

**esg**book

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# **ESG Scores**

## **V2.6.2**

**Methodology**

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**2023**

## Introduction

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The Environment, Social, and Governance (ESG) scores provide financial investors with a set of sustainability scores at the entity level. More specifically, the ESG score and ESG sub-scores provide a sector-specific analysis of public companies' performance on financially material sustainability issues spanning the Environment, Social, and Governance domains. Accordingly, these scores can be utilised as a tool to identify companies that are more likely to outperform over the long run.

To understand the potential for long-term performance, the ESG Book methodology considers the principle of financial materiality. That is, when computing the ESG scores of a company, the algorithm will only use information that significantly helps explain future risk-adjusted performance. More specifically, materiality is applied by more heavily weighting sustainability topics which have a stronger correlation with risk-adjusted performance. Since the financial materiality of different sustainability topics can vary through time, the weights are rebalanced on a rolling quarterly basis.

Importantly, the ESG score and associated sub-scores can be broken down into 22 granular Features scores or sustainability topics which allow users to understand, at a granular level, which sustainability topics are driving the high-level ESG scores from an absolute perspective.<sup>1</sup>

## Methodology

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In this document, we describe the methodology used to construct the ESG scores through a three-layer process (Figure 1).

1. **Input layer** – Collect and clean a wide variety of sustainability-related data.
2. **Feature layer** – Aggregate inputs along well-defined topics
3. **Score layer** – Combine Features into easy-to-use ESG Book scores.

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<sup>1</sup> Please see the Features scores [User Guide](#) for more information.

