



The Association of
Accountants and
Financial Professionals
in Business

CLIMATE RISK AND STRATEGIES: FINANCE FUNCTION READINESS TO MEET ACCELERATING DEMANDS



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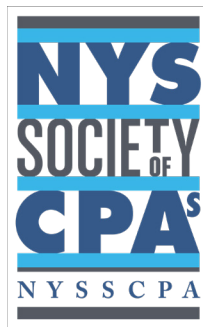
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ACKNOWLEDGMENTS

The authors appreciate the input contributors to our research and publication, including:



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EXECUTIVE SUMMARY

Are accounting teams ready to meet accelerating demands for management and corporate reporting regarding climate risk and strategies?

This green paper and the research that underlies it aim to educate regulators, standard setters, policy makers, and senior executive teams to ensure their readiness to identify, consider, and assess various categories of business risks related to climate change.¹ The paper aims to look into internal corporate functioning with a specific focus on the role of the CFO, finance and accounting teams, and risk management processes.

Climate Change and Business Risk: A Focus on Corporate Finance and Accounting

Diverse stakeholders including governments, consumers, and investors are looking to businesses to respond to climate change. This is further driving business organizations to look to their finance and accounting teams to support:

- External reporting: meeting demands of regulators, policy makers, investors, data aggregators, and other stakeholders for the disclosure of information on a business's risks and responses to climate change; and
- Internal management: the development and implementation of strategies and processes to support management decision making on sustainable business issues in a way that preserves assets, enhances performance, and builds value.

The demands for external reporting over the last two decades have led to the development of climate-focused surveys, such as CDP, and disclosure frameworks covering climate such as those published by the Sustainability Accounting Standards Board (SASB), the International Integrated Reporting Council (IIRC), the Climate Disclosure Standards Board (CDSB), and the Global Reporting Initiative (GRI). More recently, the International

Financial Reporting Standards (IFRS) Foundation's newly formed International Sustainability Standards Board (ISSB) began standard-setting work that encompasses the guidelines of its predecessor organizations: the SASB, the IIRC, and the CDSB.² The initial work of the ISSB relies, in significant part, on the *Recommendations of the Task Force on Climate-related Financial Disclosures*, which was created in 2015 by the Financial Stability Board (FSB) to develop consistent climate-related financial risk disclosures for use by companies, banks, and investors.³

The U.S. Securities & Exchange Commission (SEC), which has primary oversight of the public securities markets and the information that regulated, public entities must disclose, introduced proposed rules in May 2022. Like the ISSB proposals, the SEC's proposed rules reflect the disclosure requirements of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. At the same time, the European Commission is looking to its European Financial Reporting Advisory Group (EFRAG), which issued its own set of proposed accounting and reporting standards to support the Corporate Sustainability Reporting Directive (CSRD).

As far as climate-related disclosures are concerned, although each of these regulatory bodies and standard-setting organizations are exposing different formulations, as noted, all, to a large extent, are relying on the TCFD recommendations. It is generally hoped that reference to the same original, voluntary reporting guidelines will reduce pending fragmentation and promote comparability.

The TCFD guidelines provide for 11 points of disclosure related to the financial effects of climate change on an organization, classified into four categories: governance, strategy, risk

management, and metrics and targets (see [Table 1](#)). Instead of limiting recommended disclosures to greenhouse gas (GHG) emissions, they require an assessment of how an organization identifies, considers, and acts upon sustainable business information around climate issues. In summary, following the TCFD external disclosure guidelines depends on robust *internal* management processes, including governance and risk management processes that support strategic decision making.

At the same time, organizations such as IMA® (Institute of Management Accountants), whose members must consider not only external reporting but also internal management of sustainability, seek to promote sustainable business issues, including climate, in a way that supports management decision making.⁴ More specifically, these goals include identifying, assessing, and managing relevant risks. They include finding opportunities for efficiencies and implementing innovative strategies. Attention to sustainability serves to build resilient business models and create value with a long-term focus.⁵

Many organizations look to the Committee of Sponsoring Organizations of the Treadway Commission (COSO) *Enterprise Risk Management—Integrating with Strategy and Performance* (ERM Framework) to evaluate risk management processes (see [Figure 2](#)).⁶ The framework promotes a multistep approach to risk that includes governance, oversight, and processes for identifying, assessing, and managing risks across an organization. From an overall perspective, the *internal* processes directed by the ERM Framework can serve as a guide to responding to emerging areas of risk, such as climate and other environmental, social, and governance (ESG) items. In short, one can observe parallels between enterprise risk management (ERM) principles and the information suggested for disclosure by the TCFD. The bottom line is that the application of risk management principles and processes for management are foundational to external disclosure and compliance with the TCFD or similar climate-related standards or regulations.

Preparedness to Respond to Climate-Related Risks: The Perspective of IMA's Constituents

IMA's primary constituency is the global accounting and finance profession in business. This includes not only members from multinational, public companies but also from organizations that are private or considered small and medium-sized enterprises (SMEs). In addition, although some are involved exclusively in external reporting compliance, many are involved in day-to-day transactional processes, implementing technology solutions, and focusing on strategic planning. A key question that they raise is the decision-usefulness of sustainable business information from the perspective of business management.

As calls for our constituents' involvement in sustainable business management and ESG reporting accelerate, our members can offer a unique perspective on how these trends are affecting (or, alternatively, not reaching) this critical constituency. While much is being addressed by corporate sustainability professionals, meaningful progress on both responding to and reporting on climate and other aspects of ESG risks calls for the input and expertise of IMA's core constituencies.

By design, this study provides a snapshot. The goal was a qualitative, broad assessment that summarizes the observations of our members and constituents on the readiness and maturity of their organizations' risk management processes as far as climate change is concerned. Its results cannot be interpreted as representative of any particular subgroup in the overall economy such as public vs. private companies, geography, or industry. We suggest that this study be used to help develop further research into the perspective of professionals in corporate accounting and finance on climate and ESG-related challenges and risks.

Our findings provide valuable insight. Internal accounting, controls, and risk management processes are foundational for the performance reporting that investors and policy makers are seeking. It is also foundational for management to take meaningful action based on the information brought forward. This report also can support a

deeper understanding by those who are developing global standards for accounting and reporting of climate risks. It raises several questions for additional investigation by researchers and standard setters as they seek to help corporate accounting and finance teams to become instrumental leaders and partners in climate and sustainability management.

Key Findings from Our Investigation

Employing an international survey and one-on-one interviews, our research team aimed to understand businesses' readiness in terms of processes and structures to support a meaningful response to the physical risks, transition risks, and strategic opportunities associated with climate change.

The study's major findings are:

- About 25% of respondents reported coverage of climate and other ESG items as part of their organization's ERM processes with oversight by the board of directors.
- Many companies address climate change issues as part of a general response to ESG issues. For most companies, climate does not get separate attention as a stand-alone category.
- About half of the respondents, many of them based in private companies, stated that sustainability information is not used by management for any purpose.
- Regardless of the differences between public and private entities, respondents from all entities generally indicated minimal maturity in managing or responding to climate-related physical risks, transition risks, and opportunities. While many respondents indicated that particular risks or opportunities were identified, few characterized their positions as assessed or managed. It appears that most companies have begun to consider but have not quantified potential effects on their organizations or taken steps to manage the risks involved.
- A large majority of respondents reported that their organizations are not performing any scenario or sensitivity analyses regarding climate-related risks.
- There appears to be a disparity in the attention that climate is receiving from respondents at

public companies, which are assumed to be larger and have more resources, than those from private companies. It is fair to say that respondents from private companies—arguably representing the “real economy”—have neither identified climate as a relevant matter nor acted on it. The focus on disclosure through securities regulation may be exacerbating disparities between the decision-usefulness of standards for public companies and a lack of attention by private companies.

In summary, with respect to climate, significant opportunities remain for businesses to move forward from initial risk identification to the more mature activities of assessment, mitigation, and management. Developing more mature management and accounting systems will bring attention to supportive processes that are the precursors to reliable and trustworthy disclosure under the TCFD or similar standards and regulations. The current focus on publicly listed companies to respond to climate risks via disclosure overlooks large portions of the economy—small, medium, and privately held entities. •



Background

Various activities around the world have resulted in commitments to reduce greenhouse gas (GHG) emissions. These include new commitments by businesses, among hundreds of organizations, that have joined in global undertakings.⁷ The corporate response has reflected both internal and external drivers for businesses to address climate change and other sustainability matters.⁸ The public health challenge around COVID-19, moreover, raised awareness of systemic, transnational consequences and the role of science in defining effective response strategies.

