CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

Climate Change Briefing

QUESTIONS FOR DIRECTORS TO ASK

Alan Willis • Sarah Keyes

CPA CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

Climate Change Briefing

QUESTIONS FOR DIRECTORS TO ASK

Alan Willis • Sarah Keyes

DISCLAIMER

This paper was prepared by the Chartered Professional Accountants of Canada (CPA Canada) as non-authoritative guidance.

CPA Canada and the authors do not accept any responsibility or liability that might occur directly or indirectly as a consequence of the use, application or reliance on this material.

Library and Archives Canada Cataloguing in Publication

Willis, Alan, author
Climate change briefing : questions for directors to ask / Alan Willis and Sarah Keyes. -- 2nd edition.

Revision of: Climate change briefing : questions for directors to ask / written by Julie Desjardins, Alan Willis. -- Toronto : Chartered Accountants of Canada, ©2009.
Includes bibliographical references.
ISBN 978-1-5254-0053-7 (PDF)

1. Climatic changes--Economic aspects--Canada. 2. Climatic changes--Risk assessment--Canada. 3. Industrial management--Environmental aspects--Canada. I. Keyes, Sarah (Accountant), author II. Canadian Institute of Chartered Accountants, issuing body III. Title.

HC79.E5W48 2017 658.4'083 C2017-901607-5

Preface

Chartered Professional Accountants of Canada (CPA Canada) is committed to improving corporate governance. The purpose of this Briefing is to help company directors better understand the business impacts and governance issues arising from climate change.

Climate change is a pressing global issue affecting all companies, public and private, with wide-ranging implications for shareholder value, strategy, risk management and financial performance. Business executives are assessing and acting on the strategic and risk management implications of climate change issues, and directors are giving them more attention in their oversight role.

This Briefing explores these issues and sets out questions that directors might ask about climate change. While we direct our discussion to company directors, this Briefing may also help management understand the board's and their own role in anticipating, assessing and managing the risks and opportunities that climate change can bring.

This is the second edition of a publication first written by Julie Desjardins and Alan Willis and published in 2009 by the Canadian Institute of Chartered Accountants. CPA Canada acknowledges the outstanding contribution of these authors to enhance understanding of the risks and opportunities of climate change for Canadian businesses and the role directors play in overseeing how companies manage climate change-related issues.

Tom Peddie, FCPA, FCA
Chair, Corporate Oversight and Governance

Authors
Alan Willis, CPA, CA
Sarah Keyes CPA, CA

The content in this publication was researched, developed and finalized in 2016.

Table of Contents

Executive Summary

Climate change is one of the biggest risks facing businesses, economies and societies around the world today, in terms of both likelihood and severity of potential impact. The physical effects of climate change are clearly evident, and these have implications for a business's strategy, competitiveness, risk management, reputation and resilience. Many businesses already feel the impact of climate change on operations, financial results and prospects for future value creation.

At the 21st session of the Conference of the Parties (COP21) meeting[1] in Paris in December 2015, 195 countries agreed to reduce greenhouse gas (GHG) emissions, adding momentum to global commitments to keep climate change in check. On Oct. 5, 2016, Canada formally ratified the Paris Agreement, along with the European Union (EU), India & Nepal, causing the Agreement to enter into force on Nov. 4, 2016. The Paris Agreement highlights the vital role of business and investors in driving progress toward meeting international goals.

As a mainstream business issue, climate change presents both opportunities and challenges for companies. Attention to issues related to climate change is inescapable in a prudent board's oversight of risk, strategy, financial performance and reporting. Directors need to understand the company's business and how climate change may re-shape it.

There are two broad categories of climate change issues:

1. **Adaptation issues** require management to take action to minimize and respond to the effects of climate change on the business. These actions may present strategic opportunities and competitive advantage for some companies.

1 For a summary of the conference and the Paris agreement, see: **http://newsroom.unfccc.int/unfccc-newsroom/finale-cop21**

2. **Mitigation issues** require management to take action to reduce GHG emissions attributable to a company's operations, products and services. Mitigation actions are often driven by government regulation, as well as by voluntary commitments that companies make to gain competitive advantage, save costs or respond to external stakeholder pressure. While mitigation may add expenses, it can also create opportunities for cost-saving and innovation.

The financial impact of adaptation and mitigation actions varies among companies, depending on their nature and circumstances. The impacts and severity of adaptation and mitigation also affect different industry sectors in different ways.

Canadian companies with international operations may be subject to mandated GHG reduction, reporting or carbon trading requirements in jurisdictions outside of Canada, such as the EU. Companies doing business in the United States are increasingly likely to be affected by GHG emissions regulations, including mandatory GHG reporting requirements, introduced by several US states and the US federal government.

Several Canadian provinces have already implemented climate change regulations, and following the Paris Agreement, the regulatory landscape will likely evolve provincially, federally and internationally. Although approaches will differ among jurisdictions, the objective of the regulations is to put a price on carbon.

For boards of directors, the bottom line is that there are several potential business impacts that they need to be aware of and anticipate. In particular, for example, climate change can affect:

- continuity of business operations and supply chain interruptions
- changes in demand for products and services
- access to and cost of capital
- access to and cost of insurance
- new capital expenditure considerations
- inter-jurisdictional operating complexity
- mergers, acquisitions and divestitures

This Briefing explores the impacts of climate change and their business implications in more detail. It also explores related laws and regulations and the growing interest that investors and other providers of financial capital are showing in companies' climate change responses.

Throughout this document are questions for directors to ask about how climate change is affecting the company, its business and its outlook. The complete list of these questions is as follows.

Summary of Questions for Directors to Ask

Climate Change—A Business Issue

Q1: How are climate change issues likely to affect the company's business, operations and value creation in the foreseeable future?

Q2: What are the magnitude, sources and nature of the company's GHG emissions?

Risks and Risk Management

Q3: What is the strategy for responding to physical risks arising from climate change?

Q4: What is the likelihood and impact of changes in demand for the company's products and services due to climate change, and their implications for its business model?

Q5: What are the effects of existing or potential future government regulations in key operating jurisdictions?

Q6: What are the reputational risks related to the company's approach to dealing with and communicating about climate change issues?

Q7: What are the legal or other actions, such as shareholder proposals and resolutions, that exist or may exist related to the company's response to climate change?

Strategy

Q8: In terms of risks and opportunities, what is the potential impact of climate change adaptation and mitigation on the company's business model and strategic plans?

Q9: What are the company's strengths, weaknesses, opportunities and threats that influence strategic responses to climate change issues?

Q10: What innovation- and technology-related opportunities have been investigated to reduce GHG emissions or adapt to climate change?

Q11: How does management assess the difficulty of meeting GHG emission reduction targets, and how is progress monitored and reported?

Q12: How could climate change issues affect capital investment, asset management and merger, acquisition and divestiture plans?

Financial Impact

Q13: How has the current and potential future impact of climate change issues (including carbon pricing) on revenues, expenditures and cash flows been determined?

Q14: How has the impact that climate change issues have and could have on the company's financial condition, liquidity and long-term value creation been determined?

Information and Reporting

Q15: How is reliable and timely GHG emission and other climate change information gathered for management decision-making and disclosures to capital markets and governments?