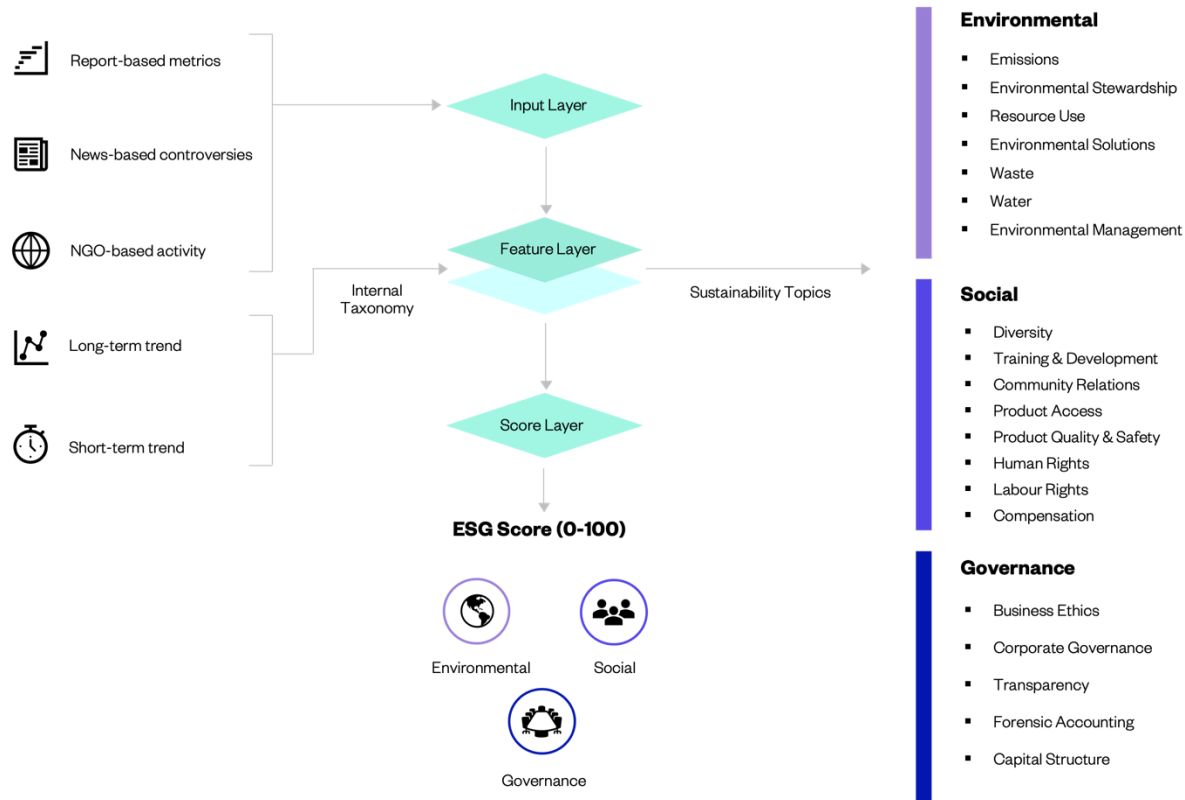


Figure 1. ESG scores methodology diagram.

## Layer 1 - Input layer

The input layer includes data gathered from the following three sources.

1. *Report-based metrics* – ESG Book collects over 250 reported metrics from non-financial disclosures (e.g., sustainability reports, integrated reports, CSR reports, proxy papers, and 10k reports)
2. *News-based controversies* – To get a more up-to-date analysis of sustainability performance, ESG Book uses natural language processing (NLP) to scan over 30,000 public news sources published in over 170 countries daily for sustainability-related controversies.<sup>2</sup>
3. *NGO-based campaign activity* - Alongside the news-based controversies, ESG Book also tracks NGO campaign activity across over 400 sustainability issues. NGO campaigns can be positive or negative in nature.

<sup>2</sup> Note, ESG Book currently only considers negative news (i.e., controversies) in the ESG score methodology.

## Layer 2 - Feature layer

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The Feature layer is introduced to further structure the input data along 22 well-defined sustainability topics (Appendix, Table 1). For every topic, we first construct two types of Feature sub-scores reflecting the frequency of data input: a Feature long-term trend and a Feature short-term correction. These sub-scores are calculated separately for the annual report-based data and the higher frequency data based on news controversies and NGO campaigns. These two scores are then aggregated into a final Feature score.

### Long-term trend

To get an aggregate view of a company's long-term performance trend per topic, we pull together all available report-based metrics from the input layer. The different metrics are then aggregated based on several considerations, including focus and dimensionality.<sup>3</sup>

### Short-term correction

ESG Book also constructs a more frequent short-term signal based on news controversies and NGO campaigns. Looking back one year on a daily basis for each topic, ESG Book first aggregates news-based controversies using a proprietary present news value (PNV), which is a function of an article's controversy level, how long ago it occurred, and the impact of the source (i.e., some news sources are more reputable than others). Additionally, ESG Book considers relevant NGO campaign activities from the past year, which supplements the news-based signal.<sup>4</sup>

### Final Feature scores

To find the final Feature scores, each of the 22 long-term trend scores (0-100) are multiplied with the matching short-term correction (in %) which is a combination of the news-based controversies and NGO campaign

## Step 3: Score layer

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### Total score

The total ESG score is calculated as a weighted sum of the Features scores using materiality-based weights. The E, S and G pillar sub-scores are calculated by considering only the Features within each of these themes.

The three pillar scores and the total ESG score are scaled between 0 and 100 with higher scores indicating better performance. The ESG score is calibrated using the principle of financial materiality and can be used to help compare companies on their ability to outperform on a risk-adjusted basis over the long run.

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<sup>3</sup> For example, two highly similar and correlated inputs may be combined into one principal component.

<sup>4</sup> Note, that NGO campaign activity can be both negative (critique) or positive (appraisal) in nature.

## Appendix

Table 1. List of 22 sustainability Feature topics.

