



NORTHERN
TRUST

ASSET MANAGEMENT

THE NORTHERN TRUST ESG VECTOR SCORE™

METHODOLOGY BRIEF

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As demand for environmental, social and governance (ESG)-driven investing has accelerated, so too has the number of data providers — each with varying information, reporting components and levels of transparency. This has created significant confusion and subjectivity for investors to assess the magnitude and direction of individual companies’ ESG-related issues.

Concerned by the numerous ESG methodologies and data sets available, investors have expressed the need for a more transparent and disciplined framework that focuses only on the ESG-related business issues that could impact the financial condition of a company — and ultimately their portfolio’s investment return.

With these pressing issues in mind, we pulled together a cross-functional team of equity, fixed income and ESG investment professionals whose expertise ranged from quantitative research and portfolio management to ESG analysis and stewardship strategy, to seek to solve these fundamental challenges. The result of this in-depth, 12-month effort was the Northern Trust ESG Vector Score™ — a measurement that assesses equity and fixed income securities of publicly traded companies in the context of financially relevant ESG-related criteria that could impact their operating performance.

The ESG Vector Score™ focuses on the magnitude and direction of key ESG-related business issues likely to have a financial impact on companies, and hence a portfolio’s, performance. It provides a consistent, transparent methodology to gain greater clarity when building and managing sustainable portfolios. Additionally, it acts as a valuable indicator of corporate management of sustainability risks and can play an important role in stewardship activities by drawing attention to financially material issues to engage and track progress on with companies.

About Northern Trust Asset Management

30+ years of experience managing sustainable portfolios for many of the world’s most sophisticated and progressive investors

Sustainable Investing Leadership

- **\$189 billion** AUM* in sustainable investing strategies
- **Principles for Responsible Investment (PRI) member** since 2009
- **TCFD Supporter** *Task Force on Climate-Related Financial Disclosures*
- **IFRS Sustainability Alliance Member & ISSB Advisory Group** *International Financial Reporting Standards Foundation*



Magnitude

ESG issues that are reasonably likely to impact financial performance



Direction

Forward-looking risk assessment framework

Vector (*vec•tor* / *vekter*) = a quantity that has both **magnitude** and **direction**.

* As of December 31, 2024.

Above rankings are not indicative of future performance.

STEP
1

BUILD A FOUNDATION ROOTED IN FINANCIALLY MATERIAL ESG ISSUES

The ESG Vector Score™ is rooted in our philosophy that investors should be compensated for the risks they take — in all market environments and any investment strategy. And it's through that lens that we designed a process to identify and assess the key ESG-related business issues that — when managed well — can position a company for long-term value creation, and when managed poorly can expose a company to financial risk.

Our proprietary process begins with an intentional approach to identifying the key ESG-related business issues that we would focus on in our assessment. A core tenet of our methodology is transparency, so our starting point to identifying these key issues was to align with the most commonly agreed-upon industry disclosure standards that we believe exist today, the Sustainability Accounting Standards Board (SASB) Standards.

Launched in 2018, following six years of research and extensive market input (including contributions from Northern Trust Asset Management, which has also engaged with SASB via the Investor Advisory Group and the SASB Alliance), the SASB Standards were derived on an industry-by-industry basis to determine which metrics meet the threshold of financial materiality.¹ The financially material ESG issues are identified from a set of 26 broadly relevant sustainability-related business issues (referred to as General Issue Categories) that are organized under five intuitive sustainability dimensions outlined in Exhibit 1. These all come together to form what are known as the SASB Standards.

EXHIBIT 1: SASB STANDARDS GENERAL ISSUE CATEGORIES

Guided by the SASB Standards, the ESG Vector Scoring™ process identifies sustainability issues that are likely to affect the financial condition or operating performance of companies within a given industry.



