



# How To Use Trucost

## Introduction

Trucost provides environmental research on companies to the investment community. This research analyses the pollutants emitted and natural resources used by the company and its upstream supply chain. This data is presented in quantity (e.g. tonnes or cubic metres) and financial terms (i.e. external costs). The data is quantitative, comparable and fully comprehensive.

To date environmental research has looked at proxies for good management practice, rather than at the physical impacts that companies have on the environment. However, the thrust of environmental regulation in the developed world has been to impose costs on companies either by way of taxation, via tradable permits or as a result of other regulatory compliance costs. In general these regulations follow the polluter pays principle. As a consequence companies increasingly face financial costs associated with their actual use of environmental goods and services. As environmental costs become better understood by both governments and markets they will have an increasing effect on the financial performance of companies. Forward thinking fund managers are increasingly trying to benefit from understanding the financial consequences of environmental regulations on companies in advance of their imposition.

Trucost has developed a number of products to help fund managers and analysts to understand how companies affect the environment and what impact environmental performance has on the companies' financial performance. This document briefly explains some of the ways that fund managers and analysts use Trucost's market-leading research to enhance their investment research and differentiate their funds from their competitors.

This document looks at the use of Trucost research for:

- Company and Sector Specific Analysis
- Engaging with Companies
- Constructing Environmental Benchmarks and Indices
- Customising Environmental Analysis
- Creating the Environmental Footprint of a Fund



## Company and Sector Specific Analysis

Trucost's research can be used by fund managers and engagement specialists to analyse a specific company or sector. There are three main elements to Trucost's analysis:

- Direct Environmental Impacts – the impacts that a company has on the environment directly as a result of its activities (e.g. extracting oil, harvesting maize or burning fuel)
- Indirect Environmental Impacts – the impacts that the company's supply chain has on the environment (e.g. the impact of generating electricity purchased by the company)
- Regulatory Assessment – current and upcoming regulations that may affect the company

Trucost's Company Briefings provide a succinct summary of all three aspects of a company's environmental performance. These reports highlight the key issues facing the company, and list the upcoming regulations that the company faces. The Briefings include a comparison of the company with its peer group in respect of environmental performance but also the quantity and quality of the environmental disclosures that the companies make.

The direct environmental impact assessment shows the company's most significant use of environmental goods and services in a given financial year. The use of Trucost's external cost methodology allows environmental impacts to be weighted relative to one another and prioritised based on their severity. The issue assessment table highlights the specific emissions and resources that are most significant for the company, and how material these impacts are.

The indirect environmental impact assessment is key to obtaining a full understanding of a company's environmental exposure. Many of the largest companies in developed economies are service companies of one type or another. Although these companies tend to have very low direct environmental impacts, they do have environmental impacts through their supply chains, for example as a result of the electricity they buy. Environmental regulations, such as the EU Emissions Trading Scheme, will push up the price of electricity, thereby increasing the input costs for all companies. So although the company does not itself combust fossil fuels in order to generate electricity it is exposed to the consequences of society's attempts to control the effects of fossil fuel combustion. The indirect environmental impact assessment also allows the comparison of vertically integrated companies with those that are not vertically integrated.

The final page of the Company Briefing contains a summary of the environmental regulations that are currently in existence, or are soon to come into force, that may affect the company's business. This is an important first step to calculating the likely compliance costs that the company may have to pay when the regulations come into force. Trucost provides estimates of these compliance costs for sectors with a high exposure to environmental controls.

Trucost's Sector Reports provide a more discursive analysis of the issues facing a sector and the companies within it. These reports provide a concise summary of the environmental impacts that the sector has, and any changes that are likely to have a material impact on the financial performance of the sector and the companies within it. This commentary and analysis provides the analyst or fund manager with an understanding of the relative performance of all the companies covered in the report, and the impacts that upcoming legislative changes are likely to have on them.