Feature	Description
<i>Environmental</i>	
<b>Emissions</b>	This sustainability topic measures the contribution of business activities to the emission of greenhouse gases and other air pollutants. Inputs into this feature include emissions data as well as reduction initiatives, objectives, policies, and monitoring.
<b>Environmental Stewardship</b>	This feature measures the impact of business activities on biodiversity and animal welfare. Inputs into this feature include the use and regulation of animal products/testing alongside biodiversity impact initiatives and targets such as Forest Stewardship.
<b>Resource Use</b>	This topic measures the efficient use of energy and other natural resources including land and materials. Inputs into this feature include energy use/efficiency and land use reduction initiatives, recycling, toxic chemicals reduction and resource efficiency policies.
<b>Environmental Solutions</b>	This quantifies the environmental impact of products and services and the contribution toward sustainable consumerism. Inputs into this feature include the development of hybrid vehicles, smart water solutions and sustainable building products.
<b>Waste</b>	This evaluates the generation of waste and other hazardous outputs as part of business activities. Inputs include hazardous and general waste generation, and reduction policies, recycling practices, and oil spill disclosure.
<b>Water</b>	This sustainability topic assesses the efficient and responsible use of water throughout company operations. Inputs include water pollution, recycling initiatives, and water withdrawal.
<b>Environmental Management</b>	This feature measures the mechanisms and policies employed to manage the overall environmental performance of the business. Inputs include environmental lawsuits, investments into resource efficiency, and environmental impact reduction.
<i>Social</i>	

<b>Diversity</b>	This quantifies the representation of equal opportunities for women and minorities in the workforce and on the board. Inputs include board and employee diversity, discrimination lawsuits, and commitment to supplier diversity.
<b>Occupational Health and Safety</b>	This evaluates workplace-related health and safety performance. Inputs include the disclosure of accident rates and workplace injuries, employee health and safety training and certification, policies/procedures, and targets.
<b>Training and Development</b>	This feature assesses the opportunities and programmes in place to enable and support learning across employees and the supply chain. Inputs include employee training hours, costs, and policies as well as monitoring and targeting.
<b>Product Access</b>	This topic measures access to products and/or services for disadvantaged communities. Inputs to this topic relate to access to finance, medicine, education, food and affordable housing programmes.
<b>Community Relations</b>	This sustainability topic measures the level of community involvement and public trust. Inputs include customer satisfaction and community relations policies, targets and monitoring, and disclosure of employee volunteering hours.
<b>Product Quality and Safety</b>	This feature quantifies the quality and safety of products and services and level of customer satisfaction. Inputs utilised relate to lawsuits, policies, targets, and monitoring relating to product quality management.
<b>Human Rights</b>	This topic evaluates adherence to and promotion of human rights throughout all business activities, including the supply chain. Inputs include suppliers' human rights consideration, employee human rights training and policy as well as targets and monitoring of these.
<b>Labour Rights</b>	This sustainability topic measures compliance with internationally recognized labour standards, both in-house and across the supply chain. Inputs relate to the Freedom of Association, Supplier Code Audit and child labour, forced labour and labour rights policies.
<b>Compensation</b>	This feature assesses the fair and equal compensation of staff and board members. Inputs include the disclosure of average salaries and benefits, board member compensation, and pension funding.
<b>Employment Quality</b>	This sustainability topic quantifies working conditions and employee satisfaction. Inputs relate to employee turnover, work-life balance policy, and worktime flexibility.

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*Governance*

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<b>Business Ethics</b>	This feature assesses fair business practices such as corruption, political contributions, and anti-trust. Inputs include lawsuits relating to these issues and policies in place to monitor and reduce their impact.
<b>Corporate Governance</b>	This sustainability topic assesses the procedures and mechanisms in place that ensure proper long-term control and management of the corporation. Inputs relate to policies and targets surrounding governance issues like shareholder rights, and insider trading.
<b>Transparency</b>	This topic measures the level of transparency and disclosure of critical information about the business. Inputs relate to disclosures relating to accounting policy, financial transparency, articles of association, and reporting standards.
<b>Forensic Accounting</b>	This feature reflects a company's overall earnings quality and the degree to which their reported earnings properly represent the company's financial health. Those companies with poor earnings quality are at more risk of disappointing in their reported earnings results. This is a good proxy for financial governance and a company's ability to secure future investments.
<b>Capital Structure</b>	This topic depends on how high a company's leverage ratio is compared to other companies in its sector. High leverage increases short-term pressure on companies, making it more difficult to focus on long-term objectives. This is contrary to the long-term perspective which is often necessary for firms to focus on sustainability issues

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