For many, the business response to climate change focuses on risks. Generally, and following the Task Force on Climate-related Financial Disclosures (TCFD) typology, these risks fall into one of three categories: physical risks, transition risks, and liability risks.

- **Physical risks** refer to potential losses from damaging weather events and long-term changes in climate trends. Storms, flooding, and wildfires, for example, are occurring with greater frequency and intensity than in the past. Climate change is also bringing about changes in long-term weather patterns, such as longer periods of rain or heat, and these changes can affect customer preferences, equipment functioning, and human productivity.
- **Transition risks** refer to exposures associated with market forces, technological developments, and regulatory policies as industries, customers, employees, and investors avoid transactions with businesses that are seen as inadequately responding to decarbonization trends. Movement by companies to produce and deliver products in ways that reduce carbon emissions affects all of their suppliers. This means not only energy suppliers but also suppliers of materials, transportation, and technology. Transition risk also means impairment of existing fossil fuel-dependent assets and operations due to the potential inability to recover invested costs.
- **Liability risks** refer to risks that an entity will be held liable for the cost that its emissions or other environmental impacts have imposed on external entities. These can be imposed, for example, through regulatory enforcement actions or private litigation.

Not all see business response to climate change in terms of risk. Some see it in terms of opportunities. Meeting these demands can reveal new pathways for innovation, analysis of previously overlooked efficiency data, and cross-disciplinary collaboration. It brings about the rethinking of current business models and technology approaches. Business professionals involved in sustainability highlight new opportunities over the short, medium, and long term that come from managing risks and taking advantage of opportunities as the economy transitions.

Today, investors readily access large amounts of corporate data—both conventional financial data and environmental, social, and governance (ESG) data. Along with this data comes a variety of ratings, rankings, and indices. As environmental data become increasingly pivotal in investment decision making, companies are concerned about the effects of a poor ESG rating compared to peers. Responsible investors have been a significant driver in the movement toward greater organizational attention to climate and other sustainable business or ESG matters. The largest institutional investors, such as BlackRock, Vanguard, and State Street, along with government employee pension funds around the world, are similarly pushing companies to measure and report on ESG. Similar trends are playing out around business lending, as sustainability-linked or sustainability-incentivized lending practices are on the rise. As financial services companies weigh the risk of investees with high GHG emissions in their portfolios, organizations of all sizes can increasingly expect lenders, insurers, and institutional asset owners to demand information on ESG performance, including progress

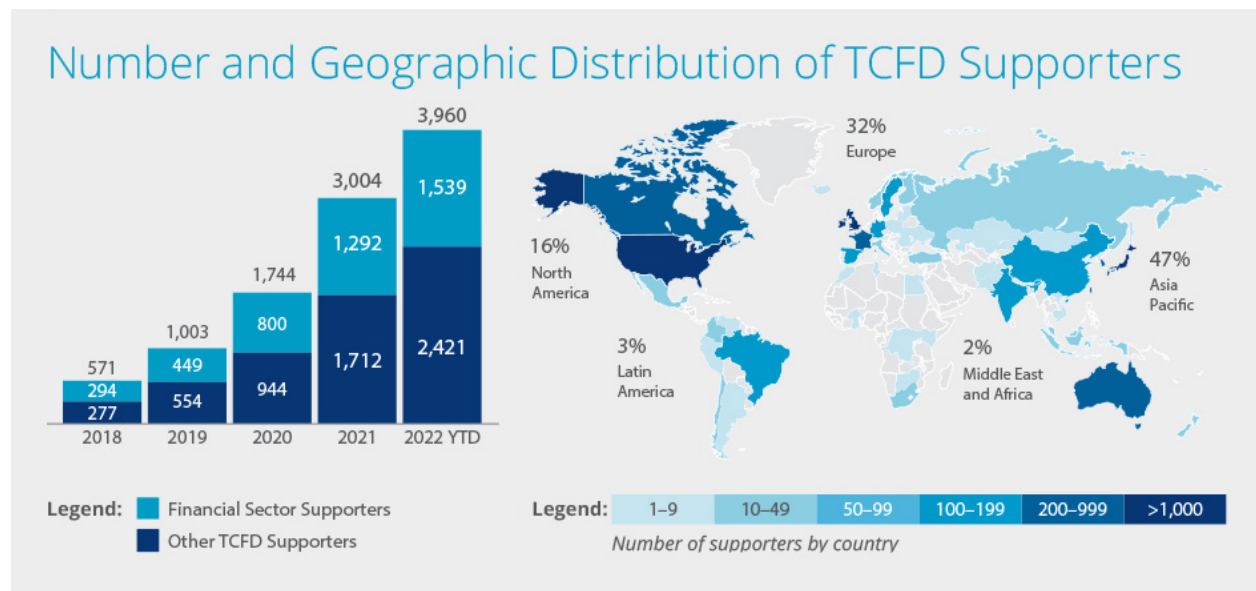
on reducing GHG emissions. Many may provide incentives that lower the cost of capital for their investees.

Development of Voluntary Reporting Guidelines on Climate Change

During the first two decades of the 21st Century, multiple investor-based initiatives, such as the CDP and PRI, have accelerated pressure for corporate disclosure of ESG data. The CDP’s work became prominent, particularly regarding climate, for large reporting entities. The CDP’s disclosure process works via an annual, specialized survey instrument. Year to year, its questionnaire changes and implicitly reflects the goals driving maturity around corporate climate responses. The questionnaire has sought, progressively, more information on governance, risk, and internal processes. The results of the survey process, assigned ratings, and summary reports are publicly available on the CDP website.⁹ In addition, some of the underlying data that CDP collects are accessible on commercial investor platforms.

The demand for corporate information around climate change and other sustainable business matters led to the proliferation of additional (1) commercial survey instruments and ratings and (2) voluntary frameworks and guidelines for external reporting. This proliferation of information demands further ignited regulatory movement toward mandatory climate and other ESG disclosures. As voluntary guidelines, these recommendations are well on the way toward becoming generally accepted.

FIGURE 1: TCFD-ALIGNED DISCLOSURE REQUIREMENTS



Source: TCFD, *Task Force on Climate-related Financial Disclosures: 2022 Status Report*, October 2022, [bit.ly/3PbDzGp](https://www.tcfddata.com/).

Authoritative Mandates

With respect to climate-related disclosures, there is significant movement toward authorities’ adoption of mandates that are based, in large part, on the TCFD recommendations. In its most recent report, the TCFD summarizes this worldwide coalescence around its disclosure recommendations. Figure 1 provides a summary of climate-related financial disclosure requirements and proposed requirements that incorporated or drew from the TCFD recommendations (referred to as TCFD-aligned disclosure requirements).

In 2022, the U.S. Securities & Exchange Commission (SEC) released for comment *The Enhancement and Standardization of Climate-Related Disclosures for Investors* (Release No. 33-11042).¹⁰ This new rulemaking builds on the TCFD recommendations and, if adopted, would provide for new disclosure rules around governance and risk. In addition, in 2021, the SEC announced that it would initiate rigorous oversight of corporate filings for compliance with its 2010 interpretation, *Commission Guidance Regarding Disclosure Related to Climate Change* (Release No. 33-9106).¹¹ This interpretation looks at the nature of required disclosures in Form 10-K and describes how a reporting entity should apply these requirements to provide climate-related information such as in the description of the business, legal proceedings, risk factors, and management discussion and analysis.

Looking internationally, among the initial priorities of the International Sustainability Standards Board (ISSB) was conducting due diligence on proposals for two initial standards, Exposure Draft (ED/2022/S1): *General Requirements for Disclosure of Sustainability-related Financial Information* and Exposure Draft (ED/2022/S2): *Climate-related Disclosures*.¹² These standards were developed by the International Financial Reporting Standards (IFRS) Foundation's Technical Readiness Working Group, which included the ISSB predecessor organizations as well as the International Organization of Securities Commissions (IOSCO), the International Accounting Standards Board (IASB), and the World Economic Forum. With respect to climate-related disclosures, the proposed standards parallel the TCFD recommendations.

In Europe, at the direction of the European Commission, in mid-2022, the European Financial Reporting Advisory Group (EFRAG) released 13 exposure drafts as "Set 1" of sweeping new corporate reporting mandates that include an impact accounting approach, sometimes referred to as "double materiality," with the objective of reflecting both internal and external impacts. Under this approach, a reporting entity provides disclosure of information not only about the effects of climate change and other sustainability matters on its own organization, but also, conversely, the effects of its activities on the larger environment. The European Commission's larger objective is to support implementation of its green finance initiatives, some of which were codified through its Taxonomy Regulation (Taxonomy) and Sustainable Finance Disclosure Regulation (SFDR). The Taxonomy is essentially a classification system that will be employed under a new Corporate Sustainability Reporting Directive (CSRD) with the SFDR covering investors and asset managers. The CSRD incorporates key aspects of the TCFD recommendations.