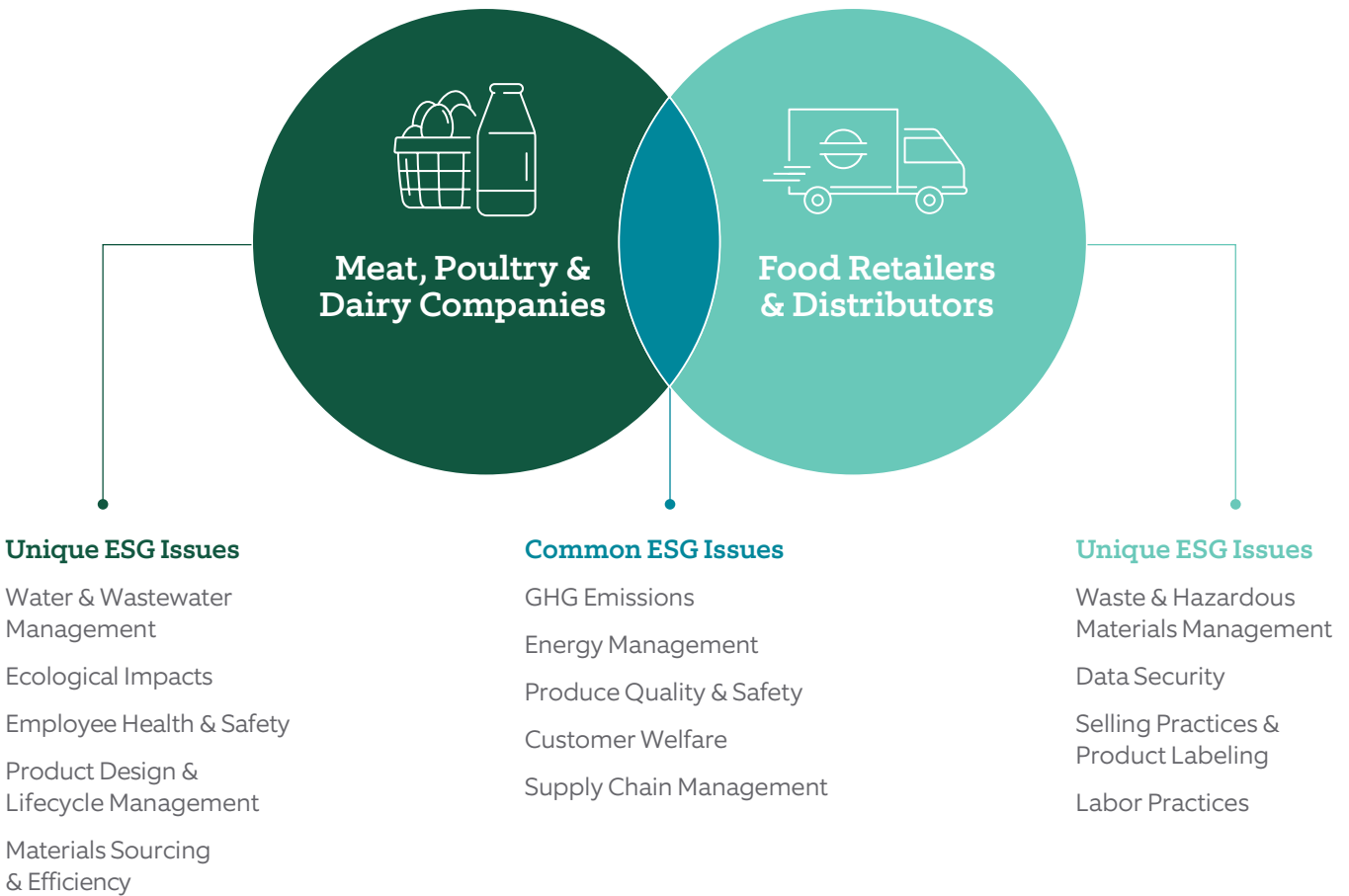
¹Source: Northern Trust Asset Management, SASB, IFRS Foundation, November 2023. See [SASB Materiality Map](#) for additional details.

This industry-specific approach is crucial because the issues that are relevant to one industry are oftentimes not the same ones that are relevant to another, as demonstrated in Exhibit 2 below. In this example, we examine the different ESG issues that would be focused on between Meat, Poultry & Dairy companies and Food Retailers & Distributors. While there is some overlap given they are both part of the Food & Beverage sector, their distinct business models and operational structures necessitate a focus on separate issues — not dissimilar to how a fundamental research analyst would need to adjust the focus of their analysis when dealing with companies in varying sub-industries. We believe this additional clarity and delineation around key issues is a necessity in order to make informed investment decisions when analyzing companies across the spectrum of these 77 identified industries.

