Audit Committees and Effective Climate Governance

A GUIDE FOR BOARDS OF DIRECTORS

By **Janis Sarra**

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Canada Climate Law Initiative | L'Initiative canadienne de droit climatique

ABOUT THE CANADA CLIMATE LAW INITIATIVE

The Canada Climate Law Initiative examines the legal basis for corporate directors, officers, pension fiduciaries, and asset managers to consider, manage, and report on climate-related financial risks and opportunities, advancing knowledge on effective climate governance practice and exploring the scope and limits of fiduciary obligation in respect of climate change. It is a collaboration of the University of British Columbia (UBC) Centre for Business Law and Osgoode Hall Law School, York University; and is the Canadian partner of the global Commonwealth Climate and Law Initiative, Oxford University, United Kingdom. The Canada Climate Law Initiative is financially supported by the McConnell Foundation, Ivey Foundation, North Family Foundation, Trottier Foundation, Jarislowsky Foundation, UBC and York Universities.

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IN BRIEF

Audit committees are critically important to effective climate governance. While the board of directors has responsibility for oversight of the company's strategic planning, business plan, risk management, and integrity of its public disclosures, its audit committee is commonly delegated responsibility to undertake detailed scrutiny and oversight of financial reporting processes, including the company's financial statements. The audit committee thus has a key role in determining how the company's strategies and financial results are communicated to investors, regulators, and other stakeholders. Given the growing direct and indirect financial impacts of climate change, directors have a duty to adopt a climate action strategy to tackle what Canadian courts have called 'an existential threat to human civilization and the global ecosystem'.

Canadian securities regulators have been clear that climate change is now a mainstream business issue and that companies must disclose material climate risks and how they are addressing them. They have cautioned companies that boilerplate disclosure of climate-related financial risks is no longer acceptable. In exercising their duties as directors, the board can allocate oversight of climate-related risks and opportunities to one or more committees of the board, and audit committees have a central role in ensuring the company is comprehensive and accountable in its financial reporting of climate-related financial risks and opportunities.

This guide draws together current legal and best practice guidance for audit committees, to assist them in taking a leadership role in effective climate governance. The guide can also be used by the board, its risk committee or any other committees that the board has assigned oversight to, always understanding that it is the board of directors that is ultimately responsible for oversight and management of climate change in the best interests of the company. External auditors are increasingly integrating climate issues into external audits, and it is only a matter of time before they will raise climate issues as a 'key audit matter' for some entities, so the audit committee must be prepared. The guide offers a series of questions that the audit committee can ask, in terms of assuring itself that financial reporting accurately reflects the company's governance, strategic plan, risk management, and metrics and targets relating to climate change.

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GLOSSARY OF TERMS

AIF	annual information form
CCLI	Canada Climate Law Initiative
CDSB	Climate Disclosure Standards Board
CSA	Canadian Securities Administrators
ESG	environmental, social and governance
EU	European Union
GAAP	generally accepted accounting principles
GDP	gross domestic product
GHG	greenhouse gases
GRI	Global Reporting Initiative
IAASB	International Auditing and Assurance Standards Board
IAS	International Accounting Standards (a component of IFRS)
IASB	International Accounting Standards Board
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
KPI	key performance indicators
MD&A	management discussion and analysis
NDC	nationally-determined contributions
NI 52-102	National Instrument 51-102 Continuous Disclosure Obligations
NI 52-109	National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings
NI 52-110	National Instrument 52-110 Audit Committees
SASB	Sustainability Accounting Standards Board
TCFD	Taskforce on Climate-related Financial Disclosures
TSX	Toronto Stock Exchange
TSXV	TSX Venture Exchange
UK	United Kingdom
UN PRI	United Nations' Principles for Responsible Investment
US	United States

I. Introduction

Audit committees are a fundamentally important part of a company's governance structure. While the board of directors has responsibility for the oversight of the company's strategic planning, business plan, risk management, and the integrity of corporate reports, its audit committee is commonly delegated responsibility to undertake detailed scrutiny and oversight of financial reporting processes, including the company's financial statements. Financial statements communicate details of the company's activities, financial results, and strategies, critically important to debt and equity investors, regulators, and other stakeholders. Audit committees need to be effective and independent in their oversight of financial reporting.

There is now wide acceptance that climate change is a systemic risk that can have a material impact on the financial position, performance, and prospects of the company.[1] The scientific community reports that warming of the climate system is unequivocal, with more than 99 per cent of scientists agreed that anthropogenic (human-caused) carbon emissions are the primary cause, with serious implications for businesses across multiple sectors.[2] Canadian appellate courts have affirmed that climate change 'poses an existential threat to human civilization and the global ecosystem'.[3]

The Bank of Canada has reported that understanding the financial impacts of climate change and the transition to a low carbon economy is a priority.[4] The Bank reports:

> **Climate change looms as a potentially large structural change affecting the economy and the financial system.... While this transition creates opportunities for innovation, investment and potential green growth, it also poses economic transition risks. Changes in climate policies, technology or market sentiment could lead to economic dislocation and a reassessment of the value of a variety of financial assets. In particular, climate change–driven alteration of projected earnings and expenses could affect the debt repayment capacity and collateral of borrowers and increase credit risk borne by banks and other financial institutions.**
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> **Given the degree of interconnectedness in the economy and the financial system, it is important to assess both the direct impacts of physical and transition risks, and the indirect and second-round effects. This implies accounting for exposures along the whole production chain, the transmission of shocks through financial linkages and feedback loops between the macroeconomy and the financial sector.**[5]

That concern is echoed by the World Economic Forum, which reported in its 2020 global risk survey that climate and other environmental-related issues dominate all of the top-five long-term risks, with failure of climate change mitigation the highest risk, followed closely by biodiversity loss.[6]

The Financial Stability Board's Taskforce on Climate-related Financial Disclosures (TCFD) was established by the G20 country leaders to improve the effectiveness of climate disclosures. The TCFD has recommended that governance processes for disclosures of climate-related financial risks in mainstream financial reporting should be similar to processes used for existing public financial disclosures, involving review by the chief financial officer and the audit committee.[7] Revenues, costs, and asset lives are likely to be impacted by climate change, and companies need to reassess their future cash flow forecasts and management judgments relating to asset impairment, asset retirement obligations, and going concern and viability statements.[8] It is important to note that it is not an either/or application of financial reporting standards and the TCFD or other frameworks.[9] All aspects of financial reporting must be consistent. Even though the TCFD framework is focused on financial implications of climate change in the financial filings, it is primarily directed to narrative disclosures in the front of the annual report. The audit committee's primary role relates to the financial statements, and thus, the application of the accounting standards and relevant guidance.

Once the corporate board has determined its strategic priorities and approved a climate action plan, audit committees have a central role in ensuring the company is comprehensive and accountable in its financial reporting of climate-related financial risks and opportunities. This guide has been developed by the Canada Climate Law Initiative (CCLI) to assist audit committees to meet their legal obligations. The guide offers current best practice advice from standards setters, Canadian regulators, and Canada's major accounting firms. It is not meant to replicate the extensive work being undertaken by TCFD,[10] the Sustainability Accounting Standards Board (SASB),[11] and other legal and best practice guidance, but rather, to offer Canadian audit committees an overview of issues to think about and resources that are available to engage in effective audit committee climate governance.

Where the corporate board has given the mandate for oversight of climate-related financial risks to another board committee, such as a risk management committee, or to the board as a whole, this guide will assist directors in their oversight and disclosure of the risks. The audit committee will always have a role, given its responsibility for financial reporting, whether the company is privately held or publicly-listed.

II. The Legal Framework under which Canadian Audit Committees Operate

A primary purpose of the audit committee is to provide oversight of the financial reporting process, the audit process, the company's system of internal controls, and compliance with laws and regulations, recommending to the board approval of the financial reporting and making recommendations for improvement. An important overarching principle for financial reporting is consistency and comparability of the financial statements year over year.

In Canada, audit committees of publicly-listed companies (issuers) are governed, in part, by National Instrument 52-110 Audit Committees (NI 52-110), which defines an audit committee as a committee established by the board of directors for the purpose of overseeing the accounting and financial reporting processes of the issuer, as well as having oversight of external audits of the issuer's financial statements.[12] Every audit committee member must be a director of the issuer, independent, and financially literate.[13] It states that an individual is financially literate if she or he has the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues reasonably expected in the issuer's financial statements.[14]

Among its responsibilities, the audit committee must review the company's financial statements, management discussion and analysis (MD&A), and annual and interim profit or loss press releases before the publicly-listed company discloses this information publicly; or for privately-held companies, before the company discloses the information to its investors.[15] For publicly-listed companies that are not venture issuers, the audit committee must also review the annual information form (AIF).[16] The scope and content of continuous disclosure obligations of publicly-listed companies in Canada is set by National Instrument 51-102 Continuous Disclosure Obligations (NI 51-102), by agreement of all Canadian securities regulators.[17] The objective of the continuous disclosure requirements is to improve the quality, reliability, and transparency of annual filings, interim filings, and other materials that issuers file under securities legislation.[18]

Canadian publicly-listed companies and publicly accountable enterprises are required to prepare all interim and annual financial statements in accordance with International Financial Reporting Standards (IFRS).[19] The Canadian government defines 'publicly accountable enterprise' as an entity that either has issued, or is in a process of issuing, debt or equity instruments that are, or will be, outstanding and traded in a public market,[20] or holds assets in a fiduciary capacity for a broad group of outsiders as one of its primary businesses, noting that banks, credit unions, insurance companies, securities brokers/dealers, mutual funds, and investment banks typically meet the second of these criteria.[21] The International Accounting Standards Board (IASB) is responsible for the development and publication of IFRS.[22]

Companies that are privately held in Canada have the option of reporting in accordance with IFRS, and many do; or they can report in accordance with the accounting standards for private enterprises set out in Part II of the *CPA Canada Handbook — Accounting* (CPA Handbook). The CPA Handbook is the authoritative guidance on Canadian generally accepted accounting principles (Canadian GAAP).[23] The Canadian Accounting Standards Board (AcSB) has authority to establish Canadian GAAP for financial reporting by Canadian private sector entities, including publicly accountable enterprises, private enterprises, not-for-profit organizations, and pension plans. The AcSB follows due process in incorporating IFRS into Canadian GAAP in Part I of the CPA Handbook, offering 'wrap-around' advice on IFRS and contributing to further development of the IFRS.[24]

The Canadian Securities Administrators (CSA) Staff Notice 51-358 Reporting of Climate Change-related Risks specifies that the audit committee is required to review an issuer's financial statements and MD&A, as well as its continuous disclosures such as material change reports, before the issuer publicly discloses this information.[25] The audit committee must be satisfied that adequate procedures are in place for the review of the issuer's public disclosure of financial information extracted or derived from the issuer's financial statements, and must periodically assess the adequacy of the company's procedures.[26]

Companies are also subject to requirements of the corporate law jurisdiction under which the company is incorporated or currently registered.[27] These requirements include that directors must approve and deliver annual financial statements to shareholders.[28] The *Canada Business Corporations* Act specifies that the audit committee is to be composed of not fewer than three directors of the corporation, a majority of whom are not officers or employees of the corporation or any of its affiliates, and the audit committee must review the financial statements of the corporation before such financial statements are approved by all the directors.[29] The corporate statutory duty of loyalty requires that the directors and officers of a corporation 'act honestly and in good faith with a view to the best interests of the corporation'.[30] The duty of care requires that the directors and officers 'exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances'.[31] These duties are mirrored in provincial and territorial corporations statutes. Given the urgency and importance of climate change, it means that all directors, including audit committee members, have a fiduciary obligation and duty of care to ensure the company is addressing material climate-related risks.[32]

The Carol Hansell legal opinion in 2020 makes clear that climate change must be on the agenda of Canadian corporate boards.[33] Hansell observed:

> **Since there can be little doubt that directors are aware of climate change risk, they must inform themselves of the risk that climate change poses to the corporation and how that risk is being managed. If this information is not already included in management reports to the board, the board should direct management to deliver the necessary information to them.**
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> **Members of the audit committee may have more insight into the financial statements than other board members because of the time they spend reviewing those statements and discussing them with management, the internal auditor and the external auditor. However, a reasonably prudent person in comparable circumstances would use the information he or she receives as a member of the audit committee in exercising the powers and discharging the responsibilities of a director... Audit committees will need to consider how climate change risk impacts financial reporting and may also be responsible for overseeing other forms of climate change risk reporting.**[34]

1. MATERIALITY CONSIDERATIONS

Audit committees of publicly-listed companies in Canada need to be aware of the nuanced differences in materiality reporting requirements in their disclosure decisions as between the national instruments, provincial and territorial securities law, corporate statutes, and exchange listing requirements.