Globally, other regulators and securities exchanges in Asia and South America have been adding sustainability disclosures to their listing requirements, and many of these new guidelines specifically reference the TCFD. For example, in July 2022, the Sustainability Standards Board of Japan was established under the nation's Financial Accounting Standards Foundation to address sustainability disclosure under Japan's generally accepted accounting principles. This movement aligns with mandates from Japan's Financial Services Agency's amendments to the Corporate Governance Code, effective April 2022, that the largest securities issuers (the Prime Market segment) provide disclosure of climate risk.

Just over half of respondents (51%) reported that their organizations are not using sustainable business information at all.

TCFD Recommendations Include Disclosures on Governance, Risk, and Opportunities

As noted, the TCFD recommendations are not limited to GHG emissions data. Instead, the recommendations address 11 points of disclosure that align with four categories:

- Governance
- Strategy
- Risk management
- Metrics and targets

TABLE 1: RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization’s governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures			
a) Describe the board’s oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization’s processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management’s role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.	b) Describe the organization’s processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.
	c) Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into this organization’s overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

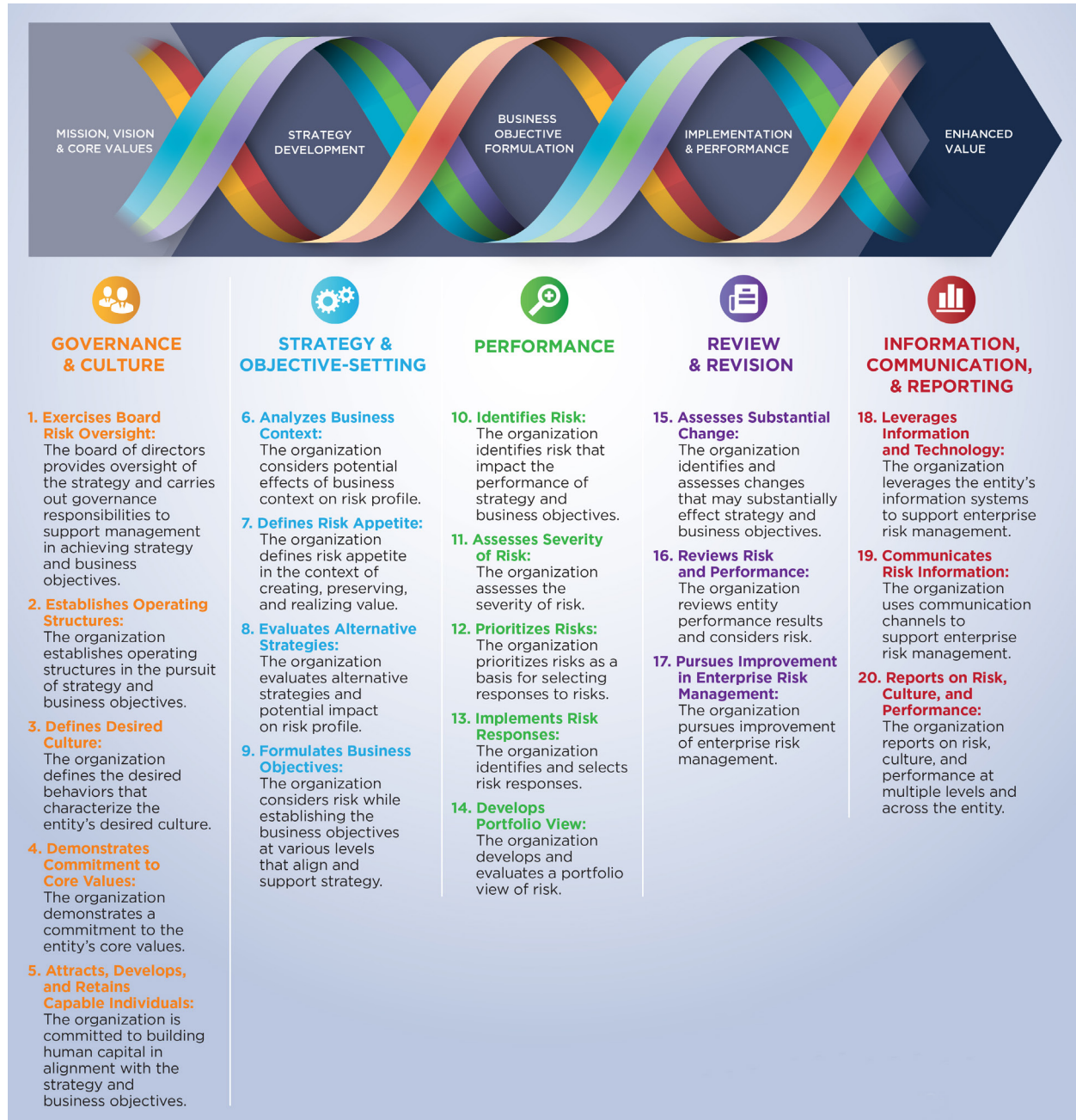
Source: TCFD, *Task Force on Climate-related Financial Disclosures: 2022 Status Report*, October 2022, bit.ly/3PbDzGp.

Although corporate disclosures that follow the TCFD recommendations have been on the rise, generally, the information provided to the market appears to be less robust than desired by investors, regulators, and other stakeholders.¹³

COSO ERM and Similar Frameworks

These disclosure demands appear to be built on the assumption that companies have the right internal structures to perform the analysis and deliver compliant information. It reflects assumptions that the data, processes, and oversight are in place.

FIGURE 2: COSO'S ENTERPRISE RISK MANAGEMENT FRAMEWORK



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As a general matter, however, companies are reluctant to disclose information for which they lack comfort as to reliability. Reporting organizations must have the data, systems, oversight, and talent

resources to meet these disclosure demands in a way that promotes trust and confidence. Disclosure rests on the existence of reliable internal risk management processes and systems.

Many organizations look to the Committee of Sponsoring Organizations of the Treadway Commission (COSO) *Enterprise Risk Management—Integrating with Strategy and Performance* (ERM Framework; see Figure 2) to guide their risk management processes holistically. The ERM Framework, for example, provides fundamental definitions and goals:

- Risks are defined as “the possibility that events will occur and affect the achievement of strategy and business objectives.”
- Enterprise risk management (ERM) is defined as “the culture, capabilities and practices, integrated with strategy-setting and performance, that organizations rely on to manage risk in creating, preserving and realizing value.”

Leadership set by an organization’s board and executive management ensures not only that a company is operating efficiently but also that it remains capable of assessing emerging risks. Leaders judge whether the ship is going in the right direction or whether it drastically needs to change course.

In some organizations such as insurance companies, financial risk management is the heart of the business model, and sophisticated risk management teams, with specialized expertise, take the lead. All organizations, however, benefit from a robust risk management process, and they look to their CFO and finance and accounting teams to guide analysis for decision making.

Risk management is one of the basic competencies of management accountants and other members of the finance and accounting unit. This includes familiarity with fundamental risk management principles, as described in the COSO ERM Framework and similar materials. This is part of the skill set required to assess conditions and respond with strategy. It includes careful consideration of the competition—not only what peers are doing now but where they are headed. It is looking forward, considering future direction and value creation that reflects market and societal expectations.

In 2018, COSO and the World Business Council for Sustainable Development (WBCSD) released a report to facilitate professional understanding and organizations’ ability to apply the COSO ERM Framework to integrate activities around climate and other ESG risks. This guide noted that the ERM Framework can help an organization respond by identifying, assessing, and managing or mitigating negative effects, such as a reduction in revenue targets or damage to reputation, as well as seize on positive impacts or opportunities, such as moving into emerging markets for new products or cost savings initiatives.¹⁴ Many of the TCFD guidelines that seek disclosure regarding the financial effects of climate change depend, in substance, on principles in the ERM Framework.

At the heart of the five components of the COSO ERM Framework is the objective of delivering on performance. This requires three key steps, (1) identifying, (2) assessing, and (3) managing or mitigating risks, based on a robust process of prioritization and consideration of emerging changes and drivers.

Moving from Short-Term Perspectives toward Long-Term Engagement

One of the critical aspects of addressing climate and other sustainable business risks is the perspective of various professionals within the accounting and management ecosystem. It is well recognized that satisfying market interests around sustainable business information and management will require a longer-term, forward-looking perspective than commonly referenced in business today. The shorter-term focus of corporate teams (including the finance and accounting function) that are responsible for oversight of ERM processes, in comparison to the longer-term focus of sustainability professionals and institutional investors, is a significant challenge that requires attention to implementing strategies and reporting around climate issues.