EXHIBIT 2: HOW MATERIAL ESG ISSUES DIFFER BETWEEN INDUSTRIES

An industry-specific approach is crucial when analyzing companies through a sustainability lens, as the ESG-related business issues that are most likely to impact a company's bottom line often differ greatly.

FOOD & BEVERAGE SECTOR



Source: Northern Trust Asset Management, SASB, IFRS Foundation, November 2023.

Note: The issues listed above represent the General Issue Categories for each industry, which are industry-agnostic identifications of the industry-specific Disclosure Topics that appear in the SASB Standards (e.g., “Food Safety” in the “Meat, Poultry & Dairy” industry is the industry-specific Disclosure Topic for “Product Quality & Safety.”)

STEP
2

QUANTIFY HOW WELL COMPANIES HAVE HISTORICALLY MANAGED KEY ESG ISSUES

With the SASB Standards laying the foundation for our assessment framework, the next step was evaluating and selecting the underlying metrics that best measured a company in the context of each ESG-related business issue (i.e. General Issue Category). And, appreciating that ESG reporting and data requirements are continually maturing, the ESG Vector Score™ framework was intentionally designed as open architecture, allowing for the flexibility of incorporating additional best-in-class* data as it becomes available.

We underwent a significant due diligence process to select the underlying ESG metrics that would be used to measure and score the General Issue Categories specific to each of the 77 industries. Each metric was identified as either a “primary indicator” or “secondary indicator” based on the potential impact they might have on a given company within that specific industry. Exhibit 3 shows an example of the primary and secondary indicator metrics that were mapped to the Water & Wastewater Management issue for a company within the Meat, Poultry & Dairy industry.

EXHIBIT 3: EXAMPLE OF THE UNDERLYING METRICS USED TO ASSESS A GENERAL ISSUE CATEGORY

These metrics would be used to assess how companies in the Meat, Poultry & Dairy industry manage Water & Wastewater Management issues.

MEAT, POULTRY & DAIRY COMPANIES — WATER & WASTEWATER MANAGEMENT INDICATORS —	
PRIMARY INDICATORS	SECONDARY INDICATORS
Effluent Management	Sustainable Agriculture Programs
Water Intensity	Food & Beverage Sustainability Initiatives
Water Intensity Trend	
Water Risk Management	
Water Management Programs	

Source: Northern Trust Asset Management, Sustainalytics, November 2023.

After the hundreds of ESG indicators were analyzed, selected and then mapped to the SASB General Issue Categories within each industry, we were able to calculate a raw ESG score for each company. The preliminary score, referred to as the unadjusted score, is derived using underlying data from Sustainalytics (a leading independent provider of ESG data) for each of the relevant ESG metrics and calculated on a basis of 0 to 100 for each General Issue Category.

Building upon our previous Meat, Poultry & Dairy industry example, we would derive a distinct score for each of the 10 issues highlighted in Exhibit 2. The scores for each of those 10 issues are based on an assessment of the relevant indicators such as those outlined in Exhibit 3 relating to Water & Wastewater Management. These scores are ultimately weighted, with a higher weight given to the primary indicators, and averaged to arrive at the companies’ total unadjusted score between 0 to 100.

At this point, our unadjusted score had achieved our initial goal of establishing a transparent and disciplined assessment methodology — but we felt there was still more that needed to be done in order to address the industry gaps that exist today in giving a truly comprehensive evaluation of a company.

* Best-in-class ESG is industry terminology referring to an investment approach that selects companies that are leaders in implementing ESG.

STEP
3

INTEGRATE A FORWARD-LOOKING FRAMEWORK

An important aspect of any strong fundamental analysis of a company lies in its ability to formulate opinions on how they are performing relative to their peers and how they may perform in the future. So while there is no crystal ball in existence to predict the future, nor any compliance department in the world that would allow a firm to intimate that they are confident in doing so, that forward-looking and peer review aspect needed to be addressed in order to formulate a truly comprehensive analysis.

