In 2015, nearly 11,000 companies around the world filed annual reports with the U.S. Securities and Exchange Commission (SEC). Each of those filings was the product of a complex system of workflows, involving dozens or even hundreds of professionals with specific corporate, legal, accounting, or other expertise—people like you. For a group so large and varied to communicate effectively—not just with one another but also with the investors and creditors whose capital helps fund their business—a common language is required.

For centuries, accounting has served as “the language of business,” and like any language it has evolved—along with the world around it—to meet the needs of its users. In English, new words, inflections, and even grammatical constructions emerge while others fall into disuse. Likewise, concepts new and old have regularly entered into and disappeared from the accounting lexicon—from the rise of double-entry bookkeeping in medieval Europe to the establishment of decision-useful financial accounting standards in the 1970s.

In today’s rapidly changing world, businesses face a unique set of challenges that call for a new type of non-financial accounting and for a new set of standards to ensure that it is useful. Large-scale issues such as population growth, resource constraints, urbanization, technological innovation, and climate change can and do have profound effects on business outcomes. As a result, managers are incorporating non-financial performance measures into their decision-making processes and investors are looking beyond traditional financial statements for a more complete picture of how companies create value over the long-term. The language of business is evolving yet again to meet this growing demand.

However, as non-financial value drivers have grown in significance, sustainability accounting initiatives have struggled to effectively sharpen their focus on the factors most relevant to internal and external decision-makers. Consequently, the market is faced with an avalanche of information that is costly for companies to produce; lacks comparability, reliability, and timeliness for investors; and is often useless to both.
Increasingly, a wide range of market participants—including companies, investors, accountants, and lawyers—recognizes the need for a shared understanding of how these non-financial value drivers impact corporate performance and for a common language to communicate those impacts.

Founded in 2011, the Sustainability Accounting Standards Board (SASB) addresses this need by developing industry-specific standards that help public corporations disclose material, decision-useful sustainability information to investors.

SASB standards are developed—and designed to be considered—using the U.S. Supreme Court definition of materiality. Alignment with the SEC’s existing legal framework helps to bring companies and their investors together around the factors that have, or are anticipated to have, a material effect on the business. By facilitating the collection, management, and reporting of sustainability information that is relevant, reliable, and comparable, SASB empowers both corporate and investor decision-making, risk management, and strategy-setting.

Against the backdrop of this changing business landscape, practitioners in sustainability, finance, accounting, securities law, and investing must understand how to identify, quantify, and communicate the sustainability factors that are material to a company’s financial condition and operating performance. In the content that follows:

- Part I sets the context for sustainability accounting, describing the current market landscape and explaining the relevant legal considerations.
- Part II outlines how SASB standards are designed to fit within that context.
- Part III covers the implications of sustainability accounting for both companies and investors.

This content is intended to help readers gain insight into how sustainability accounting can inform their own work for the benefit of their organization, its shareholders, the capital markets, and the economy at large.
Learning Objectives Covered in This Section

- Describe the trends driving demand for the disclosure of sustainability information.
- Explain why sustainability information is increasingly important to investors for investment decisions (e.g., reduced ratio of net assets to enterprise value, increased risks and opportunities).
- Discuss the challenges that investors face in integrating sustainability information into investment decisions (e.g., information is available, but often its quality varies, it is not comparable, and/or it lacks obvious financial implications).
- Distinguish SASB’s approach (sustainability accounting) from other approaches to sustainability tracking and reporting.
- Discuss the role of SASB standards in helping companies develop strategies for long-term value creation, and benchmark and improve operational performance.

As non-financial value drivers continue to grow in significance, accountants have grappled with questions of how to identify what data to collect, how to measure that information, which controls and monitoring process are appropriate, how to analyze the information to inform management decisions, and what to disclose externally. These questions can be more complex when the information is difficult to quantify. Undaunted, a number of initiatives have pressed forward with the conviction that all participants in the capital markets will benefit from an improved ability to account for all of the capitals—financial, natural, social, human, and others—that enable and impact corporate performance. As the AICPA has pointed out, “accountants’ widely acknowledged expertise and skills in measurement, control, reporting, and assurance place them in an excellent position to help an organization link sustainability activities to strategies using accounting measures, tools, theories, and techniques.”