For example, NI 51-102 defines 'material change' as

> material change means (a) a change in the business, operations or capital of the reporting issuer that would reasonably be expected to have a significant effect on the market price or value of any of the securities of the reporting issuer; or (b) a decision to implement a change referred to in paragraph (a) made by the board of directors or other persons acting in a similar capacity or by senior management of the reporting issuer who

> believe that confirmation of the decision by the board of directors or any other persons acting in a similar capacity is probable.[35]

It sets out materiality requirements for forward-looking information;[36] and in respect of changing auditors, NI 51-102 states that 'material' 'has a meaning consistent with the discussion of the term materiality in the issuer's GAAP'.[37]

'Certifying officers', usually the chief executive officer and chief financial officer, are required to certify, among other things, that they are responsible for establishing and maintaining disclosure controls and procedures.[38] Certification is intended to provide assurance that the financial information disclosed, viewed in its entirety, provides a materially accurate and complete picture that may be broader than financial reporting under the issuer's GAAP.[39] National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings (NI 52-109) requires each certifying officer to:

> certify that an issuer's financial statements (including prior period comparative financial information) and other financial information included in the annual or interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date and for the periods presented.[40]

The concept of fair presentation encompasses a number of quantitative and qualitative factors, including: selection of appropriate accounting policies; proper application of appropriate accounting policies; disclosure of financial information that is informative and reasonably reflects the underlying transactions; and additional disclosure necessary to provide investors with a materially accurate and complete picture of financial condition, financial performance and cash flows.[41]

The requirement for full, true, and plain disclosure of all material facts is an essential requirement for companies raising capital; however, definitions of 'material fact' in securities statutes vary slightly across Canada.[42] For example, the Québec *Securities Act* defines a material fact as 'a fact that may reasonably be expected to have a significant effect on the market price or value of securities issued or securities proposed to be issued'.[43] Similarly, there are nuances in respect of definitions of material change under securities laws.

Financial reporting of publicly-listed companies in Canada must adhere to International Accounting Standard 1 Presentation of Financial Statements (IAS 1). The IASB amended the definition of materiality in IAS 1, effective for annual periods beginning on or after 1 January 2020, to specify: 'Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity'.[44] Note the difference in that 'primary users' may be a broader group than 'investors'.

For companies trading on the Toronto Stock Exchange (TSX) or the TSX Venture Exchange (TSXV), material is defined as 'any information relating to the business and affairs of a company that results in or would reasonably be expected to result in a significant change in the market price or value of any of the company's listed securities.'[45] Timely disclosure of material information for TSX and TSXV issuers encompasses both material facts and material changes relating to a company, a higher standard than securities legislation.[46] The 2020 TSX and CPA Canada primer on enhancing environmental, social and governance (ESG) disclosure in regulatory filings recommends that if there is doubt about whether information is material, audit committees should err on the side of caution and disclose the information.[47]

In a brief published by the IASB and IFRS Foundation, IASB board member Nick Anderson notes that while 'climate-change', as a term, is not explicitly referenced in IFRS, the standards do address issues that relate to climate change risks.[48] In its responsibility for oversight of the company's financial statements, the audit committee needs to ensure that the materiality of relevant climate risks are incorporated into the assumptions underlying accounting estimates so that these risks are explicitly included in the figures in the financial statements, or disclose in the notes to the financial statements why the company has concluded that these risks are not relevant. The audit committee should be able to describe how material climate risks have been considered in the preparation, presentation, and disclosure in the financial statements, as these statements are subject to external audit.[49]

In November 2020, the IFRS Foundation published guidance titled the 'Effects of climate-related matters on financial statements', which states that material climate-related financial information should be reported under IAS 1 Presentation of Financial Statements, IAS 2 Inventories, IAS 12 Income Taxes, IAS 16 Property, Plant and Equipment, IAS 38 Intangible Assets, IAS 36 Impairment of Assets, IAS 37 Provisions, Contingent Liabilities and Contingent Assets, IFRS 7 Financial Instruments: Disclosures, IFRS 9 Financial Instruments, and IFRS 13 Fair

Value Measurement; and that it is important for companies whose financial position or financial performance is particularly affected by climate-related matters to provide overarching disclosure.[50]

The difference between materiality in a management accounting context, commonly applied as a quantitative rule of thumb, (+/- 5 per cent revenue),[51] is a very different threshold than materiality in a disclosure context, which is a more qualitative decision – what is useful to an investor or other user of the financial reporting. Companies applying IFRS when preparing financial statements would consider whether investors could reasonably expect that emerging risks, including climate-related risks, could affect the amounts and disclosures reported in the financial statements, and what information about the effect of emerging risks, including climate-related risks, on the assumptions made in preparing the financial statements is material, and thus should be disclosed.[52] The IASB/IFRS brief states:

> **Given investor statements on the importance of climate-related risks to their decision-making, the implication of the materiality definition and the Practice Statement is that companies may need to consider such risks in the context of their financial statements rather than solely as a matter of corporate-social-responsibility reporting.**
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> **For example, suppose that a company in an industry likely to be affected by climate-related risks determines that its impairment testing does not need to include a specific assumption regarding such risks. However, taking into account investor comments on the importance of climate-related risks to their investment decisions and reasonable expectations that the recoverable amount of the company's assets could be affected by such risks, when applying the Practice Statement, the company may conclude that it needs to disclose information that explains clearly why the carrying amounts of its assets are not exposed to climate-related risks. Such an explanation may provide material information to investors even though the carrying amounts in the financial statements are not exposed to those risks.**[53]

This latter point is reinforced by a recent Staff Audit Practice Alert by the International Auditing and Assurance Standards Board (IAASB), which sets out considerations of climate change for the auditor and questions that auditors are increasingly asking audit committees.[54] It is aimed at assisting auditors in understanding what already exists in the International Standards on Auditing and how it relates to auditors' considerations of climate-related risks in an audit of financial statements.[55] The Practice Alert states: 'If information, such as climate change, can affect user decision-making, then this information should be deemed as 'material' and warrant disclosure in the financial statements, regardless of their numerical impact.'[56]

The potential financial implications arising from climate-related and other emerging risks may include, but are not limited to:

- **asset impairment, including goodwill;**
- **changes in the useful life of assets;**
- **changes in the fair valuation of assets;**
- **effects on impairment calculations because of increased costs or reduced demand;**
- **changes in provisions for onerous contracts because of increased costs or reduced demand;**
- **changes in provisions and contingent liabilities arising from fines and penalties; and**
- **changes in expected credit losses for loans and other financial assets.**

'IFRS Standards and climate-related disclosures' (2019).

Examples of accounting and financial reporting standards affected by climate-related risk include International Accounting Standard (IAS) 1 Presentation of Financial Statements, IAS 36 Impairment of Assets, IAS 16 Property, Plant and Equipment, IAS 38 Intangible Assets, IFRS 13 Fair Value Measurement, IFRS 9 Financial Instruments and IFRS 7 Financial Instruments: Disclosures, and IAS 37 Provisions, Contingent Liabilities and Contingent Assets.

Excerpts, 'IFRS Standards and climate-related disclosures' (2019).

In November 2020, the Bank of Canada and Office of the Superintendent of Financial Institutions launched a pilot program to use climate-change scenarios to better understand the risks to the financial system related to a transition to a low-carbon economy.[57] Starting with six major banks and insurance companies, the program aims to build the climate scenario analysis capability of authorities and financial institutions, and support the Canadian financial sector in enhancing the disclosure of climate-related risks; increase authorities' and financial institutions' understanding of the financial sector's potential exposure to risks associated with a transition to a low-carbon economy; and improve authorities' understanding of financial institutions' governance and risk-management practices around climate-related risks and opportunities.

> **It makes sense for the company to spend resources on a forward-looking basis to develop an enhanced understanding of the financial impacts of climate change. As former Governor of the Bank of Canada and Bank of England Mark Carney has observed, 'You can't wish away the systemic risk … in the end, a small investment up front can save tremendous cost down the road.'[58]**

CPA Canada has set out six characteristics that may help audit committees review the appropriateness of management-selected key performance indicators (KPI) and how they have been disclosed.[59]

Relevance Is the KPI a key metric in measuring the issuer's strategic and operational performance goals?	**Transparency** Does the level of disclosure meet regulatory requirements and industry best practices (eg, have GAAP measures been given equal or greater prominence than those of non-GAAP financial measures)?
Consistency Is the KPI calculated in the same way as in prior reporting periods?	**Comparability** Is the KPI prepared in accordance with industry standards and practices (if any)? Comparability allows stakeholders to evaluate the KPIs against those of peers.
Reliability Has the KPI been accurately calculated, verified and subjected to internal controls?	**Completeness** Do the KPIs present a balanced view of the entity's performance?

CPA Canada, Key Performance Indicators, Tool for Audit Committees (2017)

These same characteristics are important in audit committee review of the appropriateness of management-selected KPI for climate-related risks and opportunities.

III. The Development of Reporting Frameworks and Voluntary Standards

There are many disclosure frameworks and standards developing, and in 2020, we see greater cooperation and convergence among them. The Appendix to this guide offers greater detail on some of the frameworks; this part gives a brief overview as they relate to audit committees.

1. FRAMEWORKS FOR CLIMATE DISCLOSURE

Three years ago, the TCFD issued recommendations and detailed guidelines (TCFD framework) to encourage companies to include climate-related information within their financial disclosures.[60] It identified a range of climate risks and how they may impact an organization's income statement and statement of financial position (balance sheet), outlining the roles of the audit committee and the board as a whole. Its core elements of recommended climate-related financial disclosures are: governance, strategy, risk management, and metrics and targets, as set out in the image below.[61] The TCFD reported that quality assurance in climate disclosure will make a difference in the way climate risks and opportunities are understood and communicated.

Core Elements of Recommended Climate-Related Financial Disclosures

Governance
The organization's governance around climate-related risks and opportunities

Strategy
The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management
The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets
The metrics and targets used to assess and manage relevant climate-related risks and opportunities

TCFD Final Report, 2017 [62]

The TCFD has recommended that annual public filings provide disclosure on climate-related material risks, financial impacts, and governance processes; and such disclosures should have been carefully reviewed by the audit committee and then the board. The CSA has used examples from the TCFD framework to provide issuers with information on types of risks to consider, but notes that there are both similarities and differences between the TCFD recommendations and the requirements of Canadian securities laws.[63]

Canadian companies, in deciding whether to adopt the TCFD framework, should note that as of September 2020, support for the framework has grown to over 1,440 organizations, representing a market capitalization of US$12.6 trillion.[64] TCFD reporting on the governance and risk management indicators is now mandatory for signatories to the United Nations' Principles for Responsible Investment (UN PRI) network.[65] In the United Kingdom (UK), large asset owners and listed companies are expected to report in accordance with TCFD requirements by 2022,[66] and the UK Financial Conduct Authority has consulted on proposals to make TCFD reporting mandatory for premium listed issuers on the London Stock Exchange on a comply or explain basis. The UK Government is making TCFD-aligned disclosures mandatory across the economy by 2025, with a significant portion of mandatory requirements in place by 2023. In November 2020, it issued a roadmap towards comprehensive and high-quality information on how climate-related risks and opportunities are being managed across the UK economy.[67] The Roadmap sets out a coordinated strategy for seven categories: listed commercial companies, UK-registered companies, banks and building societies, insurance companies, asset managers, life insurers and FCA-regulated pension schemes, and occupational pension schemes. The European Commission's 2019 guidelines on reporting climate change-related information integrate the recommendations of TCFD.[68]

The Canadian government has signaled the importance of reporting to TCFD standards in its 2019 budget. It is requiring TCFD-based disclosure as a condition of companies receiving credit assistance under the COVID-19 Large Employer Emergency Financing Facility.[69] Canada's five largest banks and six of its largest pension funds have endorsed the TCFD framework.The Ontario Capital Markets Modernization Taskforce has recommended that the Ontario government, through the Ontario Securities Commission, require enhanced disclosure of material ESG information by TSX issuers compliant with the TCFD or SASB recommendations for issuers, or where feasible, both.[70]

There is therefore considerable momentum supporting this framework. As market practice evolves, investors will likely expect a similar level and quality of disclosure from their investee companies, in order to distinguish outperformers from laggards. Failure to adequately address these expectations may impact the company's access to capital or may increase its cost of capital. The TCFD framework is discussed in further detail in the Appendix.

