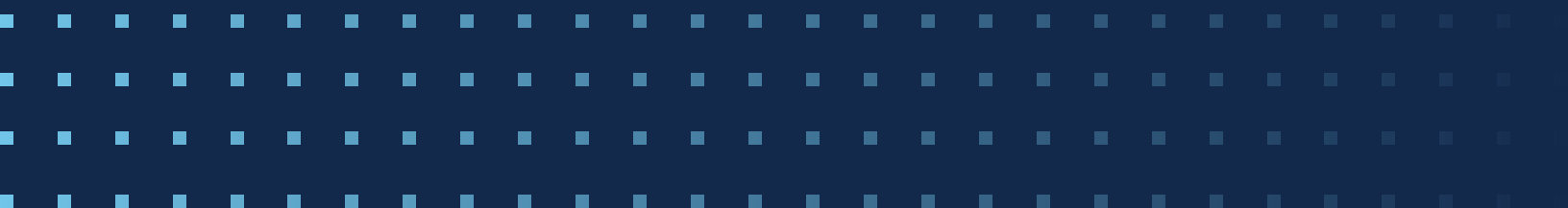


DIRECTOR ESSENTIALS: ESG/Climate Governance

A DIRECTOR'S GUIDE TO CARBON ACCOUNTING

In partnership with  PERSEFONI



About this Report

How Do I Effectively Oversee Climate-Related Matters as a Board Director?

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About this Report

Whether a company is working to adhere to anticipated regulations, address investor concerns, or trying to differentiate itself from its competitors, developing and managing the organization's carbon strategy is becoming table stakes for every company. This report serves as a "how-to" for board directors who are engaging in carbon accounting for their company. This *Directors Essential* publication provides basic information about common carbon benchmarking frameworks, best practices for board oversight, driving forces, and recommendations for immediate steps. Consideration is given to both public and privately held companies and the report includes cuts of data by sector.

How Boards Can Use This Resource:

- ▶ Become familiar with the concepts of carbon accounting.
- ▶ Understand the current state of carbon reporting.
- ▶ Learn why climate risk is a financial risk.
- ▶ Discover the steps involved in calculating carbon emissions.

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Q: How Do I Effectively Oversee Climate-Related Matters as a Board Director?

A: With regulated climate disclosure on the imminent horizon in jurisdictions around the world, including the United States, corporate boards are increasingly expected to oversee climate-related risks and opportunities. Investors and regulators have acknowledged that climate risk is financial risk and expect that public carbon disclosures demonstrate an understanding of that risk and a strategy to manage carbon impacts. To provide effective oversight, board directors need to become knowledgeable about the types of climate-related risk their company may be exposed to, be prepared to advise on the development of a carbon footprint¹ and climate strategy, and be prepared to evaluate public disclosures against disclosure requirements such as the [Task Force on Climate-related Financial Disclosures](#) (TCFD) framework and potential mandatory regulated disclosure. In line with these responsibilities, board directors will need to be prepared to determine which is the most appropriate governance structure and then formalize the same to ensure effective oversight and implementation. The basis of all these responsibilities is to become familiar with the concepts of carbon accounting.

Whether a company is working to adhere to anticipated regulations, address investor concerns, or trying to differentiate itself from its competitors, developing and managing the organization's carbon strategy is becoming table stakes for every company.

Evolving Stakeholder Demands for Carbon Reporting

To date, a company's decision to collect and report carbon data has largely been voluntary and driven by growing stakeholder demands for reporting from customers, employees, and investors—all of whom are increasingly aware of and making decisions based on environmental, social, and governance (ESG) factors, including climate management.

Consumers

Business-to-consumer (B2C) companies are being pressured by consumers to incorporate more sustainable practices into their operations and offer more sustainable products. This shift in consumer behavior has implications on corporate value chains as companies work to meet these evolving expectations.

- ▶ Consumers are increasingly aware of the environmental practices of companies. Thirty-five percent of consumers have changed their consumption habits because of a company's stance on climate change. Eighteen-to-24-year-olds are three times more likely to switch brands to one more closely aligned with their values than those 65 and above.²

¹ Also known as a greenhouse gas (GHG) inventory, a carbon footprint is the estimated quantity of greenhouse gasses emitted into the atmosphere by a company or entity. It is expressed in terms of carbon dioxide equivalent, or CO₂e.

² Deloitte [#GetOutInFront](#) (Deloitte, 2020), p. 31 and p. 13.



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- ▶ Nearly 90 percent of Gen X consumers are now willing to pay an extra 10 percent or more for sustainable products.³
- ▶ Eighty-three percent of Gen Z consumers think it's important for brands to focus on operating sustainably.⁴
- ▶ Scope 3 emissions constitute 70 to 95 percent of a company's emissions portfolio.⁵
- ▶ Companies that are looking to decarbonize are using tools such as CDP's Supply Chain module to understand supplier emissions. There are more than 280 CDP Supply Chain members with a combined \$6.4 trillion in purchasing power. Collectively this group has issued more than 47,000 requests for supplier data in their quest to decarbonize.⁶

Employees

Changes in consumer behavior are observed in job seekers as well, who are increasingly expecting their employers and potential employers to demonstrate a commitment to sustainable practices.