7.1. Pointing the Way Forward: the AICPA, the FASB, and the CFA Institute

Sustainability accounting aims to meet a need that was identified by two of the major financial accounting organizations in the 1990s and 2000s. Motivated by a variety of factors, including the declining ratio of net assets to enterprise value among publicly traded firms, the AICPA and FASB each commissioned a report to review the state of business reporting. Both organizations saw signs that business reporting, which includes financial and non-financial reporting, could be improved to better serve investors and other users that depend on relevant and useful disclosures. Despite the fact that both organizations focus on financial accounting and reporting, both reports identified a need for non-financial information to make business reporting more meaningful.

In 1991, the AICPA formed the Special Committee on Financial Reporting (also known as the Jenkins Committee) because of concerns about the relevance and usefulness of business reporting. The committee’s key conclusions and recommendations called for improved business reporting that, in addition to financial statements, would include valuable non-financial information. Specifically, the report identified the value of “material trends, demands, commitments, concentrations, or events … known to management that would cause reported information not to be indicative of future core earnings, net income, cash flows, or future financial condition.”103 This includes forward-looking information, such as management’s plans and the company’s opportunities and risks, and non-financial information that captures drivers of long-term value creation.104

Shortly after the AICPA’s report, the Association for Investment Management and Research (“AIMR”), now called the CFA Institute, released a report in 1993 that reached similar conclusions. Titled Financial Reporting in the 1990s and Beyond, the report concluded that financial statements are one component of a comprehensive business reporting model that serves users, and the report encouraged management to “disclose and discuss their strategies, proposed tactics and plans, and expected outcomes.”

Following these findings, the FASB formed the Business Reporting Research Project to review how companies could improve their reporting to be more relevant and useful. In 2001, the FASB issued Improving Business Reporting: Insights into Enhancing Voluntary Disclosures. The FASB found that leading companies in select industries voluntarily included some non-financial information that was useful to investors. It also found that the importance of this information was likely to increase. The FASB noted that the most useful and relevant disclosures included the factors that influence a company’s success, its strategy for managing those factors, and the metrics for measuring management of those success factors.

103 AICPA, Jenkins Committee Report, 1994, p. 54.
104 Ibid., p. 4.
As prominent organizations in the financial accounting, financial reporting, and financial analysis professions, the AICPA, the FASB, and the CFA Institute helped validate the claims made by sustainability professionals about the need for sustainability accounting. Although the approaches of the three organizations differed in scope, they identified similar purposes for complementary financial and non-financial information.

7.2. Sustainability Accounting and the Accounting Profession

Compared with financial accounting, sustainability accounting is a nascent practice with no universally agreed-upon definition. However, a consensus is beginning to emerge.

The AICPA explains that “accounting for sustainability involves linking sustainability initiatives to company strategy, evaluating risks and opportunities, and providing measurement, accounting and performance management skills to ensure that sustainability is embedded into the day-to-day operations of the company.”

Without explicitly offering a definition for sustainability accounting, the Institute of Management Accountants (“IMA”) describes the relationship between sustainability and accounting as identifying “where connections can be made between non-financial reporting, financial value, and the sustainable worth of the entity.”

SASB’s Conceptual Framework defines sustainability accounting as the measurement, management, and reporting of corporate activities that maintain or enhance the ability of the company to create value over the long term. This includes activities that involve human, social, and environmental capital, but also the impacts of governance, leadership, and innovation on value creation. Although sustainability accounting metrics may not be expressed in monetary units, the performance they measure can have a financial impact.

Although not identical, these three notions of sustainability accounting share a common theme: They all identify a connection between sustainability and a company’s overall performance—traditionally defined as financial performance. As such, sustainability accounting is relevant to both financial and managerial accountants for the purposes of external reporting and internal decision-making.

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7.3. External Reporting

Financial accountants have traditionally explained how a company creates value and answered investors’ questions with four financial statements: the balance sheet, the income statement, the statement of cash flows, and the statement of stockholders’ equity. As those questions evolve, accountants will need additional tools to answer them.

Although many companies now issue annual sustainability reports, the information contained in them is aimed at a broad set of stakeholders and is often immaterial to the reasonable investor.\(^{108}\) Financial accounting, on the other hand, focuses primarily on the needs of investors and other providers of capital. It encompasses information about a company’s resources, claims against the company, and how efficiently and effectively the company’s management and board have used the company’s resources.\(^{109}\) When reported to the public, that information serves investors, lenders, and other creditors as they make decisions to provide resources to the company.

