

State of Play:

STUDY OF CLIMATE-RELATED DISCLOSURES BY CANADIAN PUBLIC COMPANIES

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Executive Summary

Climate change is an important business issue that has environmental, social, political, and economic implications. Climate-related risks manifest themselves in different ways; certain companies, industries, sectors and regions will be impacted more than others. After ratification of the Paris Agreement and the Canadian federal government's commitment to a national carbon price, it is clear the transition to a low-carbon, climate-resilient economy is required. Against this backdrop, interest in corporate reporting on climate-related matters is accelerating.

Investors increasingly recognize the wide array of risks and opportunities that climate change poses to their portfolios and are incorporating climate considerations into their investment decision-making. However, some investors have expressed disappointment with the quality of information companies are providing. An increasing number of public companies are facing shareholder resolutions seeking increased and enhanced disclosure of the risks a changing climate could pose to their operations. The formation and recommendations of the Financial Stability Board's *Task Force on Climate-related Financial Disclosures* (TCFD)¹ and the efforts of the *Sustainability Accounting Standards Board* (SASB)² have also put climate-related disclosures by public companies under the spotlight.

Canadian securities law requires public companies to disclose information material to investor decision-making, including material environmental issues. Of the broad range of environmental issues, climate change has emerged as an area of significant interest due to its pervasive impact. By nature,

1 www.fsb-tcfid.org

2 www.sasb.org

climate-related matters are very complicated and the disclosures about climate-related matters will vary greatly from one entity to another depending on the entity's unique circumstances.

So what are Canadian public companies currently disclosing about climate-related matters in their regulatory reporting?

To address this question, CPA Canada commissioned a study of the climate-related disclosures provided by TSX-listed companies in their securities filings. The study found:

- **The majority (79%) of companies are making climate-related disclosures, but the nature and extent varies.**
- **Climate-related disclosures did not provide sufficient context** for users to understand the significance of existing and potential business, risk-management and financial implications relative to past performance, company targets or industry peers.
- **Disclosures were not comparable** across or within industries.
- **Inconsistent use of terminology** contributed to the lack of comparability and made it difficult to ascertain when companies were discussing the same topic.
- **Users are challenged to locate relevant information** among the various securities filings containing climate-related disclosures.
- **Less than one third (29%) of companies made specific disclosure of board or senior management oversight of climate-related issues.** A small percentage of companies disclosed compensation schemes linked to management of climate-related issues
- **One quarter (24%) of companies disclosed proactive strategies** to deal with the transition to a low-carbon economy.
- **Over half (57%) of companies disclosed regulatory and litigation risks** associated with greenhouse gas (GHG) emissions.
- **More than half (56%) of companies identified business-model risks and opportunities** related to climate change (e.g., changing consumer preferences, changes to production processes, new markets).

- **Only 31% of companies made disclosures related to physical risks** of climate change.
- **The majority of climate-related disclosures did not include financial metrics or targets.**

While this review indicates broad disclosure of climate-related information among Canadian companies, it also suggests there may be a gap between investor information needs and current corporate reporting practices.

Our study results indicate an opportunity for enhanced climate-related disclosures and possible alignment with recommendations from the TCFD. Whether disclosures in securities filings comply with applicable securities regulations is ultimately a legal matter and should be considered carefully. We see opportunities for CPAs and various other stakeholders to engage in a meaningful dialogue on this topic. For example:

- **Companies**—There is an opportunity for companies to consider how their strategy needs to evolve to address the shift to a low-carbon economy, including related disclosures and key performance indicators to monitor progress over time.
- **Securities Regulators**—There is an opportunity for securities regulators to evaluate the suitability of existing continuous-disclosure requirements addressing climate-related matters, ensuring they continue to meet the evolving needs of capital market participants.
- **Investors**—There is an opportunity for investors to engage more effectively with companies on their climate-related information needs.
- **CPAs**—There is an opportunity for increased training and guidance on the role of professional accountants in supporting enhanced disclosures in this area.