- ▶ Eighty-one percent of US employers say it matters to their employees that a climate strategy is part of their value proposition.⁷
- ▶ Sustainability is impacting talent attraction and retention⁸:
 - Seventy percent of workers are more likely to stay with employers that have a positive reputation on sustainability.
 - Sixty-nine percent of job seekers are more willing to accept positions from sustainable companies
 - Forty-eight percent of job seekers are willing to accept a lower salary to work for an organization they consider to be environmentally sustainable
 - Twenty-five percent of consumers indicated that they are looking for work that better aligns with their values.

Investors

Investors are increasingly recognizing climate risk as financial risk. They are both putting increased pressure on companies to disclose climate strategies and working to incorporate climate data into their investment decisions.

- ▶ Founded in 2006, the UN PRI, a leading coalition dedicated to integrating climate and ESG issues into investment decisions, has 4,902 asset-owner signatories who collectively are responsible for US \$121.3 trillion of assets under management (AUM).⁹ Since 2017, UN PRI has added 2,951 signatories and \$39.6 trillion in AUM.¹⁰
- ▶ Global spending on ESG data and analytics is expected to grow to \$5 billion in 2025, up from \$2.2 billion in 2020, as index providers work to meet increased demand for ESG-linked funds.¹¹

³ Greg Petro, "[Consumers Demand Sustainable Products and Shopping Formats](#)," Forbes, March 11, 2022.

⁴ Stifel, "[Institutional Sustainability Survey and Index Launch](#)" (Stifel, 2021), p. 17.

⁵ Alastair Foyn, "[New Solutions Reduce the Challenges of Scope 3 Carbon Management](#)," posted on verdantix.com on January 19, 2023.

⁶ CDP "[Supply Chain](#)."

⁷ See the WTW infographic, "[HR faces wake-up call on climate strategy](#)" (November 4, 2021).

⁸ IBM Institute for Business Value, "[Sustainability at a turning point](#)" (April 20, 2021), p. 7.

⁹ UN PRI, "[About the PRI](#)" (January 2023).

¹⁰ UN PRI, "[About the PRI](#)" (January 2023).

¹¹ Burton-Taylor International Consulting press release, "[Global ESG Investing Surge Drives Growth for Data and Index Providers- Two New Burton-Taylor Reports](#)" (October 20, 2021).



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- ▶ A 2022 study from Persefoni, Ceres, and ERM estimates that the average institutional investor spends \$1.3 million annually to acquire and analyze climate data specifically.¹²
- ▶ Activist investors continue to focus on climate change during proxy season. Climate-related shareholder proposals accounted for 21 percent of all proposals in 2022.¹³
- ▶ Sustainable investments totaled over \$35.3 trillion in 2021¹⁴ and are on track to hit \$53 trillion by 2025, representing a third of global AUM.¹⁵
- ▶ McKinsey estimates that \$275 trillion in capital spending on physical assets would be required to enable a 2050 net-zero transition resulting in large-scale capital reallocation both in financial markets and along corporate supply chains.¹⁶ Companies will look both upstream and downstream for decarbonization opportunities

Current State of Carbon Reporting

Ninety-three percent of S&P 500 companies that produce climate disclosures are currently using voluntary frameworks like the [Task Force on Climate-related Financial Disclosures](#) (TCFD), [Global Reporting Initiative](#) (GRI), [CDP](#), and the [Sustainability Accounting Standards Board](#) (SASB) to issue ESG reports,¹⁷ however, recent years have seen an increase in rules and proposed rules for mandatory or regulated climate disclosures. Since 2016, more than 100 new mandatory ESG reporting provisions have been introduced globally, signaling a shift from voluntary to involuntary reporting, and a need for all companies to have increased board oversight of how carbon is managed within their companies.¹⁸

TABLE 1:
Major Climate Disclosure Standards and Frameworks

Framework	Description
TCFD	The Task Force on Climate-Related Financial Disclosures (TCFD) was created in 2015 to provide a common framework for reporting on the risks and financial impacts of climate change. TCFD's recommendations were designed to apply to all organizations across all jurisdictions and sectors and to provide investors with reliable, comparable, and forward-looking information on which to base decisions.
PCAF	The Partnership for Carbon Accounting Financials (PCAF) is an industry-led initiative created by Dutch banks in 2015 and adopted as a global standard in 2019 to help financial institutions align their financed emissions (the emissions related to loans, investments, and other financial services) with the targets of the Paris Agreement.
Greenhouse Gas Protocol	Created in 1998, the Greenhouse Gas Protocol (GHGP) is the most widely used carbon accounting framework. It provides guidelines for organizations to develop inventories for GHG emissions.

¹² Persefoni press release, "[Survey Reveals Actual Cost of Climate Change Disclosure](#)" (released May 17, 2022 and updated December 22, 2022).

¹³ As You Sow, [Proxy Preview 2022](#) (March 2022). (Log in required.)

¹⁴ Simon Jessop, "[Sustainable investments account for more than a third of global assets](#)," Reuters, July 19, 2021.

