

The Trucost Research Process

Providing a Robust and Comprehensive Lens on Corporate Environmental Performance

Despite growing demand for companies to provide transparency about their environmental performance, corporate reporting remains inconsistent. Where there is disclosure, it is often published in incomplete or non-standard ways, making it difficult for market participants to compare the liabilities of different companies. Reporting errors can also be prevalent.

Trucost provides a robust and comprehensive lens on the environmental performance of more than 14,000 companies, representing 99% of global market capitalization, through its four-step research process.

A FOUR-STEP RESEARCH PROCESS

- 1 Research the Environmental Reporting of Companies
- 2 Standardize Reported Data and Correct Reporting Errors
- 3 Complete Environmental Reporting Gaps
- 4 Engage With Companies to Verify Their Environmental Performance Profile

MINIMIZING THE REPORTING BURDEN ON COMPANIES, WHILE ENSURING TRANSPARENCY

The Trucost research process has been developed to minimize the environmental reporting burden on companies—also known as “survey fatigue”—while providing a transparent system for companies to verify their environmental performance profile and, at any time, contribute their most recently available data.

1 Research the Environmental Reporting of Companies

Every year, Trucost analysts research the published environmental performance information of companies in annual reports, sustainability reports, websites, and other publicly disclosed sources. Data on more than 450 environmental issues are collected, encompassing carbon and other pollution emissions, water dependency, natural resource efficiency, and waste disposal. To make the best use of company reporting, Trucost became a CDP Gold Data Partner in 2012, enabling environmental data provided to the [CDP Disclosure Programs](#) to be incorporated in this step.

2 Standardize Reported Data and Correct Reporting Errors

Trucost analysts standardize disclosed environmental performance data to best practice guidelines, including the [GHG Protocol Corporate Accounting and Reporting Standard](#), [GRI Standards](#), and [SASB](#), so that it can be compared across companies, regions, and business activities. To correct reporting errors, vigorous data control procedures are applied, from sector specialist data reviews to automated outlier identifications and year-on-year comparisons.

3 Complete Environmental Reporting Gaps

To complete disclosure gaps in environmental reporting, Trucost supplements its research with its proprietary economic modeling, founded on environmentally extended input-output (EEI-O) modeling principles. Trucost’s core environmental profiling model estimates corporate

environmental impacts across company operations and supply chain tiers, right back to raw material extraction and processing. An additional benefit of this step is that Trucost analysts are able to assess reported data against modeled expectations to further identify potential reporting errors for in-depth checking. *There are a wide range of EEI-O models with many being publicly available, but this can lead to a trade-off on data quality; see what sets Trucost apart below.*

4 Engage With Companies to Verify Their Environmental Performance Profile

Finally, Trucost engages annually with all companies in its research universe, either by email or letter, providing the opportunity to verify their environmental performance profiles and provide additional, as yet unreported, information. Companies are further welcomed to contact Trucost analysts at any point in their environmental reporting cycle to provide their most recently available data.

WHAT SETS TRUCOST'S MODEL APART?

✓ Quality of Data Sources

Trucost applies best-in-class scientific literature to calculate the environmental impacts of different business activities, including industry “top-down” data from the World Bank and U.S. Environmental Protection Agency, as well as sector-specific “bottom-up” data from the U.N. and peer-reviewed academic studies.

✓ Granularity of Analysis

Many publicly available EEI-O models may cover only a small proportion of business activities. Trucost's global model is derived from the U.S. economy, due to its broad economic scope. To further ensure the model is representative of dispersed company operations, Trucost applies global environmental factors and expands its scope to cover approximately 500 discrete business activities. In particular, Trucost splits up high-impact business sectors, such as utilities and agriculture, to account for variations within the most environmentally significant business sectors.

✓ Regularity of Updates

A frequent criticism of publicly available EEI-O models is that they are out of date. Every year, Trucost updates its environmental impact data and engages with companies to incorporate the latest disclosed and non-disclosed environmental performance information.

✓ Scope of Environmental Indicators

Some models only estimate GHG emissions, but Trucost's approach calculates the environmental performance of companies across more than 450 environmental indicators.

What Is EEI-O Modeling?

A traditional input-output (I-O) model is a standard business tool used by economists worldwide, including the U.S. Bureau of Economic Analysis and the European Economic and Social Committee, to measure the interdependencies of sectors in an economy. EEI-O modeling extends the traditional I-O model by applying sector-level environmental emission factors. In its most basic form, the framework quantifies the economic transactions between industries that both produce goods (outputs) and consume goods from other industries (inputs) in the process of producing each industry's own output. In other words, for a single unit of revenue in a given sector, an I-O model quantifies the amount of expenditure required in other sectors across its entire supply chain—from raw material sourcing to company operations. When a traditional I-O model is extended to include environmental information, the framework can be used to estimate resource use, land use, pollutants, and other environmental issues for each sector contained within the underlying model.

Consider the example of the automobile manufacturing industry. In order to produce a single automobile, inputs will be required from other industries, including energy, steel production, and tire manufacturing. In addition, the energy, steel production, and tire manufacturing industries each require their own inputs, and so on, throughout the supply chain. A traditional I-O model is able to estimate the economic transactions that are required to produce a single automobile across the supply chain. When these economic transactions are extended to include sector-level environmental information, it is also possible to estimate the environmental impacts and dependencies associated with the production of the same automobile throughout the supply chain.

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