Emphasis on Securities Regulations for Disclosure Overlooks Nonpublic Entities

Importantly, the current emphasis on corporate disclosure, mandated through securities laws on public companies, may be overlooking the important contributions of private organizations for reducing GHG emissions and supporting sustainable development.¹⁵ The emphasis on external disclosure to public markets appears to overlook the risks and contributions of nonpublic entities addressing climate-related risks and opportunities as well as impacts on other parties that are contributing resources and have a stake in the enterprise.

Overwhelmingly, even in developed countries, small and medium-sized enterprises (SMEs) make up a significant majority of the economy. For example, in the United States, the number of public companies today is limited to about 4,000.¹⁶ The U.S. Small Business Administration reports that an astounding 99.9% of businesses are small businesses, and, in 2021, these 32.5 million entities employed almost 47% of the private workforce.¹⁷ Similarly, with a worldwide perspective, McKinsey & Company reports that in high-income countries worldwide, SMEs account for 99% of all companies and 70% of all jobs, and they contribute more than 50% of gross domestic product (GDP).¹⁸

The COSO-WBCSD report observed:

ESG-related risks are as relevant for small and medium-sized entities as they are for large corporations or government bodies. However, resources in SMEs are often limited, making it challenging for these entities to establish robust governance or to adequately identify, assess and respond to all ESG-related risks. SMEs should take a common sense approach that uses available resources efficiently. This may include focusing on strategy and objective-setting and performance while being aware of the importance of continual monitoring and improvement.

Nevertheless, it is generally viewed that SMEs are less inclined and less motivated to consider and address climate-related risks and opportunities than global, public companies. International companies are assumed to have greater resources and greater compliance concerns than their private and smaller counterparts.

Considering the drivers for change and attention to emerging issues, the researchers aimed to understand, with greater depth, the perspective of insiders—the professionals who are to respond by considering risks and strategies. We sought to understand corporate maturity from the perspective of these insiders. Have they merely taken note of climate change as a topical public agenda item, or has there been a critical assessment of the relevance of the issue as a longer-term, material risk for their own sector and business? •

Internal accounting, controls, and risk management processes are foundational for the performance reporting that investors and policy makers are seeking. It is also foundational for management to take meaningful action based on the information brought forward.

Our Study

The results described in this report are based on:

- A literature review that focused on (1) TCFD and similar guidelines regarding financial risks related to climate change and (2) published risk management guidelines, including the COSO ERM Framework.
- A series of interviews with more than 15 corporate practitioners to gather general observations of corporate finance and accounting, risk management, sustainability, and executive leadership.
- An online survey of IMA® (Institute of Management Accountants) members and via distribution through several external organizations including the International Federation of Accountants (IFAC), the Sustainability Investment Leadership Council, the New York State Society of Certified Public Accountants (NYSSCPA), and the Governance and Accountability Institute. The survey yielded more than 500 responses.

This study was nonquantitative in design. It represents only the views of the respondents. It was not designed or intended to be representative of a specified population. Based on self-reported responses, survey participants were largely from the U.S. (73%), followed by India, Canada, China, the Netherlands, and Germany, and they worked at organizations with headquarters in similar geographic regions: U.S. (71%), Canada, India, Italy, the Netherlands, the United Kingdom, and Saudi Arabia.

Almost three out of four respondents (73%) reported that they were from private companies. The remainder reported working for publicly listed entities. Similarly, about 25% indicated that their organizations were producing some form of sustainable business reports; 64% stated that they were from nonreporting companies (see Figure 7). The remainder, approximately one in 10, were not sure about their company's ESG reporting. While this is not intended to be representative of the market, the inclusion of a large percentage of business professionals from entities that are SMEs or unlisted companies provides a deeper understanding of the challenges to responding to climate-related risks than exclusive focus on entities that publicly report.

By sector, almost 25% of respondents said they were from finance and financial services, which reflects respondents' connection with IMA and other organizations related to professional accountancy. This was followed by manufacturing (16%), utilities (7%), and technology (6%).

One-third of respondents listed finance as his or her job function. One-fourth designated corporate accountant, and about 12% designated a role in management. A majority of respondents reported at least mid-level or senior positions. Almost one-third (31%) classified their role as owner or C-suite level, and a similar number self-described as senior management.

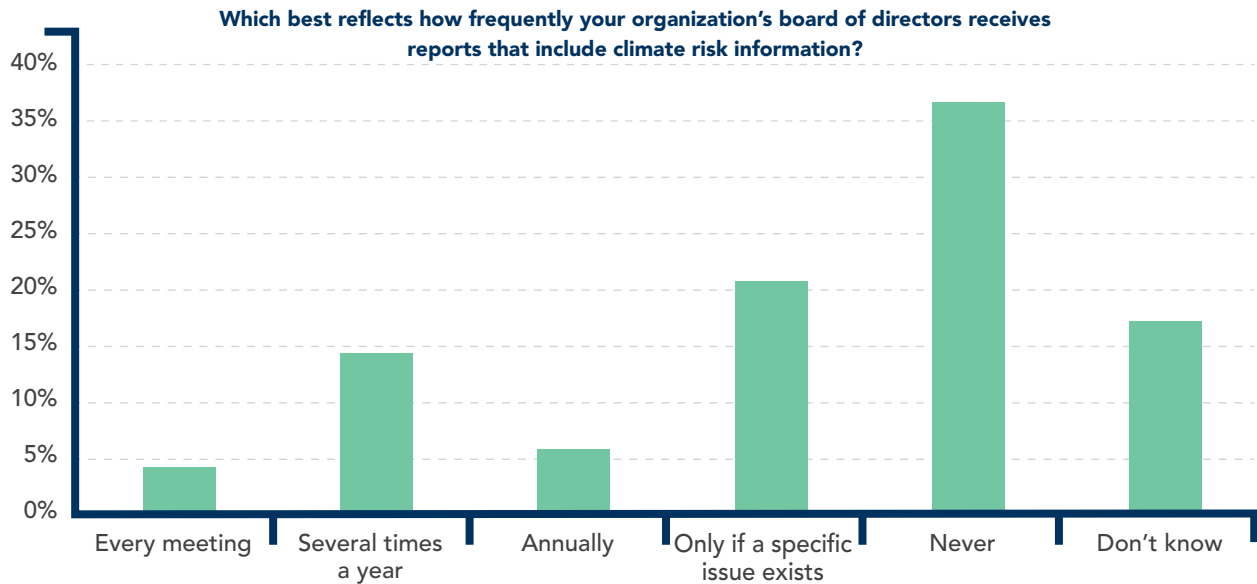
Findings

1. Governance: board participation in risk management regarding climate

Through our interviews and survey, we asked respondents to describe board-level oversight and the delivery of information regarding climate-related risks.

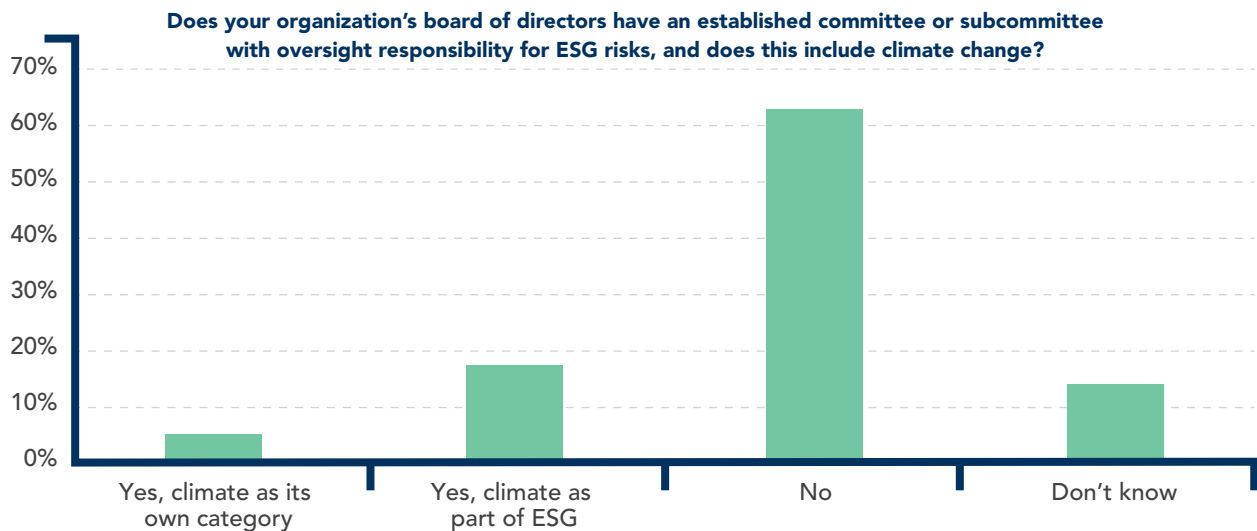
Board reporting on climate risk: Respondents were asked how frequently their organization's board receives reports that include climate risk information. To this question, only about 10% reported regular standard reporting, either at every meeting (4%) or annually (6.5%; see Figure 3). Those reporting "at every meeting" more commonly came from financial institutions, manufacturing, power utilities, and information and technology. The responses of a majority suggest an ad hoc approach of several times per year (14%) or only if a specific issue arises (21%). The largest single portion of respondents (37%) indicated that their respective boards never address climate risk.