The key element to incorporating these important views — while ensuring we stayed true to our objectives of transparency and consistency — was the intentional integration of the thematic structure established by the Task Force on Climate-related Financial Disclosures’ (TCFD) Recommendations. Their recommendations are designed to solicit useful, forward-looking information that can be included in mainstream financial filings and used by investors to make more informed investment decisions. TCFD structured their framework around four thematic areas outlined below that represent the core elements of how organizations operate.

EXHIBIT 4: TCFD’S CORE ELEMENTS OF RECOMMENDED CLIMATE-RELATED FINANCIAL DISCLOSURES



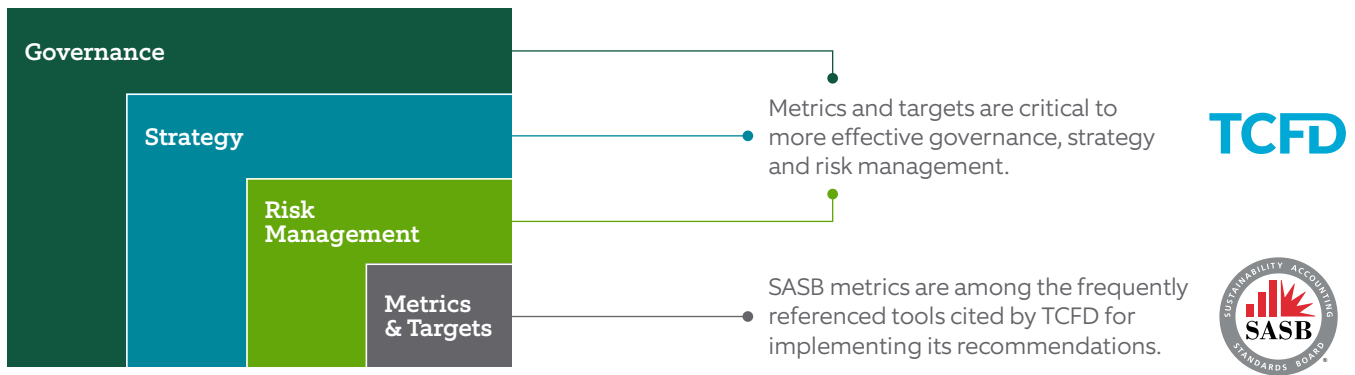
Source: TCFD, November 2023. See [TCFD Recommendations](#) for additional details.

We believe this intuitive evaluation framework provides a valuable lens through which to view the numerous industry-specific metrics recommended by SASB. It also enables the ESG Vector Score™ to move beyond the common practice of focusing solely on the ESG metrics that tend to be backward-looking, and incorporates a more forward-looking view. And while, as the name implies, the TCFD Recommendations are only focused on climate-related issues, we extended this approach to apply these concepts to all financially material ESG risks across the SASB Standards, resulting in a more comprehensive risk assessment for each company.

To integrate these important concepts derived from the TCFD recommendations, we utilized data that implicitly looks at governance, strategy and risk management by determining how exposed a company is to each material ESG issue relative to an average company operating within the same industry. This data is ultimately used to adjust the score for each General Issue Category based on how well they have managed the issue relative to peers. We believe this adjustment (that we refer to as a “sensitivity adjustment”) helps quantify the forward-looking component of the overall risk assessment.

EXHIBIT 5: HOW THE SASB STANDARDS INTEGRATE INTO THE TCFD FRAMEWORK

SASB General Issue Categories serve as the metrics and targets that will ultimately be adjusted based on data that looks implicitly at governance, strategy and risk management.



Source: Northern Trust Asset Management, SASB, TCFD, November 2023. For illustrative purposes only.