¹⁵ Adeline Diab and Gina Martin, "[ESG assets may hit \\$53 trillion by 2025, a third of global AUM](#)," Bloomberg, February 23, 2021.

¹⁶ McKinsey and Company, [The net-zero transition](#) (January 2020), p. viii and p. ix.

¹⁷ Julie Bell Lindsay, Center for Audit Quality, "[A letter from the Center for Audit Quality's CEO Julie Bell Lindsay](#)."

¹⁸ Carrots & Sticks, [SUSTAINABILITY REPORTING POLICY: Global trends in disclosure as the ESG agenda goes mainstream](#) (July 2020), p. 17.



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Framework	Description
SASB/IFRS/ISSB	<p>The Sustainability Accounting Standards Board (SASB) provides guidance for investors and companies on the identification of financially material sustainability information for disclosure purposes. The widely used or consulted SASB standards are now a part of the IFRS Foundation.</p> <p>The IFRS's International Sustainability Standards Board (ISSB) was created to provide a comprehensive and streamlined reporting framework for sustainability reporting globally. The ISSB plans to build on the SASB standards in the development of its own standards.</p>
GRI	<p>For over 25 years the Global Reporting Initiative (GRI) has helped businesses and other organizations take responsibility for their ESG impacts by providing a common reporting framework for ESG reporting. Known as the GRI Standards, more than 100,000 companies in 100 countries use this framework as part of their ESG reporting, making GRI the most widely used ESG reporting standard globally.¹⁹</p>
CDP	<p>Created in 2000, CDP (formerly known as the Carbon Disclosure Project) manages the international climate disclosure system that helps states and regions, cities, investors, and companies report on their climate impacts, risks, and opportunities. With more than 18,700 organizations disclosing in 2022, it has become the primary method for investors to request climate disclosures from their portfolio companies.</p>
Science-Based Target Initiative	<p>The Science-Based Target initiative (SBTi) defines and promotes best practices in emissions targets that limit global warming to well below 2°C above preindustrial levels, staving off the worst effects of climate change.</p>

The SEC Climate Disclosure Proposal

The SEC's March 2022 climate proposal²⁰ and California's SB-260²¹ are part of a wider global trend of climate disclosure requirements across jurisdictions, including the European Union, Japan, the United Kingdom, China, the Republic of Singapore, Canada, New Zealand, and Brazil.

The SEC proposal is another step in the evolution of the ESG and climate-disclosure landscape, and further acknowledgment of climate risk being financial risk. It was created in response to increased demand for climate-change information and to ensure investors are informed on climate risks material to businesses. The proposed SEC rules closely align with the Greenhouse Gas Protocol and recommendations put forth in the TCFD framework, which comprises four areas of disclosure:

- ▶ **Governance.** Disclose the company's governance around climate-related risks and opportunities.
- ▶ **Strategy.** Disclose the actual and potential impact of climate-related risks and opportunities on the organization's strategy and financial planning.
- ▶ **Risk Management.** Disclose how the organization identifies, assesses, and manages climate-related risks.
- ▶ **Metrics and Targets.** Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

The SEC's alignment with the TCFD and GHG Protocol is consistent with other global disclosure mandates, which are also closely aligned with the TCFD framework.

¹⁹ Global Reporting Initiative, "[Four-in-five largest global companies report with GRI](#)," posted on globalreporting.org on October 31, 2022.

²⁰ SEC, [Proposed rule: The Enhancement and Standardization of Climate-Related Disclosures for Investors](#) (March 21, 2022).

²¹ California Legislature, [SB-260 Climate Corporate Accountability Act](#) (August 15, 2022).

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What Disclosures Is the SEC Proposal Requiring?

The disclosures for public companies included in the SEC proposal vary in substance and timing across the four registrant types:²²

- ▶ **Large Accelerated Filers (LAF):** The issuer has a public float of more than \$700 million (~2,500 companies).
- ▶ **Accelerated Filers (AF):** The issuer has a public float of more than \$250 million or more, but less than \$700 million, and annual revenue of more than \$100 million (~900 companies).
- ▶ **Non-accelerated Filers (NAF):** The issuer has a public float of less than \$75 million or has a public float of \$75 million or more, but less than \$100 million in revenue.
- ▶ **Smaller Reporting Companies (SRC):** The issuer has a public float of \$75 million but less than \$250 million and annual revenue of less the \$100 million.

TABLE 2:
SEC Proposal Requirements by Registrant Type

		LAF	AF	NAF	SRC
Scopes 1 and 2 Emissions	Disclose Scopes 1 and 2 GHG emissions and intensity.	✓	✓	✓	✓
Scope 3 Emissions, if material	Scope 3 GHG emissions and data sources must be disclosed if those emissions are material, or if the registrant has established a GHG emissions target or goal that includes Scope 3 emissions.	✓	✓	✓	Exempt
Transition Plans	Detail any transition plans, scenario analysis, and internal carbon pricing.	✓	✓	✓	✓
Targets and Goals	Disclose climate-related targets and goals.	✓	✓	✓	✓
Climate-related Risks and Impacts	Disclose processes for identifying and managing climate-related risks; how climate-related risks will have a material financial impact on the business and financial statements; how climate-related risks could affect strategy, business model, or outlook; and the impact of climate-related events and transition activities on financial statements.	✓	✓	✓	✓
Governance	Disclose details of oversight and governance of climate-related risks by the organization's board and management.	✓	✓	✓	✓

²² SEC, "[Accelerated Filer and Large Accelerated Filer Definitions: A Small Entity Compliance Guide](#)," (modified April 23, 2020).