Other frameworks include the International Integrated Reporting Council (IIRC) framework, which is aimed at integrated thinking and reporting on protection of the planet and value creation within mainstream business practice as the norm in the public and private sectors.[71] Another framework, published in September 2020 by the World Economic Forum in partnership with prominent accounting firms, Deloitte, EY, KPMG, and PwC, sets out a core set of 'Stakeholder Capitalism Metrics' and disclosures that can be used by boards to align their mainstream reporting on performance against ESG indicators, including climate change, and track their contributions towards the United Nations' Sustainable Development Goals on a consistent basis.[72]

The CDP, which is a not-for-profit organization that focuses on investors, companies, and municipal and state governments, is a rating system rather than a framework.[73] Its goal is to 'focus investors, companies and cities on taking action to build a truly sustainable economy by measuring and understanding their environmental impact'.[74] It believes that improving corporate awareness through measurement and disclosure is essential to the effective management of carbon and climate change risk.[75]

One indication of convergence is that in 2020, the leading voluntary framework and standard-setters – the CDP, SASB, Climate Disclosure Standards Board (CDSB),[76] the Global Reporting Initiative (GRI), and the IIRC committed to work towards a joint disclosure framework under a comprehensive corporate reporting system.[77]

2. VOLUNTARY AND BEST PRACTICE REPORTING STANDARDS AND GUIDANCE

In addition to the legal requirements for Canadian audit committees, there are also best practice reporting standards or guidance. The SASB standards are designed for reporting to investors on financially material ESG issues through metrics and disclosures for 77 sub-industries, complementary to the core elements of the TCFD framework.[78] The SASB advises that the audit committee should review the effectiveness of the company's internal controls over sustainability information gathering and reporting to ensure it is comfortable with the quality and reliability of the data.[79] This task is complement to the audit committee's responsibility to review the internal controls over financial reporting and disclosure that apply to the financial statements, MD&A, and investor reports. The SASB and CDSB have produced a joint 'TCFD Good Practice Handbook' demonstrating how their accounting guidance can be used for the reporting of climate-related performance and risk in mainstream corporate reports in line with the TCFD framework.[80]

The GRI standards were developed to support best practice sustainability reporting, aimed at creating a common language for organizations – large or small, private or public – to report on their sustainability impacts in a consistent and credible way.[81] GRI's goal is to enhance global comparability, transparency, and accountability by helping organizations understand and disclose their impacts in a way that meets the needs of multiple stakeholders, including policymakers, capital market participants, and civil society.[82]

In September 2020, the International Federation of Accountants (IFAC) issued a call that the IFRS Foundation, with an enhanced remit, should create an International Sustainability Standards Board, leveraging the independence and success of IFRS governance to develop global standards and rationalize the current fragmented ecosystem.[83] It believes such a board is necessary to building and coordinating a coherent global system of interconnected and comparable corporate reporting. Also, the IFRS Foundation recently released a consultation paper, asking for views on creation of a new Sustainability Standards Board to develop and maintain a global set of sustainability reporting standards, initially focused on climate-related risks.[84] It observes that 'a set of comparable and consistent standards will allow businesses to build public trust through greater transparency of their sustainability initiatives, which will be helpful to investors and an even broader audience in a context in which society is demanding initiatives to combat climate change'.[85]

Another global initiative, the Science-Based Targets Initiative, has proposed a foundation for credible, science-based net zero targets for the corporate sector, building on the work of the TCFD.[86] It recommends that companies set targets to reduce greenhouse gas (GHG) emissions, noting that such targets are considered science-based if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement or a goal of net zero emissions.[87] It suggests companies and their audit committees can use different types of science-based target setting approaches, specifically:

- a sector-based approach, where the global carbon budget is divided by sector and then emission reductions are allocated to individual companies based on its sector's budget;

- an absolute-based approach, where the per cent reduction in absolute emissions required by a given scenario is applied to all companies equally; and

- the economic-based approach, whereby a carbon budget is equated to global gross domestic product (GDP) and a company's share of emissions is determined by its gross profit, given that the sum of all companies' gross profits worldwide equate to global GDP.[88]

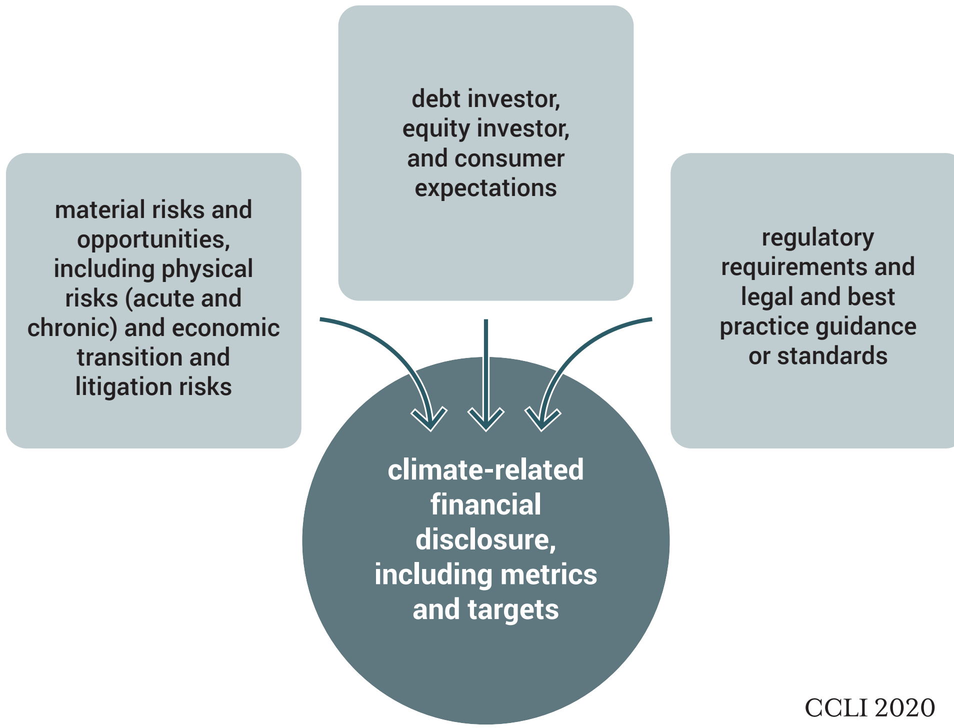
Whether companies adopt science-based targets or not is voluntary. One challenge is that some companies are setting net zero targets that are not science based and therefore, from a financial perspective, it is difficult to determine the capital cost. For example, even without science-based targets, companies can choose to purchase offsets; yet it is very difficult to determine what the cost of offsets will be with increased demand as an increasing number of countries transition towards net zero emissions. Thus, transparency is needed on the pathway to reduction, including associated costs that have a material impact on the financial stability of the company. The relationship between science-based net zero targets and financial impacts is not yet entirely clear. The corporate board should be setting GHG emissions reductions targets, based on advice from management and external expertise. The audit committee's role is to oversee calculation of the cost to meet the targets and assess and disclose the risks associated with the failure to act. It may use scenario analysis to paint a fuller picture of different values at risk, such as reported balance sheet asset value or fair value of all tangible and intangible assets, whether included in the financial statement or not; risk of loss on a portfolio of financial assets of the company or of an investment over a specified period of time; and the potential size of the opportunities based on different scenarios related to the pace and trajectory of global warming.

Also of note in terms of companies raising capital, the Canadian Standards Association, in coordination with Canada's major banks and pension funds, is developing a Canadian taxonomy on transition finance, aimed at transparency and consistency in financing terminology so that debt and equity investors can see how companies will deploy the capital they are raising.[89] However, as of October 2020, it has not yet published a document for consultation and the process has stalled somewhat. In the interim, the European Union (EU) has adopted both a green and transition sustainable finance taxonomy that can serve as a helpful reference guide in identifying or describing how capital is being used to decarbonize the activities of the company.[90] The EU's Technical Expert Group on Sustainable Finance considers the taxonomy tool to be 'one of the most significant developments in sustainable finance'.[91] From a practical perspective, it provides general-use definitions for sustainable investment and details industry-specific metrics for companies to achieve targets of the Paris Agreement.

IV. The Evolution of the Audit Committee's Role

The role of the audit committee is evolving as expectations regarding the company's approach to climate risk management mature.[92] The audit committee's responsibility for the financial reporting process, combined with the potentially significant financial impact that unmitigated climate risks could have on an organization, makes it imperative that the audit committee acts as a catalyst on appropriate climate risk management.

A number of considerations go into the audit committee's understanding, embedding, and disclosure of climate-related financial risks in the financial statements:



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The audit committee's role, at various times in an organization's maturation, may include:

- **Setting the stage for integrating accountabilities around climate change and the overall maturation of climate risk management.**

- **Initiating the identification of financial risks that arise as a result of physical and transition risks, which will facilitate comprehensive valuation of financial risk.**

- **Incorporating a climate change lens across the three lines of defense: business ownership, risk management, and oversight of internal audits.**

- **Validating and incorporating climate-related financial disclosures within the suite of corporate disclosure.[93] Accurate and complete climate-related data are key to ensuring that disclosure standards are met.**

The board must take a leadership role in management and oversight of climate-related financial risks and opportunities. The audit committee also has an opportunity for a leadership role - it has deep skills in overseeing internal financial controls and reporting. Audit committees can play a role by understanding the methodologies and policies used to develop the metrics, as well as the internal controls in place to ensure accuracy, reliability, and consistency of the metrics period over period.[94] It is important to measure the right things, and the audit committee should satisfy itself that management has the expertise or has hired the appropriate external expertise to determine which metrics are most appropriate to the company's sector and its circumstances.

The audit committee does not need members with climate science backgrounds; rather, it should apply its financial expertise to presentation and reporting of climate risks once the board has determined which metrics are appropriate to measure, record, and report. The board should be satisfying itself that the company understands the potential financial impacts of climate change on its operations and long-term strategy, and be assessing whether the planning horizon is long enough.

The audit committee members can take the lead on becoming climate competent directors, given the importance of climate impacts on the financial status of the company. The audit committee is also best placed to assess the quality and accuracy of the climate-related financial disclosures, bringing any concerns directly to the board.

V. Guide to Audit Committee Best Practices in Climate Governance

Certain strategies that can help companies better address climate risk may include the following:

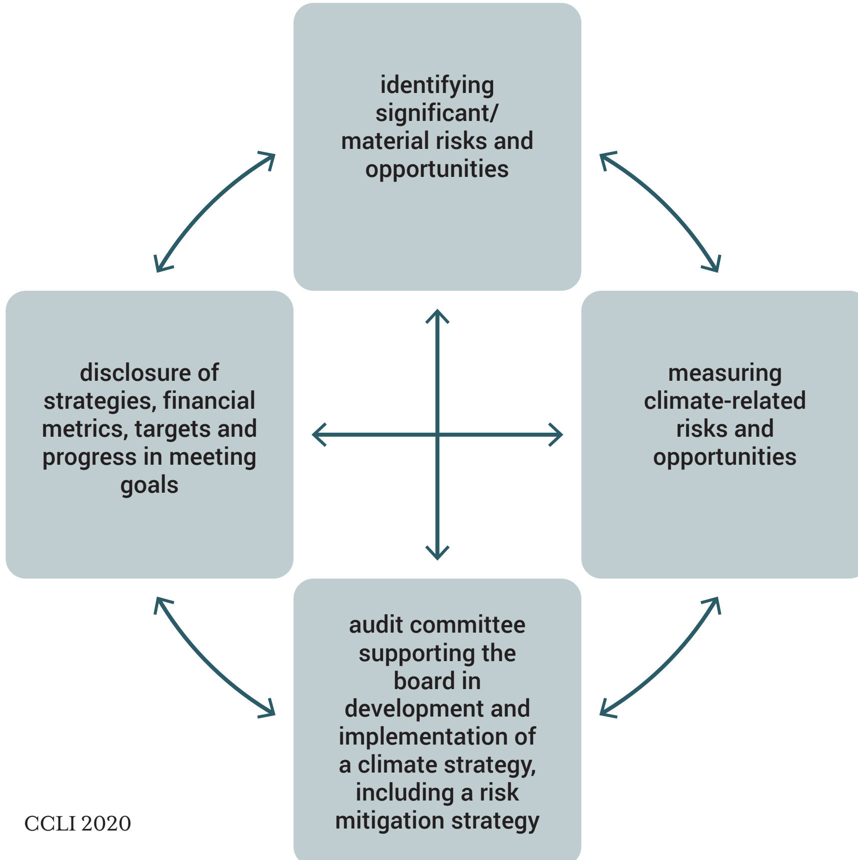
- The board of directors is responsible for oversight of climate-related risks and it may assign assessment of those risks to one or more board committees or to the board as a whole. Once the material risks, targets, and metrics are identified, the mandate of the audit committee is to ensure that the internal controls over reporting the financial effects are in place, and to work with internal auditors on accuracy and transparency.

- The audit committee should regularly report to the board of directors on compliance with internal policies and progress in remedying any material deficiencies related to ESG (including climate) policies and environmental risk management systems.

- The audit committee should have at least one meeting annually focused on ESG issues, including climate-related risks, and/or the board should authorize the audit committee to retain outside expertise to assist with risk assessments and year-end audit and impairment assessments.