FIGURE 3: BOARD INFORMATION ON CLIMATE RISK



Board committee: We asked respondents whether their board of directors has an established committee or subcommittee with oversight responsibility for ESG risks and whether this includes climate change. In total, about one in four reported that their board has an established body, with the largest group (17%) stating that the board's designated group addresses all sustainability matters. Only 5% report that the board's oversight group addressed climate as its own category (see Figure 4). Almost two-thirds (63%) reported that their board has not designated a board-level committee at all.

FIGURE 4: BOARD STRUCTURES ON CLIMATE RISK



In summary, the dedicated board-level attention specifically to climate-related risk, as reported, is uncommon.

2. ERM process and climate risk

We asked respondents whether their organization’s risk management process covers risks related to climate change. As shown in Table 2, only 7% reported affirmatively that their organization has a process that covers climate as a risk in its own category. A larger minority of respondents (15%) stated that their organization’s ERM processes cover climate risks as part of a broader range of ESG risks. A larger group (20%) responded that their ERM processes address risks that include climate, but not as a separately identified risk category. The largest group (32%), however, indicated that their organization’s process excludes climate risks, and 16% reported that they do not have an ERM process at all, with the remainder (11%) unsure.

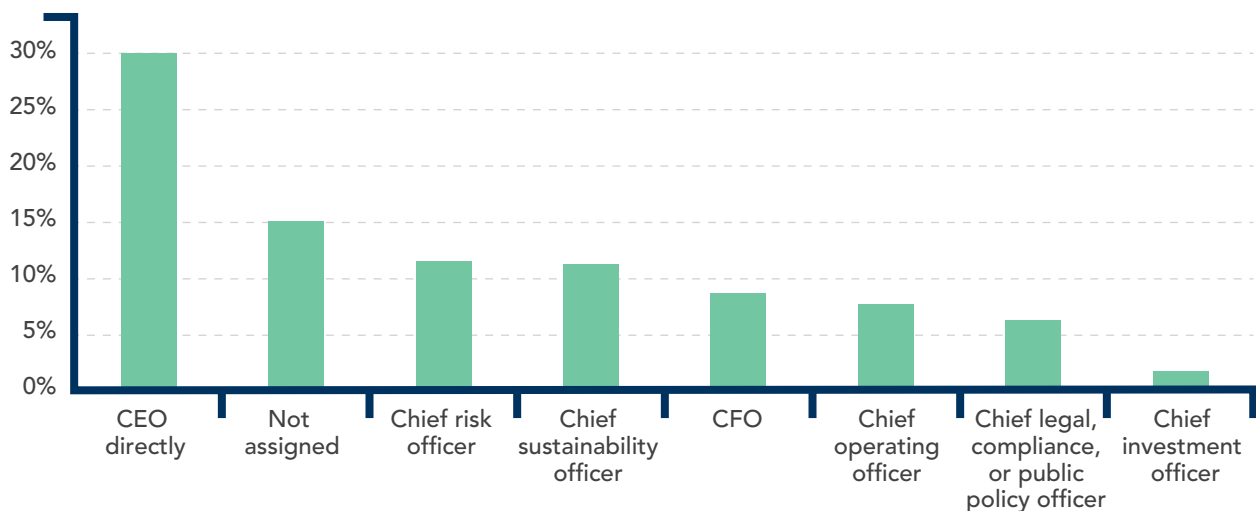
TABLE 2: RISK MANAGEMENT AND CLIMATE CHANGE

We don’t consider climate-related risks at all.	32%
We consider climate-related risks as part of other risk categories but not separately and not regularly.	20%
We don’t have an ERM process.	16%
We address ESG risks including climate-related risks as a regular part of our ERM process.	15%
Not sure.	11%
We address climate-related risks as a separate risk and as a regular part of our ERM process.	7%

3. Governance structures for climate risk

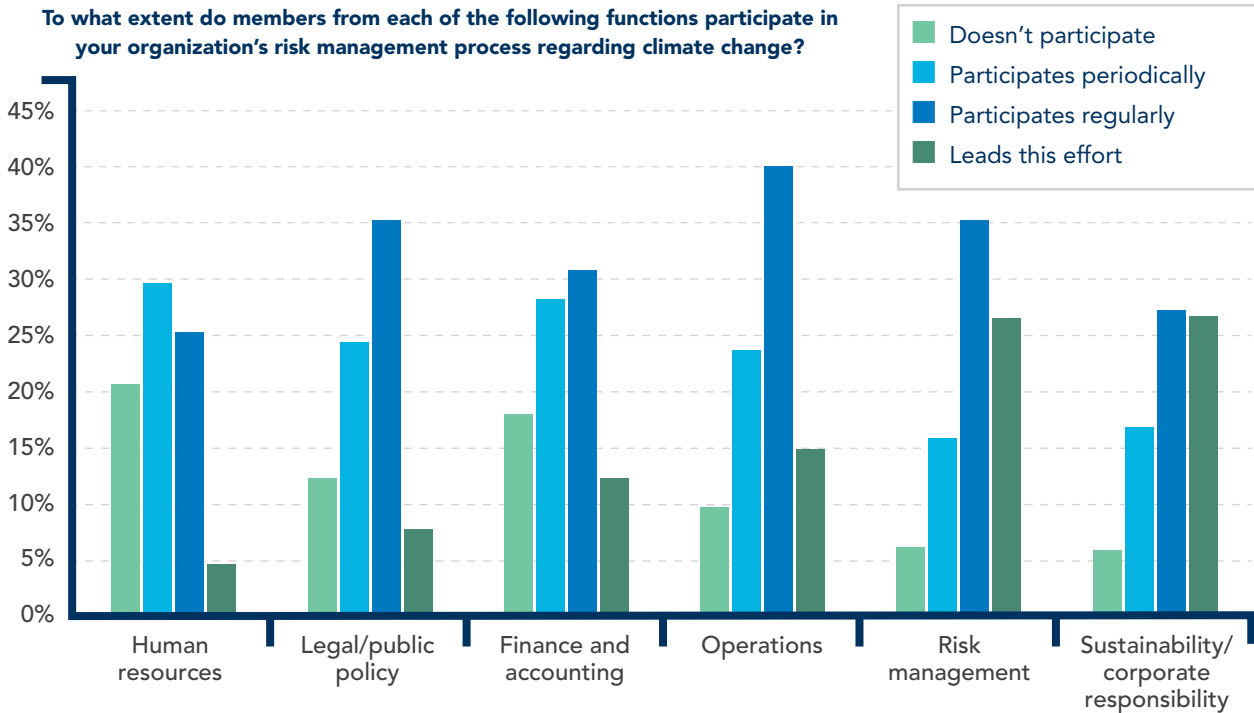
We asked several questions that aim to ascertain who within respondents’ organizations is leading and participating in addressing climate risk.

FIGURE 5: CORPORATE LEADERSHIP ON CLIMATE RISK



Leadership: We sought to discover the leader to whom units with responsibilities for climate risk oversight report (see Figure 5). Most respondents (30%) indicated the CEO as the primary leader, followed by the chief risk officer (12%) and the chief sustainability officer (CSO, 11%). About 15%, however, responded their organization has not assigned responsibility for monitoring risks related to climate change.

FIGURE 6: PARTICIPATION IN RISK MANAGEMENT REGARDING CLIMATE CHANGE



Participants: To understand the structures, we asked respondents to what extent members from specified functions participate in the risk management process regarding climate change (see Figure 6). It appears that most commonly, these activities are led by someone from risk management (27%) or sustainability (27%). Yet not all organizations have a risk management or a sustainability function. Respondents also described regular participation in these risk-related activities by members from operations (40%), risk management (35%), legal/public policy (35%), and finance and accounting (31%). More than one out of four respondents (28%) reported that members of finance and accounting participate only periodically in risk management regarding climate change, and 18% reported that their finance function does not participate in risk management at all. It is reasonable to conclude that involvement of the accounting and finance function, bringing expertise in risk management, would provide new insights and discipline to the process.