Q16: Do the company's disclosures fairly present the information that investors need to assess the impact of climate change on the company's performance and future prospects?

Q17: How is materiality of climate change issues assessed, and are disclosures made in the financial statements, the MD&A and (if applicable) the AIF consistent with this assessment?

Q18: How does management ensure that information reported on corporate websites or in voluntary reports is consistent with that provided in government filings and continuous disclosure filings with securities regulators?

Corporate Governance

Q19: Do the board's structure and the knowledge and skillsets of board members enable appropriate oversight of climate change issues?

Q20: How does the company's executive compensation system support the integration of climate change issues into organizational decision-making and performance?

Climate Change—A Business Issue

Climate change, already a significant challenge for many companies, is a principal risk facing businesses, economies and societies around the world today, in terms of both likelihood and severity of potential impact. The World Economic Forum's (WEF) *Global Risk Report 2016*[2] says, "[A]fter its presence in the top five most impactful risks for the past three years, the failure of climate change mitigation and adaptation has risen to the top and is perceived in 2016 as the most impactful risk for the years to come."

The WEF defines this risk as failure by governments and businesses to enforce or enact effective measures to mitigate climate change, protect populations and help businesses affected by climate change to adapt. Climate change is connected with the risks of global water and food crises. Also near the top of the WEF's list is the risk of extreme weather events causing major property, infrastructure and environmental damage—as well as human loss.

The Paris Agreement on Climate Change

"The adoption of the Paris Agreement on 12 December 2015 by 195 governments is a major turning point in the global fight against climate change … In the coming months and years, the impact of the Paris Agreement will be felt in board rooms, banks and stock exchanges across the world …

One of the innovations that emerged from Paris was the official recognition of the role played by business, investors, cities and provinces in driving and delivering climate action."

—WEF Global Risk Report 2016[3]

2 www3.weforum.org/docs/Media/TheGlobalRisksReport2016.pdf

3 See note 2.

Q1. How are climate change issues likely to affect the company's business, operations and value creation in the foreseeable future?

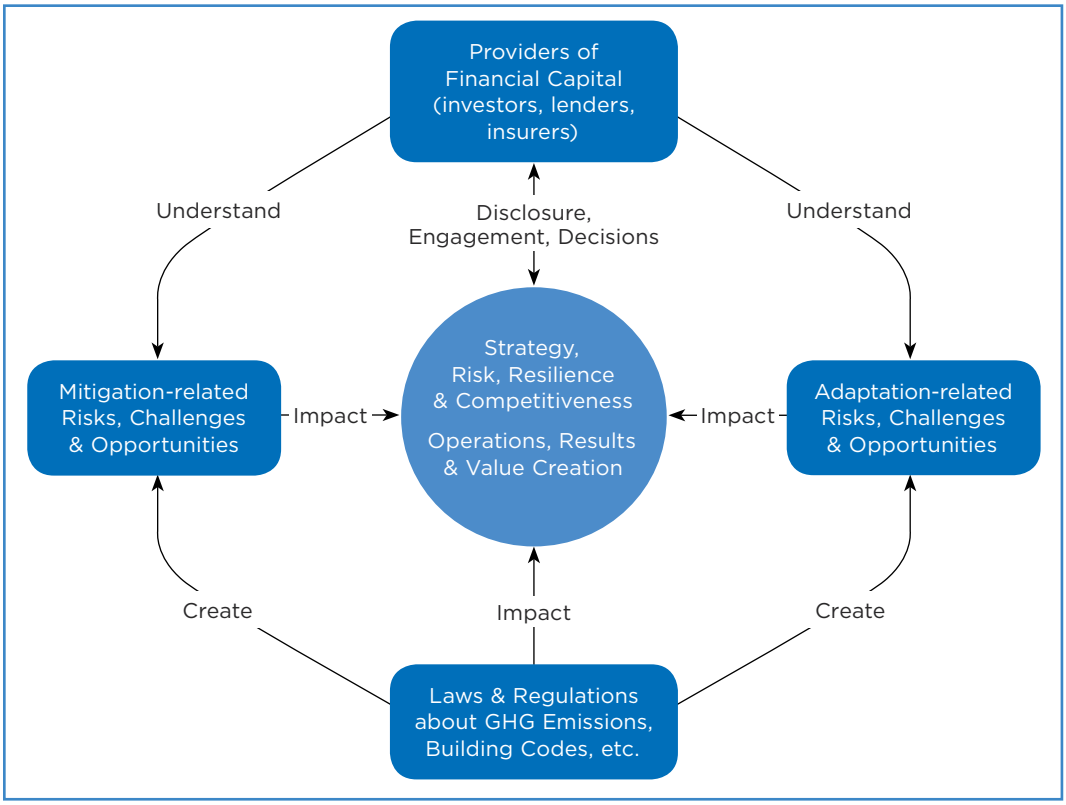
While climate change is intrinsically environmental, it has wide-ranging business, economic and social effects. For businesses, climate change can be inextricably linked to corporate strategy, risk, opportunity, financial performance and shareholder value. Many companies are already experiencing its impacts, which affect different sectors in different ways and to different degrees.[4]

A company's management assesses and acts on the strategic and risk management implications of climate change for business operations, financial performance and future prospects. The company's effectiveness in recognizing and addressing climate change issues is likely fundamental to achieving long-term business goals and value creation.

External stakeholder expectations and concerns about adverse effects on a company's brand, reputation and competitiveness can also spur senior management to address climate change risks. Investors, particularly institutional ones, recognize that a company's response to climate change (or lack thereof) can affect its long-term financial performance and prospects for value creation. Investor interest in and engagement with boards and management on these matters is rising significantly.

4 Including financial institutions (banks, insurance companies and pension funds)—see report by Global Risk Institute, July 2016 **http://globalriskinstitute.org/publications/climate-change-why-financial-institutions-should-take-note**

The diagram below shows the potential impacts climate change can have on a company:



This Briefing discusses the business implications of climate change, as well as the impacts of relevant laws and regulations and the growing interest that investors and other providers of financial capital are showing in companies' climate change responses. Attention to climate change issues should be integral to a prudent board's oversight of strategy, risk, financial performance and reliable, timely reporting.

Q2. What are the magnitude, sources and nature of the company's GHG emissions?

The Paris meeting[5] of the United Nations Framework Convention on Climate Change in December 2015 reinforced the importance of urgent action by the private sector as well as governments in achieving any country's emissions reduction commitments. Business and investor coalitions worldwide support the agreement's implementation. It reduces uncertainty about the global path forward to address climate change and includes the increased likelihood of "a

5 See note 1.

price on carbon."[6] The agreement has been called "a watershed moment for the global economy," causing companies to fundamentally re-examine their long-term strategy to ensure competitive advantage in restructured world markets.[7]

In Canada, several provinces have already introduced various types of regulations concerning companies' GHG emissions (see "Government regulations" on page 15). These regulations put a price on carbon, either through a direct tax or a cap-and-trade system. Further, the federal government announced its commitment to establish a national carbon price across all provinces and territories, starting at a minimum of $10 a tonne in 2018, rising by $10 a tonne each year to $50 a tonne by 2022.[8] In some sectors, current and anticipated government regulations for reducing GHG emissions are heightening the need to address climate change.

