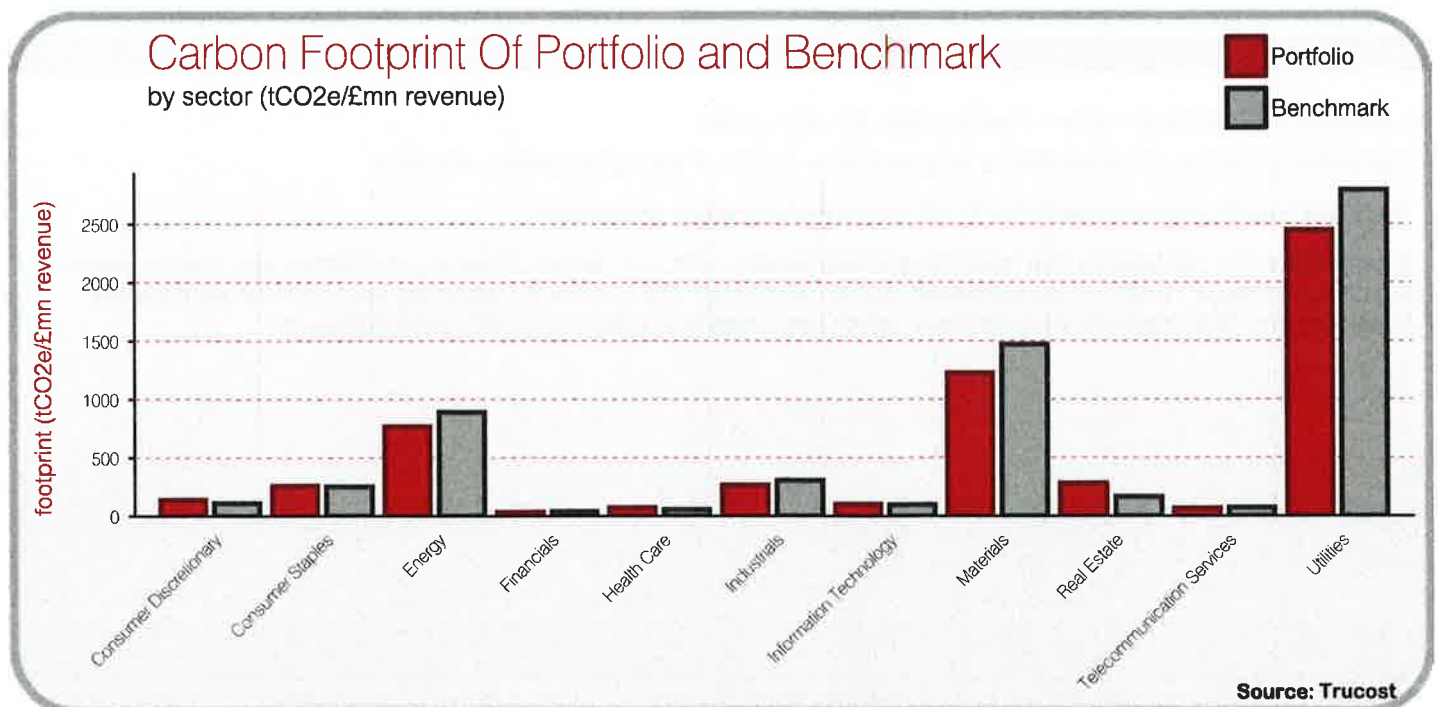