For those groups to make informed decisions, they require more information than what is captured by financial accounting alone.\(^{110}\) \(^{111}\) A decision to invest in or provide debt or credit to a corporation reflects an assessment of the likelihood of the corporation improving the investment, repaying the debt, or remaining creditworthy—which is to say an assessment of future performance. Financial reports account for the financial performance in the past or at a certain point in time. They can include indicators of future performance, but critics of financial reporting often argue that the financial reports do not generally offer enough information on their own to make adequate projections of a company’s future performance.\(^{112}\) Financial analysts and other users of business reporting use financial analysis models to project future performance. As material sustainability data becomes more readily available, those financial models are beginning to incorporate the data to help improve investment decisions and provide a more accurate picture of a company’s current and future performance.\(^{113}\)

Accounting for the sustainability information that influences a company’s ability to create value in the future is therefore valuable for the same users of financial accounting data. There is ample research to suggest that select non-financial information, which may include sustainability information, can serve as a leading indicator for future financial performance.\(^{114}\) Sustainability factors, particularly a

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110 Ibid.
company’s future plans, opportunities, risks, and uncertainties, can add context and perspective to financial reports. Investors and other users of financial reports can therefore make more informed decisions about the company’s ability to create value in the long-term. Moreover, since financial accounting has not developed techniques and standards to fully capture the difference between market value and book value, sustainability accounting can help account for that uncaptured value.

7.4. Internal Decision-Making

A fundamental question facing executives is how to best allocate corporate resources. Such decisions are typically made on the basis of a formal or informal cost-benefit analysis. However, when dealing with non-financial resources—things like human, social, and natural capital—the costs and benefits are difficult to quantify. Traditional accounting does not treat these things as assets, even though they undeniably represent sources of future benefits.

“You can’t manage what you can’t measure” is a timeworn business axiom—largely because it contains at least a kernel of truth. However, measurements don’t necessarily need to be expressed in fungible units of financial currency.

Managerial accounting helps companies measure both financial and non-financial resources in order to manage those resources and deploy them to maximize performance and/or minimize risk. Sustainability accounting metrics can enhance or be incorporated into managerial accountants’ performance evaluation systems to promote goal congruence and coordination, communicate expectations, motivate unit managers, provide feedback to top-level decision-makers, and inform benchmarking efforts. They can help managers to identify those areas of their operation that are falling short of expectations, and to focus their attention on what needs improvement.

Sustainability accounting can provide insight on where resources are being wasted and how a company can further improve its operational efficiency. Also, it may help managerial accountants develop further insight into cost drivers and create more robust activity-based costing analyses. And because they’re tied to specific value impacts, they fit neatly into a balanced scorecard approach to performance evaluation.

In addition to offering insight on day-to-day operational performance, non-financial measures can also help managerial accountants align a company’s activities with its key strategic objectives and provide support for the identification or exploration of growth opportunities.

Managerial accountants’ focus on performance management and corporate strategy parallels sustainability accounting’s objective to draw the link between

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115 “Recommendations on Disclosure,” p. 360.
today’s performance and tomorrow’s ability to create value. A 2008 IMA report (The Evolution of Accountability: Sustainability Reporting for Accountants) explains: “The management accountant who fails to identify the factors contributing to the sustainability of the organization is not providing management with a full picture of the organization’s value or of the breadth of risks that need to be addressed in maintaining and enhancing the organization’s value.” The role of sustainability accounting in value creation will be discussed in Part III: Using SASB Standards.

### 7.5. Current Initiatives

One of the more prominent organizations for sustainability reporting is the Global Reporting Initiative (“GRI”). Since 2000, GRI has offered a framework for organizations to engage in a multi-stakeholder process to identify, and then report on, the company’s significant economic, environmental, social, and governance aspects as well as the aspects that substantively influence the assessment and decisions of stakeholders. The organization—which could be a company, a governmental institution, or an NGO, among others—determines who its stakeholders are, which could include those who have invested in the organization or those who have other relationships to the organization, such as employees, customers, or civil society. The GRI introduced a set of standards in 2017, including three universal standards applicable to all organizations and a series of topic-specific standards to report information on economic, environmental, and social impacts. The standards are not specific to a given country, industry, or sector, but the GRI has provided supplemental guidance for a limited number of sectors.

