

S&P Global ESG Data Primer

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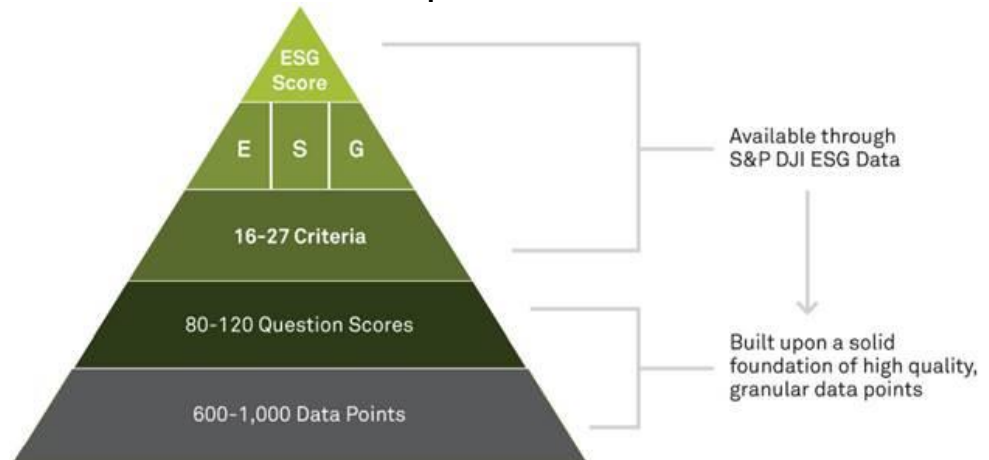
S&P DJI ESG SCORES (FOR MEASURING COMPOSITE ESG SCORE PERFORMANCE OF FUNDS)

S&P DJI ESG Scores robustly measure corporate sustainability performance with a focus on the most financially material issues within industries. Data is collected through the renowned SAM Corporate Sustainability Assessment (CSA) to engage companies directly for unparalleled access to private information. By going beyond simply collecting public disclosure, the CSA can bring to light emerging topics of growing interest to investors, often long before disclosure is widespread, for a cutting-edge view of corporate sustainability practices. Furthermore, this direct engagement allows us to assess how well companies actually *perform* on sustainability metrics, rather than simply rewarding corporate transparency and completeness, as is common with datasets that rely solely upon publicly reported information. All responses must be substantiated with internal documentation and real-life examples, audited by a third party where relevant in order to verify the accuracy of the information provided.

The CSA assesses 7,300 companies (representing approximately 95% of global market capitalization) through 61 industry assessments that cover the most relevant ESG issues. Once a company's assessment is complete, SAM calculates scores using a predefined scoring framework driven by the financial materiality of topics within specific industries. The concept of materiality here is defined by both risk exposure and the relevance of financial outcomes—underpinned by more than two decades of investment performance data rather than an arbitrary or theoretical approach to identifying material issues. Built upon a solid foundation of 600-1,000 data points per company, up to 120 question-level scores are then calculated for companies' responses to each CSA question. These scores are aggregated to as many as 27 industry-specific criteria, and the environmental (E score), social (S score), and governance (G score) dimensions before ultimately rolling up into the headline ESG score through a granular and bottom-up approach.

Exhibit 1: S&P DJI ESG Score Aspect Levels

The CSA is an annual and resource-intensive endeavor that typically takes companies several hundred hours to complete.



Source: S&P Dow Jones Indices LLC and SAM, part of S&P Global. Chart is provided for illustrative purposes.

The CSA is an annual and resource-intensive endeavor that typically takes companies several hundred hours to complete. Once led by CSR professionals in a marketing function, today the CSA often pulls resources from across the organization for a firm-wide view of how sustainability topics influence the business operations and budgeting decisions from the c-suite. In addition to annual assessments, the methodology also incorporates the Media and Stakeholder Analysis (MSA), using daily reporting of real-time information to account for company controversies on an ongoing basis. By combining comprehensive data sources, sound methodology, and a sharp focus on material issues in this way, the CSA is recognized as the “highest quality” and most “useful” ESG assessment by global sustainability professionals and investors.¹

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¹ Wong, Christina, et al. Rate the Raters 2019: Expert Survey Results. SustainAbility, an ERM Group Company, 2019, pp1-49, Rate the Raters 2019: Expert Survey Results and Wong, Christina, and Petry, Erika. Rate the Raters 2020: Investor Survey and Interview Results. SustainAbility, an ERM Group Company, 2020, pp1-54.