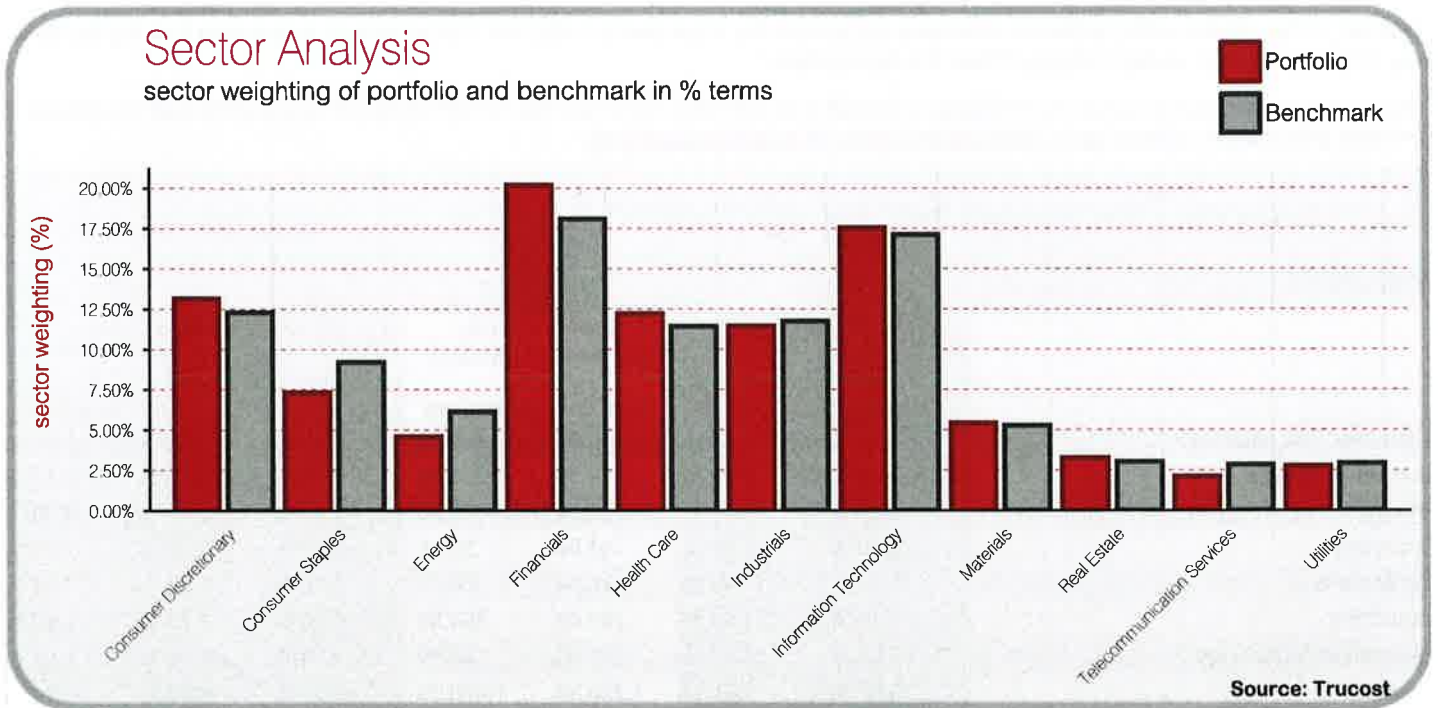