## Engaging with Companies

Fund managers are increasingly offering engagement services to ‘universal’ investors, which are generally passively managed large private and public sector pension funds. Pension funds invest for the long term, and this means that they are often more aware of long-term economic issues. Significantly, as these funds tend to own all the constituents of the underlying benchmarks, they are often invested in companies that externalise costs to the detriment of others. For example, a pension fund might own shares in an airline which contributes to global warming through its emissions and a re-insurance company facing large increases in climate change related insurance claims. This represents a ‘robbing Peter to pay Paul’ strategy with damaging social consequences. Yet these trustees do not necessarily want to pursue the high risk investment strategies that have been traditionally associated with socially responsible investment. Engagement is a means through which pension fund assets can be used to improve the long term sustainability of their portfolio companies without exposing them to additional risk. It is also an area where fund managers can differentiate their offerings. There are an increasing number of mandates highlighting engagement with companies on environmental criteria including CalPERS and the UK Environment Agency. In order to win mandates for engagement services, a fund manager needs to show how they go about selecting companies to engage with, how they engage with those companies, and to demonstrate how successful the engagement has been.

Trucost research is used by fund managers to engage with companies about their impact on the environment, and how environmental regulation affects them.

### Trucost And Engagement

Trucost’s environmental research is used by investors to engage with companies on environmental issues. These issues are primarily focussed on disclosure of environmental impacts at present, and this is something that Trucost’s information is well suited to. Figure 1 shows how Trucost’s analysis can be used throughout the engagement process, from identifying the issues and companies to engage with, to measuring the success of the engagement campaign.

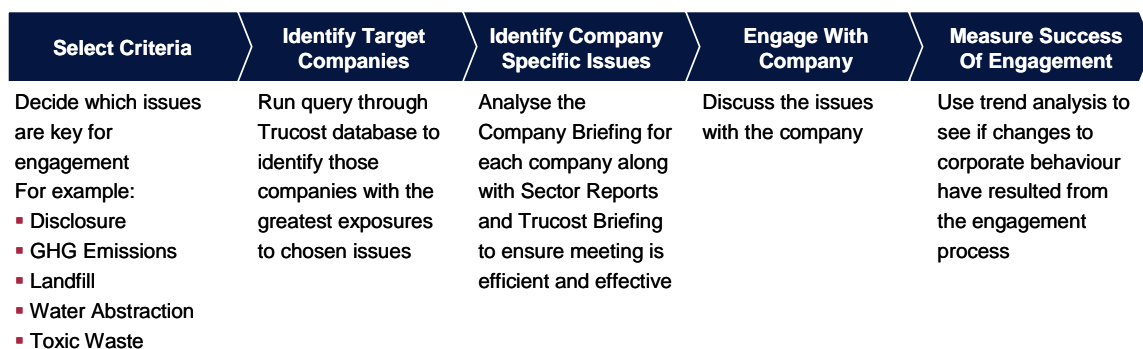


Figure 1 - Engagement Process Using Trucost

### Select Criteria For Engagement

Trucost has data on 705 distinct emissions and natural resources for over 2,500 companies. Trucost tracks whether or not a company has made a disclosure of these impacts, and in the absence of disclosure, Trucost produces an estimate. The system developed by Trucost allows an engagement manager or analyst to change the weightings (external costs) for each environmental good or service in the system. This means that each fund can have a customised set of criteria.

Examples include exposure to greenhouse gas emissions, water abstraction, poor disclosure and toxic waste emissions. Each environmental impact can be weighted according to the manager's preferences.

### ***Identify Target Companies***

The selected criteria can then be run against Trucost's database of companies, or just those in the user's portfolio, to quickly identify those companies that should be targeted for engagement.

### ***Identify Company Specific Issues***

Each target company will have a broader set of issues to look at than just the criteria selected in the initial stage. In order for engagement meetings to be effective, the manager needs to be aware of all the issues that are relevant to that company, and decide what questions to ask. Trucost provides Company Briefings outlining the long term external cost profile of each company and also its exposure to upcoming regulation. Trucost Sector Reports and Trucost Briefings also provide insight for the manager when engaging with the company. All of this information is readily available to the fund manager in electronic format and is kept up to date by Trucost.

### ***Engage With Company***

The engagement manager can then discuss the issues with the company that have been raised by the analysis. The use of data in the discussion allows it to remain more focussed on the real issues that affect the company, rather than an unfocussed discussion on the environment generally. In Trucost's experience, engagement with companies is greatly enhanced if the engagement manager knows what questions to ask and how the company is positioned relative to its competitors.