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TABLE 2-1:
Indicative Compliance Timeline for Disclosure²³

Registrant Type	Required Disclosures and Presumptive Compliance Dates	
	All proposed disclosures , including GHG emissions metrics: Scope 1, Scope 2 , and associated intensity metric , but excluding Material Scope 3 = 6,960 issuers	Material Scope 3 and associated intensity metric = 3,500 issuers
Large Accelerated Filer	Fiscal year 2023 (filed in 2024)	Fiscal year 2024 (filed in 2025)
Accelerated Filer and Non-Accelerated Filer	Fiscal year 2024 (filed in 2025)	Fiscal year 2025 (filed in 2026)
Smaller Reporting Company	Fiscal year 2025 (filed in 2026)	Exempted

TABLE 2-2:
Indicative Compliance Timeline for Attestation²⁴

Filer Type	Limited Assurance	Reasonable Assurance
Large Accelerated Filer	Fiscal year 2024 (filed in 2025)	Fiscal year 2026 (filed in 2027)
Accelerated Filer	Fiscal year 2025 (filed in 2026)	Fiscal year 2027 (filed in 2028)

Climate Risk Is Financial Risk

Companies are exposed to two main types of climate-related risks, as defined by The Taskforce on Climate-related Financial Disclosure (TCFD): physical risks and transitional risks.

- ▶ Physical risks affect an organization's operations and supply chains through the physical effects of climate change, such as sea level rise, droughts, floods, and increasingly frequent and severe extreme weather events. Physical risks are either acute—single events, such as earthquakes, hurricanes, or floods—or chronic—longer-term shifts in climate patterns that may cause sea level rise or long-term rise in temperatures.
- ▶ Transition risks are those related to the effects of the transition to a low-carbon economy. The TCFD divides transition risks into four categories.

Policy and Legal

- ▶ Addressing the growing number of carbon disclosure regulatory proposals and mandates, such as the SEC's climate-related disclosure proposal and the European Union's Corporate Sustainability Reporting Directive (CSRD).
- ▶ Contending with a compounding increase in companies' exposure to litigation, with the cumulative number of climate-related court cases having doubled since 2015.²⁵

²³ See SEC fact sheet 33-11042, [FACT SHEET: Enhancement and Standardization of Climate-Related Disclosures](#), p. 3.

²⁴ See SEC fact sheet 33-11042, [FACT SHEET: Enhancement and Standardization of Climate-Related Disclosures](#), p. 3.

²⁵ [Climate Neutrality Forum](#), (November 2021), p. 13.

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Technology

- ▶ Substituting existing carbon-intensive products and services for low carbon ones, such as electric vehicles and renewable energy
- ▶ Investing in emerging low-carbon technologies

Market

- ▶ Rising costs of raw materials or increased price of low-carbon raw materials
- ▶ Changing consumer behavior. On average, 69 percent of nearly 20,000 global consumers surveyed by Ipsos in late 2019 said they had made changes over the preceding few years regarding the products and services they buy or use due to climate change concerns.²⁶
- ▶ Increased demand from investors for climate-related data, and board oversight of climate-related matters, may impact future access to capital.

Reputational

- ▶ Changing consumer, employee, and stakeholder preferences. The majority of more than 9,000 respondents in six markets globally surveyed by Deloitte in 2020 said they expect CEOs to do more to address environmental and social issues.²⁷
- ▶ Stigmatization of sectors, such as mining, fossil fuels, and chemicals

Each of these risks can pose financial risk to companies and need to be considered when developing a carbon footprint, which is the first step in establishing a broader climate strategy through a process called climate scenario analysis. Scenario analysis enables an organization to understand how combinations of climate-related risks may affect its businesses, strategies, and financial performance over time, and is an important part of the TCFD's strategy resilience disclosure.

With scenario analyses, businesses can assess the physical risks of their facilities, offices, supply chains, and suppliers associated with climate impacts—such as sea level rises and droughts—and model transitional risks, such as how their business may be affected by climate regulations or by changes in market and consumer trends. Through the process, a company develops an integrated view of its climate risk profile and potential financial impacts through which a climate strategy can be developed.

Calculating Carbon Emissions

Carbon accounting is the process of calculating, analyzing, measuring, and reporting an organization's operational and value chain greenhouse gas (GHG) emissions—also referred to as a carbon inventory or carbon footprint—so that it is fully auditable. The GHG Protocol's Corporate Accounting and Reporting Standard is used by companies to calculate their carbon emissions, and it is the most widely used accounting methodology globally of its kind.²⁸ Created in 1998, the GHG Protocol organizes emissions into three scopes related to an organization's operations and value chain:

- ▶ **Scope 1** refers to the direct emissions from an organization's owned operations, including company-owned vehicles and buildings.