Another prominent organization is the International Integrated Reporting Council (“IIRC”), which provides a principles-based framework for companies to create an integrated report. It defines this framework as a “concise communication about how an organization’s strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term.” Integrated Reporting <IR>, from the perspective of the IIRC, is primarily conducted by private-sector, for-profit companies by adhering to the Guiding Principles and Content Elements of the International <IR> Framework. The <IR> Framework is not specific to a given country, industry, or sector. It does not specify key performance indicators (“KPIs”) or measurement methods. It is up to the company to determine what to disclose and how.

The CDP (formerly Carbon Disclosure Project) is a global system for companies and cities to measure and disclose carbon emissions, water use, deforestation, and supply chain data. The data are then published to help investors better understand and mitigate risks in their investment portfolios based on those topics. One special project

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118 GRI, “G4 Sustainability Reporting Guidelines”.
119 Ibid.
of CDP—the Climate Disclosure Standards Board (CDSB)—has developed the Climate Change Reporting Framework. The framework helps companies report greenhouse gas emissions and, according to the company’s management, the extent to which climate change will affect the company’s strategy and operational performance.122

The UN Global Compact is a participant-based policy initiative, including businesses and other participants, such as academics, public sector organizations, and cities.123 Business participants in the UN Global Compact commit to incorporating the Global Compact Ten Principles into their strategies and day-to-day operations. In addition, they issue an annual Communication on Progress highlighting their progress in incorporating the Ten Principles, which relate to human rights, labor issues, the environment, and anticorruption. Business participants receive a variety of resources to support their work and advance sustainable business models and markets.

The Financial Stability Board, an international body established by the G20, formed the Task Force on Climate-Related Financial Disclosures (TCFD) in 2015 to develop recommendations for climate-related disclosures. With a range of stakeholders and a global remit, the TCFD recommendations, which were released in December 2016, reach beyond current disclosure requirements and emphasize forward-looking scenario analysis—for example describing the potential impact of an international effort to limit the global increase in temperature to 2°C above pre-industrial levels.

Finally, SASB is an independent nonprofit organization that develops sustainability accounting standards to help U.S. publicly listed companies disclose material information in SEC filings in a way that is decision-useful for investors. The SASB

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standards address sustainability issues with industry-specific disclosure topics, and include both accounting metrics and disclosure guidance. SASB’s standards and its standard-setting process will be covered in more detail in Part II: Understanding SASB Standards.

Although many initiatives exist, SASB was established to fill a void in the sustainability reporting landscape: To provide investors with accessible, decision-useful information regarding a company’s performance on the small handful of industry-specific sustainability topics that are reasonably likely to have material impacts on its financial condition or operating performance. Some of the challenges investors have faced will be discussed in the following sections.

SECTION REVIEW

In this section, the following Learning Objectives were covered:

- Describe the trends driving demand for the disclosure of sustainability information.
- Explain why sustainability information is increasingly important to investors for investment decisions (e.g., reduced ratio of net assets to enterprise value, increased risks and opportunities).
- Discuss the challenges that investors face in integrating sustainability information into investment decisions (e.g., information is available, but often its quality varies, it is not comparable, and/or it lacks obvious financial implications).
- Distinguish SASB’s approach (sustainability accounting) from other approaches to sustainability tracking and reporting.
- Discuss the role of SASB standards in helping companies develop strategies for long-term value creation, and benchmark and improve operational performance.

Questions to consider

- In what ways did prominent financial accounting organizations suggest that non-financial information could make business reporting more meaningful?
- In what ways can sustainability information be useful to decision-makers inside and outside of an organization?
LEVEL II STUDY GUIDE

INTRODUCTION

In its 2015 annual report, a large, multinational Household & Personal Products company disclosed that it used 1.88 cubic meters of water per ton of production, down from 2.01 the previous year. From this data, it’s apparent that the company is making progress in terms of water efficiency—and that knowledge may be helpful to the company’s managers or its investors. However, it’s also true that the number raises more questions than it answers. For example, how did the company achieve this performance improvement? How much of the water it used came from water-stressed regions, where scarcity could lead to price volatility or supply disruptions? How does this data compare with those of the firm’s competitors? How does it compare with industry benchmarks?