CPA Canada will engage in further discussions with key stakeholders on the issue of climate change and its implications for businesses.

We value the views and feedback of our members. Comments about this publication should be addressed to:

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Climate Change: A Business Issue

As set out in the World Economic Forum's (WEF) *Global Risks Report* for 2016, "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."³ Climate-related risks are ubiquitous and their potential effects are relevant to nearly all economic actors. All companies will likely need to assess the nature and magnitude of current and future impacts of climate change.

The COP21 meeting in December 2015 and the ensuing Paris Agreement reached by 194 countries to reduce GHG emissions added unprecedented momentum to global commitments to address climate change. We have seen swift and decisive ratification of the Paris Agreement, which came into force on November 4, 2016, with 117 countries having formally ratified the Agreement as of the time of writing (spring 2017).⁴

Canada's current federal government has focused significant attention on climate change issues, the transition to a low-carbon economy and associated policies and regulations. The threat of climate change is one of the Canadian government's top priorities, as demonstrated by its ratification of the Paris Agreement in October 2016 and Canada's release of its Mid-Century Long-Term Low-GHG Development Strategy.⁵ On December 9, 2016, Canada released the Pan-Canadian Framework on Clean Growth and Climate Change.

A major pillar of the Pan-Canadian Framework is the federal government's commitment to establish a national carbon price across all Canadian provinces and territories. While it is up to the individual provinces and territories to

3 The Global Risks Report defines a global risk as "an uncertain event or condition that, if it occurs, can cause significant negative impact for several countries or industries within the next 10 years."

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

5 http://unfccc.int/files/focus/long-term_strategies/application/pdf/canadas_mid-century_long-term_strategy.pdf

determine whether to implement a carbon tax or a cap-and-trade system, they have until 2018 to adopt a carbon pricing scheme or the federal government will step in and impose a price for them. Over 80% of Canada's population already lives in a jurisdiction that has or is implementing a carbon price. Any revenue generated under the provincial and territorial carbon pricing systems will remain in the province or territory where the revenue is generated.⁶

Climate-related risk is broader than regulatory risk associated with carbon emissions. Increased extreme weather events are a growing concern of the insurance industry, which is regularly paying record weather-related claims. Physical assets and day-to-day business operations in today's "on-demand" economy may also be damaged or disrupted. Reduced availability of critical inputs, such as fresh water or productive land, can impact supply chains and customer markets. Infrastructure in high-risk geographic locations is vulnerable. There is increasing discussion about the risk of stranded assets related to climate-change regulation.⁷

As a mainstream business issue, climate change presents both challenges and opportunities for those businesses that are adequately prepared. Some investors are expressing an increasing desire to understand how climate-related risks and opportunities may impact company business models. More and more, attention to climate-related issues is seen as a sign of prudent oversight and management of risk, strategy, financial performance and reporting.

Regulatory Focus on Climate-Related Disclosure

Climate change is often bundled under the umbrella of environmental, social and governance (ESG) issues.

Under Canadian securities regulations, public companies must disclose information material to investor decision-making. The scope of the potentially material information required to be disclosed encompasses material environmental matters, which could include climate change. Some public companies may choose to provide climate-related disclosures in voluntary reports (e.g., sustainability reports, Carbon Disclosure Project (CDP) survey responses) or on their company websites; material information must, however, be disclosed on a timely basis in securities filings.

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

7 A global research report by HSBC defines stranded assets as "... those that lose value or turn into liabilities before the end of their expected economic life. In the context of fossil fuels, this means those that will not be burned—they remain stranded in the ground." www.businessgreen.com/digital_assets/8779/hsbc_Stranded_assets_what_next.pdf

In 2010, the Canadian Securities Administrators issued CSA Staff Notice 51-333 to provide guidance for public companies on existing environmental disclosure requirements.⁸ It provides broad guidance on how companies should identify and disclose material environmental information, including consideration of climate-related issues. CSA Staff Notice 51-333 also provides some climate-change-specific examples and references.