In a rising number of sectors, such as renewable energy and energy efficiency, responding to climate change can also represent a source of opportunity. Companies of all types and sizes are working to confront climate change challenges with innovative solutions that increase competitiveness and build resilience.

> "Climate change is one of the most complex challenges facing business and governments. At Hewlett Packard Enterprise, we believe that by uniting people, ideas and technology, we can help solve many of the world's challenges, including climate change. The way we respond will have a profound and permanent impact on the health and prosperity of future generations."
>
> *—Meg Whitman, President & CEO, Hewlett Packard Enterprise (in CDP Global Climate Change Report 2015)*

6 See, for example, **www.unglobalcompact.org/take-action/action/cop21-business-action**

7 **www.wemeanbusinesscoalition.org/sites/default/files/The-Paris-Agreement_Z-Card_0.pdf**

8 **www.cbc.ca/news/politics/canada-trudeau-climate-change-1.3788825**

Implications for Directors' Oversight

As a mainstream business issue, climate change presents important opportunities and challenges for companies and requires ongoing attention by directors in their oversight of risk, strategy, resource allocation, financial performance and reporting.

In carrying out their oversight role, directors need a thorough knowledge and understanding of the company's business and how climate change may affect it. In particular, directors need to enhance their understanding of:

- business issues arising from climate change, including relevance and significance to the core operations and value chain
- how climate change issues influence a company's risk management and strategy and can create opportunities
- current and potential future impacts on the company's financial performance
- the various ways in which GHG emissions regulations can place a price on carbon and the associated financial implications
- external communications needed to inform investors and other stakeholders about the company's strategy to address climate change issues in the short and long terms
- the adequacy of the company's information systems and related internal controls for managing and communicating on climate change issues

Boards should review and consider the suitability of their governance structure to address climate change. The alignment of executive compensation plans with the achievement of long-term strategic priorities, as well as achievement of shorter-term climate change mitigation and adaptation objectives, all need to be considered by the board.

> "Generating sustainable returns over time requires a sharper focus not only on governance but also on environmental and social factors facing companies today. These issues offer both risks and opportunities but for too long, companies have not considered them core to their business—even when the world's political leaders are increasingly focused on them, as demonstrated by the Paris Climate Accord. Over the long term, environmental, social and governance issues—ranging from climate change to diversity to board effectiveness—have real and quantifiable financial impacts."
>
> *— Larry Fink, Blackrock, Letter to CEOs, February 2016*

Adaptation and Mitigation

Whether a company is concerned with climate change mitigation, adaptation or both depends on the unique characteristics and circumstances of the organization, including its sector and value chain. Climate change issues affect some industries and companies more than others.

Climate Change Adaptation

Adaptation issues require management to take action to minimize and respond to the effects of climate change on the business. These issues may present strategic opportunities and competitive advantage for some companies.

The operations of many companies may be affected by climate change, whether or not they emit large amounts of GHGs. Adaptation issues facing a company or industry may be readily apparent, emerge over time, or accumulate. In some cases, climate change can affect an entire industry, creating a series of interlinked risks and opportunities for all companies operating in that sector.

Examples—Climate Change Impacts on Selected Sectors

Sector	Possible Impacts
Agriculture	• seeding dates • crop variety choices
Forestry	• spread of pine beetle epidemic due to lack of continuous cold winters
Insurance	• rise in number and severity of natural disasters and extreme weather events
Shipping	• opening of previously ice-bound northern sea routes

Examples—Climate Change Impacts on Selected Sectors	
Sector	**Possible Impacts**
Utilities, telecommunications and real estate	• exposure of facilities to increased severe weather events
Oil and gas	• exposure of offshore facilities to increased severe weather events • water scarcity
Mining	• impact of melting of permafrost on access roads and on seepage from tailings ponds
Recreation and tourism	• impact on ski resorts, recreational fishing • new northern tourism opportunities
Fishing	• sensitivity of salmon to temperature change in spawning areas

Climate Change Mitigation

Mitigation issues require management to take action to reduce GHG emissions[9] attributable to a company's operations, products and services. Companies may be prompted to reduce GHGs by regulatory requirements (see "Government regulations" below) or voluntarily in response to demands from environmental non-governmental organizations, customers, supply chains, institutional investors and other stakeholders.

Canadian business sectors that produce significant direct GHG emissions include:

- oil and gas production, transmission and distribution
- coal, oil and gas electricity generation
- building construction and operation
- transportation
- agriculture
- mining and manufacturing, such as chemicals, fertilizers, pulp and paper, smelting and refining, including aluminum, steel, cement, lime and glass

In other sectors, such as consumer goods and information technology, GHG emissions may be produced indirectly through their supply chains.

9 See Appendix: Key Facts About Greenhouse Gas Emissions.

Reducing GHG emissions often involves upfront costs, such as retrofitting plant and equipment or changing the logistics of delivery systems. These costs may be offset by cost savings from improving energy efficiency or generating tradable carbon permits.

Reducing GHG emissions can also open opportunities for companies to develop and use new technologies, products and services. These activities can produce innovative solutions that can be sold to other companies, creating new revenue streams. Swift action by a company to reduce GHG emissions from production and distribution processes can give leaders a competitive advantage over laggards.

Government Regulations

Following the adoption of the Paris Agreement by 195 countries in December 2015, the regulatory landscape is rapidly evolving, both domestically and internationally. In June 2016, Canada, the United States and Mexico announced a North American Climate, Clean Energy and Environment Partnership. Under this agreement, they set targets for reducing methane emissions by 40-45 per cent by 2025 and to generate 50 per cent of their energy from renewable sources by 2025.[10] On Oct. 3, 2016, Canada's federal government announced a national carbon price across all provinces and territories, starting at a minimum of $10 a tonne in 2018, rising by $10 each year to $50 a tonne by 2022.[11] On Oct. 5, 2016, Canada formally ratified the Paris agreement, along with the EU, causing the agreement to enter into force on Nov. 4, 2016, as the required threshold of 55 countries representing 55 per cent of global emissions had been passed.[12] On Oct. 15, 2016, 197 countries reached a legally binding global agreement to reduce hydrofluorocarbon (HFC) emissions.[13]

Such political moves can have immediate and long-term implications for companies. Companies with international operations may be subject to mandated GHG reduction, reporting or carbon trading requirements in other jurisdictions. For example, companies doing business in the United States are increasingly likely to be affected by state and federal GHG emissions regulations, including mandatory reporting requirements. It is important for directors to stay aware of evolving climate change policies and regulations in the jurisdictions where the company operates.