As the links between sustainability and financial performance become more clearly defined, reporting on sustainability performance has expanded. But users of this information—professionals in investment, finance, sustainability, and other fields—don’t need more information. They need better information. SASB standards facilitate an enhanced understanding of a company’s performance and value.

But even when a company reports information using SASB standards, a deeper analysis is required. Just as no meaningful conclusions can be drawn from financial statements in isolation, the data that emerge from SASB standards requires closer consideration. This guide sets out a framework for that process and points out where material sustainability information can be useful for portfolio construction and industry-level analysis.

For example, the SASB standard for the Aerospace & Defense industry calls for companies to report the amount of hazardous waste they have produced and the
percentage of that waste they have recycled. This disclosure yields two numbers. To be useful, however, these bits of quantitative data will likely need considerable manipulation. The data may need to be

- Normalized appropriately;
- Examined in the context of the firm’s unique operating circumstances;
- Compared with a company’s own past performance and/or its targets, the performance of peer companies, and industry benchmarks;
- Evaluated in terms of the likelihood, intensity, and timing of potential material impacts; and
- Assessed for impacts on the inputs to a valuation model.

Because SASB standards measure performance on the industry-specific sustainability factors that are explicitly linked to a company’s financial condition and operating performance, the information they yield will be useful to both companies and their investors.

This study guide is intended to help users of SASB standards gain a deeper understanding of how the information captured by the standards can provide enhanced insights into a company’s performance and its ability to create value over the long term. The guide provides insight into assessing material sustainability factors based on the relation between a company and its industry, evaluating the comparability of reported information, and determining the connection between sustainability and financial performance.

How an investor, a company, or another interested party ultimately uses or interprets SASB-reported data can, and likely will, vary. Viewpoint and outlook can determine not only how sustainability data is interpreted and used, but also which data is deemed most relevant. This is not unlike the way investors and corporate finance professionals arrive at different conclusions regarding financial information. Two analysts looking at the same debt-to-equity ratio for a given company may interpret that ratio differently—depending on a variety of factors, including the company’s situation, the industry in which it operates, and the individual’s own risk appetite—but both would share a similar understanding of what the ratio means and why it’s useful. Similarly, regardless of how SASB standards and reported data are ultimately deployed, a clear understanding of the meaning of SASB topics and metrics is essential.
As discussed in Part II, the data yielded by SASB sustainability accounting metrics can be used in comparative analysis to provide useful and important insights into a company’s performance on the sustainability issues that are critical to its core business. These comparisons can help guide investment decisions as well as internal strategies for managing key issues. But once a user understands how companies are performing relative to one another—for example, which of them are seizing new opportunities and which are exposing themselves to unnecessary risks—how does the user know what effects that sustainability performance will have on financial performance?

By design, the same information from SASB metrics can also be used in fundamental financial analysis, shedding light on sustainability impacts to a firm’s book value, its cost of capital, and its growth projections. By examining these impacts, a user of material sustainability data can better understand the underlying health of a company and more accurately assess its market value through traditional financial methods.

SASB metrics are powerful tools in financial analysis because they help users better understand the likelihood, severity, and time frame of material impacts associated with key sustainability issues. Further, SASB research identifies specific channels of financial impact for each industry-specific sustainability topic, including revenues and costs, assets and liabilities, and cost of capital (or risk profile). Effectively evaluating a company using information disclosed with SASB standards requires a user to have a firm understanding of the connection between sustainability performance and financial performance, to be able to assess sustainability data for a company’s opportunities and risks, and to understand the impacts these might have on a company’s financial condition or operating performance.
During its standards-setting process, SASB carries out extensive, evidence-based research to determine the specific types of financial impacts associated with a given sustainability issue. A summary of these findings is included in the SASB Industry Research Brief for each SICS™ industry. The table, which can be found in Appendix IIB of each industry’s brief, groups impacts for each disclosure topic in the following categories:

1. **Revenues and Costs:** Impacts on revenue affect demand for core products and services, intangible assets, and long-term growth. Impacts on cost are typically related to operational efficiency/cost structure.

2. **Assets and Liabilities:** Impacts along these channels affect the value of core assets and liabilities.

3. **Cost of Capital:** Impacts to a firm’s cost of capital tend to affect areas of governance, license to operate, and risk.