Effective January 1, 2016, pension funds registered in Ontario must report how, if at all, they take environmental, social and governance (ESG) issues into account in their investment decision-making.⁹ Climate change is widely recognized as one of the most significant environmental considerations due to its broad impact.

In 2010, the U.S. Securities and Exchange Commission issued guidance specifically focused on climate-change disclosure.¹⁰ However, since then, the SEC has received a number of comment letters from investors and other stakeholders claiming that current climate-related disclosures are insufficient. The letters state that registrants are not following the SEC's 2010 interpretive guidance on climate-change matters.¹¹ They also express concern the current rules do not adequately address climate-related risks,¹² such as stranded assets and regulatory risks.¹³

On April 13, 2016, the SEC published a Concept Release seeking public comment on modernizing business and financial disclosure requirements in Regulation S-K, including those relating to climate change.¹⁴ The Concept Release details the climate-change-related concerns expressed in comment letters and requested feedback to determine:

- whether current disclosure guidance is adequate or additional information needs to be disclosed that would permit investors to evaluate material climate-change risk
- what additional disclosure requirements or guidance would be appropriate to elicit that information

8 www.osc.gov.on.ca/documents/en/Securities-Category5/csa_20101027_51-333_environmental-reporting.pdf

9 Financial Services Commission of Ontario, IGN-004, Investment Guidance Note re: Environmental, Social and Governance (ESG) Factors to assist pension plan administrators in meeting the requirement of section 78(3) of Regulation 909 under the Pension Benefits Act.

10 www.sec.gov/rules/interp/2010/33-9106.pdf

11 See, e.g., First Affirmative Financial Network; SASB; US SIF 1.

12 See, e.g., First Affirmative Financial Network; Wallace Global Fund; Ceres; UCS.

13 See, e.g., Wallace Global Fund (stating that failure to disclose "stranded assets," which are fossil fuel assets that must stay in the ground because of caps imposed by treaty, law or regulation, may result in a material misrepresentation of a corporation's balance sheet); Ceres (noting an absence of disclosure regarding material risks to the oil and gas industry due to increased capital expenditures on high-cost projects, regulatory risk, and carbon asset risk); UCS.

14 www.sec.gov/rules/concept/2016/33-10064.pdf

Regulatory requirements for climate-related disclosures vary from country to country. In May 2016, France became the first country to introduce mandatory climate reporting requirements for financial institutions. Pension funds, insurance companies and other institutional investors with over €500 million on their balance sheets are now legally required to disclose how they are managing climate-change risks.¹⁵ This decision could pave the way for other countries to follow suit as they seek to achieve their emission reduction targets and report on progress pursuant to their climate obligations under the Paris Agreement.

In September 2015, Financial Stability Board Chair and Bank of England Governor, Mark Carney gave a pivotal speech to Lloyd's of London on the financial stability risks posed by climate change.¹⁶ Following this, Carney appointed Michael Bloomberg to head an industry-led Task Force on Climate-related Financial Disclosures (TCFD). The TCFD has recommended voluntary, consistent, climate-related financial disclosures for use by companies when providing information to lenders, insurers, investors and other stakeholders.¹⁷

Governor Carney addressed Canada's financial community and highlighted the financial risks and opportunities associated with climate change. He stated: "Only about one-third of the world's 1,000 largest companies provide effective disclosure of the risks they face due to climate change."¹⁸ Carney argued that "a consistent, comparable, reliable" global system for corporate disclosure would better allow equity markets to reflect relevant risks in company valuations.¹⁹

Applying Materiality in the Climate Disclosure Context Remains Challenging

As previously discussed, Canadian public companies must disclose information that would be material to investor decision-making. According to CSA Staff Notice 51-333:

The test for materiality is objective. Information relating to environmental matters is likely material if a reasonable investor's decision whether or not to buy, sell or hold securities of the issuer would likely be influenced or changed if the information was omitted or misstated.²⁰

15 https://ec.europa.eu/environment/ecoap/about-eco-innovation/business-fundings/investors-assess-climate-risk-france_en