10 http://pm.gc.ca/eng/news/2016/06/29/leaders-statement-north-american-climate-clean-energy-and-environment-partnership

11 See note 7.

12 http://unfccc.int/paris_agreement/items/9444.php

13 www.cbc.ca/news/world/hydrofluorocarbons-agreement-1.3806786

Potential Business Impacts

The costs of managing climate change risk and capitalizing on opportunities may cause companies to defer action, especially if they face financial difficulties, challenging market conditions or fluctuating foreign exchange rates. For some companies and industries, addressing the business impacts of climate change may be unavoidable, even in troubled times. Climate change can affect:

- **Continuity of business operations:** Extreme weather events can cause operational interruptions and make key inputs, such as energy or parts from suppliers, unavailable. Mitigating these risks may require modifications to property, plant or equipment or relocation of facilities.
- **Changes in demand for products and services:** Changing consumer preferences, supply chain pressures or technological developments driven by climate change opportunities or challenges may change the level and timing of demand for a company's products and services.
- **Access to capital:** Institutional and private investors, lenders and debt rating agencies are increasingly interested in the financial consequences of current and future climate change impacts, including compliance with regulatory requirements. These stakeholders are increasingly aware of companies and industries with high exposure to climate change risks, and they are engaging with management and boards about how their companies assess and respond to climate change issues. Investors are also collaborating to explore their role and responsibilities in addressing global and domestic climate change issues and implementing the Paris agreement.
- **Access to insurance:** The impacts of climate change are likely to affect the affordability and availability of insurance.[14] New climate change-related insurance products are being introduced. Insurers are excluding climate change risks in their policies and encouraging their customers to evaluate these risks.[15]
- **New capital expenditure considerations:** Some capital expenditures may become more financially viable due to climate change as other capital projects become less attractive. Concerns about future commodity demand or GHGs from fossil fuel extraction, transmission and use may alter the economics of proposals to build facilities and pipelines. The ability to trade

14 For example, the frequency and severity of extreme weather events may affect the cost of insuring oil rigs.

15 www.rmc-agr.com/potential-effects-of-climate-change-on-liability-insurance

emissions reduction credits adds a new dimension to capital expenditure decision-making, especially in the oil and gas sector, affecting hurdle rates and changing the relative attractiveness of capital investments.

- **Inter-jurisdictional operating complexity:** Companies that operate in multiple jurisdictions may have to deal with a variety of climate change regulations and emissions trading systems, each with different rules, risks and opportunities. This complicates regulatory compliance and its oversight.
- **Decisions about mergers, acquisitions and divestitures:** Climate change risk, opportunity and impacts on valuation are introducing new layers of complexity to mergers, acquisitions and divestitures, driving deals forward in some cases and discouraging them in others.

Risks and Risk Management

As leading sources of risk facing companies, societies and economies today, climate change and extreme weather events comprise principal business risks that should be subject to board oversight. Directors are increasingly focused on ensuring climate change-related risks are appropriately included within the scope of existing enterprise risk management systems.

> Climate risk is ubiquitous. SASB research demonstrates that 72 out of 79 Sustainable Industry Classification System (SICS™) industries are significantly affected in some way by climate risk. This equates to $27.5 trillion, or 93 per cent of United States equities by market capitalization. This represents a systematic (sic) risk …
>
> *— SASB Climate Risk Technical Bulletin # TB001 - 10182016*[16]

General Categories of Risks

Climate change risks may be viewed as falling into five categories: physical, business model, regulatory, reputational and litigation.

Physical Risks

Q3. What is the strategy for responding to physical risks arising from climate change?

A company's operations and its supply and distribution chains can be at risk due to changing weather patterns, more frequent extreme weather events and changes in air and ocean temperature, sea level and water availability.[17]

16 www.prnewswire.com/news-releases/sasb-publishes-technical-bulletin-on-climate-risk-300347452.html

17 The chart on pages 13–14 offers examples of how physical risks might affect certain sectors.

Risks Related to Business Model

Q4. What is the likelihood and impact of changes in demand for the company's products and services due to climate change, and their implications for its business model?

Climate change may fundamentally change market or customer demand for a company's products or services, and possibly the timing of when demand occurs. Such changes may be caused by shifts in consumer preferences, such as for "green" (i.e., low GHG) products, or by new technologies in the market that decrease existing demand. This in turn may call for re-assessment of the company's business model.

For example, companies in the automotive or oil and gas sectors may face declining demand over the longer term for products that are being replaced by new technologies or innovative new products. Transition to a green or low carbon economy would likely contribute to such shifts. Changes in seasonal weather patterns—a physical risk noted above—may shift the timing of customer demand for products and services. While such shifts are not necessarily negative, companies in affected sectors need to monitor and adapt to them as necessary.

Other companies and industries whose products and services reduce GHG emissions or combat climate change may see customer demand increase.

Regulatory Risks

Q5. What are the effects of existing or potential future government regulations in key operating jurisdictions?

Companies face an uncertain, changing and fragmented regulatory environment, with different jurisdictions introducing different approaches and regulations to address climate change. This increases operating complexity and associated regulatory compliance costs.

Regulations may set GHG emissions limits, trading systems and instruments such as carbon taxes, energy and fuel efficiency standards, building codes and environmental permits.

Reputational Risks

Q6. What are the reputational risks related to the company's approach to dealing with and communicating about climate change issues?

A company's perceived commitment to addressing climate change issues can positively or negatively affect intangibles, such as brand value, consumer confidence, employee loyalty, timely regulatory approval of projects and social license to operate.

As the impacts of climate change become more apparent, companies responsible for significant GHG emissions in production or use of their products or services may face increasing reputational challenges, including campaigns by environmental non-governmental organizations, activist investors and others.

Mainstream institutional investors (e.g., pension funds) are engaging with the boards and management of companies in their portfolios on climate change issues. Also on the rise are shareholder resolutions proposed by mainstream institutional investors and activist investors about climate change risk management and disclosures and the provision of advice by proxy advisors on how to vote on such resolutions—trends likely to continue in Canada and elsewhere.

In its 2016 Management Proxy Circular, Suncor Energy indicated it would support a shareholder resolution filed by NEI Investments calling for ongoing reporting of how it is assessing, and ensuring, long-term corporate resilience in a future low-carbon economy.[18]

18 http://sustainability.suncor.com/2016/pdf/Suncor-2016-English-Management-Proxy-Circular.pdf, see Schedule A.

Litigation Risks

Q7. What are the legal or other actions, such as shareholder proposals and resolutions, that exist or may exist related to the company's response to climate change?

Historically, litigation against companies related to climate change has been limited. This could change over time as awareness rises about global threats related to climate change on communities and investor interests.

In November 2015, the New York State Attorney General began "an investigation of Exxon Mobil to determine whether the company lied to the public about the risks of **climate change** or to investors about how such risks might hurt the oil business."[19]

In November 2016, a class action was brought against Exxon Mobil in the US alleging that investors were misled by misreporting of risks concerning the valuation of its oil reserves.[20] Earlier, in September, 2016, the SEC had launched an investigation into the company's valuation of its oil reserves.[21]

Overseeing Risk Management

Directors need to assess whether the company's risk management strategies are adequate and appropriate based on the risks identified and the company's risk tolerance.