4. Short-term vs. long-term perspective

Business professionals commonly break down perspectives in terms of the short, medium, and long term. These perspectives of time horizon can also differ based on sector or industry. We asked our respondents to consider the outlook of different professionals in their leadership teams and stakeholders such as investors.

The information we gathered suggests a critical and impactful difference between the time frame perspective of professionals based on their role and discipline. Responses indicate that members of accounting and corporate finance teams appear to have a significantly shorter-term focus than their senior leadership, including CFOs and CEOs. They also indicated that investors and lenders have a longer-term focus than people in these specific executive roles, who are, in turn, less long term-focused than lenders and investors, the sources of financial capital. Sustainability officers are described as being longer term-focused than their corporate leadership teams and more aligned with investment officers.

5. ESG reporting

The demand for disclosure around GHG emissions and business responses to climate change has accelerated. This demand has been voluntary or market-driven, reflecting growing consumer interest and regulatory movement as authorities demand climate disclosures to enable market-based and fiscal schemes such as emissions trading and carbon taxes.

By 2021, more than 96% of the S&P 500 produced some type of sustainability or ESG report.¹⁹ This trend appears to remain largely among public companies, with privately held or SMEs not participating.

Among our respondents, professionals at both publicly held and privately held organizations, only one-quarter affirmatively indicated that their organizations issue ESG reports (see Figure 7). Almost two-thirds (64%) indicated that their organizations are not issuing ESG or sustainability reports, and 11% signaled that they do not know whether their organization does so.

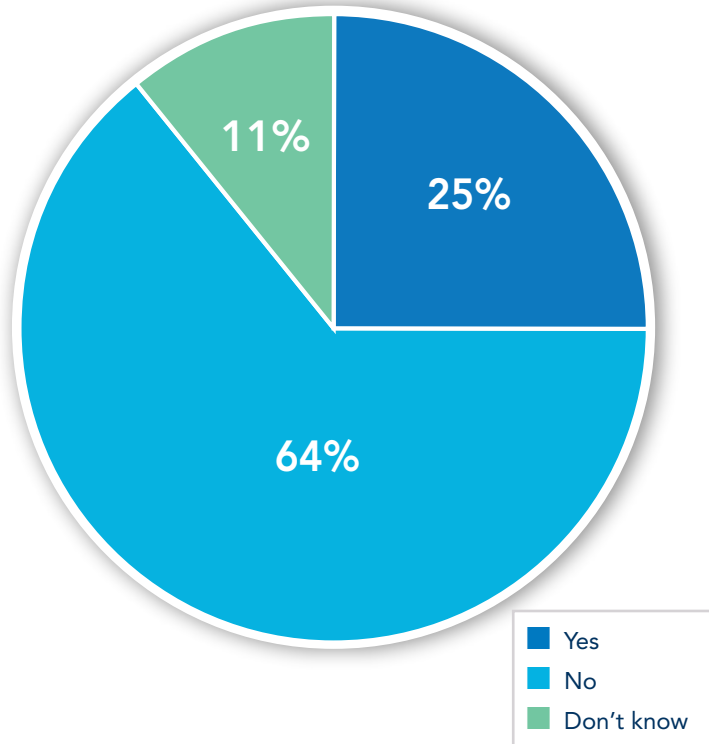
Although some publicly listed companies may be providing some sustainability information in their annual reports or regulatory filings, the responses signal low levels of sustainability or ESG reporting by a large segment of the economy.

6. Use of ESG/sustainable business information

With the emphasis on external ESG reporting, we aimed to understand whether the information brought forward, gathered, analyzed, and delivered to the market was decision-useful from a management perspective.

Regardless of whether their organization issued an external ESG report (or responded to rating questionnaires), all respondents were asked how management uses sustainable business information, which includes information regarding climate risk, for internal purposes. In this regard, just over half of respondents (51%) reported that their organizations are not using sustainable business information at all (see Table 3). The next most common responses were that

FIGURE 7: EXTERNAL SUSTAINABILITY REPORTERS



the information is used “to identify and assess risks” (26%) and “reviewed by senior management for financial planning and analysis purposes” (21%).

About 15%-18% of respondents reported an active ongoing use of the information, such as for benchmarking with peers, capital budgeting, tracking year-to-year progress, and employee engagement.

TABLE 3: INTERNAL USES OF SUSTAINABLE BUSINESS INFORMATION

None of the above	51%
Used to identify and assess risk?	26%
Reviewed by senior management for financial analysis and planning purposes?	21%
Compared to prior reports to see if you’re making progress?	18%
Shared with employees to enhance engagement?	18%
Compared to your competitors for benchmarking purposes?	15%
Used for capital budgeting?	15%
Used by facilities and plant managers?	14%
Used to evaluate suppliers?	14%
Used to secure customer transactions and contracts?	10%
Used as a basis for any part of managers’ compensation?	5%

The least frequent response (5%) indicated that the information is used for managers’ compensation. The inclusion of sustainability factors in managers’ goal setting, performance, and compensation may deserve closer attention, as research continues to reveal connections between sustainability performance and management effectiveness, lower costs of capital, and financial performance overall.

7. Perspectives and action on physical and transition risks related to climate change

As noted, the analysis of economic risk related to climate change generally falls into three categories: physical risks, transition risks, and liability risks. For the most part, the focus is on the first two categories. Physical risks generally refer to the impairment or destruction of assets or operations due to a weather event (such as storms or wildfires) or chronic change in climate patterns (such as sea level rise and potential effects on waterfront property). Transition risks generally refer to the impairment or destruction of the productive use of assets or operations due to changes in the markets or overall economy as it transitions to activities with low or neutral emissions. One step further, this economic shift raises opportunities for organizations to innovate and develop strategies to perform well and create value given the emerging new paradigm.

Responding to physical risks: We asked respondents to what extent their organizations have considered, in detail, various potential effects of a range of physical risks, transition risks, and opportunities.

Analysis of responses shows that for the most part, organizations have considered or identified various risks and opportunities, but have done little else toward assessing or managing these factors (see Table 4). This suggests that all organizations, regardless of their status as reporting entities, are just starting to bring risk management and innovation techniques to climate-related business matters. The lack of maturity may, in fact, be a significant factor in the lack of robust reporting related to climate risks and opportunities.

TABLE 4: MATURITY OF RESPONSES TO PHYSICAL RISKS RELATED TO CLIMATE CHANGE

	We haven't considered this risk	We've identified this as a potential risk	We've assessed this risk to our business	We've taken steps to manage or mitigate this risk	This is not material to our business model	Weighted average score
Score	1	2	3	4	0	–
Changes in insurance coverage	24%	17%	15%	23%	20%	2.0
Supply chain disruption	21%	19%	17%	22%	21%	2.0
Productivity losses/impairment of physical assets	20%	19%	17%	19%	24%	1.9
Storms/floods	22%	17%	16%	19%	26%	1.8
Limited or blocked access to our premises	27%	15%	11%	19%	27%	1.7
Chronic periods of intense heat/heatwaves	30%	18%	9%	12%	31%	1.4
Drought/wildfires	31%	13%	11%	11%	35%	1.3
Chronically shorter winters/longer summers	32%	13%	8%	9%	38%	1.2
Sea level rise	35%	12%	7%	5%	40%	1.0

Weighted average score computed by assigning 1 point to “We haven’t considered this risk,” 2 points for “We’ve identified this as a potential risk,” 3 points for “We’ve assessed this risk to our business,” 4 points for “We’ve taken steps to manage or mitigate this risk,” and items reported as “This is not material to our business model” given a weight of zero.

About a third of the responses to various aspects of physical risks was that they are not material to the business model. Sea level rise appears to be the least concerning. The highest weighted average scores pointed to changes in insurance coverage and supply chain disruption. These concerns were followed by productivity losses/impairment of physical assets and limited or blocked access to premises. Perhaps due to challenges presented by the global COVID-19 pandemic, the most reported management or mitigation action relates to supply chain disruption. Yet around 30% have not even considered the potential risks of drought/wildfires or intense heat or heatwaves.