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

17 www.fsb-tcfid.org

18 www.cbc.ca/news/business/mark-carney-toronto-climate-change-economy-1.3680355

19 www.theglobeandmail.com/report-on-business/economy/carney-says-carbon-plan-could-open-door-for-financial-sector-profits/article30935769

20 www.osc.gov.on.ca/documents/en/Securities-Category5/csa_20101027_51-333_environmental-reporting.pdf

Public companies are required to exercise judgment in determining whether climate-related information is material to investors. CSA Staff Notice 51-333 notes that some public companies in the past have found determining materiality in the environmental context to be challenging. The TCFD Phase I Report acknowledges that there is “considerable disagreement over what constitutes a material climate risk that triggers disclosure requirements in most jurisdictions.”²¹

Further complicating matters is the differing materiality guidance set forth by organizations focused on developing voluntary reporting guidelines (e.g., Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), International Integrated Reporting Council (IIRC), Climate Disclosure Standards Board (CDSB)). These organizations provide sometimes conflicting materiality principles given their broader user focus, which may not agree with the definition of materiality for investors in securities filings. In an attempt to clarify the different interpretations of materiality, the Corporate Reporting Dialogue, a global initiative that includes participants responsible for establishing reporting standards and guidance, recently published a comparison of materiality definitions and approaches.²²

In addition to the guidance already provided in CSA Staff Notice 51-333, an opportunity exists for securities regulators to further help public companies understand what might be considered “material” in the climate disclosure context.

Investor Interest in Climate-Related Information Is Building

Investors, especially those concerned with longer-term value creation, are increasingly interested in how companies could be impacted by a changing climate.²³ According to Sustainability Accounting Standards Board (SASB), a U.S. non-profit organization focused on developing sustainability accounting standards to support the disclosure of material information to investors, 93% of the total U.S. equities market is exposed to material climate-related risks.²⁴ This represents 72 out of 79 industry sectors in the U.S.

21 www.fsb-tcfid.org/publications

22 <http://corporatereportingdialogue.com/wp-content/uploads/2016/03/Statement-of-Common-Principles-of-Materiality1.pdf>

23 Larry Fink, 2016 Corporate Governance Letter to CEOs (1 February 2016), online: www.theglobeandmail.com/report-on-business/international-business/us-business/article28508237.ece/BINARY/LDF+Corp+Gov+Letter+2016_Final_m.pdf; https://kmlaw.ca/wp-content/uploads/2015/10/KM_Climate_Change_Paper_06oct15.pdf

24 <http://using.sasb.org/sasb-climate-risk-framework>

Many investors have made a formal commitment to considering ESG issues when making investment decisions. The number of institutional investor signatories to the United Nations Principles for Responsible Investment (UN PRI) initiative has grown from 20 in 2006 to 1,506 in early 2016. These include 27 Canadian asset owners, such as the Canada Pension Plan Investment Board, Caisse de dépôt et placement du Québec and the Ontario Teachers' Pension Plan, as well as 41 investment managers, such as AGF Investments, Manulife Asset Management and RBC Global Asset Management.²⁵ ESG investing is also integrated into the core training for Chartered Financial Analysts (CFAs).²⁶

Credit agencies are also integrating climate risk into their credit assessments and threatening to downgrade industries and companies that fail to identify and respond to climate-related policies and trends. Moody's Investors Service recently announced that it will use national climate commitments under the Paris Agreement in its analysis of the credit implications of carbon-transition risk.²⁷ The agency said it views the Paris pledges as a "plausible central scenario for forecasting in light of current policy commitments and clean technology trends." Moody's also shared its view that 13 of the industries in its corporate and infrastructure portfolio will be exposed to carbon-transition risk over the next three to five years, with three of those sectors already experiencing material credit impacts and rating adjustments.