By studying the financial impact tables, a user of SASB-reported data can gain a better understanding of the following:

- The most likely channels of impact for each disclosure topic; and
- The likely intensity of a specific impact (medium or high).

Such an understanding can help users more effectively link sustainability performance to financial performance, allowing for more robust comparative and fundamental analyses.
Channels of Impact

It’s clear that the impacts of sustainability issues can be varied, interrelated, and differently interpreted. Regardless of a user’s determinations, however, the financial implications of these impacts should be considered. The information from SASB metrics is intended to capture impacts on the three key areas outlined above (book value, cost of capital, and growth projections), which can then be used to inform the inputs to valuation models. Therefore, it is important to be able to determine which of these impacts is most likely to be associated with a given metric.

Let’s take a closer look at each of the three general channels of financial impact, the types of SASB metrics with which they are typically associated, and how the related data might be useful in a valuation model.

**Book Value**

Sustainability performance related to book value may impact a company’s cash flows and cash flow projections. For metrics associated with book value impacts, disclosure typically provides information on financial condition or operational performance that has clear and direct financial impacts in four key areas: assets, liabilities, revenues, and expenses.

1. **Assets.** A company’s assets can be impacted by poor performance on certain sustainability topics. For example, large publicly traded solar companies acquire land rights on which to develop their projects. Those land rights represent company

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**BOOK VALUE IMPACTS**

The following rules of thumb can help a user identify impacts related to book value:

**Disclosure provides operational performance data that has clear and direct impacts on expenses and/or revenues.**

Metric examples:

(a) Operational energy consumed, percentage, grid electricity, percent renewable
(b) Revenue from products labeled and/or marketed to promote health and nutrition attributes
(c) Amount of total waste from manufacturing, percentage recycled
(d) Amount of legal and regulatory fines and settlements associated with bribery or corruption

**Disclosure provides information on current financial position with clear and direct impacts on assets and liabilities.**

Metric examples:

(a) Project development asset impairment associated with community ecological impacts
(b) Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume near shorelines with ESI rankings 8-10, and volume recovered
(c) Non-policy holder liabilities
assets that can be impaired by community resistance to projects or ecological issues. When an asset is impaired, it is less useful for generating revenues. The SASB standard for the Solar Energy industry includes the following topic and associated sustainability accounting metrics:

<table>
<thead>
<tr>
<th>Disclosure topic</th>
<th>Community &amp; Ecological Impacts of Project Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustainability accounting metric(s)</strong></td>
<td>RR0102-06: Project development asset impairments associated with community or ecological impacts (in U.S. dollars)</td>
</tr>
<tr>
<td></td>
<td>RR0102-07: Description of efforts in solar energy system project development to address community and ecological impacts</td>
</tr>
</tbody>
</table>

Taken together, these metrics can help a user of the data assess both the current impact on company assets from community and ecological issues as well as the likelihood of future impacts based on the company’s efforts to address any problems. If the asset impairment involves delayed project development, for example (a progressive, high-likelihood, near-term impact), this assessment may result in an adjustment to near-term revenues and costs, ultimately affecting cash flows during the forecast period of a DCF model. Additionally, if the company’s qualitative disclosure (RR0102-07) indicates a systematic failure to effectively manage the risks related to the issue, a user may consider an adjustment to the DCF’s discount rate to account for the increased likelihood of future impairments.

2. Liabilities. Sustainability issues can create liabilities for companies that can be better understood by examining data reported using SASB standards. For example, the Oil & Gas – Midstream industry transports oil and gas through pipelines and other means, and such transport carries ecological risks from spills. Those spills can lead to sizable litigation liabilities. The SASB standard for the industry includes the following topic and associated metric:
Oil & Gas – Midstream industry
Non-Renewable Resources sector

<table>
<thead>
<tr>
<th>Disclosure topic</th>
<th>Ecological Impacts</th>
</tr>
</thead>
</table>

**Sustainability accounting metric(s)**

**NR0102-07:**
Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume in unusually sensitive areas (USAs), and volume recovered (in barrels)

This metric provides quantifiable data on which to measure company performance on spills, acute events that are low likelihood but may have high-intensity impacts. A company with poor performance on this metric may face increased risk of future events, which might prompt a user to raise its risk profile and by extension the discount rate used in a DCF analysis. Additionally, such a company may incur added operating costs, such as for pipeline maintenance, to manage its operational risk. As a result, this progressive, near- to mid-term impact might in some cases call for an adjustment to cost projections during the forecast period, ultimately affecting the company’s projected near-term cash flows.