- The audit committee can identify and implement audit best practices related to significant/material risks and opportunities to the business from climate change, measuring climate-related risks and opportunities through the use of metrics, scenario testing, and taxonomies.

- The audit committee can work with the board to develop a credible climate plan to transition the business towards net zero emissions within a timeframe consistent with limiting global average warming to 1.5^{0}C. This plan would include financial metrics, short-, medium-, and long-term targets, measuring progress in meeting goals, and effective disclosure of strategies.



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These practices are interactive, rather than linear, each feeding into better developing the others. They mirror the existing core functions of financial reporting regarding the risks that are reflected in the financial statements and MD&A.

Canadian securities regulators have advised that climate change risk is now a mainstream business issue and that companies must disclose material climate risks and how they are addressing them.[95] It has given notice that the board and management should assess their expertise with respect to sector-specific climate-related risks, and augment that expertise, as necessary.[96] The CSA Staff Notice 51-358 Reporting of Climate Change-related Risks indicates that discussion and analysis of whether the board is provided with appropriate orientation and information to help members understand sector specific climate change-related issues may be helpful in evaluating and preparing appropriate climate change-related disclosure.[97] It suggests that the board ask itself whether directors have been provided sufficient information, including management's materiality assessments in respect of the issuer's climate-related risks, to appropriately oversee and consider management's assessment of these risks.[98]

If the board does not have this expertise among its directors, it will need outside expertise in order to properly evaluate management's judgment, or insist that management has already consulted outside experts and that advice has been incorporated.

1. IDENTIFY SIGNIFICANT/MATERIAL RISKS TO, AND OPPORTUNITIES FOR, THE BUSINESS

The first step is for the board and its audit committee to develop an understanding of the types of climate risks and how they might impact the company's business, identifying significant financial risks and assessing climate impacts on the company's supply and value chains.[99] It is equally important to identify the upside opportunities. Reporting 'materiality' in relation to climate change is still evolving. For financial reporting, the term 'material' is quite technical, and while it may seem to refer to the shorter term for purposes of currenting financial reporting, the CSA warns that companies should not limit materiality assessment to near-term risks.[100]

Climate risks may be significant even if the directors do not think they are, and it is important to remember that significance and materiality are assessed from a stakeholder's perspective, often referred to as an 'outsiders' perspective by accounting firms.[101] Under Canadian securities laws, materiality is a dynamic process and there is no uniform quantitative threshold at which a particular type of information becomes material. The materiality of certain information may vary between industries and between issuers within an industry according to their particular circumstances. An event that is significant for a smaller issuer may not be material to a larger issuer. Therefore, companies should always consider both quantitative and qualitative factors in determining materiality. A key question in determining whether particular information is material is if a reasonable investor's decision whether to buy, sell, or hold securities of the issuer would likely be influenced or changed if the information is omitted or misstated.

An assessment of materiality in relation to climate-related risks may require issuers to adapt their existing approaches to consider the longer time horizon associated with these types of risks, and how to effectively quantify them. The IASB/IFRS briefing note observes that the industry in which the company operates, and investor expectations, may make such risks 'material' and warrant disclosures in the financial statements, regardless of their numerical impact.[102]

Materiality can also be assessed by the board through the lens of the changing perceptions of consumers and environmental stakeholders regarding how companies should be meeting goals to decarbonize, particularly businesses that are consumer-facing. Companies must identify the principal climate-related material risks and opportunities facing the company, how these risks and opportunities are developing over time, and how the company is responding, including quantifying, to the extent possible, the financial impacts. The TCFD cautions organizations against prematurely concluding that climate-related risks and opportunities are not material based on perceptions of the longer term nature of some climate-related risks.[103]

The World Economic Forum defines 'material' as information that is important, relevant, and/or critical to long-term value creation.[104] This definition is more expansive than the securities law definition of information that would be reasonably expected by investors in order to make decisions to buy, sell, or hold. It is important to remember that the CSA's legal disclosure requirements and the SASB standards and practice guidance are aimed specifically at capital markets disclosure, which audit committees need to take careful note of. Yet the corporate board may also be concerned with what is material to a broader group of stakeholders, such as consumers, employees, and broader community interests. Such climate impacts may be financial or non-financial. The board should clearly decide whether oversight of these broader material impacts belongs with the audit committee or elsewhere within the board's corporate governance structure.

i. Physical Risks Due to Climate Change

The audit committee should oversee management's process for identifying the financial impacts of physical risks created by climate change. Physical climate risks now represent foreseeable financial risks to the business. Physical risks arising from more frequent and severe extreme weather events can cause direct damage to assets, economic disruptions, and losses; can disrupt manufacturing operations and production capacity; can damage company property or investments in real estate; and can impact the workforce from increased employee illness from heat waves and pollution, affecting different regions in different ways.[105] These risks can be acute, in terms of increased frequency and intensity of wildfires or tropical storms, or they can be chronic, such as production decline due to biodiversity loss, or longer term impacts from sea-level rise or inundation of sea water into freshwater sources.

Risks to businesses also include reduced revenue and/or increased operating costs arising from supply chain and distribution network interruptions; increased capital expenditure to protect operations and supply chains, or repair damage caused by acute events; increased financial risk through higher cost of capital or cost of insurance in high-risk locations; and write-offs and early retirement of existing assets.[106] These physical risks are interconnected and compound across supply and distribution chains. In Canada, the real estate, agriculture, transportation, carbon-intensive industrial, mining, and oil and gas sectors, all important to the Canadian economy, are immediately or in the near term exposed to physical impacts of climate change, which in turn could affect debt investors and insurers exposed to these sectors in terms of both their assets and liabilities.[107]

The board and its audit committee should be asking management how potential adverse physical effects from climate change create challenges for the company's ability to operate successfully.[108] Direct climate impacts may be the most significant risk for many companies in the long term. However, there may be substantial uncertainty in quantifying climate-related financial risks to the company, as acute events such as flash floods or damage to business from wildfires can arise suddenly and are usually not possible to predict based on historic data or to estimate in terms of their ultimate financial impact. It can be difficult to determine whether there is capacity for costs to be borne by consumers through repricing of goods or services. Chronic physical risks may be easier to identify; for example, is the company operating in a flood prone zone or are there longer term risks to buildings and property due to rising sea levels?

The Bank of Canada reports that:

The physical risks of climate change will likely imply increases in the frequency and severity of negative supply shocks (eg, destruction of capital stocks, disruptions to labour supply, disruptions to supply chains) and demand shocks (eg, damage to household and corporate balance sheets that result in reduced consumption and investment).

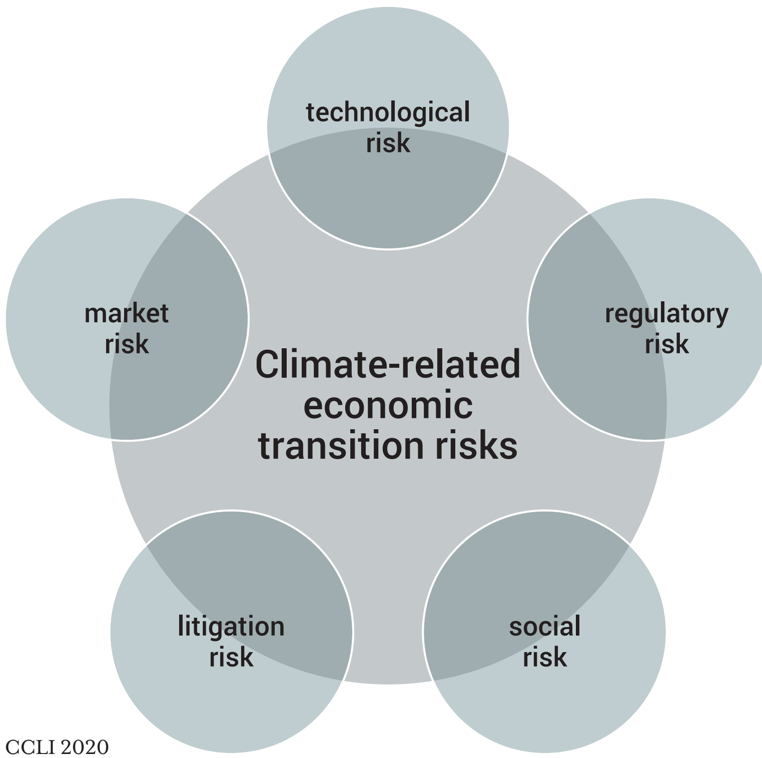
. . .

Extreme weather events could cause damage to physical assets, including real estate, capital and infrastructure, and loss of life with consequent property and casualty (P&C) insurance losses, damage to balance sheets of both households and firms, increases in defaults, and potential financial sector distress.[109]

Understanding the direct and indirect impacts of physical climate risks on the firm's operations and third-party relationships is essential to accurate disclosure. The audit committee has an important responsibility to assist the board in understanding and disclosing how physical climate risks can affect the company's business plan, value chains, and stakeholders, and in advising the board how to effectively oversee and manage the risks.

ii. Transition Risks

Transition risks cover a wide range of risks, including market risk, regulatory risk, technological risk, social risk, and litigation risk, all of which are interconnected. Transition risks can affect physical, natural and human capital stock, labour supply, and productivity.[110] The Bank of Canada reports that a 'late and abrupt transition to a low carbon economy could lead to a sudden repricing of climate-related risks and stranded assets, which could negatively affect the balance sheets of financial market participants, with potential consequences to financial stability'.[111] It is important to note the dynamic, interconnected nature of physical and transition risks. For example, in a high carbon future, the physical risks will be extreme and likely uninsurable; yet in a lower carbon future, the transition risks will be significant, in addition to the physical risks already being manifested.



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The transition risks are discussed briefly in turn, but audit committees are advised to consult the increasingly broad number of resources on the CCLI knowledge portal and the TCFD knowledge hub.[112]

A. Market risk

Market risks arise from shifts in supply and demand for certain commodities, products, and services as climate-related impacts are increasingly considered in decision-making. Examples include increased market demand for low carbon and renewable energy, and changes in conditions of debt financing due to climate risks.

Stakeholders have higher expectations of how businesses are responding to climate change issues. Market risks may crystallize with little advance warning. Changing preferences of investors that support decarbonization can impact the company's access to capital, in addition to the market for its products and services. For example, institutional investors are increasingly committing to investment portfolios that require investee companies to achieve net zero carbon emissions by 2040 or 2050. Failure to be responsive to these market risks can result in damage to the company's reputation.

The Bank of Canada has observed that changes in market preferences are expected to lead to significant changes in relative prices, which in turn could lead to the reallocation of resources across sectors and comparative advantages in trade.[113] When applied regionally, the economic impact of climate policies depends strongly on interactions with other regions. Lasting shifts in the energy mix are also expected to persistently change energy prices, creating inflationary pressures.[114]

> **Former Bank of Canada and Bank of England Governor Mark Carney has observed that to hold global warming to even 2°C means that 80 per cent of coal assets, 50 per cent of gas assets, and one third of oil assets are un-burnable and will be stranded.**
>
> **Mark Carney, 'Presentation to UK House of Lords Financial Affairs Sub-Committee', 2020[115]**

There is also risk of stranded assets through unanticipated write-downs in carbon-intensive industries due to fluctuations in price and demand from trade partners.[116] The Bank of Canada observes:

> **Maintaining the warming below 2.0 degrees Celsius implies that some of the existing fossil fuel reserves will become stranded assets, ie, unusable, in the absence of potential cost-effective technologies for carbon dioxide capture and storage and carbon dioxide removal. The assets that could be affected are not limited to the oil and gas sector; they include other carbon-intensive sectors such as transportation (including aviation and shipping), real estate, electricity generation (eg, coal plants), heavy industry and agriculture.**

> **These transition risks are of particular significance for Canada given its endowment of carbon-intensive commodities, the current importance of some of these carbon-intensive sectors for the Canadian economy, and the energy needs for cooling and heating.**[117]

KPMG notes that a poor climate response by a company may reduce the supply of capital or availability of insurance cover and create an inability to meet business customers' qualifying thresholds for environmental matters.[118]

B. Technological risk

New technologies that support the transition to a low carbon economy can impact the demand for existing products and displace or disrupt existing production. The cost of developing low emissions technologies or substituting processes and products with lower emissions alternatives can be high. There may be costs associated with having to write-off the expense of unsuccessful innovations.[119] Failure to transform technologies used in production may lead to loss of market share.

There are also opportunities. The rapid growth in the solar energy sector is increasing demand for aluminum, copper, lithium, and cobalt.[120] The shift from oil and gas to electrification will increase the demand for minerals such as silver.[121] New and innovative technologies to support the transition to lower carbon usage, such as battery storage and other renewable energy storing technologies, and electric vehicle infrastructure, also present new opportunities. Similarly, technological innovations to retrofit of buildings or required in new construction of residential, office, and industrial buildings to meet new net zero building codes has opened up many opportunities for products and services.