According to CPA Canada's *A Framework for Board Oversight of Enterprise Risk Management*, "The risk management system should allow management to bring to the board's attention the company's material risks and assist the board to understand and evaluate how these risks interrelate, how they may affect the company, and how these risks are being managed."[22]

19 www.nytimes.com/2015/11/06/science/exxon-mobil-under-investigation-in-new-york-over-climate-statements.html?_r=0

20 https://globenewswire.com/news-release/2016/11/17/891034/0/en/Lawsuit-for-Investors-in-Exxon-Mobil-Corporation-NYSE-XOM-shares-announced-by-Shareholders-Foundation.html

21 www.reuters.com/article/us-exxon-mobil-probe-sec-idUSKCN11Q2EC

22 www.cpacanada.ca/en/business-and-accounting-resources/strategy-risk-and-governance/enterprise-risk-management/publications/a-practical-approach-to-board-risk-oversight

The publication highlights the board's need for adequate, up-to-date appreciation of the nature and sources of risks faced by the company. This includes understanding interdependencies between risks and how events or conditions occurring simultaneously can further increase the impacts of these risks. Directors need to ensure that business risks are not ignored because they are considered as unlikely to occur. Collectively, boards need to have the right blend of business and industry knowledge to assess the likelihood and potential impact of climate change-related risks—as emphasized in "Corporate Governance" section in this Briefing.

Strategy

Q8. In terms of risks and opportunities, what is the potential impact of climate change adaptation and mitigation on the company's business model and strategic plans?

Climate change requires companies to position themselves for success in a low-carbon economy. As the board is ultimately responsible for the company's long-term direction, it needs to ensure adequate consideration of climate issues in its oversight of the business planning process and of major decisions about business strategy. This may involve reassessing strategies to address climate change risks and positioning the business to seize opportunities for competitive advantage. Increasingly, companies use "shadow pricing" of carbon and scenario planning when evaluating the potential impacts of climate change on business strategy. Responsible oversight requires the board's strategic assessment to occur as risks and opportunities emerge, rather than as part of an annual review.

Q9. What are the company's strengths, weaknesses, opportunities and threats that influence strategic responses to climate change issues?

As discussed in CPA Canada's *20 Questions Boards Should Ask about Strategy*, "While boards typically focus on the overall vision and corporate strategy, important strategic issues also may exist at the level of business unit strategy and even functional strategies. For example, decisions on product strategies and manufacturing strategies can expose the company to significant risks and so the board should understand the underlying issues."[23]

23 www.cpacanada.ca/en/business-and-accounting-resources/strategy-risk-and-governance/strategy-development-and-implementation/publications/20-questions-on-corporate-strategy-for-directors

Companies' climate change strategies may also affect intangibles, such as brand value, reputation, social license to operate, and ability to attract and retain employees. It is important for directors to consider the company's strengths, weaknesses, opportunities and threats across all aspects of the business, including its supply chain.

Q10. What innovation- and technology-related opportunities have been investigated to reduce GHG emissions or adapt to climate change?

In response to climate change issues, companies are increasingly designing products, developing production processes, establishing new supply chains and creating technologies for a low-carbon future. Some companies may need to reconsider whether their current business model will continue to create value in the long term, especially where they anticipate shifts in market demand or new technologies that affect their core business. Boards may also ask about the extent to which management considered not only risk management and GHG reduction strategies but also innovation- and technology-related opportunities.

Q11. How does management assess the difficulty of meeting GHG emission reduction targets, and how is progress monitored and reported?

As previously noted, Canada's federal government has committed to a national carbon price and several of the country's provinces have already implemented or are planning to implement a carbon price. Federally, all facilities emitting annually more than a stated level of GHGs have to submit annual reports on their emissions to Environment Canada.

With increasing regulation federally and provincially, Canadian companies need to understand current GHG emissions and, in some cases, track and monitor progress towards targets over time. In overseeing strategy, boards might ask about the basis used by management to set GHG emissions reduction targets. It is important for directors to consider GHG emission reduction targets as part of organizational strategy, regulatory compliance and reporting.

Q12. How could climate change issues affect capital investment, asset management and merger, acquisition and divestiture plans?

For companies with longer operating or capital investment cycles (e.g., automotive industry, oil and gas, utilities, real estate), understanding the impact of structural changes in capital markets arising from climate change issues is critical. The use of new funding instruments, such as green bonds[24], may need consideration. In making long-term investments, companies must consider how climate change adaptation and mitigation issues affect long-term capital allocation and budgeting. Further, economic factors related to climate change may affect the relative attractiveness of a potential merger, acquisition or divestiture. Directors should understand how climate change might influence these types of business decisions.

24 Climate bonds, also known as green bonds, are a relatively new but growing asset class. They may be issued by governments, banks or companies in order to raise funds for climate change mitigation or adaptation related projects or programs.

Financial Impact

Q13. How has the current and potential future impact of climate change issues (including carbon pricing) on revenues, expenditures and cash flows been determined?

Q14. How has the impact that climate change issues have and could have on the company's financial condition, liquidity and long-term value creation been determined?

How might climate change impact the company's current finances and its future prospects, liquidity and long-term value creation? Examples of possible impacts on revenues and costs are set out in the table below.

Climate Change—Examples of Potential Impacts	
Factors Affecting Revenue	**Factors Affecting Costs**
• changes in consumer demand for goods and services due to perceptions about the company's GHG emissions • sales or licenses of innovative low-carbon technologies • speed of obtaining regulatory approvals • sales of emissions allowances or credits • proceeds from issuing green bonds • changes from climate change-driven corporate restructurings • the possibility that assets (e.g., oil and gas reserves) may no longer generate revenue • creation of new markets for low-carbon products and services	• the need to retrofit property, plant and equipment to reduce GHG emissions • research and development to design more carbon-efficient operations and processes • purchases and implementation of information systems to measure and record GHG emissions • increased or new insurance coverage • purchases of emission allowances or credits to meet regulatory requirements • penalties for failure to meet government emission targets • costs of rebuilding facilities affected by extreme weather events • investments in productive capacity that embodies new energy-efficient technologies • investments in projects to generate offset credits • financing costs related to the above expenditures

Information and Reporting

Oversight of Information Systems and Internal Controls

Q15. How is reliable, timely GHG emission and other climate change information gathered for management decision-making and disclosures to capital markets and governments?

Directors need to be satisfied that management has implemented systems, procedures and controls to gather and record reliable and timely climate change-related information for management analysis and internal decision-making, and external disclosure to investors, governments and other stakeholders.

Appropriate, reliable information systems and controls are necessary for continuous disclosure filings, government filings and voluntary reporting, as well as internal reporting to senior and operational management.

Establishing data collection and reporting systems, including associated controls, requires management commitment and dedicated resources.

Oversight of External Reporting—Mandatory versus Voluntary

Directors need to be aware of specific issues to consider when companies report externally on climate change matters, in both mandatory and voluntary disclosures.

Mandatory Reporting

There are two main categories of mandatory reporting:

1. continuous disclosure reporting for publicly traded companies
2. required filings under government climate change regulations

Q16. Do the company's disclosures fairly present the information that investors need to assess the impact of climate change on the company's performance and future prospects?

Canadian securities regulations require public companies to disclose information that would be material to investor decision-making, including material environmental matters. While some public companies choose to provide climate change-related disclosures in voluntary reports or on their company websites, material information must be disclosed on a timely basis in securities filings.

In 2010, the Canadian Securities Administrators (CSA) published guidance[25] for reporting issuers on the environmental disclosure requirements for financial statements, MD&As and Annual Information Forms (AIF). This guidance focuses on the five major categories of risks (see the "Risk and Risk Management" section in the Briefing) and includes a section on corporate governance. While this guidance is broadly focused on environmental matters, it encompasses consideration of climate change issues.