²⁶ IPSOS, *Climate Change and Consumer Behavior* (December 2019), p. 2.

²⁷ Mark Hutcheon, Sid Maharaj, Keri Calagna, and Marcus Plattner, "[Consumers Expect Brands to Address Climate Change](#)," posted on [deloitte.wsj.com](#) on April 20, 2021.

²⁸ See [The Greenhouse Gas Protocol](#).

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- ▶ **Scope 2** refers to indirect emissions from purchased electricity, steam, heating, and cooling.
- ▶ **Scope 3** refers to all other indirect emissions generated throughout an organization's value chain and is broken into 15 categories. (See Table 3.)²⁹

Scope 1 and 2 reporting is required by governing bodies more often than Scope 3, despite the fact that Scope 3 emissions are on average more than 1,100 percent greater than the Scope 1 and 2 emissions for large companies.³⁰

TABLE 3:
Scope 3 Emissions Categories from the Greenhouse Gas Protocol

Upstream Categories	Downstream Categories
1. Purchased Goods & Services: Emissions from production of purchased or acquired products and services not captured under other categories.	9. Downstream Transportation & Distribution: Emissions from third-party transportation and distribution of sold products that is paid for by the reporting organization's customers.
2. Capital Goods: Emissions from production of purchased or acquired capital goods.	10. Processing of Sold Products: Emissions from processing of sold intermediate products following the sale. Intermediate products are goods used with another product before end use.
3. Fuel & Energy-Related Activities: Emissions from production and distribution of fuel and energy used by the organization (i.e., upstream for Scope 1 and 2).	11. Use of Sold Products: Emissions from direct use of sold goods and services (e.g., charging electronics). Indirect use of sold goods and services (e.g., washing sold clothing) can optionally be included.
4. Upstream Transportation & Distribution: Emissions from third-party transportation and distribution of sold products paid for by the reporting organization.	12. End-of-Life Treatment of Sold Products: Emissions from waste treatment and disposal of sold products at the end of their life cycle. Transportation of waste to the waste treatment facility can optionally be included.
5. Waste Generated in Operations: Emissions from third-party treatment and disposal of waste from a company's controlled or owned operations. Transportation of waste to the waste treatment facility can optionally be included.	13. Downstream Leased Assets: Emissions from operation of owned assets leased to other entities that aren't included in Scopes 1 and 2.
6. Business Travel: Emissions from employee transportation for business-related activities in third-party owned or operated vehicles (excluding day-to-day commuting). Hotel stays can optionally be included.	14. Franchises: Emissions from franchise operations. This is applicable for franchisors and includes Scope 1 and 2 emissions from franchisees. Scope 3 emissions from franchisees can optionally be included.
7. Employee Commuting: Emissions from employee commutes between their workplace and home. Remote work can optionally be included.	15. Investments: Emissions from investments, also known as financed emissions (e.g., equity investments, debt investments, project finance). This category is mainly for financial institutions, but is relevant for any organization with significant financial investments.
8. Upstream Leased Assets: Emissions from the operation of assets leased by the reporting organization that aren't under their direct control. This often includes leased equipment and small leased facilities.	

²⁹ GHG Protocol, *Corporate Value Chain (Scope 3) Standard* (World Resources Institute and World Business Council for Sustainable Development, 2011), p. 32.

³⁰ CDP, *Engaging the Chain: Driving Speed and Scale CDP Global Supply Chain Report 2021* (February 2022), p. 3.



The Board's Role in Carbon Accounting

Conceptually, the role of a board director in carbon accounting is no different than what is involved when driving other business priorities: provide oversight and advice to corporate management on behalf of shareholders and other stakeholders. While that's true, board directors should be familiar with the steps management should take to develop and report their carbon footprint and how to provide oversight of those activities.

TABLE 4: Oversight Responsibilities in Developing and Reporting Carbon Data

Management Activity	Oversight Consideration
<p>1. Establish Organizational Boundaries and a Governance Strategy Determine what parts of a company's operations will be included in the carbon footprint, define the parameters of who will be responsible for developing and managing it, and develop associated controls.</p>	<ul style="list-style-type: none"> ▶ Advising on controls for collecting, managing, and reporting carbon data ▶ Monitoring climate risks and opportunities ▶ Developing strategies for decarbonization
<p>2. Identify Emissions Sources and Collect Data Examine the organization to identify all relevant emissions sources, collect the associated data, and calculate the carbon footprint.</p>	<ul style="list-style-type: none"> ▶ Understand corporate emissions sources, associated data, and calculation methods. ▶ Ensure accountability to established controls. ▶ Evaluate the accuracy and completeness of the carbon footprint and associated data.
<p>3. Align with the Relevant Standards Identify the reporting standards and frameworks the company will use to address stakeholder expectations.</p>	<ul style="list-style-type: none"> ▶ Validate that selected standards address stakeholder expectations and that management activities are conducted to meet the standards' requirements.
<p>4. Create a Climate Strategy Based on the carbon footprint and associated risks, develop plans to reduce carbon impact and mitigate carbon risk.</p>	<ul style="list-style-type: none"> ▶ Validate that mitigation plans properly address risk and opportunities presented in the carbon footprint.
<p>5. Report Prepare public disclosures in line with relevant standards to communicate carbon data and associated strategies to stakeholders.</p>	<ul style="list-style-type: none"> ▶ Consider and raise the potential legal or reputational risks of proposed disclosures. ▶ Attest that disclosures accurately and adequately describe the company's carbon-related risks and opportunities. ▶ Ensure that disclosed data addresses stakeholder needs.