C. Regulatory risk

Government policy actions may tighten regulation, cap the use of resources, and introduce carbon taxes or other carbon pricing mechanisms, which can reduce demand for products and services or increase operating costs.[122] Canada's carbon pricing legislation is a good example of policy aimed at internalizing the cost of emissions and encouraging companies to lower carbon-emitting production and services. Its constitutional validity will be determined in the coming months by the Supreme Court of Canada. There may also be increased costs of enhanced disclosure requirements or regulatory action as a result of non-compliance with existing climate-related disclosure requirements.[123] Canadian companies are also financially affected by governmental policy in other jurisdictions in which they operate. More than 40 countries have now enacted some form of carbon pricing, including many of Canada's trading partners. Deloitte observes that the audit committee may need to recognize new obligations of their subsidiaries operating in other countries, such as fines levied for failing to meet climate-related targets.[124]

The UN PRI's recent publication, 'Inevitable Policy Response, preparing financial markets for climate-related policy/regulatory risks', reports that a forceful policy response to climate change within the near term is not priced into today's markets, and that it is inevitable that governments will be forced to act more decisively than they have so far, leaving investor portfolios exposed to significant risk.[125] It concludes that current reductions in carbon emissions are not sufficient to limit global warming to a 1.5˚C target.[126] Analyzing momentum-based drivers and less predictable, but equally high impact, triggers, it reports that the longer the delay, the more disruptive and abrupt regulatory policy will inevitably be.[127] Delays in regulatory responses in many jurisdictions are likely to result in disruptive and disorderly transition, and thus transition risks related to climate are unlikely to be linear.

D. Social risk and changing stakeholder preferences

Stakeholder expectations of companies are shifting as the urgency of global warming becomes increasingly evident. 'Social risk' is a broad catchall of risks to many types of stakeholders and society at large, including consumers, employees, pension beneficiaries, financial services advisors, credit rating agencies, and debt and equity investors' policies and preferences in terms of social license to operate.

There are new intergenerational social alliances that are calling on companies to be accountable for their past, present, and future GHG emissions. International investors are increasingly assessing companies' climate action plans against the United Nations' Sustainable Development Goals, which are expressly aimed at tackling climate change in a manner that works towards ending structural inequality, racism and poverty; improving health and education; creating clean water; promoting economic growth and sustainable cities; and working to preserve oceans and forests.[128] The World Economic Forum reports that the transition to a low carbon economy raises profound issues in respect of the future job market and the broader fate of communities, with serious concerns regarding how transition will occur in a way that is fair and equitable.[129]

EY has observed that public demonstrations such as the global climate strike have been some of the strongest forces driving companies to make better disclosures regarding their resilience to climate-related transition and physical risks.[130] Its 2020 report card suggests that companies have made limited progress in addressing the quality and coverage of climate-related financial disclosures, problematic when companies face increased scrutiny and pressure on their actions to mitigate climate change.[131] It means that there is heightened risk of negative publicity in relation to companies' failure to have meaningful mitigation and adaptation plans.

Institutional investors are also increasingly incorporating ESG factors into investment decisions and practicing active ownership and engagement on climate-related issues and larger social concerns such as impact on the rights, well-being and interests of people and communities.[132] The Institutional Investors Group on Climate Change discussion paper, 'Voting for better climate risk reporting: the role of auditors and audit committees', emphasizes how shareholders can hold audit committee directors and auditors to account for inadequate climate risk reporting, including using engagement, refusing to vote for audit directors during reelection, and voting against renewal of external auditor contracts.[133]

> **The rise of technology has ensured that stakeholders, not just shareholders, are now able to challenge businesses on how they behave. As a result, transparent measurement and disclosure of sustainability performance is now considered to be a fundamental part of effective business management, and essential for preserving trust in business as a force for good.**
>
> **SASB, CDSB, CDP, GRI and IIRC, Statement of Intent to Work Together Towards Comprehensive Corporate Reporting, 2020[134]**

E. Litigation risk

There are numerous liability risks, but in terms of potential liability in Canada, the risk is primarily one relating to regulatory orders and/or fines to cure disclosure deficiencies, or lawsuits by investors alleging failure to disclose material climate-related risks to stakeholders. Under corporate law, courts will defer to the business judgments of directors in their decisions and actions, if they have acted with care and due diligence.[135] That means that duly diligent directors that adopt proactive approaches to climate mitigation and adaptation, drawing on external advice and expertise as required, are unlikely to be found liable in hindsight for errors of judgment.

However, as Hansell has observed, directors should be aware that their decisions about disclosure under securities law are not protected by the business judgment rule.[136] Davé et al observe that risk identification requires granular analysis of customers and clients by region and sector, including identifying conduct and compliance risks.[137]

Litigation is a risk, as evident by the number of lawsuits pending globally on climate-related disclosure and alleged failure of directors' to meet their fiduciary duties and duty of care.[138] While there are not yet lawsuits against Canadian companies, the Canadian government is currently facing two lawsuits from Canadian youth regarding the government's failure to protect them from climate change. Lawsuits globally initiated by states, cities, private investors, and members of society are seeking monetary damages from the major carbon emitting companies for their historic and current contributions to global warming. Similarly, social or legal action can be expected against Canadian companies that fail to act to mitigate climate change.

2. QUESTIONS FOR THE AUDIT COMMITTEE TO ASK

Management of climate-related risks is a responsibility of the corporate board. It is important that the directors recognize that there is uncertainty in respect of climate financial impacts because the trajectory of global warming will be determined by the complex interplay of government policy, business decisions, litigation outcomes, and pressures by civil society. Failure to meaningfully decarbonize may result in financial impacts being seriously under-estimated. Climate change presents issues that affect business strategy, risk oversight, and financial performance in the short, medium, and long term. In order to discharge their oversight responsibilities, audit committees need to satisfy themselves that appropriate processes are in place to facilitate the flow of information needed for informed decision making. In this regard, best practice gathered from multiple sources suggests the audit committee should consider asking itself the following questions.

i. Oversight – Capability, Robust Process, and Methodology

o Do the board and audit committee have the appropriate skills and expertise needed for a robust assessment of the climate-related financial risks and opportunities and their relevance to accounting and financial statements, including how our business strategy should adapt?

o How do management, the audit committee, and the board gain and maintain an appropriate level of understanding of the foreseeable risks and opportunities associated with climate change for a company operating in our market(s), sector(s), and geographical region(s)?

- How does the company determine which of these foreseeable risks may have a material impact on our financial position, performance, and prospects, and how do we assess the potential impact of these issues on our key drivers of risk and opportunity?
    - What is our materiality threshold – both for management accounting and disclosure purposes?
    - On what basis are risk appetites set and these issues prioritized and managed?

- How do we set appropriate metrics for the assessment of relevant climate-related issues in the context of our business? What are appropriate targets for our management of those risks within short-, medium-, and long-term time horizons – and on what basis do we consider that these targets are credible? How do we verify our progress against the targets?

- Have the potential risks and opportunities been stress-tested across scenarios representing the plausible range of climate futures? On what basis have we determined that the scenarios are appropriately robust and internally consistent?
    - Specifically, do our scenarios include a transition stress scenario that is Paris Agreement-aligned – ie science-based targets consistent with limiting global warming to well-below 2°C? What is our 'central' case?
    - What are the strategic signposts that we continue to monitor in the face of considerable uncertainty?
    - Have we considered whether the expected timing of the replacement of existing assets may be accelerated?

- Climate change issues are extremely dynamic. What governance processes are in place to ensure that emerging risks and opportunities are captured, assessed, and verified?

- How is executive remuneration linked to the company's achievement of its climate-related targets?

- Has external expertise been applied to analysis of climate-related issues? If so, how has the appropriateness of their expertise been ascertained? If not, how are we satisfied that our internal capabilities are robust?

- Are the board and audit committee aware of how their investors, creditors, and other capital providers are factoring climate-related risks into their investment and voting decisions?[139]

- To what extent has the audit committee engaged in dialogue with the external auditor to evaluate audit quality of climate-related risk and performance disclosure and to enhance the audit oversight by the committee?[140] Has the audit committee discussed the likelihood of the external auditor raising climate-related risks as a 'key audit matter'?

ii. Reporting – MD&A

- Does the MD&A describe our approach to climate-related risk governance, strategy, risk management, and metrics and targets in a manner that is decision-useful for a reasonable investor? Do these disclosures address risks and opportunities for both our business model and value chain, and our approach to their management (exploitation) – over defined short-, medium-, and long-term time horizons? Do our disclosures include progress against our targets? How have those statements been verified?

- Do our disclosures have regard to the TCFD recommendations, including stress-testing and scenario-planning across the plausible range of climate futures? If we do, how has our report been reconciled against the TCFD requirements? If not, why not?

- Are the relevant risks and opportunities, and our approach to their management, described with an appropriate degree of specificity? In particular, do our disclosures describe why the issue is important or significant to the company's ongoing financial prospects, whether it is expected to increase or decrease in relevance or materiality in the foreseeable future, and how we are approaching its management?

- Is the audit committee satisfied that the company is appropriately reporting key climate-related targets such as targets related to GHG emissions, water and energy usage, and climate-related biodiversity impacts, including for the full upstream and downstream value chain, where appropriate, in line with financial goals and financial loss tolerances?[141]

- Has the audit committee asked management to give its best estimate of any forecasted changes in consumer, supplier, and competitor behaviour expected to result in positive or negative changes in the volume or price of future sales?

- Is the audit committee confident that management has factored expected government action, such as carbon pricing, standards to decarbonize activities, or income tax related changes, into estimates of future cash flows and the discount rate? If management's best estimate is that, while the exact nature of the regulatory action is not certain, there will nonetheless be an effect on the company's cash flows, it may be appropriate for expected changes to be included in value-in-use calculations and stress tested.[142]

- Is the board, on advice of the audit committee, confident that the MD&A, financial statements, and other continuous disclosure documents integrate climate-related assumptions in the accounting estimates and disclose management's assessment of material climate-related risks and opportunities to current standards required by Canadian securities regulators, corporate law, and stock exchange listing requirements?

iii. Reporting – Financial Statements

- What assessment has been undertaken to ensure that relevant and material matters disclosed in the MD&A are consistently integrated across our financial statements?

- Which climate change-related variables are material to the accounting estimates in our financial statements? How have these variables been considered and applied in determining these estimates? Have relevant assumptions been applied consistently?
    - For example, how have relevant variables and assumptions been integrated into balance sheet accounting estimates, including asset useful lives, fair values, impairments, provisions for onerous contracts, and/or bad and doubtful debts?
    - Are we assessing how climate-related risk may impact the measurement of fair value or impairment tests of assets?[143]

- Which material climate-related variables are a matter of significant accounting judgments and estimations of uncertainty? Are there other reasonable assumptions that, if applied, would lead to materially different accounting estimates?
    - For example, is the audit committee confident that management has appropriately considered the need to modify cash flow forecasts to incorporate the anticipated timing, profile, and magnitude of the effects of climate change?[144]

- o Does the audit committee have sufficient information to satisfy itself of the robustness and appropriateness of the climate-related assumptions in management's base case used in the preparation of the financial statements?
  - o When climate change is a significant factor in a value-in-use calculation, is the disclosure providing an explanation of the key assumptions used in impairment testing, depreciation rates, decommissioning, restoration liabilities, and forecast effects on the company's future cash flows?[145]

- o Which material climate-related assumptions (and associated uncertainties) are material to investors' reasonable understanding of our financial statements, and thus warrant disclosure in the notes to the financial statements – even where there is no quantitative impact on the relevant accounting estimate?

- o Has the audit committee considered whether existing contracts may become onerous or unviable due to the increased performance costs or due to decreasing benefits from fulfilling the contract?[146]

- o Have any climate-related issues been raised as 'key audit matters' by our external auditors? Were any climate-related matters subject of disagreement between management and our external auditors?

- o Is the audit committee assessing and reporting the company's disclosure of avoided-GHG-emissions through the entire product life cycle, addressing whether the target is absolute or intensity based, time frames over which the target applies, base year from which progress is measured, and key performance indicators used to assess our progress against targets?[147]

Part 1 of the Appendix suggests more detailed sub-questions that can offer guidance on information, financial processes and analysis, not all of which will be relevant to all audit committees.

VI. Key Takeaways

- Climate change and its impacts are a growing financial risk and all the company's directors have a duty to identify and manage material climate-related risks and opportunities in the best interests of the company and its stakeholders in the short, medium, and long term.

- Uncertainty in respect of climate impacts and the trajectory of global warming does not mean that audit committees can ignore the potential foreseeable financial impacts. It is critically important that climate scenarios are considered and integrated into financial models for scenario planning and stress testing the resilience of the company's business model.