The CSA's guidance explains the roles and responsibilities of audit committees and boards for oversight of continuous disclosure filings, including climate-related disclosures, and underlying controls and procedures. It also summarizes the relevant CSA National Instruments regarding review, approval and CEO/CFO certifications of these filings.

25 CSA Staff Notice 51-333 Environmental Reporting Guidance, 2010.

The Governor of the Bank of England, Mark Carney, speaking to Lloyds of London in September 2015, revealed his idea for the Financial Stability Board (FSB) to establish a climate disclosure task force. The task force would aim to create a single global standard for companies to report information to investors about climate change footprint, risks and strategies.[26]

At the Paris COP21 meeting, the FSB announced the formation of the industry-led task force on climate-related financial disclosures (TCFD), chaired by Michael Bloomberg. The TCFD's goal is to "develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to lenders, insurers, investors and other stakeholders."[27]

Carney said, "The FSB is asking the [TCFD] to make recommendations for consistent company disclosures that will help financial market participants understand their climate related risks. Access to high quality financial information will allow market participants and policy makers to understand and better manage those risks, which are likely to grow with time."[28]

Regarding information reported in continuous disclosure filings, directors should know that:

- carbon taxes, regulatory emissions reduction targets/caps and emissions trading create transactions and obligations that need to be recognized and disclosed in financial statements
- mainstream and private institutional investors are increasingly seeking additional disclosures about climate change matters in mandatory and voluntary reports
- the United States Securities and Exchange Commission (SEC) issued an interpretive release about climate change disclosures required in the MD&A and other parts of form 10K (20F for foreign issuers) in February 2010
- directors of reporting issuers, as well as certifying officers (i.e., CEOs and CFOs) can face civil liability lawsuits for misrepresentations in securities filings

26 www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx

27 www.fsb.org/2015/12/fsb-to-establish-task-force-on-climate-related-financial-disclosures

28 www.youtube.com/watch?v=JAqfg8JwASg

CPA Canada's *Building a Better MD&A: Climate Change Disclosures*[29] offers more information about continuous disclosure filings.

Q17. How is materiality of climate change issues assessed, and are disclosures made in the financial statements, the MD&A and (if applicable) the AIF consistent with this assessment?

In deciding what information about climate change risks and impacts should be disclosed, the determination of materiality is important. Directors should satisfy themselves that management's process for determining materiality is sound and supportable. Boards should question the inclusion of generic boilerplate disclosures that provide no company-specific information useful to investors, especially if there are material risks and impacts that should be disclosed.

In some sectors, institutional investors are engaging with boards and management on the adequacy of climate change-related disclosures, which sometimes become the focus of shareholder proposals and resolutions (see "Reputational risks" section in this Briefing).

In 2011, the independent United States SASB was created to develop recommendations (termed "standards" by SASB) for disclosures about material environmental, social and governance matters that SEC registrants should provide in 10K filings.[30] Following these recommendations is not mandatory, but they may help companies decide what climate-change-related matters are material and should be disclosed in the MD&A.

Some of the world's stock exchanges have issued guidance and requirements for listed companies about environmental (and social) disclosures, including climate change disclosures. Together with the New York Stock Exchange and many other exchanges, the TMX Group is a member of the United Nations' Sustainable Stock Exchanges Initiative.[31] In 2014, the TMX Group's Toronto Stock Exchange (TSX) issued a primer,[32] developed jointly with CPA Canada, that summarizes disclosures expected from TSX-listed companies under existing CSA regulations and staff notices.

29 www.cpacanada.ca/en/business-and-accounting-resources/financial-and-non-financial-reporting/mdanda-and-other-financial-reporting/publications/climate-change-disclosures-in-the-mda

30 www.sasb.org

31 www.sseinitiative.org

32 See "Where to find more information." (at end of this Briefing)

Under the second type of mandatory reporting, certain Canadian businesses must file GHG emissions information with Canadian provincial and/or federal governments. Directors should assess whether adequate systems, processes and controls are in place to deliver timely and reliable information for these filings.

Companies with subsidiaries or operations in Europe or the U.K. may be subject to mandatory GHG emissions or other climate change disclosure requirements. In these cases, boards or audit committees may need to ask about legal and regulatory requirements related to climate change reporting to determine the appropriate degree of oversight.

Voluntary Reporting

Q18. How does management ensure that information reported on corporate websites or in voluntary reports is consistent with that reported in government filings and continuous disclosure filings with securities regulators?

Many companies volunteer information beyond what is required by laws or regulations. Climate change information may be reported voluntarily:

- in annual reports (i.e. outside the financial statements and MD&A)
- in responses to surveys such as the CDP[33]
- in separate corporate sustainability and climate change reports
- on corporate websites

In these cases, directors need to satisfy themselves the information in voluntary reports is:

- consistent with information filed in mandatory reports
- disclosed also in continuous disclosure filings on a timely basis if material to investors
- reliable and compliant with applicable CSA requirements about forward-looking information

33 CDP is a not-for-profit organization that runs the global voluntary disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. See **www.cdp.net**

Corporate Governance

Q19. Do the board's structure and the knowledge and skillsets of board members enable appropriate oversight of climate change issues?

The board's structure and expertise in overseeing the management and reporting of climate change issues are two important aspects of corporate governance. Institutional investors are increasingly interested in evaluating, through company disclosures and direct engagement, board structure and competence for the oversight of company strategy and performance related to climate change issues.

A variety of board structures are used to oversee climate change issues. Direct oversight of climate change issues may be the responsibility of the board as a whole, or it may be delegated to a committee of the board. Some boards assign primary responsibility to an enterprise risk management committee, which can be practical as long as the board can ensure that climate change risks and adaptation and mitigation strategies are appropriately integrated with the company's strategy and resource allocation.

Effective oversight of this area calls for boards to have a level of knowledge, skills and experience about climate change as a business issue. When making investment decisions, at least one major pension plan looks specifically for boards to be climate competent. Boards should assess the knowledge, skills and experience they need individually and collectively, depending on how responsibilities are assigned within their board structure.

Q20. How does the company's executive compensation system support the integration of climate change issues into organizational decision-making and performance?

The board should expect the compensation committee to align short- and long-term management incentives with achievement of objectives, including those related to management of climate change issues, regarded as key factors in value creation.

Summary

Climate change presents business issues that are likely to affect value creation in both the short and long term. Attention to climate change issues is inescapable in a prudent board's oversight of strategy, risk, financial performance and reliable, timely reporting.

To discharge their oversight responsibilities, boards need to satisfy themselves that appropriate processes are in place to ensure:

- directors understand how climate change can affect physical, regulatory and reputational aspects of the business
- climate change risk is managed by company executives with appropriate board oversight
- consideration of risks and opportunities arising from climate change is embedded in decision-making about strategy, capital investments and innovative R&D
- potential impacts on the company's revenues and expenditures, and long-term value creation, are understood and anticipated

Ongoing board vigilance—throughout the year, not just annually—is required to keep up with the fast-evolving business impacts of climate change on current and future value creation.