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3 Sector Analysis

The graphs below show how the sector allocation in the portfolio differs from that in the benchmark and the effect on the Carbon Footprint of the fund. The four sectors that contribute the highest levels of carbon intensity to the portfolio are Utilities (2,449 tCO₂e/£mn), Materials (1,226 tCO₂e/£mn), Energy (766 tCO₂e/£mn), and Real Estate (280 tCO₂e/£mn). Sectors have been defined using the Global Industry Classification Standard (GICS) system.





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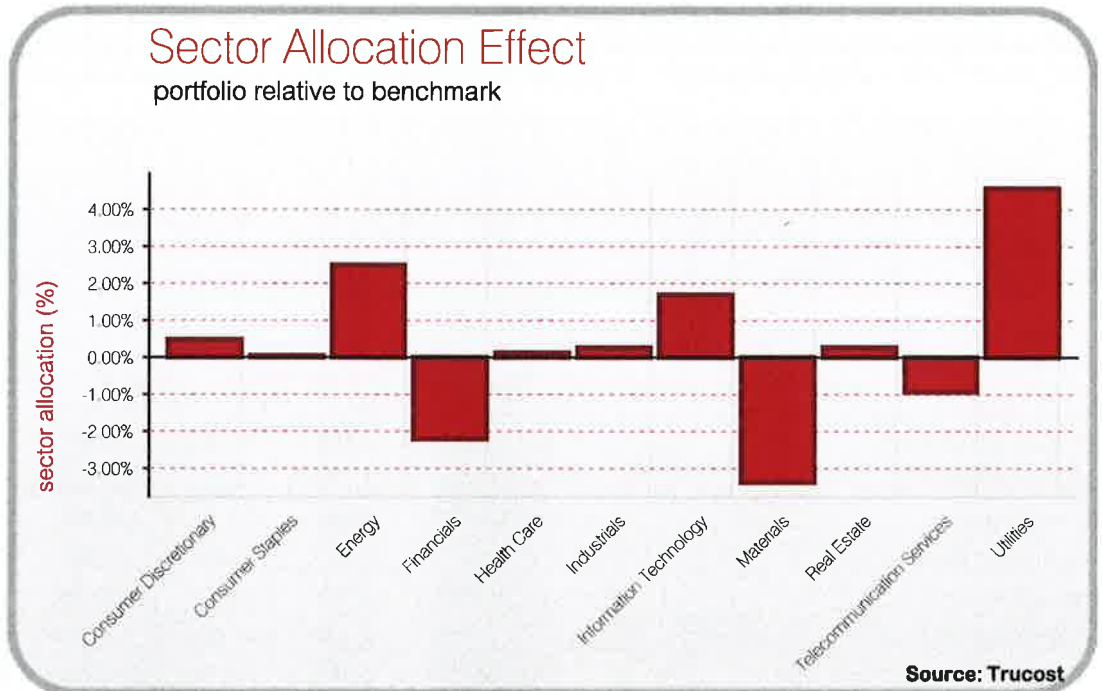
Carbon Footprint

4 Sector Allocation & Stock Selection Effect

This graph analyzes the sector allocation effect on the carbon footprint of the portfolio.

If the bar is negative, you are more heavily invested in a carbon intensive sector than the benchmark, or you are underweight in a carbon "light" sector.

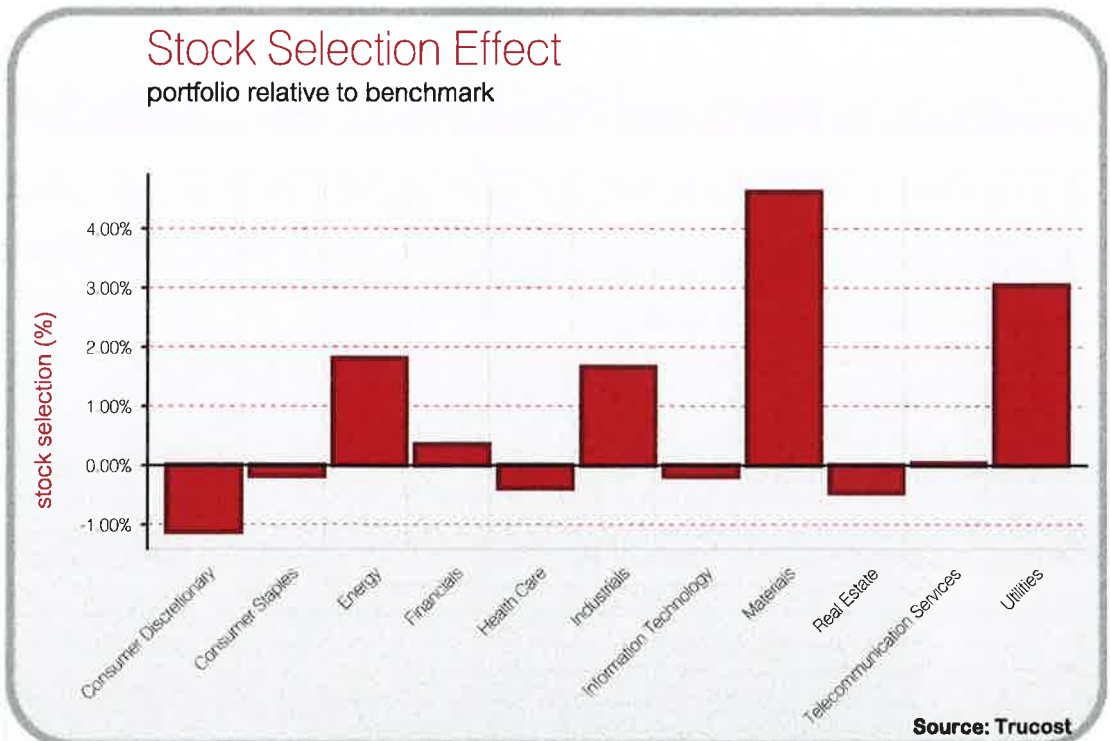
The reverse is true if the bar is positive.