TABLE 5: MATURITY OF RESPONSES TO TRANSITIONAL RISKS RELATED TO CLIMATE CHANGE

	We haven't considered this risk	We've identified this as a potential risk	We've assessed this risk to our business	We've taken steps to manage or mitigate this risk	This is not material to our business model	Weighted average score
Score	1	2	3	4	0	–
Reputational risks with the public/policy makers	27%	23%	13%	13%	24%	1.6
Employee engagement if we are seen as irresponsible	31%	22%	13%	12%	23%	1.6
Government-imposed limits on greenhouse gas emissions	27%	21%	10%	14%	28%	1.5
New taxes on greenhouse gas emissions	29%	20%	12%	12%	27%	1.5
Impairment/diminished value of our investment portfolio	27%	21%	7%	14%	31%	1.5
Cap-and-trade systems to limit greenhouse gas emissions	31%	16%	8%	12%	33%	1.3
Competitors using technology to go greener faster than us	32%	20%	7%	10%	31%	1.3

Weighted average score computed by assigning 1 point to “We haven’t considered this risk,” 2 points for “We’ve identified this as a potential risk,” 3 points for “We’ve assessed this risk to our business,” 4 points for “We’ve taken steps to manage or mitigate this risk,” and items reported as “This is not material to our business model” given a weight of zero.

Responding to transitional risks: Reputation and the public impression of an organization being active or inactive appears to be the most compelling climate transition risk in moving companies to climate action (see Table 5). With respect to transition risks, the highest weighting pointed to intangible assets and relationships: reputational risks with the public and policy makers followed by employee engagement.

The third-ranked risk, government-imposed limits on GHG emissions, may suggest a lack of familiarity with the various means that government authorities are considering in the responses to collective climate risks; most are considering emissions trading systems over direct emissions taxes and specific limits on emissions.

The collective survey responses regarding peer-to-peer competition were unexpected, as during one-on-one interviews, several respondents raised this concern with us. In personal interviews, it was noted that actual competition today (particularly with regard to investment) and potential competition in the future (particularly with regard to large corporate buyers and consumers) were observable drivers for movement toward managing climate and other ESG risks.

For all transition risks presented, however, very few reported activities beyond identification. For example, although employee engagement is identified as a risk, only around 12% have assessed this risk or taken action steps to manage/mitigate it. It remains to be seen whether the competition for talent becomes a driver for assessment and management/mitigation, particularly if management considers younger employees’ preference for employers that are demonstrating leadership on sustainability/ESG issues.

Fourteen percent of respondents signaled that their company has taken steps to mitigate the risk of impairment or diminished value of their company investment portfolio. This result coincides with feedback from investment professionals who appear to be more mature than peers in other business functions on the prominence of ESG or sustainable business risks and opportunities.

TABLE 6: MATURITY OF RESPONSES TO STRATEGIC OPPORTUNITIES RELATED TO CLIMATE CHANGE

	We haven't considered this	We've identified this as a potential opportunity	We've developed strategy around this	We've implemented action steps	This is not material to our business	Weighted average score
Score	1	2	3	4	0	–
Energy efficiency	21%	25%	13%	22%	19%	2.0
Enhanced employee engagement	29%	25%	13%	13%	21%	1.7
Other operational efficiencies (other than energy)	29%	24%	8%	16%	23%	1.6
Working more closely with suppliers	27%	25%	10%	13%	25%	1.6
Enhanced customer loyalty	26%	28%	12%	11%	24%	1.6
Reduced transportation costs	23%	26%	10%	13%	28%	1.6
Enhanced organizational resilience	32%	22%	10%	12%	24%	1.5
Lower cost of capital/borrowing rates	31%	22%	10%	10%	27%	1.5
Labeling ourselves as carbon neutral	34%	17%	8%	10%	32%	1.3
Reduced packaging costs	25%	18%	8%	11%	38%	1.3

Weighted average score computed by assigning 1 point to “We haven’t considered this,” 2 points for “We’ve identified this as a potential opportunity,” 3 points for “We’ve developed strategy around this,” 4 points for “We’ve implemented action steps,” and items reported as “This is not material to our business” given a weight of zero.

8. Perspectives and action on climate-related opportunities (strategy)

Similar to the survey questions around climate-related risks, respondents were asked about their organizations’ recognition and action on opportunities related to the economic transition from fossil fuel dependency to lower or zero-emission operations (see Table 6).

Weighted average scores were the highest for energy efficiency, followed by enhanced employee engagement, and other operational efficiencies. With respect to nonenergy-related efficiencies, our one-on-one interviews brought further understanding. Business professionals are highlighting how analysis of energy use and emissions typically brings new and valuable insights on how an organization is using other resources, such as water. It also brings about, for example, new understanding on means to reduce waste and utilize technology for enhanced resource efficiency in operations.

These questions with respect to opportunities yield results that align with our findings with respect to risk. A significant portion of the respondents (21%-34%) either have not considered the listed opportunities or have merely identified them (17%-28%). With the exception of energy efficiency (22%), no more than 16% report either developing strategy or taking action steps around the items raised.

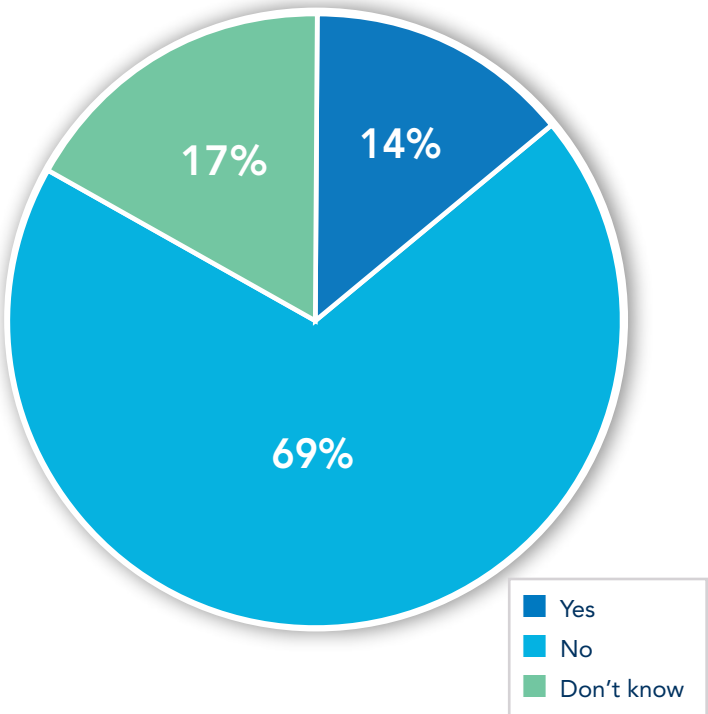
9. Scenario analysis

The TCFD recommendations call for organizations to perform and disclose the results of scenario analysis to assess potential business, strategic, and financial implications of climate-related risks and opportunities.

The purpose of the scenario (or sensitivity) analysis is to assess the range of risks and financial outcomes that may result from meeting demands to keep global warming within 1.5 or 2.0°C of preindustrial levels. Some entities, such as insurance companies or large integrated energy companies, have sophisticated risk modeling processes that can consider different global environmental conditions, governmental regulations, market changes, and company activities, and produce quantitative analyses. It remains somewhat unclear, however, how organizations with fewer resources or in other industries can perform analyses with similar sophistication. Some entities begin by considering, qualitatively, the various potential future conditions with respect to storms, floods, wildfires, days of productivity, access to supply chain, and a range of connected considerations. Those that do scenario analysis indicated that it involves a balance of qualitative and quantitative information used, and overall respondents felt a combination of both would be desirable.

Models are available for companies to consider and assess various scenarios, including sensitivities at 1.5 or 2.0°C. They can also use models published

FIGURE 8: RESPONDENTS WHOSE ORGANIZATIONS ARE STRESS-TESTING AGAINST CLIMATE RISKS



under the auspices of the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency, or other organizations with recognized expertise in science-based modeling. Yet, as noted, there is limited external scenario disclosure by companies. To get an understanding of the current state or sophistication of the requisite internal processes to support disclosure, we asked respondents whether their organizations have implemented any processes for stress-testing or scenario analysis regarding climate risk for internal risk management purposes. Only 14% of respondents indicated that their organizations were performing this type of analysis (see Figure 8). More than two-thirds (69%) of respondents confirmed that their organization had not performed a scenario analysis, while 17% indicated that they did not know.

To gain deeper insight into the relatively low positive responses (as expected), we asked respondents to provide insight on the challenges that hinder their organization performing the analysis (see Table 7).