Considerations for Private Companies

While the SEC proposal will most directly impact publicly traded companies, it will inevitably impact privately held companies as well. On average across all sectors, Scope 3 accounts for 75 percent of corporate emissions.³¹ The proposed inclusion of material Scope 3 greenhouse gas (GHG) emissions disclosures would require large publicly traded companies to calculate and report emissions data across their upstream and downstream value chains, including the emissions data from private companies, which account for a significant portion of the US economy both in capital raised—where companies in private markets raised \$3 trillion in 2017 compared to \$1.5 trillion in public markets the same year³²—and by number of companies—just 4,000 of approximately ~27 million US-based companies are publicly traded.

Mandatory carbon disclosures, including the proposed SEC disclosure, are just one way the increasing demand for climate-related disclosures may impact privately held companies:

- 1. The SEC proposal's requirement for public companies to disclose Scope 3 will indirectly affect the private markets.** Pressure on public filers to accurately report Scope 3 emissions will result in increased pressure on value chain partners, including privately held companies, to provide emissions data.
- 2. The SEC proposal, and increasing scrutiny on “sustainable” investments, will send ripple effects through the private markets.** Initial public offerings, mergers and acquisitions, and private equity financing will be just some of the market functions to be directly or indirectly affected. It is increasingly common for banks and lenders to evaluate climate reporting and consider reported targets in lending decisions, in part to evaluate if a company is greenwashing³³ their climate commitments.
- 3. Irrespective of the SEC proposal, the trend of voluntary climate disclosure is on the rise.** The recognition of climate risk as financial risk, stakeholder and investor pressure, network forces, and improved marketability make voluntary climate disclosures more likely, creating pressure as peers advance their disclosure practices.
- 4. Incorporation of climate data into credit ratings.** Credit rating agencies, including S&P³⁴ and Moody's³⁵ integrate climate and other ESG factors into credit ratings, potentially impacting the cost of borrowing for private companies.
- 5. Increasing commitment to responsible investing in private markets.** UN PRI, a leading coalition dedicated to integrating climate and ESG issues into investment decisions, has approximately 700 private market signatories representing \$2.5 trillion in assets under management dedicated to integrating climate and ESG considerations into investment decisions.³⁶ In 2021, the UN PRI formed the Initiative Climate International to drive climate action within private equity. The coalition now has over 200 private market firm and investor members representing over \$3.2 trillion in assets under management working to better understand and manage risks associated with climate change.³⁷

³¹ CDP, *CDP Technical Note: Relevance of Scope 3 Categories by Sector* (2022), page 6.

³² Companies have raised more money in private markets than in public markets each year since 2009. Morgan Stanley, *Public to Private Equity in the United States: A Long-Term Look* (2020), p. 4.

³³ Greenwashing can occur when an organization creates a false impression or inflation of environmental action through misleading disclosures.

³⁴ S&P, “[ESG in Credit Ratings.](#)”

³⁵ Moody's “[Four Components to MIS integration of ESG.](#)”

³⁶ Principles for Responsible Investment, “[Private equity snapshot 2018.](#)” February 4, 2019.

³⁷ Principles for Responsible Investment, “[Initiative Climate International launches, 'A Case for Net Zero in Private Equity.'](#)” November 16, 2022.



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Private companies must be aware of the businesses in their supply chains that have a Scope 3 emissions target or that have Scope 3 emissions that are material to their company. It is likely that more companies that are subject to the SEC proposal—especially LAFs such as Walmart—will put pressure on private entities within their supply chains to accurately record their carbon footprint, and eventually reduce it ([see LAF Case Study](#)). Between the SEC proposal and the increase in climate commitments, publicly traded companies may eventually include emissions disclosure clauses in their vendor contracts to improve Scope 3 emissions reporting and help them reach their climate targets. As stated in the SEC’s proposed rule,

“Recent trends in private markets indicate that industry’s top leaders are working toward a standard set of metrics for tracking their portfolio companies’ ESG progress. The pressure on private companies to disclose information on climate-related risks is rapidly escalating within the private industry, hence diminishing the potential incentive for registrants to go private in order to avoid climate-related disclosure requirements.”³⁸

LAF CASE STUDY: WALMART³⁹

Walmart is the world’s largest retailer. In 2016, it set a science-based target with the SBTi and committed to zero emissions across its operations by 2040, without the use of carbon offsets and 100 percent renewable energy by 2035. Through its Project Gigaton initiative, it plans to avoid one billion metric tons of CO2 emissions from its value chain by 2030 by working with its global network of tier 1 suppliers. Project Gigaton is Walmart’s Scope 3 component of its science-based emission reduction target.