This graph shows the effect of stock selection within sectors on the carbon footprint of the portfolio relative to the benchmark.

If the bar is positive, you are invested in companies that are less carbon intensive relative to peers within their benchmark sector.

If the bar is negative, you are invested in more carbon intensive companies within sectors.



Carbon efficiency can be used as a proxy for efficient management of a company. Therefore you may want to see how companies in your fund rank within their sectors from a carbon efficiency perspective. This "rank in sector" information is available in the Data Sheets at the back of this report.



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5 Largest Carbon Contributors to the Portfolio's Carbon Footprint

The ten companies that contribute the most to the portfolio's carbon footprint are shown below. Note that a company may appear due to the proportion owned, rather than because it is the most carbon intensive stock held. The rank in benchmark sector column is very useful in assessing the carbon intensity of your top ten contributors relative to their peers.

Largest Contributors to Portfolio's Carbon Footprint

Company Name	Holding (£ mn)	Carbon Apportioned Tonnes	(%)	Carbon Intensity (tCO2e/£mn)	Carbon Footprint Contribution (%)*	Footprint Rank in Benchmark Sector**	Data Source***
Taiheiy Cement Corp	2.345	10,806	3.94%	7,041	-3.76 %	152 / 154	ENV*
FirstEnergy Corp	0.904	3,630	1.32%	6,250	-1.25 %	74 / 87	CDP
CLP Holdings Ltd.	2.495	3,596	1.31%	6,055	-1.24 %	73 / 87	CDP
Duke Energy Corp	2.631	3,467	1.26%	5,674	-1.19 %	70 / 87	CDP
Exxon Mobil Corp	10.214	4,308	1.57%	1,138	-1.12 %	59 / 86	CDP
LafargeHolcim Ltd	0.785	3,128	1.14%	8,311	-1.10 %	154 / 154	CDP
BP	9.382	5,259	1.92%	714	-1.04 %	32 / 86	CDP
Royal Dutch Shell PLC	11.296	4,563	1.66%	810	-0.99 %	40 / 86	CDP
AGL Energy Ltd	1.026	2,781	1.01%	7,517	-0.97 %	81 / 87	CDP
ArcelorMittal Inc	0.606	2,849	1.04%	4,587	-0.96 %	147 / 154	CDP
Total	41.684	44,387	16.18%		-13.62 %		

* The Carbon Footprint Contribution is the percentage decrease in performance between what the Carbon Footprint of the portfolio would be without the holding and what the Carbon Footprint is currently. This is a measurement of how much a specific holding reduces the carbon performance of the portfolio.

** Footprint Rank in Benchmark Sector - A ranking of one indicates that the stock has the lowest carbon footprint among the stocks in the benchmark sector. An entry of N/A indicates that the stock is not a member of the benchmark.

*** See table below for definitions of the Data Source.

Carbon Footprint

Data Source Definitions

Code	Explanation
AR	Exact Value from Annual Report/10K/Financial Accounts Disclosure
AR*	Value derived from data provided in Annual Report/Financial Accounts Disclosure
CDP	Exact Value from CDP
CDP*	Value derived from data provided in CDP
ENV	Exact Value from Environmental/CSR
ENV*	Value derived from data provided in Environmental/CSR
OTH	Exact Value from personal communication
OTH*	Value derived from personal communication
PDD	Estimate scaled according to company-specific data
PRE	Derived from previous year
TC	Data Calculated by Trucost
TC*	Estimate derived from production data



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6 Environmental Skylines for Largest Two Contributors

The largest contributors to the carbon footprint of the portfolio are Taiheiyō Cement Corp and FirstEnergy Corp.