3. Revenues. Company revenues can be enhanced by outperformance on certain sustainability topics, or reduced by underperformance. For example, increased societal, business, and regulatory emphasis on improved energy and materials efficiency has created an expanding market for innovative chemical products that enhance customer sustainability, including energy, water, and material efficiency. The SASB standard for the Chemicals industry includes the following topic and associated metric:

Chemicals industry
Resource Transformation sector

<table>
<thead>
<tr>
<th>Disclosure topic</th>
<th>Product Design for Use-phase Efficiency</th>
</tr>
</thead>
</table>

**Sustainability accounting metric(s)**

**RT0101-14:**
Revenue from products designed for use-phase resource efficiency (in U.S. dollars)
Companies that develop cost-effective solutions that address customer concerns can benefit through increased revenue and market share. This represents a progressive, high-likelihood impact that can have near-, medium-, and long-term implications. If a company reports a large amount of revenue (indicating large market share), a rapidly increasing amount of revenue (indicating growing market share), or a very high share of revenue (indicating strong market positioning) from such products, a user may want to consider adjusting revenue projections during the forecast period of a DCF and/or the long-term growth rate.

4. Expenses. Companies can incur expenses related to sustainability issues. For example, although energy costs represent a relatively small portion of total costs for Multiline and Specialty Retailers & Distributors, the industry’s low margins mean these firms can improve financial performance by implementing long-term energy management strategies. The SASB standard includes the following topic and metric:

<table>
<thead>
<tr>
<th>Disclosure topic</th>
<th>Energy Management in Retail &amp; Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustainability accounting metric(s)</strong></td>
<td>CN0403-01: Total energy consumed, percentage grid electricity, percentage renewable energy</td>
</tr>
</tbody>
</table>

The metric provides information regarding a company’s energy efficiency, its exposure to risks from grid disruptions and price volatility, and its ability to capture potential cost-savings from the use of renewables. If a company is an increasingly efficient consumer of energy, it is likely to face increasingly lower operating costs—a progressive, high-likelihood, near- to mid-term impact—which may warrant an adjustment to that component of its near-term cash flows in a DCF model. Additionally, it is also less exposed to electricity price volatility, so a user may consider factoring this decreased risk into the discount rate. A discount rate adjustment also may be appropriate for a company depending on its reliance on grid electricity, which exposes it to possible disruptions (an acute, low-probability, high-magnitude impact) as well as price increases (a progressive, high-probability, lower-magnitude impact). Meanwhile, companies that report a higher percentage
of renewable energy consumption may achieve long-term, progressive cost savings, which may call for a higher long-term growth rate.

Cost of Capital

Companies have to finance their operations, and they do so through a variety of sources, including investors, lenders, and retained earnings. Each of these requires a certain amount of return to offset the risk involved in the equity investment, loan, or capital budgeting allocation. This return—typically calculated as a weighted average across the various sources of financing—represents the company’s cost of capital.

Because a company’s performance on key sustainability factors can impact its exposure to risk, it can also influence the firm’s cost of capital. A company’s cost of equity and debt can be affected by a number of traditional financial factors, which are typically calculated as risk premiums that are added to the risk-free cost of capital. (For example, a company’s cost of debt can be influenced by interest rates, because when rates rise, the value of outstanding bonds declines. Meanwhile, a company’s cost of equity can be influenced by its stock’s sensitivity to market movements—i.e., its beta coefficient—which indicates the security’s volatility.) Sustainability performance can also give rise to risk premiums related to such issues as labor relations, lawsuits, exposure to certain markets, corporate governance, and exposure to other sustainability hazards that may increase risk.

For example, rare earth elements and other critical materials are increasingly crucial inputs for the Automobiles

COST OF CAPITAL IMPACTS

The following rule of thumb can help a user identify impacts related to cost of capital:

Disclosure provides information on risks and opportunities that may arise as a result of practices, strategies, and/or exposure to circumstances that have the potential to erode or bolster the company’s value. These disclosures can be helpful in calibrating risk premiums as well as providing insight into the likelihood of tail risk events.