Walmart launched Project Gigaton in April 2017 to engage suppliers to commit to emissions reductions across pillars, including energy, waste, packaging, deforestation, and product use. Many of Walmart’s suppliers are large public companies that qualify as LAFs, AFs, or NAFs, and would therefore be subject to the SEC’s proposals on their own (e.g., Apple, Hasbro, etc.); however, many of its suppliers are private companies that would not directly be affected by the SEC proposal but would be indirectly affected, given their relationship to Walmart’s value chain.

According to Walmart’s response to CDP’s 2021 Climate Change Questionnaire, more than 3,000 suppliers have signed on, establishing Project Gigaton as one of the largest private sector consortiums for climate action. Because of Walmart’s supplier initiative, the company would also be required to disclose Scope 3 emissions under the SEC proposal. This means that while it continues to engage with suppliers to reduce a gigaton of emissions by 2030, it would also need to collect, manage, and report on the entirety of its Scope 3 emissions to comply with the SEC proposal.

³⁸ SEC, [The Enhancement and Standardization of Climate-Related Disclosures for Investors](#) (March 21, 2022), p. 405.

³⁹ Walmart, [“Climate Change,”](#) August 29, 2022.



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A common theme throughout all of these mandates is alignment with the TCFD, so regardless of the operational jurisdictions of a company, the TCFD and its guidance is a good starting point for disclosure.

While setting net-zero targets, entities have aligned with voluntary groups like the Science Based Targets initiative (SBTi) to ensure targets are validated and progress toward them is measured and tracked publicly. Plus, they promote best practices and provide shared methods and technical assistance to get to net zero.

Better carbon disclosure and more general ESG management promote stronger corporate governance, risk management, and top-line growth as a result. Companies with accurate climate disclosure can also improve their marketability; talent acquisition and retention; and access to capital—all the while enabling companies to reduce their climate risk and financial risk.

Signatories of the TCFD and adopters of its recommendations publicly demonstrate that they are taking action to reduce emissions, mitigate climate risk, and improve the transparency of climate-related risks and opportunities. With more than 4,000 supporters and counting, the TCFD has gained much momentum since its beginnings in 2015.

As of January 2023, only 11 percent of S&P 500 companies publicly declared support for the TCFD by becoming a supporter (see Table 5).⁴⁰ At 17 percent, consumer discretionary companies lead the pack, followed closely by communication services and utilities. However, by far, financial services firms signed up for the TCFD the earliest compared to other industries, which is unsurprising given the inherent benefits of promoting TCFD disclosure for firms in financial services such as banks, investment managers, private equity, and insurance.

TABLE 5:
TCFD Signatories S&P 500

	Total S&P Companies By Industry	Average Date of Public Support for TCFD	Percentage of S&P Companies Supporting TCFD
Communication Services	25	10/31/2020	16.00%
Consumer Discretionary	58	6/11/2021	17.00%
Consumer Staples	33	12/8/2020	12.00%
Energy	21	2/15/2021	5.00%
Financials	66	1/25/2019	9.00%
Health Care	65	11/15/2020	11.00%
Industrials	71	9/10/2020	10.00%
Information Technology	76	7/26/2021	8.00%
Materials	28	3/23/2021	7.00%
Real Estate	31	2/12/2021	10.00%
Utilities	29	8/13/2020	14.00%

Source: The Task Force on Climate-related Financial Disclosures. Used with permission.

⁴⁰ Search for [TCFD supporters](#).



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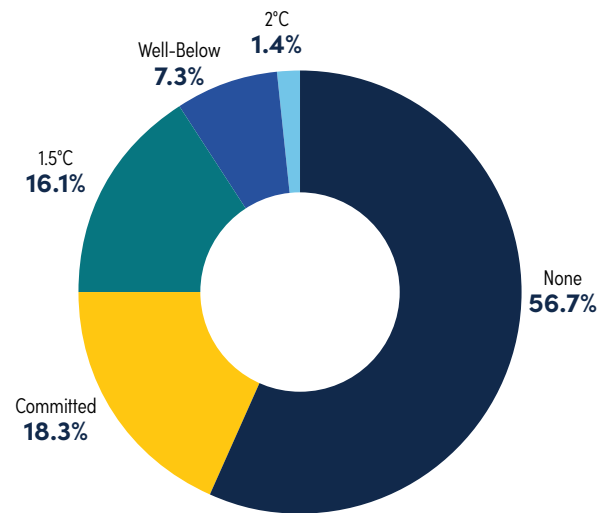
S&P 500 Companies Benchmarking

While more than 2,000 companies have set science-based targets with SBTi, only 25 percent of S&P 500 companies have validated targets to reduce their emissions over the near term, or the next 5 to 10 years as of January 2023 (see Figure 6).⁴¹ Sixteen percent are aligned with a 1.5°C temperature increase compared to preindustrial levels target, 75 percent are aligned with a well-below 2°C target, and just over 1 percent are aligned with a 2°C target.