Exhibit 2: Summary of S&P DJI ESG Scores	
Score Coverage	7,300
S&P DJI ESG Scores are currently available for 7,300 publicly listed companies (representing approximately 95% of global market capitalization).	
Data Points per Company	Available for up to 27 Criteria (Built upon Approx. 1,000 Data Points per Company)
S&P DJI ESG data are available at the aggregate score level, in addition to the three underlying environmental, social, and governance dimensions, and further accessible up to as many as 27 industry-specific criteria per company. Each of these levels of company ESG data is available for investors to use and derive meaningful signals, with full transparency and flexibility to manipulate the metrics to inform their own investment process. All of the above rests upon a solid foundation of 80-120 question-level scores and a further 600-1,000 granular data points for every company assessed.	
Transparency versus Performance	Performance and Transparency
While many ESG datasets rely solely on company reporting and thus reward companies that simply disclose ESG issues—irrespective of how well a company manages its performance on these matters—S&P DJI ESG Scores critically account for both transparency and performance. The S&P DJI ESG scoring methodology further rewards companies that disclose underreported sustainability topics that are of growing importance to investors and the rapidly evolving ESG landscape.	
Integrates Controversies	Yes
S&P DJI ESG Scores are dynamic, accounting for the evolving landscape of ESG issues with up-to-date annual assessments and ongoing monitoring of company controversies through its MSA.	
Data Collection Method	Direct Company Engagement plus Public Disclosure via the CSA
S&P DJI ESG Scores benefit from one of the only ESG data collection processes to go beyond simply collecting information from public disclosures, by engaging with companies directly through the annual CSA. With direct and targeted company access, the CSA can capture a much broader range of sustainability topics at a much more granular level than public reporting, for a robust and comprehensive assessment of company ESG performance.	
Source: S&P Dow Jones Indices LLC and SAM, part of S&P Global. Data as of October 2020. Chart is provided for illustrative purposes.	

S&P DJI ESG Scores are currently available for 7,300 publicly listed companies.

S&P DJI ESG Scores benefit from one of the only ESG data collection processes to go beyond simply collecting information from public disclosures, by engaging with companies directly through the annual CSA.

Background Resources

- This paper addresses the CSA methodology and approach to calculating S&P DJI ESG Scores: [Discover Material Insights with S&P DJI ESG Data.](#)
- This paper discusses the history and relevance of the CSA (and DJSI), as well as the impact it's had on corporate sustainability performance over the past 20 years: [The Benchmark that Changed the World.](#)
- This [FAQ document](#) explains the differences in methodology between the raw CSA scores and S&P DJI ESG Scores, adjusted for the purposes of index construction.
- This paper describes the philosophy behind the CSA and explains how the questionnaire is structured and how the raw scores are calculated: https://portal.csa.spglobal.com/survey/documents/DJSI_CSA_Measuring_Intangibles.pdf.
- This document provides companies with information on the rationale and intent behind each CSA question: [CSA Companion 2020.](#)
- This link provides access to sample CSA questionnaires: <https://www.spglobal.com/esg/csa/csa-resources/sample-questionnaire>.

Trucost Metrics (for measuring carbon intensity and environmental footprints of funds)

Trucost is a leading environmental analytics provider that researches, standardizes, and validates hundreds of environmental performance metrics.

Trucost, part of S&P Global, is a leading environmental analytics provider that researches, standardizes, and validates hundreds of environmental performance metrics—covering themes such as carbon, water, waste, and pollutants—from over 14,000 of the world’s largest listed companies (representing approximately 99% of global market capitalization) through its four-step research process.

Trucost analysts standardize disclosed environmental performance data to best practice guidelines.

- 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, all the way 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 in Appendix II.
- 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.

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APPENDIX I: WHAT IS EEI-O MODELLING?

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, input 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 input, 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.

APPENDIX II: 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 UN 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.

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