- The audit committee's responsibility for oversight of the company's financial statements includes ensuring that relevant climate risks and opportunities are integrated into the assumptions underlying accounting estimates and disclosed appropriately in the notes. It should also include a mandate to oversee and ensure the integrity of identifying and reporting the financial effect of material climate risks, but the board as a whole is responsible for oversight of climate strategy, risk management, and performance against goals and targets.

- Climate risks and opportunities are likely to be increasingly raised by external auditors and audit committees will need to be ready to engage.

- Climate risk disclosure is not a check-the-box-exercise that can be satisfied with generic and vague risk disclosure. Companies must ensure that public disclosure meaningfully reflects their estimate of climate-related regulatory, physical, and operational trends and uncertainties.

- While there is no one-size-fits-all model, the board and its audit committee should ensure that reviews of climate risks and opportunities are reflected in different organizational processes and that they are provided with adequate information and expertise (internal and external) to make informed decisions.

- There are a growing number of disclosure frameworks and best practice guidance that audit committees can draw on to meet their responsibilities; and the questions in this guide can facilitate the audit committee's path to effective oversight and disclosure.

VII. Appendix

This appendix provides some additional insights that can guide audit committees in their identification, management, and disclosure of climate-related risks and opportunities. They are drawn from existing frameworks and accounting firm guidance. However, audit committees should seek legal and accounting advice for complete guidance.

1. DRILLING DOWN FURTHER – ADDITIONAL QUESTIONS FOR AUDIT COMMITTEES

In addition to the high-level questions above, the following supplementary questions might assist the audit committee at various stages of the assessment and reporting process. They are drawn from guidance issued by CPA Canada, IFRS, Canadian Securities Administrators, and major accounting firms. Not all questions will apply to all companies.

Ensuring the appropriate information is before the audit committee:

o Is the audit committee provided with appropriate orientation and ongoing learning support to help members to gain and maintain an appropriate depth of understanding of sector- and market-specific climate-related issues, and their potential relevance to the company's financial position, performance, and prospects?[148]

o Are the board and its audit committee knowledgeable about, and comfortable with, the methodology used by management to capture the nature of climate-related financial risks and to assess the materiality of such risks, and their potential relevance to the company's financial position, performance, and prospects?[149] Has the board clarified who is responsible for which tasks?

o Does the audit committee have sufficient data and information to be satisfied that management is appropriately assessing the current and future financial impacts of material climate-related risks on the company's assets, liabilities, revenues, expenses, and cash flows over the short, medium, and long term?

Reviewing processes and technologies for continually assessing risks and opportunities:

o Is the audit committee confident that the processes and results from internal audits of climate-related risks, programs, initiatives, and performance are reported and monitored internally on an ongoing basis to ensure priority action items are addressed in a timely fashion?

o Have the board and its audit committee asked management how the company has deployed analytical tools and technologies to identify patterns and correlations in company data to identify potential risks regarding business processes, operations, and regulatory and security issues?[150]

o What are the management projections regarding adjustments to the timing and cost of assets as a result of climate change? Has the audit committee considered disclosure of any acceleration of required cash outflows for liabilities and asset retirement obligations linked to climate change?[151]

o Has the audit committee reviewed the effectiveness of management's enterprise risk management programs in relation to identifying climate risks and opportunities, and has it assessed the effectiveness of the organization in adjusting its risk appetite in response to changes in the climate risk landscape?

o Is the audit committee assessing whether the risk assessment includes quantitative and qualitative considerations, and incorporates adequately long-term perspectives regarding climate risks associated with corporate objectives, growth strategies, new products, and climate-related regulatory changes?[152]

o What processes do the board and audit committee have in place for monitoring regulatory updates in relation to climate change, and is the audit committee sufficiently engaged in dialogue providing and soliciting views and input as needed on regulatory consultations?[153]

Setting goals for the company in relation to climate-related risks and opportunities

o Has management identified climate-related risks and opportunities for the business over the short, medium, and long term, and recommended targets and actions to the board; and once approved by the board, is the audit committee providing support and advice to the board in its ongoing assessment of the financial resilience of the company's business plan, taking into consideration different climate-related scenarios?[154]

o Is management reporting climate-related risks and opportunities to the board using a consistent data-centric framework that enables the board to effectively set goals and targets and integrate them into the company's strategic plan to build resilience and long-term sustainability, and is the audit committee recommending approval of management's financials on these climate risks to the board?[155]

o Has the audit committee engaged with management on the development of scenario analysis, and recommended key scenarios for further review at the board level, in order to identify options for increasing the organization's strategic and financial resiliency?[156]

o To what extent has the audit committee engaged with management on the appointment of external experts or consultants to assist in the identification of climate change-related risks and opportunities, assessments, valuation, and internal audit to support its recommendations to the board on setting goals, targets, and an overall climate action plan, including reviewing management projections and confirming that the assumptions on which the projections are based are reasonable and appropriate?

Developing the metrics for reporting progress towards goals and targets:

o What frameworks are being used by management to measure, manage, and disclose climate-related risks and opportunities? Has management developed relevant metrics that demonstrate governance and performance related to climate change risks and opportunities?

o Is the audit committee satisfied that the disclosure frameworks adopted by management are consistent with current best practices for measuring and managing climate-related risks and opportunities, in particular, with the recommendations of the TCFD?

o Has the audit committee evaluated the company's risk taxonomy and existing processes and standards to determine whether it adequately reflects climate-risk-related materiality assessments.

o Are these metrics linked to existing portfolios and exposure thresholds and limits, and do they align with the firm's disclosures on climate-related risks and commitments, enabling appropriate audit committee and board oversight?[157]

o Is the board verifying that enterprise-wide risk assessments capture all categories of climate-related risk — strategic, operational, reputational, financial, and compliance — on a continuous basis, and have the audit and other board committees provided the board with advice on these decisions?[158]

Reporting material climate-related information in the financial disclosures:

o Are the audit committee and the board satisfied that the company is adequately and sufficiently disclosing its processes for identifying, assessing, and managing climate-related risks and how the organization's overall risk management is reported in the financial statements?[159]

o Is the audit committee ensuring that the company is disclosing assumptions used in impairment testing, depreciation rates, decommissioning, restoration, and other similar liabilities and financial risk where they are material?[160]

o Is the climate-related disclosure relevant, clear, understandable, and entity-specific, including, where practicable, quantifying and disclosing the potential magnitude and timing of financial and other impacts of such risks?[161]

o Does the disclosure identify any executive compensation programs aimed at incentivizing management or directors to decarbonize?[162]

o Has the audit committee considered the costs and benefits of obtaining independent, third-party assurance of the company's climate-related disclosure, including data associated with performance metrics reporting?

2. DIRECTION FROM CANADA SECURITIES REGULATORS ON DISCLOSURE OF CLIMATE-RELATED RISKS

The CSA has advised that audit committees and boards of publicly-listed companies should provide relevant, clear, and understandable entity-specific disclosure that will help investors understand how the issuer's business is specifically affected by all material risks resulting from climate change, avoiding boilerplate disclosure.[163] Where practicable, companies should quantify and disclose potential financial and other impacts of such risks, including their magnitude and timing.[164] The CSA recommends that the board consider the effectiveness of the disclosure controls and procedures in place in relation to climate change-related risks.[165]

In CSA Staff Notice 51-358 Reporting of Climate Change-related Risks, Canadian securities regulators have advised that despite the potential uncertainties and longer time horizon associated with climate change-related risks, boards and management should take appropriate steps to understand and assess the materiality of these risks to their business.[166] Certifying officers must certify, among other things, that the issuer's financial statements and the other financial information included in the issuer's MD&A, and if applicable, AIF, fairly present, in all material respects, the issuer's financial condition, financial performance, and cash flows.[167]

In general, issuers should disclose material information relating to climate change-related risks in an AIF, including risk factors relating to the issuer and its business that would be most likely to influence an investor's decision to purchase the issuer's securities, and the MD&A, in terms of offering an analysis of the issuer's operations for the most recently completed financial year, including commitments, events, risks, or uncertainties that the issuer reasonably believes will materially affect its future performance. The CSA requires, pursuant to Form 58-101F1 Corporate Governance Disclosure, that non-venture issuers disclose the text of their board mandate or explain how they delineate roles and responsibilities regarding climate-related issues, and requires all issuers to identify and describe the function of any standing committees, including environmental or other committees responsible for managing climate change-related issues.[168] Also in Staff Notice 51-354, the CSA specifies that audit committees, boards, and certifying officers should consider, among other things, the assessment that management has made regarding the materiality of climate-change-related matters, and whether the disclosure made in securities regulatory filings is consistent with this assessment.

Using the CPA Canada, 'Climate Change Briefing: Questions for Directors to Ask' and SASB, 'Engagement Guide for Asset Owners & Asset Managers' as a basis, the CSA advises that boards should ask the following questions:

- Is the board provided with appropriate orientation and information to help members understand sector specific climate change-related issues?
- Has the board been provided sufficient information, including management's materiality assessments in respect of the issuer's climate change-related risks, to appropriately oversee and consider management's assessment of these risks?
- Is the board comfortable with the methodology used by management to capture the nature of climate change-related risks and assess the materiality of such risks?
- Is the board aware of how their investors are factoring climate change-related risks into their investment and voting decisions?
- Is oversight and management of climate change-related risks and opportunities integrated into the issuer's strategic plan, and if so, to what extent?
- Has the board considered the effectiveness of the disclosure controls and procedures in place in relation to climate change-related risks?[169]

The CSA has also published questions for management, which audit committees can use to consider whether management is identifying and managing the appropriate issues:

- Does management have, or have access to, the appropriate expertise to understand and manage material climate change-related risks that may affect the issuer?
- Has management appropriately considered how each of the different categories of climate change-related risks may affect the issuer (eg, physical and transition risks)?
- Has management considered which business divisions or units have responsibility for identifying, disclosing and managing material climate change-related risks and what their reporting lines are to senior management? To what extent are these responsibilities integrated with mainstream business processes and decision-making?
- Is management aware of current climate change-related litigation that may pose a litigation threat to the issuer now or in the future?
- Has management implemented effective systems, procedures and controls to gather reliable and timely climate-related information for purposes of management analysis, decision-making and disclosure to investors, regulators, and other stakeholders?
- Has management appropriately assessed the current and future financial impacts of material climate-related risks on the issuer's assets, liabilities, revenues, expenses and cash flows over the short, medium, and long term?

- Do the issuer's regulatory filings contain the required disclosures in respect of material climate-related risks?
- Is this disclosure entity-specific? [170]

The CSA advises that for purposes of the AIF and MD&A, 'information is likely material if a reasonable investor's decision whether to buy, sell or hold securities in an issuer would likely be influenced or changed if the information in question was omitted or misstated'.[171] It notes that securities legislation imposes a different test for materiality in certain other contexts, and issuers should consider the applicable test when preparing disclosure in respect of climate-related information or other information. The CSA states that omitting or misstating material information in an issuer's required continuous disclosure documents can lead to the board, management, and the issuer itself facing potential risks, including litigation, enforcement, or other regulatory actions such as an order to refile continuous disclosure documents.[172]

The CSA advises that determining whether information is material is a dynamic process that depends on the prevailing relevant conditions at the time of reporting. In assessing materiality, an issuer should consider whether the impact of an environmental matter might reasonably be expected to grow over time, in which case early disclosure of the matter might be important to reasonable investors. This issue is particularly relevant where the issuer is in an industry with a longer operation or investment cycle or where new technologies are going to be required.[173] In terms of time horizon, the CSA advises that, as with other types of disclosure, materiality in cases of a known environmental trend, demand, commitment, event, or uncertainty turns on an analysis of the probability that the trend, demand, commitment, event, or uncertainty will occur, and on the anticipated magnitude of its effect.[174]

The CSA Staff Notice states that issuers may be required to adapt their existing approaches to risk assessments in order to better understand the potential impacts of climate change-related risks and their materiality, and to consider the longer time horizon associated with these types of risks and how to effectively quantify them. An issuer should not limit its materiality assessment to near-term risks.[175] The CSA states:

> If an issuer concludes that a climate change-related matter would likely influence or change a reasonable investor's decision whether or not to buy, sell, or hold securities of the issuer, we expect it to be disclosed, even if the matter may only crystallize over the medium- or long-term or if there is uncertainty whether it will actually occur. The timing of realization of the risk and the uncertainty of it occurring may impact the analysis of whether the matter is material but not whether it needs to be considered and analyzed as to materiality. Even if the likelihood of the risk occurring diminishes the materiality of the matter, issuers should still consider whether it is appropriate to disclose the matter as a risk factor.
>
> As part of a materiality assessment, issuers should not only consider the existence of material climate change-related risks, but also, where practicable, quantify and disclose the potential financial and other impact(s) of such risks, including their magnitude and timing. In certain instances, securities legislation may require the quantification of these types of risks. For example, Item 5.1(1)(k) of Form 51-102F2 requires an issuer to disclose the financial and operational effects of environmental protection requirements in the current financial year and the expected effect in future years. In other cases, issuers should consider how to effectively measure and quantify climate change-related risks as

part of their broader risk assessment process. While acknowledging that the precise impacts of climate change-related risks may be difficult to quantify or measure, we are of the view that issuers should consider both quantitative and qualitative factors in making their materiality assessments and may consider using assumptions and estimates which have a reasonable basis and are within a reasonable range. External resources and benchmarking against industry peers may also be appropriate in this regard.[176]