To illustrate this step, Exhibit 6 demonstrates what happens to the unadjusted score for Employee Health & Safety issues for two companies in the Meat, Poultry & Dairy industry. Company A has a relatively high unadjusted score that is further improved following the sensitivity adjustment. This score improvement signifies that the company has a lower sensitivity to risks related to Employee Health & Safety issues due to its more effective governance, strategy and/or risk management of the issue. Contrasting that with Company B, we see a lower unadjusted score that is more sensitive to Employee Health & Safety issues (i.e., has managed this issue worse than its peers), which ultimately lowers their final score (referred to as the “adjusted score”) for this General Issue Category.

EXHIBIT 6: HOW SCORES ARE ADJUSTED BASED ON A COMPANY’S MANAGEMENT ESG ISSUES VERSUS THEIR PEERS

GENERAL ISSUE CATEGORY: EMPLOYEE HEALTH & SAFETY	COMPANY A	COMPANY B
Unadjusted Score	90	65
Company Sensitivity Adjustment*	0.95	1.10
Calculation	$90 / 0.95 = 95$	$65 / 1.10 = 59$
Adjusted Score	95	59

* A sensitivity adjustment greater (less) than 1.00 indicates a higher (lower) exposure to the ESG issue versus an average company within the same industry, resulting in a decrease (increase) to the company’s overall adjusted score.

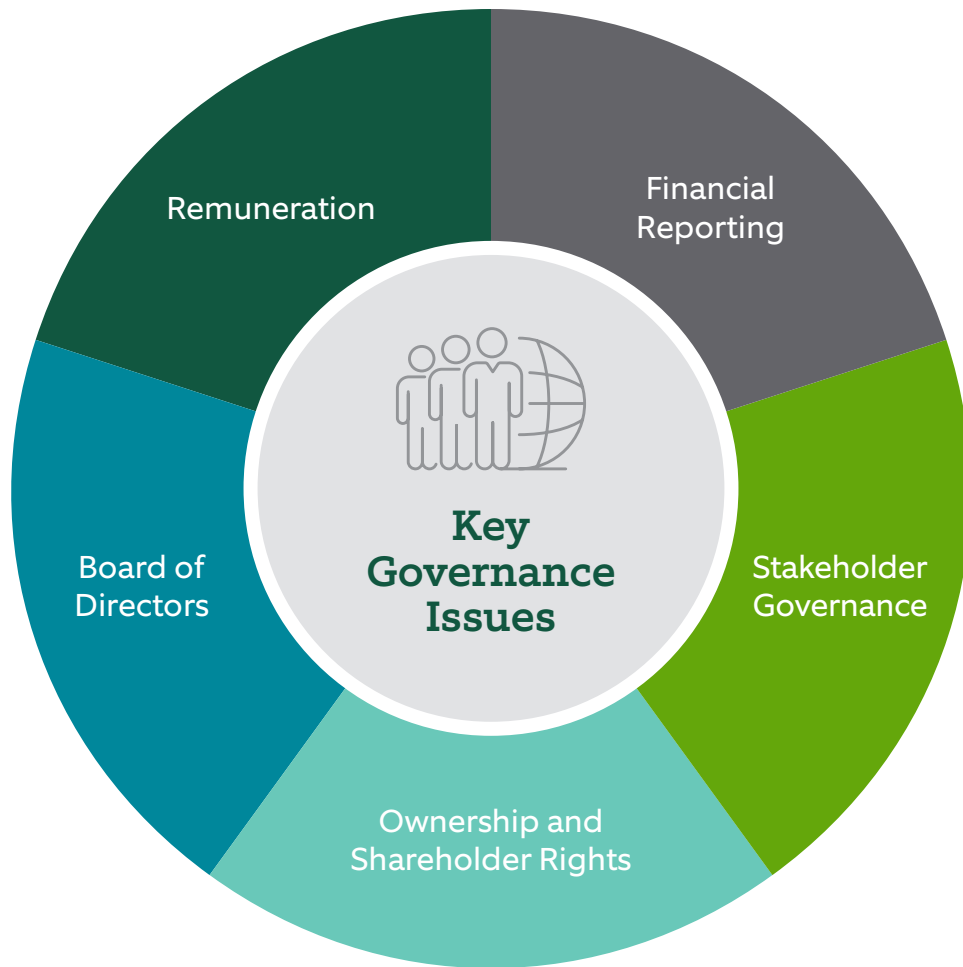
Source: Northern Trust Asset Management, Sustainalytics. For illustrative purposes only.