Appendix: Key Facts about Greenhouse Gas Emissions

GHGs: Scientists note that certain gases act to create a giant greenhouse around the earth by trapping heat in the atmosphere, causing the earth to be warmer than it would be naturally. The main GHGs are as follows:

- **Carbon dioxide (CO_2):** Carbon dioxide is emitted naturally through the carbon cycle and also through human activities like burning fossil fuels, solid waste, trees and wood products, and manufacturing products (e.g., chemical reactions in cement making). The primary natural processes that release CO_2 into the atmosphere (sources) and that remove CO_2 from the atmosphere (sinks) are animal and plant respiration, and ocean-atmosphere exchange, in which oceans absorb and release CO_2 at the sea surface.
- **Methane (CH_4):** Methane sources include landfills, natural gas and petroleum systems, agricultural activities, coal mining, stationary and mobile combustion, wastewater treatment, and certain industrial processes.
- **Nitrous oxide (N_2O):** Nitrous oxide sources are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, and certain acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water.
- **Fluorinated gases:** Hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride are potent synthetic GHGs that are emitted through a variety of industrial processes.[34]

34 The United States Environmental Protection Agency website is the source for information provided on GHGs.

Every business has processes, products or services that emit GHGs either directly (e.g., through the burning of fuel in the company's plant or vehicles) or indirectly (e.g., through the use of electricity generated using fossil fuels).

GHG Emissions Inventory

A GHG emissions inventory is a quantified statement of an entity's GHG emissions over a particular period.

There are two widely accepted methodologies for calculating an entity's GHG emissions inventory:

1. *The Greenhouse Gas Protocol—A Corporate Accounting and Reporting Standard, Revised Edition, 2004*, developed by the World Business Council for Sustainable Development & World Resources Institute[35]

2. ISO 14064-1:2006 *"Greenhouse Gases—Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals,"* released in 2006 by the International Organization for Standardization.

An entity may be a complete organization (e.g., company), an individual installation or a facility within an organization—many regulatory requirements are aimed at individual installations or facilities that have emissions over a particular threshold.

An emissions inventory usually:

- discloses GHGs as carbon dioxide equivalents (CO_2e)[36] so that the quantity of different GHGs can be meaningfully aggregated
- calculates emissions by measuring an activity (e.g., the distance travelled by a vehicle or the use of a particular fuel) and applying an "emission factor" that relates the measured activity to the emissions it causes, such as what mass of each type of GHGs is emitted from combustion of a kilogram of a particular fuel
- categorizes emissions by source (and perhaps geographical segments) and includes notes that explain the measurement and calculation methods used

35 www.ghgprotocol.org/standards

36 The emissions of each GHG (CO_2, CH_4, N_2O, HFC, PFC, SF_6) are calculated separately and then converted to CO_2 equivalents based on their global warming potential. For example, N_2O is assigned a global warming potential of 310 times that of CO_2.

The GHG Protocol offers the following broad categorization of sources of emissions:

Stationary combustion: combustion of fuels in stationary equipment, such as boilers, furnaces, burners, turbines, heaters, incinerators, engines and flares

Mobile combustion: combustion of fuels in transportation devices, such as automobiles, trucks, buses, trains, airplanes, boats, ships, barges and vessels

Process emissions: emissions from physical or chemical processes such as CO_2 from the calcination step in cement manufacturing, CO_2 from catalytic cracking in petrochemical processing, and perfluorocarbon emissions from aluminum smelting

Fugitive emissions: intentional and unintentional releases such as equipment leaks from joints, seals, packing and gaskets, as well as fugitive emissions from coal piles, wastewater treatment, pits, cooling towers and gas processing facilities

Direct and Indirect GHG Emissions[37]

An emissions inventory ordinarily includes direct emissions (called Scope 1 emissions in the GHG Protocol), which occur from sources that are owned or controlled by the company. Scope 1 emissions include those from combustion in owned or controlled boilers, furnaces and vehicles and emissions from chemical production in owned or controlled process equipment.

An emissions inventory may also include indirect emissions, which the GHG Protocol splits into Scope 2 and Scope 3 emissions:

- Scope 2 emissions (a required reporting category under the GHG Protocol) are GHG emissions from the generation of purchased electricity consumed by the company. Scope 2 emissions are "indirect" because the physical emissions associated with electricity occur at the facility where electricity is generated, rather than at the place where the electricity is consumed.

37 The total of a company's direct and indirect GHG emissions is sometimes referred to as its "carbon footprint."

- Scope 3 emissions (an optional reporting category under the GHG Protocol but required under regulations in some jurisdictions and under the CDP) result from the activities of the company but occur from sources not owned or controlled by the company. Examples of activities that give rise to Scope 3 emissions are employee business travel, outsourced activities, consumption of fossil fuel or electricity required to use the entity's products, extraction and production of materials purchased as inputs to the entity's processes, and transportation of purchased fuels.

Emissions Trading

Emissions trading is one mechanism to provide economic incentives for reducing emissions. It involves the transfer of ownership of an emission allowance (cap-and-trade systems) or emission reduction credit (offset and baseline-and-credit systems) from one entity to another for monetary consideration.

Cap-and-trade system

Under cap-and-trade systems, governments establish an aggregated emissions cap (or limit) and assign allowances to various emitters to release specified quantities of GHGs into the atmosphere. The number of allowances (with one allowance generally being equal to one tonne of GHG emissions) received by an emitter is the total amount of GHGs it is allowed to emit. Companies can sell or buy allowances. Annually, companies must remit to the government sufficient compliance units to equal their actual GHG emissions. Over time, governments are expected to lower the limit or cap, making allowances more scarce and expensive.

Offset system

In an offset system, facilities, companies and individuals can create tradable credits by developing a project to reduce GHG emissions below a baseline level of emissions. A system regulator generally mandates specific requirements for acceptable emission reduction projects and approves the emission reductions before it issues tradable credits. Project-based credits, such as those under the Clean Development Mechanism and other offset schemes, may be sold to those who require compliance units in cap-and-trade systems.

Baseline-and-credit system

In a baseline-and-credit system, facilities can create tradable credits by reducing their GHG emissions below a baseline level of emissions.

Carbon Capture and Storage

Carbon capture and storage is an approach to mitigating GHG emissions that is not yet fully researched or widely commercialized. It involves capturing and compressing carbon dioxide and storing it in deep geological formations, in deep ocean masses, or in the form of mineral carbonates.