3. AUDIT COMMITTEES AND GUIDANCE FROM THE TCFD FRAMEWORK

The TCFD framework is increasingly being endorsed by governments, financial institutions, accounting firms, and institutional investors as an appropriate framework for climate-related financial disclosure. Its core elements of recommended climate-related financial disclosures are: governance, strategy, risk management, and metrics and targets. As this guide goes to print, the TCFD's 2020 Status Report, released 28 October 2020, reports that over 110 regulators and governmental entities from around the world now support the TCFD, with governments embedding its recommendations in policy and guidance and moving to require TCFD disclosures through legislation and regulation.[177] The TCFD reports that central banks and supervisors globally, through the Network for Greening the Financial System, have encouraged companies issuing public debt or equity to disclose in line with the TCFD recommendations; and reports that while disclosure of climate-related financial information has increased since 2017, further progress is needed, particularly noting that reporting by asset managers and asset owners to their clients and beneficiaries appears to be insufficient to ensure that clients and beneficiaries have the right information to make effective financial decisions. [177]

The TCFD 'Implementation Guide' observes that audit committees should scrutinize climate-related financial information with the same rigour that they use for financial information. Applying the same process and quality assurance to climate impact analysis will make a difference in the way climate risks and opportunities are understood and communicated.[178]

i. Governance

The TCFD recommends integrating climate change into key governance processes, enhancing board-level oversight through audit and risk committees. The TCFD notes that the 'design, implementation, and maintenance of a robust system of internal control over climate-related information can enhance its utility for internal and external decision makers'.[179] The board should be describing the board's oversight of climate-related risks and opportunities. It should describe management's role in assessing and managing climate-related risks and opportunities.[180]

The governance processes should be similar to processes used for existing financial reporting and thus involve review by the chief financial officer and audit committee.[181] The TCFD recommends including a discussion of the processes and frequency by which the board and/or board committees are informed about climate-related issues; whether the board considers climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans; how it has considered climate-related issues in setting the organization's performance objectives, monitoring implementation and performance, and in overseeing major capital expenditures, acquisitions, and divestitures.[182] The board should also disclose how it monitors and oversees progress against goals and targets for addressing climate-related issues.

In describing management's role, the TCFD recommends disclosure of how the company has assigned climate-related responsibilities to management-level positions or committees; how these positions report to the board, the audit or another committee of the board; processes by which management is informed about climate-related issues, and how management monitors and is accountable for climate-related issues.[183] The board should be disclosing any compensation programs aimed at incentivizing management to decarbonize.[184]

ii. Strategy

The TCFD recommends that the company 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, by describing the climate-related risks and opportunities the organization has identified over the short, medium, and long term. It should assess the resilience of the organization's strategy and business plan, taking into consideration different climate-related scenarios, including a 2°C or lower scenario,[185] taking account of valuation of assets, assumptions used in impairment testing, depreciation rates, decommissioning, restoration, and other similar liabilities and financial risk.[186] Scenario testing is an important tool to use in strategic planning, as discussed below in part v below.

The audit committee should be verifying that enterprise-wide risk assessments capture all categories of climate-related risk — strategic, operational, reputational, financial, and compliance — on a continuous basis.[187] This assessment will help focus and recalibrate the key risks directly linked to the organization's overall strategy.[188]

iii. Risk Management

Risk management is central to the role of the entire board. Corporate directors should be ensuring that there is accurate disclosure of the company's processes for identifying, assessing, and managing climate-related risks.[189] The company should be disclosing how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.[190]

The TCFD recommends that the audit committee assess whether the enterprise's risk assessment includes quantitative and qualitative considerations and incorporates forward-looking perspectives regarding climate risks associated with corporate objectives, growth strategies, new products, and environmental, social, and regulatory changes.[191]

Generally, results from internal audits are reported to the audit committee and are monitored on a quarterly basis to ensure priority action items are addressed in a timely fashion. The audit committee should be attentive to the reporting of climate-related risks from these audits, ensuring that they are being assessed internally on an ongoing basis.

Clarity in the information the audit committee needs to have, and in how it analyses and then reports oversight and management of climate-related risks and opportunities in the financial reporting is key. The TCFD recommends a description of what is considered to be the relevant time horizons, taking into consideration the useful life of the organization's assets or infrastructure and the fact that climate-related issues often manifest themselves over the short, medium and longer term. It recommends a description of the specific climate-related issues for each time horizon that could have a material financial impact on the organization.[192]

The TCFD also recommends that for certain climate-related risks and opportunities, the company's internal audit should extend to key suppliers, such as due diligence on third-party capabilities to shift to energy efficiency, in order for the audit committee to more effectively assess risks and monitor the effectiveness of associated responses.[193] External assurance can support the business by identifying significant issue assessment processes and, where practical, involve internal teams in charge of sustainability measurement, valuation, and reporting, as well as internal audit, risk management, and related functions.[194]

The TCFD recommends that the audit committee should understand and describe how climate-related issues serve as an input to financial planning, the time periods used, and how these risks and opportunities are prioritized.[195] They should describe the impact on businesses and strategy, on products and services, supply chain and/or value chain, adaptation and mitigation activities, and investment in research and development. They should describe any climate-related scenarios used to inform the organization's strategy and financial planning on operations, operating costs and revenues, capital expenditures and capital allocation, acquisitions or divestments, and access to capital.[196]

iv. Metrics and Targets

The TCFD recommends that the board and its audit committee provide the key metrics used to measure and manage climate-related risks and opportunities, including metrics related to water, energy, land use, and waste management.[197] Metrics should allow for trend analysis, and include a description of the methodologies used to calculate or estimate the metric; describe whether and how related performance metrics are incorporated into remuneration policies; provide internal carbon prices applied, if applicable; and provide climate-related opportunity metrics such as revenue from products and services designed for a lower carbon economy.[198]

The audit committee should be getting information from management on Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks.[199] Scope 1 emissions are direct GHG emissions of the company; Scope 2 emissions refer to indirect GHG emissions such as from consumption of purchased electricity, heat, or steam; and Scope 3 emissions refer to other indirect emissions not covered in Scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions.[200] The TCFD recommends that GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across organizations and jurisdictions.[201]

The audit committee should ensure that management has performed internal audits of GHG emissions data and systems, and that it is reporting to the committee and the board.[202] Internal company auditors can assist the audit committee in ensuring the integrity of information systems and performance data related to key organizational risks, as both aid to internal reporting purposes and for external reporting to stakeholders.[203] External auditors can provide independent assurance on metrics and internal controls over financial and other regulatory reporting.[204]

The company needs to describe key climate-related targets related to GHG emissions, water usage, energy usage, etc, in line with financial goals and financial loss tolerances.[205] It needs to calculate avoided GHG emissions through the entire product life cycle; and assess net revenue goals for products and services designed for a lower carbon economy, with the company addressing whether the target is absolute or intensity based, time frames over which the target applies, base year from which progress is measured, and key performance indicators used to assess progress against targets.[206] It is important to be able to communicate the methodologies used to calculate targets and measures.

The TCFD framework provides flexibility for setting metrics and targets, but recommends that an emissions target be set using the risk analysis under the business' relevant climate scenarios, with companies setting meaningful science-based targets in line with achieving net zero. [207]

In June 2020, countries representing more than one half of global GDP set or committed to set 'net zero by 2050' targets, and more than 900 companies have published science-based targets consistent with the Paris Agreement. As such, defining emissions targets that are at least consistent with meeting the goal of the Paris Agreement is fast becoming the minimum expectation for businesses.[208]

v. Scenario Analysis under the TCFD Framework

The TCFD recommends scenario analysis as an important and useful tool for audit committees and boards to understand strategic implications of climate-related risks and opportunities.[209] Scenario analysis evaluates a range of hypothetical outcomes by considering a variety of alternative plausible future scenarios under a given set of assumptions and constraints.[210] Scenarios are hypothetical constructs; they are not forecasts or predictions, nor are they sensitivity analyses; rather, they are used to highlight important elements of a possible future and draw attention to the key factors that will drive future developments.[211]

The TCFD recommends that companies include scenario analysis as part of their strategic planning and/or enterprise risk management processes by identifying a range of scenarios, including a 2°C or lower scenario, that provide a reasonable diversity of potential future climate states; evaluating the potential resiliency of their strategic plans to the range of scenarios.[212] Using this assessment, the board should be identifying options for increasing the organization's strategic and business resiliency to plausible climate-related risks and opportunities through adjustments to strategic and financial plans.[213] The TCFD recommends an iterative approach to scenario analysis, noting that while some larger organizations and investors are making use of scenario analysis, it is still developing, and experiences should be shared to reduce costs.

Setting metrics and targets to address climate change effectively requires the audit committee to assess the assumptions used in cash flow projections that underpin recognition and measurement; the underlying assumptions used in the preparation of the financial statements; ensuring that climate change information in narrative reports is 'clear, balanced, and meaningful'. The board should be assessing the readiness of the company to make disclosures in line with reporting recommended by TCFD.[214]

Building on the TCFD framework, PwC urges audit committees to situate climate-related financial reporting within the broader mandate of sustainability, specifically, ESG risks and opportunities that could impact a company's ability to create long-term value.[215] Sustainability disclosures should include qualitative discussions and ESG metrics and key performance indicators that are material to the business operations, and disclosed information needs to be reliable and consistent.[216] PwC reminds audit committees that public disclosure of these data requires appropriate policies, processes, and controls around the development of disclosures to support the accuracy of the data.[217] It observes that as ESG reporting evolves and companies disclose more ESG metrics, the audit committee needs to ensure these metrics are prepared with the appropriate rigour for investor use and can hold up to regulatory scrutiny.[218]

Also building on the TCFD framework, Deloitte points to a number of other important considerations for audit committees:

o Modify cash flow forecasts to incorporate the anticipated timing, profile, and magnitude of the effect of climate change.

o Consider any restructuring or capital expenditure plans needed to address climate-related risks.

o If an asset is expected to be replaced due to climate-related factors by an asset that does not significantly change the manner of operations, but instead is a technological upgrade fulfilling the same function, then the expenditure on the replacement and resultant continuation of cash inflows should be included in a value-in-use calculation. Conversely, if the replacement asset enhances the economic output of the asset or cash-generating unit, the expenditure on the replacement and resultant continuation of cash inflows should not be included in a value-in-use calculation.

o Consider whether expected timing of the replacement of existing assets may be accelerated.

o When climate change is a significant factor in a value-in-use calculation, disclosure should provide an explanation of the key assumptions, but also of its forecast effects on the company's future cash flows. New contingencies may need to be disclosed for possible obligations, or due to existing contingencies previously considered remote becoming possible.[219]

Disclosures in the financial statements need to be consistent with statements and strategies outlined in the company's climate plan and other strategies.[220] KPMG observes that each climate risk that is disclosed should be described in its context as to why the risk is important or significant, and its potential impact on the entity's financial prospects; and disclosure should include any relevant associated analytical comments such as whether the risk is expected to increase or decrease in the foreseeable future and how these factors will be controlled or managed by the entity.[221]

4. DEALING WITH UNCERTAINTY IN FINANCIAL REPORTING

It is important that the board and its audit committee recognize that there is uncertainty in respect of climate financial impacts; however, the TCFD and the CSA recommend disclosure of material climate-related risks, even where there is some uncertainty in projections. The Bank of Canada observed that:

> Assessing the impacts of physical and transition risks of climate change on the financial system is one of the most urgent and prominent issues. However, uncertainties around the course of climate change itself, the breadth and complexity of the transmission channels, the direct and indirect impacts, and the need to consider, in aggregate, some combination of both physical and transition risks make it particularly challenging. Given the sensitivity of results to these underlying assumptions, hypothetical climate and transition scenarios can be used to explore the direction and broad scale of outcomes.[222]

Deloitte has summarized some of the uncertainty issues that audit committees may face and how they can address them:[223]

> There is significant uncertainty around how much the global

temperature will increase, what the impact of different climate change scenarios on a company's business might be, and how these factors may result in changes to cash flow projections or to the level of risk associated with achieving those cash flows. It is therefore necessary for companies to make assumptions about the impact of climate change when preparing cash flow projections that underpin measurement and recognition in the financial statements, including in the following areas:

o Cash flow forecasts for determining value-in-use to assess impairments of assets, cash-generating units, and goodwill.

o Forecasts of future availability of taxable profits in assessing recoverability of deferred tax assets.

o Going concern assessment over a period of at least twelve months from the date of signing the financial statements.

o Viability statement over a longer period, typically three to five years.