TABLE 7: PRACTICAL CHALLENGES TO STRESS-TESTING ON CLIMATE RISKS

	Not at all	An insignificant challenge	A manageable challenge	Somewhat challenging	A significant challenge	Weighted average score
Score	1	2	3	4	5	–
Forecasting climate-related regulatory actions	19%	6%	16%	27%	31%	3.4
Monetizing our findings to translate risks into business action	22%	8%	21%	24%	26%	3.2
Identifying or accessing reliable external information on climate trends and expectations	24%	6%	27%	17%	26%	3.2
Identifying the talent resources to perform a reliable analysis	22%	8%	27%	22%	21%	3.1
Securing the right software or systems to analyze the data	23%	7%	26%	22%	22%	3.1
Predicting how quickly our competitors will divest of carbon intense assets	30%	8%	18%	19%	26%	3.1
Developing an overall portfolio view of our risks	24%	9%	27%	22%	18%	3.0
Accessing the right internal data	23%	8%	32%	20%	18%	3.0
Determining localized or site-level climate-risk exposures	25%	9%	26%	21%	19%	3.0
Getting a mandate from senior management to do the assessment	29%	10%	26%	14%	20%	2.9

Weighted average score computed by assigning 1 point to “Not at all,” 2 points for “An insignificant challenge,” 3 points for “A manageable challenge,” 4 points for “Somewhat challenging,” and 5 points for “A significant challenge.”

Respondents, in general, rated various aspects of performing a scenario analysis somewhere between manageable and somewhat challenging.

The task of forecasting climate-related regulatory actions was considered the most significant challenge overall, which suggests that those performing assessments find transition risks driven by government and regulatory movement most difficult to assess. Respondents perceived the least significant challenge in performing a scenario analysis as getting a mandate from senior management to do the assessment. Overall, however, respondents generally described each of these activities as equally challenging, which could suggest the lack of familiarity with the details in performing these sensitivity analyses. Respondents similarly gave relatively equal weight, for example, to challenges around systems, peer analysis, and talent resources.

From the survey responses, it appears that existing processes are generally viewed as currently inadequate to performing scenario analysis, particularly with the rigor that is required to provide external reporting (subject to assurance) for climate-related scenario analysis. •

The shorter-term focus of corporate teams (including the finance and accounting function) that are responsible for oversight of ERM processes, in comparison to the longer-term focus of sustainability professionals and institutional investors, is a significant challenge that requires attention to implementing strategies and reporting around climate issues.

Questions for Further Study

As noted, the objective of this research and report is to contribute to the global conversation about the future of accounting and reporting on climate and other ESG risks. It is based on IMA's unique constituency and its importance in developing meaningful sustainable business practices not only for external reporting but also for managing and mitigating risks through strategic decision making and innovation.

Advocates for sustainability in business and the accounting profession have made a wide range of thought leadership materials available. These materials helpfully describe various frameworks and rationale for incorporating sustainable business practices and reporting processes. Other research analyzes the details of companies' reports and compliance with external frameworks and expectations.

Nevertheless, investigation into the actual perspective and day-to-day work of corporate professionals remains limited. Deep-dive research on practical challenges and how these challenges might be overcome in a way that results in meaningful progress in enhancing sustainability in business and addressing climate risk may foster the foundational attention and conversations to build processes for corporate action.

Based on our work, we suggest that further research investigate the following:

- Why have organizations been slow to innovate around sustainable business, including the development of structures and assignment of responsibilities of emerging risks?
- Is there a knowledge gap among corporate professionals, including members of the accounting and finance function, that is preventing more in-depth assessment and management of climate and other sustainable business risks?
- Is the information being demanded or delivered under ESG reporting standards and by data aggregators/rating companies' decision-usefulness from management's perspective?
- Is there a critical difference among the time horizon perspectives (that is, short term, medium term, long term) of members of the accounting and finance function, CFOs, CEOs, CSOs, risk officers, investment officers, lenders, and other stakeholders who share responsibility for different aspects of sustainable business information and management? Are these different perspectives serving to inhibit corporate response to climate and other ESG risks?
- Do private companies or SMEs perceive a difference in the need to respond to climate and other sustainable business risks? Is the emphasis on external reporting via securities regulation compliance making sustainable business issues appear irrelevant to their businesses? •

CONCLUSION

Regulators, investors, consumers, and other stakeholders are looking to businesses' lead in global responses to climate change and its related risks. One of the primary tools that these stakeholders are considering is enhancing disclosure requirements under the securities laws and listing requirements of various jurisdictions. Corporate accountants will need to be leaders and key facilitators in organizations for meeting these demands.

Current proposed regulations and standards around climate disclosure are referencing or incorporating the guidelines issued by the TCFD, established by the Financial Stability Board. The TCFD recommendations call for 11 points of disclosure, classified in four categories: governance, strategy, risk management, and metrics and targets. Although these categories correspond to information that public companies provide in their management commentary sections of regulatory filings and annual reports, the subject matter is novel. Companies are building new processes and internal systems to meet these new demands for information with the dual goals of external disclosure and internal management decision making. Moreover, the climate disclosure

requirements reflect processes that find roots in the COSO ERM Framework and materials.

Despite the drivers, business responses to climate, including risk management and reporting, have remained slow among the broad spectrum of both private and public enterprises from all sectors and industries. From an internal perspective, only a minority of respondents of our survey among professionals in accounting, corporate finance, and related disciplines reported regular attention to climate (and other ESG issues) from their boards.

They reported a significant difference between the time horizon of finance and accounting team members and sustainability team members, the latter more aligned with the perspective of institutional investors. Only about a quarter of respondents indicated that their companies use ESG data for internal decision making. Moreover, they are not performing climate scenario analyses—either quantitative or qualitative. Most of our respondents, who are with both public and private companies, are not reporting on ESG matters and have done little beyond identification of various potential aspects of climate risk and opportunities. Participants' responses suggest largely immature processes around the assessment and management of risks and business opportunities related to climate change. •



For more information, please visit [imanet.org/thought_leadership](https://www.imanet.org/thought_leadership).

ENDNOTES

¹ A green paper contributes insight into ongoing investigations and conversations among thought leaders toward understanding specific policies and proposals.

It is meant to be preliminary with respect to conclusions but help frame and direct fundamental questions and understanding into government proposals and policies.

² In 2021, SASB merged with the IIRC to become the Value Reporting Foundation (VRF). Subsequently, the Trustees of the IFRS Foundation acquired the VRF, along with the CDSB, as it organized the new ISSB.

³ TCFD, *Recommendations of the Task Force on Climate-related Financial Disclosures*, June 2017, bit.ly/3rGdFja.

⁴ See, for example, the IMA Statement of Position on Sustainable Business Information and Management, 2021, bit.ly/3CSZB9T.

⁵ In late 2021, the VRF issued new Integrated Thinking Principles that describe the organizational conditions for integrating sustainability into a business.

⁶ COSO, *Enterprise Risk Management—Integrating with Strategy and Performance*, 2017, bit.ly/3ec30tt.

⁷ See, for example, Science Based Targets, bit.ly/3BYWoaE.

⁸ Shari Helaine Littan, Arnaud Brohé, Kevin Fertig, Christine Khong, and Jaxie Friedman, *Management Accountants' Role in Sustainable Business Strategy: A Guide to Reducing a Carbon Footprint*, IMA, February 2022, bit.ly/3VausZ2.

⁹ CDP, cdp.net.

¹⁰ SEC, *The Enhancement and Standardization of Climate-Related Disclosures for Investors*, March 2022, bit.ly/3DL5uck.

¹¹ SEC, *Commission Guidance Regarding Disclosure Related to Climate Change*, February 2010, bit.ly/3qWepjE.

¹² Exposure Draft (ED/2022/S1): *General Requirements for Disclosure of Sustainability-related Financial Information*, bit.ly/3RJBkK2; Exposure Draft (ED/2022/S2): *Climate-related Disclosures*, bit.ly/3yoLfxX.

¹³ See, for example, Huw Jones and Simon Jessop, "Companies' climate disclosures still lacking - task force," Reuters, October 14, 2021, reut.rs/3DMGSA7.

¹⁴ COSO and WBCSD, *Enterprise Risk Management: Applying enterprise risk management to environmental, social, and governance-related risks*, October 2018, bit.ly/3xHsyVN.

¹⁵ IMA Statement of Position on Sustainable Business Information and Management.

¹⁶ Vartika Gupta, Tim Koller, and Peter Stumpner, "Reports of corporates' demise have been greatly exaggerated," McKinsey & Company, October 21, 2021, mck.co/3BMNc8g.

¹⁷ U.S. Small Business Administration, "2021 Small Business Profile," 2021, bit.ly/3xZ6XZ8.

¹⁸ Diaan-Yi Lin, Sruthi Namratha Rayavarapu, Karim Tadjeddine, and Rebecca Yeoh, "Beyond financials: Helping small and medium-size enterprises thrive," McKinsey & Company, January 26, 2022, mck.co/3T74GTw.

¹⁹ See Governance and Accountability Institute, *2022 Sustainability Reporting in Focus*, bit.ly/3UAigiS.