STEP 4 | PLACE FURTHER EMPHASIS ON CORPORATE GOVERNANCE

We believe strong corporate governance is the basis for long-term value creation, regardless of the industry. Having the appropriate corporate governance in place is essential to balance the potential for an excessive focus on short-term results at the expense of long-term interests. Therefore, our final step in the process was to ensure the impact of corporate governance issues was adequately reflected in the ESG Vector Score™.

To achieve this, we incorporated a meaningful 20% weight to corporate governance metrics based on the companies' adherence to best practices when looking at: the board of directors, ownership and shareholder rights, remuneration, financial reporting and stakeholder governance. To quantify and capture the impact of corporate governance, we used a comprehensive governance score that ranges from 0–100 and ultimately applied it to round out the ESG Vector Score™ using a fixed weighting methodology.

EXHIBIT 7: KEY GOVERNANCE ISSUES WHEN ASSESSING A COMPANIES' ADHERENCE TO BEST PRACTICES



CONCLUSION

As the demand for ESG-driven investing has accelerated, so too has the number of data providers and varying ESG methodologies. This growing challenge has created the need for a more transparent and disciplined framework that helps reduce the confusion and subjectivity that exists today. A framework that draws upon the guidance from leading industry groups who have paved the way in establishing more consistent standards and recommendations.

The Northern Trust ESG Vector Score™ helps solve this challenge and ultimately brings greater clarity to sustainable investing by focusing on the key ESG-related business issues that could impact a portfolio’s investment return. This industry-first approach marries two leading sustainability disclosure frameworks — the SASB Standards, and the thematic structure of the TCFD recommendations. The open-architecture design enables a more intentional and transparent integration of ESG considerations into equity and fixed income investment processes and can assist in prioritizing corporate engagements, further aligning our sustainable investments and stewardship activities.

EXHIBIT 8: OVERVIEW OF THE NORTHERN TRUST ESG VECTOR SCORE™ PROCESS



Source: Northern Trust Asset Management, SASB, TCFD, November 2023. For illustrative purposes only.

ABOUT NORTHERN TRUST ASSET MANAGEMENT

Northern Trust Asset Management is a global investment manager that helps investors navigate changing market environments in efforts to realize their long-term objectives.

Entrusted with \$1.3 trillion in assets,* we understand that investing ultimately serves a greater purpose and believe investors should be compensated for the risks they take — in all market environments and any investment strategy. That's why we combine robust capital markets research, expert portfolio construction and comprehensive risk management in an effort to craft innovative and efficient solutions that seek to deliver targeted investment outcomes.

As engaged contributors to our communities, we consider it a great privilege to serve our investors and our communities with integrity, respect, and transparency.

How helpful was this?



* Assets under management as of December 31, 2024.

ABOUT SUSTAINABLE INVESTING

At Northern Trust Asset Management (“NTAM”), we define Sustainable Investing as encompassing all of NTAM’s investment strategies and accounts that utilize values based and norms based screens, best-in-class and ESG integration, or thematic investing that may focus on a specific ESG issue such as climate risk. NTAM’s Sustainable Investing includes portfolios designed by NTAM as well as those portfolios managed to client-defined methodologies or screens. As the data, analytical models and aforementioned portfolio construction tools available in the marketplace have evolved over time, so too has NTAM. NTAM’s Sustainable Investing encompasses strategies and client assets managed in accordance with client specified responsible investing terms (historically referred to as Socially Responsible), as well as portfolios that leverage contemporary approaches and datasets, including ESG analytics and ESG thematic investing.

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An Environmental, Social and Governance (ESG) strategy's use of ESG factors and screening process may screen out certain companies and industries and/or affect exposures to certain companies or industries. An ESG strategy utilizes ESG analytics as a risk mitigation tool not as an alpha driver and may cause the strategy to forego certain investment opportunities. Investors can integrate ESG data to create a more holistic view of risks and opportunities — resulting in more informed investment decisions and resilient portfolios.

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