Investors Disappointed with ESG Disclosures

According to the SASB: "Despite increasing awareness and investor demand, U.S. listed companies have not provided the capital markets with adequate disclosure on climate risk."²⁸ SASB's 2016 *State of Disclosure* report reviewed U.S. company securities filings for sustainability topics and concluded that "companies are taking a 'minimally compliant' approach to sustainability disclosure, providing the market with information that is inadequate for making investment decisions."²⁹ While 81% of entries analyzed included some form of sustainability³⁰ disclosure, the most common form of disclosure was generic boilerplate

25 Principles for Responsible Investment Signatory Directory

26 www.cfainstitute.org/learning/future/knowledge/pages/esg.aspx

27 <http://newsroom.unfccc.int/unfccc-newsroom/moodys-to-use-paris-pledges-to-assess-corporate-financial-risk>

28 http://using.sasb.org/sasb-climate-risk-framework/?utm_campaign=general+SASB+info&utm_source=hs_email&utm_medium=email&utm_content=36197389&_hsenc=p2ANqtz-_RlJKO_rZ65oGcXxCC4zsK1zK9bETaYt8UZw-whlm2vZ-Qtn7NTqZBSe7KsuglAsZzQKoYAg6kAwqc-vHsBbINaF7nTg&_hsmi=36197389

29 <https://library.sasb.org/state-of-disclosure-annual-report>

30 In this report, the terms "sustainability" and "ESG" are used interchangeably in the context of disclosures.

language (used 53% of the time) and companies used metrics less than 24% of the time, thus making company-to-company comparability within an industry almost impossible.

A 2014 study by PricewaterhouseCoopers similarly discovered that the vast majority of investors surveyed were disappointed with the ESG information companies are providing: 82% were dissatisfied with how risks and opportunities are identified and quantified in financial terms; 79% with the comparability of reporting between companies in the same industry; and, 74% with the relevance and implications of sustainability risks.³¹

The 2016 Canadian Investor Survey conducted by RR Donnelley and Simple Logic found the majority of Canadian institutional investors consider ESG issues when making investment decisions. They want to know how these issues are related to the company's strategy, risk management and operations. The survey concluded that there is a gap between what Canadian institutional investors want to know and what ESG information companies provide in their mandatory securities filings and voluntary reports.³²

As a result, the survey noted investors are turning to third parties to obtain ESG information for decision-making:

“Only 30% of investors find the ESG information companies provide good enough to help them assess materiality to the company's business. 75% of respondents said they prefer to get ESG information from third parties Only 55% agree that the third-party data they use is sufficient to help them assess its materiality to the company's business.”

There are a number of different ESG data sources ranging from providers of indices, ratings and databases with the list constantly growing. For example, MSCI provides ESG ratings on equity and fixed income issuers. Each MSCI report can contain up to 1,000 data points on ESG policies, programs and performances.³³ Sustainalytics is a global responsible-investment research firm specializing in ESG research and analysis.³⁴ Bloomberg collects ESG data from published company material and integrates it into the Equities and Bloomberg Intelligence platforms. However, there are inherent concerns about the credibility and comparability of the ESG data being reported by external third parties.

31 PricewaterhouseCoopers, *Sustainability Goes Mainstream: Insights into Investor Views*, (www.pwc.com/us/en/pwc-investor-resource-institute/publications/assets/pwc-sustainability-goes-mainstream-investor-views.pdf, 2014)

32 www.simple-logic.com/wp-content/uploads/2016/06/2016-Canadian-investor-study.June2-2016.pdf

33 www.msci.com/documents/1296102/1636401/MSCI_ESG_Ratings.pdf/9f0a999b-4419-4a0a-b6ef-0248f40ca2c9

34 www.sustainalytics.com

That this information is increasingly being used in investment decision-making provides a powerful incentive for companies to improve their communications on climate-related matters.