Metric examples:
(a) Number of tailing impoundments, broken down by Mine Safety and Health Administration (MSHA) hazard potential;
(b) Percentage of ingredients sourced from supplier facilities certified to Global Food Safety Initiative;
(c) Description of processes to manage business ethics risks throughout the value chain; and
(d) Number of lodging facilities located in a U.S. Federal Emergency Management Agency (FEMA) Special Flood Hazard Areas or foreign equivalent.
industry with the growth of electric and hybrid vehicles, as well as the expanding use of electronic components in automobiles. These materials come with a variety of risks, including the possibility of supply disruptions and price volatility. As a result, the SASB standard for the Automobiles industry also includes the following metrics related to this topic:

<table>
<thead>
<tr>
<th>Disclosure topic</th>
<th>Materials Sourcing</th>
</tr>
</thead>
</table>
| **Sustainability accounting metric(s)** | TR0101-12: Percentage of tungsten, tin, tantalum, and gold smelters and refiners within the supply chain that are verified conflict-free  
TR0101-13: Discussion of the management of risks associated with the use of critical materials and conflict minerals |

The metric provides information related to a firm’s risk exposure and risk management practices, which may be factored into a discount rate adjustment. Although supply disruptions and price volatility (low-likelihood, acute, high-intensity impacts) can negatively affect a firm’s expenses—and therefore its cash flows—the timing of such outcomes is unpredictable. As a result, the firm’s exposure to these possibilities influences its risk profile and therefore its cost of capital.

As in this example, cost of capital impacts will almost always be reflected in an adjustment to the discount rate. Because of risks related to sustainability issues like this one, an investor or lender will expect a higher rate of return on investment if the company doesn’t manage the risk well, and the company itself will need to clear a higher hurdle rate for its reinvestment of retained earnings.

**Growth Projection Impacts**

The expected growth rate of a company’s cash flows is one of the most important determinants of its intrinsic value, because in a typical model the rate is carried into perpetuity. Some analysts may use multiple growth rates to simulate the stages of a business cycle, from expansion to maturity to decline. In either case, a company’s performance on certain critical sustainability factors can impact these growth projections, reflecting a company’s position vis-à-vis its competitors to
capture new and expanding markets and/or to effectively deploy capital in an efficient manner.

For instance, the Automobiles industry faces regulatory and market pressures to increase fuel efficiency and reduce emissions. This emphasis is passed on to Auto Parts companies, and those better able to supply parts that help meet these objectives stand to gain market share. This dynamic is reflected in the following topic and associated metric, from the SASB standard for the Auto Parts industry:

<table>
<thead>
<tr>
<th>Auto Parts industry</th>
<th>Transportation sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure topic</td>
<td>Product Lifecycle Management</td>
</tr>
<tr>
<td>Sustainability accounting metric(s)</td>
<td>TR0102-04: Total addressable market and share of market for products aimed at improved fuel efficiency and/or reduced emissions</td>
</tr>
</tbody>
</table>

The metric supplies users with information to help assess how a company is addressing this expanding market. Firms that outperform on this metric may enjoy a boost to long-term revenue growth and cash flows as a result. This would represent a progressive, high-likelihood, long-term impact for such a firm, and would significantly enhance its terminal value in a DCF model.
However, it is important to remember that growth projections apply to cash flows—not just to revenues—and therefore they may also factor in the growth of expenses. For example, companies in the Chemicals industry make extensive use of fossil hydrocarbon feedstocks as inputs. These inputs face risks from supply disruptions and volatile, rising prices. The SASB standard for the industry includes the following topic and metric:

<table>
<thead>
<tr>
<th>Chemicals industry</th>
<th>Resource Transformation sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure topic</td>
<td>Energy &amp; Feedstock Management</td>
</tr>
<tr>
<td>Sustainability</td>
<td>RT0101-06: Percentage of raw materials from renewable resources</td>
</tr>
</tbody>
</table>

In one analyst’s view, companies that underperform on this metric may face rising long-term costs, a progressive impact that is of low intensity but high likelihood. By using alternative, renewable resources in place of fossil hydrocarbons, a company can help alleviate supply disruptions and moderate price rises, thus reducing expense growth projections. Because the terminal value often accounts for 70 percent or more of a company’s valuation, even lower-intensity, progressive impacts on growth rate can have a profound effect on DCF modeling.