### ***Measure Success Of Engagement***

Trucost updates its analysis of companies regularly as new information becomes available. This means that a set of metrics can be defined to analyse the overall effectiveness of the engagement programme. For example, a manager could see whether disclosure by those companies that have been targeted improved as a result of engagement or not. The effectiveness could also be measured against environmental performance (e.g. have targeted emissions been reduced?). This is another unique aspect of Trucost's engagement offering that allows fund managers to demonstrate the effectiveness of their engagement process to pension fund trustees. This helps fund managers to differentiate themselves from their competition and gives some feedback to pension fund trustees that the fund manager is engaging properly and effectively with companies on their behalf.

Trucost can produce reports on a quarterly or annual basis to show the changes in the performance of companies and funds.

### ***Engagement Support***

Trucost operates an open door policy for its investor clients. This means that Trucost's analysts and specialists are available for comment and additional insight prior to and during any engagement process.



## Constructing Environmental Benchmarks and Indices

There have been a number of studies that seek to prove a connection between environmental performance and share price performance. There are also some studies that claim to have proved the reverse. The fact remains that mainstream fund managers have not been factoring this information into their investment decisions and as such, the largest group of investors are not taking these issues into account. It is a reasonable conclusion, therefore, that the share prices of companies have not yet been greatly affected by their relative, physical environmental performance. The correlations found by these studies have generally been to proxies for environmental management quality such as the existence of a company environmental policy or management system. This has allowed companies with extremely environmentally damaging activities to be well represented in the various 'sustainability' indices by putting in place the policies and systems that these indices reward rather than tackling the fundamental environmental consequences of their activities.

The thrust of environmental regulation in the developed world has been to impose costs on companies either by way of taxation, via tradable permits or as a result of other regulatory compliance costs. In general these regulations follow the polluter pays principle. As a consequence companies increasingly face financial costs associated with their actual use of environmental goods and services. As environmental costs become better understood by both governments and markets they will have an increasing effect on the financial performance of companies. Forward thinking fund managers are increasingly trying to position themselves to benefit from this trend by underweighting companies with significant environmental costs whether or not society has yet to successfully impose them. More directly they can benefit from understanding the financial consequences of environmental regulations on companies in advance of their imposition.

In the short term however, fund managers and pension fund trustees are looking for ways to modify existing indices in order to provide benchmarks for investment funds pursuing an environmental strategy. Traditionally environmental research has lacked the coverage and granularity to successfully re-weight a benchmark. These problems have been compounded by the lack of disclosure by companies on their environmental performance. Trucost's research covers all the companies within several standard benchmarks and Trucost provides estimates where companies do not disclose data. The data is purely quantitative and therefore it provides the resolution necessary to properly overweight good environmental performance and underweight those companies that are not performing so well.

The environmental impact data provided by Trucost can be used to tilt, or re-weight stock indices to provide a formulaic means of incorporating environmental performance into investment decisions. In order to carry out this analysis effectively, the data set must be quantitative to provide weightings for each company, and it must cover all companies within the base index to properly reward good environmental stewardship.

There are three ways in which data provided by Trucost can be used to modify a base index:

1. Sector Neutral – All sector weightings are kept the same as the underlying index to ensure that exposure to fluctuations in the relative positions of sectors remains the same. This re-

weights each company relative to its sector in accordance with its relative environmental performance.

2. **Minimise External Costs** – Each company is re-weighted to reflect its absolute environmental performance relative to the rest of the index. Service companies will naturally be overweighted and companies in more primary sectors will tend to be underweighted using this method.
3. **Negative Screen** – A threshold can be set on the impact ratio (total external cost/turnover) level that is acceptable to the fund. Any companies with impact ratios greater than this threshold are excluded and the index re-weighted without those companies.