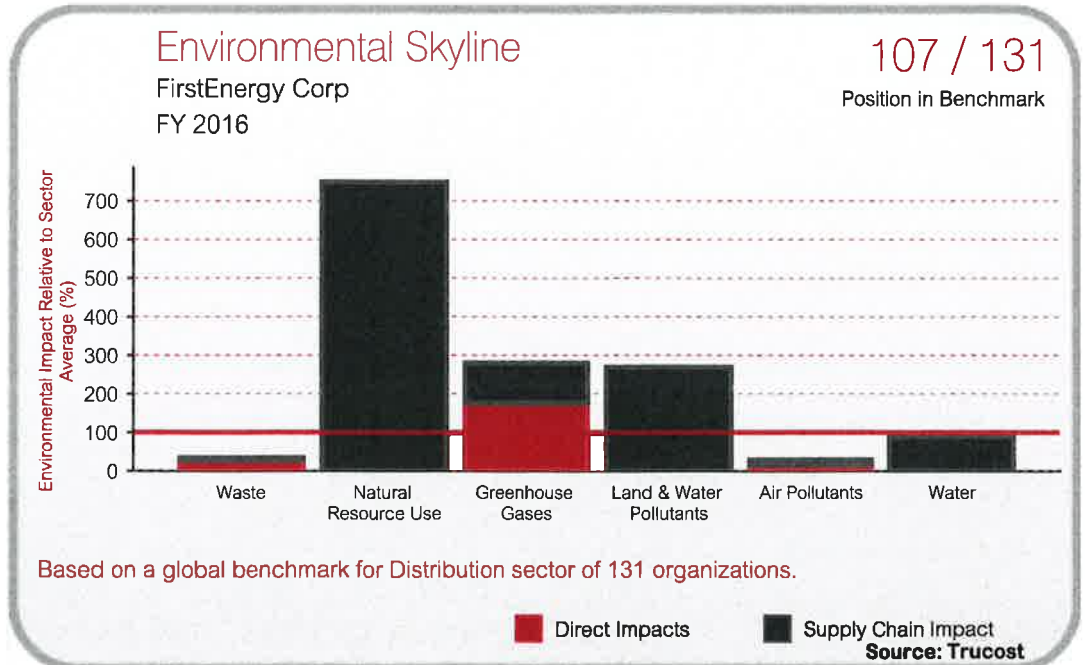
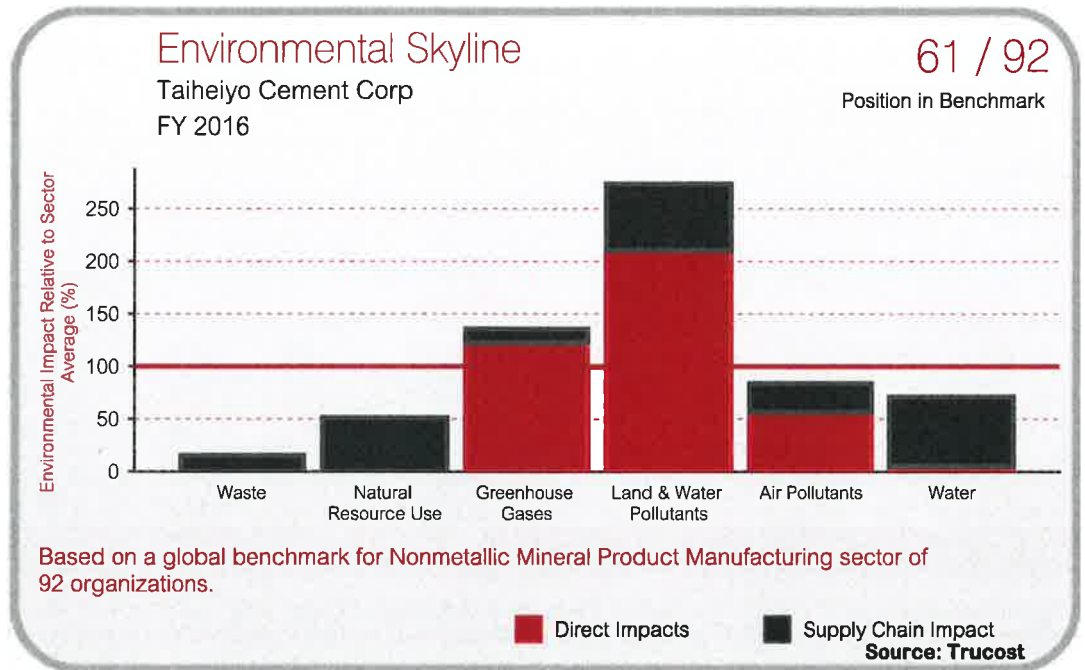
The two charts below look at each company's environmental skyline across six broad environmental groups (Greenhouse Gases, Water, Waste, Land & Water Pollutants, Air Pollutants, Natural Resource Use) relative to its benchmark sector.