The assumptions should be consistent with:

o risk management, strategy, and business model disclosure;

o commitments made by the company to investors and other stakeholders; and

o commitments made by governments of jurisdictions in which the company operates, eg, the Paris Agreement or more specific commitments like the UK Government's commitment to 'net zero by 2050'.

In line with investor and regulatory demand for transparency, disclosures of assumptions made in the preparation of the financial statements should be clear, balanced, and meaningful.[224]

KPMG advises material climate-related assumptions and associated uncertainties should be disclosed even if there are no quantitative impacts on recognized balances.[225] The UK Financial Reporting Council (FRC), in an open letter to audit committee chairs in 2019, also addressed the issue of uncertainty:[226]

In times of uncertainty, investors and other stakeholders expect greater transparency of the risks to which companies are exposed and the actions they are taking to mitigate the impact of those uncertainties. The FRC expects companies to think beyond the period covered by their viability statement and identify those keys risks that challenge their business models in the medium to longer term and have a particular focus on environmental issues . . . companies should, where relevant, report on the effects of climate change on their business (both direct and indirect). Such reporting should cover how the Board has taken account of the resilience of the company's business model and its risks, uncertainties and viability in the immediate and longer term in light of climate change. It should also consider the impact on the financial statements, in particular in relation to asset valuation and impairment testing assumptions.[227]

Deloitte gives the following advice to audit committees on reporting impairment of non-financial assets:

The uncertainties in relation to climate change may result in changes to management's cash flow projections or to the level of risk associated with achieving those cash flows, in which case they form part of a value-in-use assessment. For instance:

- o Revenue streams and growth forecasts may need to change to reflect changing customer preferences, technology, and market trends.

- o Increased cost of resources and production, and costs of compliance with new policies or legislation may need to be factored in.

- o Availability of finance and net impact of availability and cost of insurance on cost of finance should be considered.[228]

All of these insights highlight that the board's development of a climate action plan is essential. The audit committee needs to support the board in developing and implementing a climate strategy based on its science-based financial analysis.

5. HOW THE WORLD ECONOMIC FORUM 2020 METRICS ALIGN WITH THE TCFD AND OTHER FRAMEWORKS

As noted earlier, in September 2020, the World Economic Forum, in cooperation with the four major global accounting firms, issued guidance on 'Stakeholder Capitalism Metrics'. The guidance can be used by boards to align their mainstream reporting on performance against ESG indicators, including climate change, and track their contributions towards the United Nations' Sustainable Development Goals on a consistent basis.[229] The World Economic Forum core metrics are primarily quantitative metrics for which information is already being reported by many firms or can be obtained with reasonable effort.[230] There are also expanded metrics that represent a more advanced way of measuring and communicating sustainable value creation. The core set of metrics is organized under four pillars, principles of governance, people, planet, and prosperity. It aligns with the TCFD framework, but has materiality considerations that encompass a broader set of stakeholders and a long-term consideration of sustainability of the planet. Only the pillar of 'planet' is discussed here.

Under the planet pillar, the goal is to protect the planet from degradation, including through sustainable consumption and production, sustainably managing the company's natural resources, and taking urgent action on climate change in order to support the needs of present and future generations.[231] The report acknowledges that challenges remain in the accurate quantification of Scope 3 emissions, but notes that companies across all major sectors of the economy already report on Scope 3 emissions, and, in the context of the transition to a low carbon economy, material Scope 3 emissions may have a significant bearing on a company's potential for long-term value creation.[232]

The World Economic Forum recommends disclosure of GHG emissions for all relevant GHG,[233] reporting in metric tonnes of carbon dioxide equivalent (tCO2e) GHG Protocol Scope 1 and Scope 2 emissions; and estimating and reporting material upstream and downstream (GHG Protocol Scope 3) emissions where appropriate.[234] The audit committee should be considering generally accepted industry-specific GHG efficiency ratios. Also, disclosure of GHG emissions metrics should allow for trend analysis, with the audit committee ensuring that the disclosures include a description of the methodologies used to calculate or estimate the metrics.[235]

As part of the planet pillar, the World Economic Forum recommends fully implementing the TCFD recommendations, including whether the board has set, or has committed to setting, GHG emissions targets in line with the Paris Agreement goals to limit global warming to well below 2°C above preindustrial levels, pursuing efforts to limit warming to 1.5°C, and goals to achieve net zero emissions before 2050.[236] It notes that the TCFD recommendations are already established as the primary framework for disclosure of information on the management of climate-related risks and opportunities in main annual filings, and it recommends that a key objective is to elevate disclosure of metrics relating to people, planet, prosperity, and principles of governance into main annual filings.[237] It observes that the TCFD framework provides a structure to help organizations develop a climate strategy and governance arrangements to mitigate risk and take action on opportunities.[238]

Another core metric recommended by the World Economic Forum, Deloitte, EY, KPMG and PwC is to report nature loss. It reports:

> Nature underpins our economies and societies. A 2020 report by the World Economic Forum and PwC concluded that $44 trillion of economic value generation – over half of the world's total GDP – is moderately or highly dependent on nature and the services it provides. The ongoing destruction of biodiversity worldwide and the consequent loss of nature's many benefits to people – including protection from floods and storms, regulation of climate and water resources, pollination of crops, as well as aesthetic enjoyment and spiritual enrichment – present material risks to businesses and a major threat to future living standards and overall human well-being. Reflecting the severity and global scale of the problem, "biosphere integrity" (specifically the rate of biodiversity loss) is among two of the nine planetary boundaries deemed to have been breached.[239]

The World Economic Forum thus recommends using land use and ecological sensitivity to report the number and area of sites owned, leased, or managed in or adjacent to protected areas and/or key biodiversity areas;[240] reporting water consumption and withdrawal in water-stressed areas, including, where material, megalitres of water withdrawn and/or consumed and the percentage of each in region with high or extremely high baseline water stress;[241] and estimating and reporting the same information for the full upstream and downstream value chain, where appropriate.[242]

The World Economic Forum encourages boards to consider the full set of recommended metrics and disclosures, and report on all metrics that are material or relevant to the organization. However, in cases where a specific metric is not material for a company's long-term value creation, a 'disclose or explain' approach would help ensure companies explain specific information omitted and the reasons for those omissions.[243] It recommends that the metrics reflect not only financial impacts, but pre-financial information that may not be strictly material in the short term, yet is material to society and the planet and therefore may become material to financial performance over the medium or longer term. The disclosure should capture the impacts of their operations on nature and society across the full value chain, including the monetary value of impacts.[244]

The World Economic Forum's overall message is that boards and audit committees have a significant opportunity to take a leading role in the development and execution of long-term business strategies – aimed at effective climate-change mitigation and adaptation and protection of the planet.

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[156] TCFD, The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities, Technical Supplement, (June 2017), at 4, https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Technical-Supplement-062917.pdf.

[157] *Ibid*.

[158] EY Center for Board Matters, note 148.

[159] TCFD Final Report, note 7 at 14.

[160] Deloitte, note 8 at 7.

[161] CSA Staff Notice 51-358, note 25.

[162] Deloitte, note 8 at 10.

[163] CSA Staff Notice 51-358, note 25.

[164] *Ibid*.

[165] *Ibid*.

[166] *Ibid* at 4.

[167] Part 2 of NI 52-109, note 40.

[168] CSA Staff Notice 51-354 Report on Climate change-related Disclosure Project (5 April 2018), at 5, CSA Staff Notice 51-354 Report on Climate change-related Disclosure Project - (gov.on.ca).

[169] *Ibid* at 5.

[170] *Ibid* at 6.

[171] *Ibid*.

[172] *Ibid* at 7.

[173] *Ibid* at 8.

[174] *Ibid*.

[175] *Ibid* at 9.

[176] *Ibid*.

[177] Task Force on Climate-related Financial Disclosures 2020 Status Report (28 October 2020), https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Status-Report.pdf at 2-4

[178] TCFD 'Implementation Guide', note 60 at 8.

[179] *Ibid* at 10.

[180] *Ibid*.

[181] TCFD Final Report, note 7 at 18.

[182] *Ibid*.

[183] *Ibid*.

[184] Deloitte, note 8 at 9.

[185] *Ibid*.

[186] *Ibid* at 7.

[187] EY Center for Board Matters, note 148.

[188] *Ibid*.

[189] TCFD Final Report, note 7 at 14.

[190] *Ibid*.

[191] EY Center for Board Matters, note 148.

[192] TCFD Annex, (June 2017) at 27, https://www.fsb-tcfd.org/wp-content/uploads/2017/12/FINAL-TCFD-Annex-Amended-121517.pdf (hereafter TCFD Annex).

[193] TCFD 'Implementation Guide', note 60 at 40.

[194] *Ibid* at 10.

[195] TCFD Annex, note 192 at 15-17.

[196] *Ibid*.

[197] *Ibid*.

[198] TCFD Guidance, https://www.fsb-tcfd.org/publications/.

[199] TCFD Annex, note 192.

[200] *Ibid* at 79-80. For example, Scope 3 emissions could include: 'the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (eg, transmission and distribution losses), outsourced activities, and waste disposal.' *Ibid*.

[201] *Ibid*.

[202] CPA Canada, 'A Primer for CPAs on Greenhouse Gas Emissions Management Systems' (August 2018), file:///C:/Users/sarra/Downloads/01718-RG-Primer-on-GHG-Emissions-Management-Systems-August-2018.pdf.

[203] CPA Canada, 'How Chartered Professional Accountants Can Help Organizations Adapt to Climate Change', March 2016, file:///C:/Users/sarra/Downloads/Climate-Change-Mitigation-Adaptation-Brief-3-How-Chartered-Professional-Accountants-Can-Help-Organizations-Adapt-February-2016.pdf.

[204] *Ibid*.

[205] *Ibid*.

[206] *Ibid*.

[207] TCFD Guidance, note 199.

[208] World Economic Forum, note 72 at 59.

[209] TCFD, 'The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities', https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Technical-Supplement-062917.pdf

[210] *Ibid* at 2.

[211] *Ibid* at 3.

[212] *Ibid* at 4.

[213] *Ibid*.

[214] *Ibid* at 3.

[215] PwC, Sustainability/ESG Reporting—Why Audit Committees Need to Pay Attention, https://www.pwc.com/us/en/governance-insights-center/publications/assets/pwc-sustainability-esg-reporting-why-audit-committees-need-to-pay-attention.pdf.

[216] *Ibid* at 2.

[217] *Ibid*.

[218] *Ibid*.

[219] *Ibid*.

[220] KPMG, note 50 at 5.

[221] *Ibid* at 20.

[222] Bank of Canada, note 4.

[223] Deloitte, note 8 at 7.

[224] *Ibid*.

[225] KPMG, note 50 at 5.

[226] UK FRC, note 66.

[227] *Ibid* at 2.

[228] Deloitte, note 8 at 7.

[229] World Economic Forum, note 72.

[230] *Ibid* at 6.

[231] *Ibid* at 12.

[232] *Ibid* at 56.

[233] Such as carbon dioxide, methane, nitrous oxide, and F-gases, *ibid* at 9.

[234] *Ibid* at 9, as recommended by TCFD, GRI and the GHG Protocol. The 'people' pillar urges companies to disclose information on diversity, dignity, and inclusion; the 'prosperity' pillar on employment and wealth generation, including employment, economic contribution, and financial investment contribution.

[235] TCFD Annex, note 192 at 27.

[236] *Ibid*.

[237] World Economic Forum, note 72 at 56.

[238] *Ibid* at 57.

[239] *Ibid* at 27.

[240] *Ibid*.

[241] *Ibid*, according to WRI Aqueduct water risk atlas tool.

[242] *Ibid*, in line with SASB.

[243] *Ibid* at 13-14.

[244] *Ibid* at 14. Other resources include: SASB Climate Risk Technical Bulletin https://library.sasb.org/climate-risk-technical-bulletin/; SASB Implementation Guide for Companies https://library.sasb.org/implementation-guide/; CDSB, 'Uncharted Waters: how can companies use financial accounting standards to deliver on the TCFD's recommendations?' http://cdsb.cdnf.net/sites/default/files/tcfdandfinancialaccountingrecommendationsv.1.pdf; Deloitte, 'Climate Change – Planet Earth does not have time for excuses!'; Deloitte Financial Reporting Brief August 2019, https://www2.deloitte.com/uk/en/pages/impact-report-2019/stories/climate-change.html.