Where to Find More Information

External References

The Global Risks Report 2016
www.weforum.org/reports/the-global-risks-report-2016

Banking on 2°: The Hidden Risks of Climate Change for Canadian Banks
www.share.ca/files/SHARE_ClimateChangeandBankPaperFINAL_1.pdf

Climate Change, International Corporate Governance Network
www.icgn.org/climate-change

Climate Risk: Rising Tides Raise the Stakes
www.spratings.com/documents/20184/984172/Insights+Magazine+-+December+2015/cff352af-4f50-4f15-a765-f56dcd4ee5c8

Managing the Business Risks and Opportunities of a Changing Climate
http://nbs.net/wp-content/uploads/Adaptation-to-Climate-Change-Primer.pdf

Risky Business: The Economic Risks of Climate Change in the United States
http://riskybusiness.org/site/assets/uploads/2015/09/RiskyBusiness_Report_WEB_09_08_14.pdf

CDP Global Climate Change Report 2015
www.cdp.net/CDPResults/CDP-global-climate-change-report-2015.pdf

Recognizing Risk, Perpetuating Uncertainty — A Baseline Survey of Climate Disclosures by Fossil Fuel Companies
www.carbontracker.org/wp-content/uploads/2014/10/CTI-Climate-risk-disclosures-Report-Web.pdf

Climate Risk—SASB Technical Bulletin # TB001-10182016
http://using.sasb.org/sasb-climate-risk-framework

Building Resilience in Global Supply Chains
http://wbcsdpublications.org/wp-content/uploads/2015/12/building-resilience-in-global-supply-chains.pdf

Competitive Advantage on a Warming Planet
https://hbr.org/2007/03/competitive-advantage-on-a-warming-planet

The Carbon Margin—Translating Carbon Exposure into Competitive Advantage
www.adlittle.de/uploads/tx_extthoughtleadership/ADL_Report_The_carbon_margin_01.pdf

Building a Better MD&A—Climate Change Disclosures
www.cpacanada.ca/en/business-and-accounting-resources/financial-and-non-financial-reporting/mdanda-and-other-financial-reporting/publications/climate-change-disclosures-in-the-mda

A Primer for Environmental and Social Disclosure
www.tsx.com/resource/en/73

Climate Change: Why Financial Institutions Should Take Note
http://globalriskinstitute.org/publications/climate-change-why-financial-institutions-should-take-note

CPA Canada Publications on Governance

(available at www.cpacanada.ca/governance)

Director Series

Framework Series

- A Framework for Board Oversight of Enterprise Risk
- Overseeing Strategy: A Framework for Boards of Directors
- Overseeing Mergers and Acquisitions: A Framework for Boards of Directors

20 Questions Series

- 20 Questions Directors Should Ask about Internal Audit
- 20 Questions Directors Should Ask about Building and Sustaining a Board
- 20 Questions Directors Should Ask about Directors' and Officers' Indemnification and Insurance (2nd ed)
- 20 Questions Directors Should Ask about Special Committees (2nd ed)

- 20 Questions Directors Should Ask about IT (2nd ed)
- 20 Questions Directors Should Ask about Strategy (3rd ed)
- 20 Questions Directors Should Ask about Executive Compensation (2nd ed)
- 20 Questions Directors Should Ask about Insolvency
- 20 Questions Directors Should Ask about Governance Committees
- 20 Questions Directors Should Ask about Codes of Conduct (2nd ed)
- 20 Questions Directors Should Ask about the Role of the Human Resources and Compensation Committee
- 20 Questions Directors Should Ask about Responding to Allegations of Corporate Wrongdoing
- 20 Questions Directors Should Ask about CEO Succession
- 20 Questions Directors Should Ask about Crisis Management

Director Briefings

- Guidance for Directors: Disclosure and Certification—What's at Stake
- Guidance for Management: Disclosure and Certification—What's at Stake
- Board Oversight of Tax Risk—Questions for Directors to Ask
- Shareholder Engagement—Questions for Directors to Ask
- Small Company Boards—Questions for Potential Advisors and Directors
- Sustainability: Environmental and Social Issues Briefing—Questions for Directors to Ask
- Controlled Companies Briefing—Questions for Directors to Ask
- Diversity Briefing—Questions for Directors to Ask
- Long-term Performance Briefing—Questions for Directors to Ask

Board Bulletins

- Cybersecurity Risk—Questions for Directors to Ask
- Social Media—Questions for Directors to Ask

CFO Series

- Deciding to Go Public: What CFOs Need to Know

About the Authors

Sarah Keyes, CPA, CA

Sarah Keyes is a Principal in Research, Guidance and Support at CPA Canada. In this role, she leads research efforts addressing climate change issues and how they relate to organizational decision-making, reporting and corporate oversight and governance activities. She is a subject matter expert in climate change mitigation and adaptation issues, with a deep understanding of the interconnections between climate change and organizational strategy, risk and performance.

Sarah started her career at PricewaterhouseCoopers in Audit & Assurance with a focus on mining and extractive industries. Prior to joining CPA Canada, Sarah was a national energy consultant for government agencies, provincial regulators, oil and gas companies, electricity generators and distributors across Canada. In this capacity, Sarah completed certification in ISO 14064-3 for greenhouse gas verification and validation. As an energy consultant, she completed a number of projects focused on greenhouse gas emissions strategy and sustainable supply chain assessments.

Sarah co-managed CPA Canada's publication "State of Play: Climate-Related Disclosures by Canadian Public Companies". She has been quoted as a subject matter expert in several articles related to climate-related disclosures and carbon pricing in The Bottom Line. Sarah has been a speaker at several workshops and panels on the topic of climate change, including the University of Toronto's Environmental Finance Advisory Committee's workshop on carbon pricing; the International Economic Forum of the Americas Conference of Montreal panel on resilient infrastructure and financing; and, the International Energy Agency's Nexus Forum on energy sector resilience and adaptation.

Alan Willis, CPA, CA

Alan Willis has over twenty five years' experience as an independent researcher, writer, consultant and advisor on business reporting outside financial statements, with a particular focus on measuring and reporting on corporate management and performance concerning sustainability and climate change. Previously he was a partner in a major international accounting firm. He has contributed significantly to the development of international and domestic standards and guidelines for measuring and reporting on corporate sustainability and climate change impacts. The integration of financial reporting with sustainability reporting and governance disclosures to improve the usefulness of information provided to capital markets and investors is an emerging area in which he is a leading contributor.

For example, he co-authored the original "Climate Change Briefing: Questions for Directors to Ask", published in 2009 by the Canadian Institute of Chartered Accountants (CICA), followed by "Sustainability: Environmental and Social Issues Briefing: Questions for Directors to Ask", published by the CICA in 2011. He co-authored CICA's Executive Briefing "Climate Change and Related Disclosures", and its guidance "Building a Better MD&A: Climate Change Disclosures". He directed the development of the CICA's 2002 guidance on preparation and disclosure of Management's Discussion and Analysis, and co-authored CPA Canada's 2015 briefing publication, "An Evolving Corporate Reporting Landscape". Frequently he has been a volunteer judge for the CPA Canada Corporate Reporting Awards contest.

He was a member of the International Corporate Governance Network's Committee on Integrated Business Reporting, and of the International Integrated Reporting Council's Working Group for development of its 2013 Integrated Reporting Framework. He served on the founding Steering Committee of the Global Reporting Initiative (GRI) from 1997 until 2002 to develop the original GRI Sustainability Reporting Guidelines.

For his contributions and leadership in Canada and internationally in advancing corporate sustainability and the accounting profession's work in this field, in 2012 he received the Queen Elizabeth II Diamond Jubilee Medal awarded by the Governor General of Canada.

CHARTERED
PROFESSIONAL
ACCOUNTANTS
CANADA

277 WELLINGTON STREET WEST
TORONTO, ON CANADA M5V 3H2
T. 416 977.3222 F. 416 977.8585
WWW.CPACANADA.CA