Direct environmental impacts are displayed (red bar) as well as those contained within the first-tier of the supply chain (grey bar).

The overall performance across the six environmental groups has been assessed relative to the sector benchmark for both companies. Business activities are analyzed according to the North American Industry Classification (NAICS) 3-digit code.

The red line denotes the average direct and supply chain impact for all the organizations that share this organization's primary business activity.

A bar above the red line indicates that this organization is more environmentally intensive per unit of revenue generated than the benchmark sector for that particular environmental impact.





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7 Company Reporting Assessment

In order to rank stocks for engagement purposes we have identified five companies which do not disclose up-to-date data. These companies are ranked according to the size of their impact on your footprint as estimated by Trucost, using our unique environmental profiling model.

Not all companies report in a way considered best practice. The five companies in your portfolio we would draw your attention to, where engagement may be beneficial, are listed in the table below.

Company Reporting Assessment

Portfolio

Company Name	Holding (£ mn)	Carbon Apportioned		Carbon Intensity (tCO ₂ e/£mn)	Carbon Footprint Contribution (%)*	Footprint Rank in Benchmark Sector**	Data Source***
		Tonnes	(%)				
Anhui Conch Cement Co Ltd	1.236	2,699	0.98%	10,411	-0.95 %	N / A	TC
Apache Corp	3.471	1,758	0.64%	2,526	-0.56 %	83 / 86	PRE
PPL Corp	1.260	1,521	0.55%	5,652	-0.52 %	69 / 87	PRE
US Concrete Inc	1.976	1,685	0.61%	1,691	-0.49 %	N / A	TC
Onoken Co	0.133	1,378	0.50%	4,867	-0.47 %	N / A	TC
Total	8.076	9,040	3.29%		-2.99 %		

* The Carbon Footprint Contribution is the percentage decrease in performance between what the Carbon Footprint of the portfolio would be without the holding and what the Carbon Footprint is currently. This is a measurement of how much a specific holding reduces the carbon performance of the portfolio.

** Footprint rank in benchmark sector - A ranking of one indicates that the stock has the lowest carbon footprint among the stocks in the benchmark sector. An entry of N/A indicates that the stock is not a member of the benchmark.

*** Definitions of the Data Sources may be found in section 5 of this report.



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9 Next Steps

Make portfolio adjustments

- Reduce risk by rebalancing holdings to favour companies with greater carbon or environmental efficiency relative to sector peers.

Embed environmental analysis into your investment strategy

- Trucost provides standardized data on all companies across the investment universe to help identify carbon and environmental opportunities. We also have time series data and can customize research to meet your requirements.

Engage with companies

- The chart on page 8 shows companies with which you may choose to engage with to encourage them to disclose better environmental data, providing greater transparency for investors and setting them on the course to appropriate measurement and management of GHG emissions.

WHY CHOOSE TRUCOST DATA?

Standardized: company disclosed data is standardized to enable comparison between companies, funds, sectors and geographies.

Validated: company disclosed data is validated to resolve reporting errors.

Comprehensive: where companies do not measure or disclose data, Trucost 'fills the gaps' using its advanced environmental profiling model to provide complete data across the investment universe.

Proven: Trucost data has been used to analyze over \$2.7trillion AUM and drives \$583million in investment products that deliver financial performance with up to 50% reduced carbon intensity e.g. S&P US Carbon Efficient Index and the Legal and General Investment Management US Carbon Optimised Index Fund.

"Trucost's global environmental impact data has enabled us to truly integrate climate change analysis into our investment process. The quantitative data is fed into our mainstream investment decision making process enabling risk management, portfolio footprinting, sector and stock level analysis and the simulation of climate change strategies across asset classes."

AXA Investment Managers

Communicate your footprint to stakeholders

- You may choose to communicate your footprint to stakeholders to demonstrate that you actively consider carbon exposure in your investments and provide transparency about the risk exposure or benefits of the fund.

Invest in carbon optimised funds

- Trucost's carbon and natural capital investment metrics drive investment indices and products from leading institutions that deliver financial performance alongside reduced environmental risk. Find out more at www.trucost.com/capital-markets/investment-products

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10 Legal Disclaimer

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