About 18 percent of S&P 500 companies have committed to developing targets and submitting them to SBTi for validation within 24 months, meaning they've made a public commitment to set a science-based target aligned with the SBTi's target-setting criteria. However, 57 percent of S&P 500 companies have not set an emissions reduction target with SBTi.

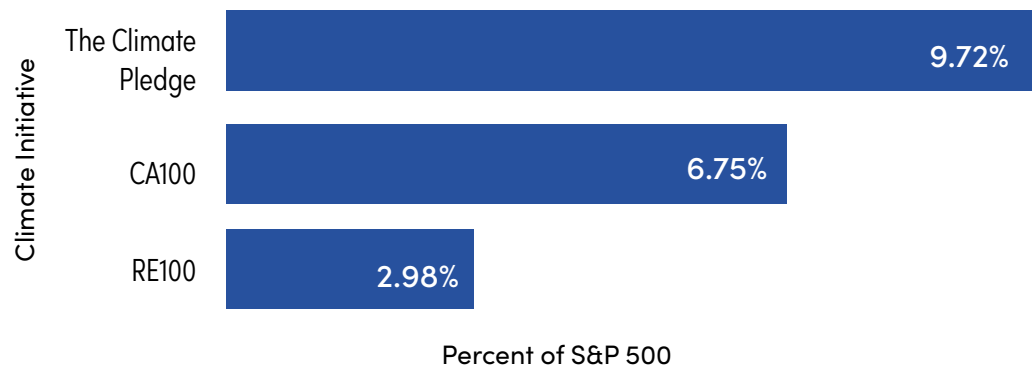
Hundreds of organizations of all shapes and sizes have made climate commitments through organizations such as RE100, Climate Action 100+, and the Climate Pledge. Yet as of January 2023, few S&P 500 companies have made the leap (see Figure 7). Today, only 10 percent of S&P 500 companies have pledged to go 100 percent renewable energy by a particular date with RE100.⁴² Nearly 7 percent of S&P 500 companies have been engaged through the investor-led initiative, Climate Action 100, only a portion of the 166 focus companies involved with a total market capitalization of \$10.3 trillion.⁴³ And just 3 percent of S&P 500 companies have signed on to Amazon's Climate Pledge initiative, which includes a total of 400 signatories committed to net zero emissions by 2040.⁴⁴

FIGURE 6:
Near Term Target Status of the S&P 500 with SBTi



Source: The Science Based Targets initiative (SBTi)

FIGURE 7:
Climate Commitments from the S&P 500



Source: The Science Based Targets initiative (SBTi)

⁴¹ See the [companies](#) who have set science-based targets with SBTi.

⁴² See the list of [RE100 members](#).

⁴³ See the [Climate Action 100](#) focus companies.

⁴⁴ See the list of [The Climate Pledge signatories](#).



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RESOURCES: EXPERT PUBLICATIONS AND GUIDANCE

- ▶ ["What Is Carbon Accounting?"](#)
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- ▶ [How To Calculate Emissions in Your Value Chain](#)
- ▶ [The TCFD's Role in Emerging Climate Regulations](#)
- ▶ [Financed Emissions: Can Banks Change Before the Climate Does?](#)
- ▶ [The Forrester New Wave™: Sustainability Management Software, Q1 2022](#)
- ▶ [Making Sense of Climate Disclosure](#)
- ▶ [The Evolution of Sustainability Disclosure](#)
- ▶ [The Costs and Benefits of Climate-Related Disclosure Activities](#)
- ▶ [NACD Director FAQ: Climate Governance](#)
- ▶ [Board/Management Interface on Climate](#)
- ▶ [NACD BoardTalk | ESG and the Board's Governance Role](#)
- ▶ [NACD BoardTalk | Board Committees Are Key to Embedding ESG](#)
- ▶ [NACD Sustainability Committee Charter Tool](#)
- ▶ [NACD BoardTalk | "Climate Change Is an Enterprise Risk Multiplier"](#)

INDUSTRY-SPECIFIC CARBON ACCOUNTING STANDARDS

Many industries require unique guidance that goes beyond the Greenhouse Gas Protocol (GHGP). Several organizations have worked with the GHGP to create those needed instructions. Below are resources that have earned the "[Built on GHG Protocol](#)" mark:

- ▶ [Clear Energy Emission Reduction \(CLEER\) Protocol](#)
- ▶ [ENCORD Construction CO2e Measurement Protocol](#)
- ▶ [GHG Reporting Guidance for the Aerospace Industry](#)
- ▶ [Global Logistics Emissions Council \(GLEC\) Framework](#)
- ▶ [Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices](#)
- ▶ [ICT Sector Guidance](#)
- ▶ [Product Category Rules \(PCR\) for Concrete](#)
- ▶ [Scope 1 & 2 GHG Inventory Guidance for U.S. Dairy Cooperatives and Processors](#)
- ▶ [Scope 3 GHG Inventory Guidance for U.S. Dairy Cooperatives and Processors](#)
- ▶ [Waste Sector Protocol](#)



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