	<b>Sector Neutral</b>	<b>Minimise External Costs</b>	<b>Negative Screen</b>
Re-weighting methodology	Relative to other companies in sector	Relative to all other companies in index	Absolute threshold of impact acceptable to fund
Exposure to non-market risk	Low – sector weightings are consistent with benchmark	Mid – all companies represented, but sector weightings are different to the benchmark	High – whole sectors may be excluded
Environmental Bias	Limited – high impact sectors included but best performers in sector are overweighted	High – external costs minimised	Mid – individual high impact companies removed

Table 1 - Results of Trucost's Sample Index Weighting

### ***Re-weighting an Index***

In order to tilt an index to reflect an environmental bias, it is necessary to calculate a weighting for each constituent of the base index based on environmental criteria. These new weightings are then combined with the original index weightings according to the preferences of the user. In order to construct the index, the manager must decide what type of index is to be built (e.g. screened, sector neutral), the strength of the environmental bias relative to the underlying index and the environmental criteria to be used. Figure 2 below shows this process.



Figure 2 - Re-weighting a Stock Index

The first step in the process is to identify the constituents of the underlying index and obtain their weightings. Once the list has been established, the environmental data can be downloaded from Trucost and the environmental weightings calculated. Both sets of weightings are then combined

according to the specification of the index (e.g. 90% underlying weighting, 10% environmental weighting). The index can then be constructed. The financial and environmental performance can be calculated using Trucost's data. The financial tracking error is calculated in the normal way. The environmental performance can be calculated based on the external environmental costs associated with the portfolio. For example, if a portfolio holds 1% of Company A's share capital, it will take 1% of Company A's external environmental costs. In this way, any short-term financial underperformance can be offset and measured against the improved environmental performance of the portfolio. Without comprehensive, quantitative data, such as Trucost's, this kind of analysis cannot be carried out.

To illustrate how this process works, Trucost has created a portfolio, based on a market capitalisation weighted index of the FTSE 100 companies, to see what impact these three approaches have on the performance of the portfolio. This is not designed to be a definitive study of the possible link between environmental performance and share price returns, it is an example of how Trucost's data can be used to perform this analysis. All or any combination of 700 environmental performance variables can be applied to the equity weightings. The details of how these test portfolios were constructed and their performance results can be found in the supplementary document "SA Constructing Environmentally Tilted Indices – Trucost Sample Portfolios v1\_0.doc".



## Customising Environmental Analysis

Trucost's quantitative environmental analysis can be customised to meet the diverse needs of the different members of the investment community. Each client can select the criteria that they want to analyse, and weight them according to their own preferences. For example, a fund manager may want to launch a fund that uses climate change related data, with reference to carbon dioxide emissions in particular. Another may choose to take a broader view and analyse the overall environmental impacts that companies have. Trucost has data on over 700 uses of the natural environment, each of which can be independently weighted according to the needs of the manager or analyst. The ability to tailor the analysis means that fund managers can differentiate their 'green' fund offerings when pitching for pension fund mandates, or marketing retail funds.

## Creating the Environmental Footprint of a Fund

The environmental impact of a Fund may be established by calculating the environmental impacts of each portfolio company held by the Fund. A share of these impacts, equal to the percentage of each company owned by the fund, can then be attributed to the Fund. Applying a weighting to these impacts equal to the external environmental damage costs associated with them gives the total external costs attributable to each portfolio company. These figures, when summed, give a total external environmental cost of the fund or an environmental footprint.

Trucost carries out the same analysis on indices, and comparisons can be made between a fund and its benchmark. The comparison is carried out using the total external costs per million market capitalisation (for an index or benchmark) or assets under management (for a fund). This gives a metric that can be used to compare portfolios against each other or their underlying benchmark. It can also be used to compare each portfolio with the overall pension fund.

The analysis can be repeated periodically to identify whether the funds are effectively reducing their environmental footprints and what the major contributors are. Trucost can also provide a dynamic model which could be used to show the effect of changes to the fund on the environmental footprint. This would provide up to date information and additional modelling capabilities.

It is important to note that the Trucost system contains quantities of environmental impacts on a company basis. It is therefore possible to apply other damage values. It is also possible to limit the analysis to any subset of the 700 types of environmental resources, emissions and waste contained in the system, such as those inputs and outputs mentioned in the specification.

If you would like to know more about how Trucost works with fund manager clients, or would like to discuss a specific proposal or research requirement, please contact Vince Chaney on +44 (0)20 7321 3796, or visit [www.trucost.com](http://www.trucost.com).