In 2013, Mercer's Global Investor Survey found that the majority of respondents continue to view climate change as a material risk across their total portfolios and make reference to it in their investment policy.³⁵ The top four factors in assessing climate risk were:

- existing/prospective regulatory changes related to GHG emissions
- government support schemes
- physical impacts
- quality of corporate governance, policies, management and actions relating to climate change³⁶

In the TCFD's Phase I consultation, 96% of respondents³⁷ see scenario analysis as a key component of disclosure.³⁸ Users were also in agreement that climate-related financial disclosures should:

- be forward-looking and consider short-, medium- and long-term horizons
- address an organization's ability to set/achieve targets with strategies for achievement
- align with material risks³⁹

The TCFD's Phase II draft report was released for consultation on December 14, 2016. On the topic of scenario analysis, one of the key disclosure recommendations was to "describe the potential impact of different scenarios, including a 2°C scenario, on the organization's businesses, strategy, and financial planning."⁴⁰

In addition, the number of climate-change-related shareholder resolutions continues to rise, with many resolutions requesting energy extractors and suppliers to provide details of how climate change will affect their operations and how they will respond if governments follow through with the climate-change-related commitments.⁴¹

35 www.mercer.ca/content/dam/mercer/attachments/asia-pacific/australia/2013_Global_Investor_Survey_Report_Final.pdf

36 www.mercer.com/content/dam/mercer/attachments/global/investments/long-term-investors-are-you-aware-of-your-climate-change-risk-exposure-mercer-2015.pdf

37 According to the TCFD, the majority of respondents to the public consultation represented users of financial disclosures from across the investment value chain.

38 www.fsb-tcdf.org/wp-content/uploads/2016/07/FSB-TCFD-Phase-I-Public-Consultation.pdf

39 Ibid.

40 www.fsb-tcdf.org/publications/recommendations-report

41 the Proxy Review 2016 found at: www.proxypreview.org/proxy-preview-2016

Purpose of Study

Our study looked at the nature and extent of climate-related disclosures made by Canadian public companies in their securities filings. The study reviewed the 2015⁴² financial statements, annual information forms (AIF), management's discussion and analysis (MD&A), and information circulars for 75 listed companies, representing approximately 78% of the market capitalization of the S&P/TSX Composite Index across 10 major industries.⁴³ It did not consider the information provided in companies' voluntary reports, such as sustainability reports, websites or responses to questionnaires.

The results provide an understanding of the current state of climate-related disclosures by Canadian public companies and establish a baseline for future research and benchmarking.

Our study investigates the following questions:

1. Are Canadian public companies making climate-related disclosures in their securities filings?
2. If so, where are they making such disclosures (i.e., type of report)?
3. What type of disclosures are they making (e.g., regulatory and litigation, physical, business model, governance)?
4. When companies are making such disclosures, are they providing the level of detail necessary to help investors understand the companies' exposure and management of climate-related risks and opportunities?

Based on the results of the study, we question whether investors should be satisfied with the nature and extent of climate-related disclosures provided by Canadian public companies in their securities filings.

⁴² It is important to note that many of the developments outlined in this report occurred after December 31, 2015, such as the ratification of the Paris Agreement and the establishment of the Pan-Canadian Framework on Climate Change and Clean Growth, which includes a national carbon price. The results of the study pre-date some of these recent developments that took place in the 2016 calendar year. At the time of completing this study, the most recent annual securities filings were those of 2015.

⁴³ Market capitalization percentage was calculated as of February 8, 2016. Appendix 1 provides additional information on the scope of the study and the research methodology.

Key Findings

Our key findings fall into five main categories:

1. Overall
2. Governance
3. Strategy
4. Risk management
5. Metrics and targets

In this study, climate-related disclosures include:

- **Regulatory and litigation risks related to climate change:** disclosure of risks or impacts of existing and proposed legislation and regulation related to climate change (e.g., costs of compliance) and climate-change-related litigation. Regulations may include GHG emissions limits and trading systems, and instruments such as carbon taxes, energy and fuel efficiency standards, building codes and environmental permits.
- **Physical risks related to climate change:** disclosure of physical impacts of climate change, which could include the strategies to identify and mitigate physical risks. Physical impacts may include property damage, disruption to operations and/or supply and distribution channels, increased insurance claims or decrease in the availability or loss of coverage.

- **Business model risks and opportunities related to climate change:** disclosure of the indirect risks and opportunities from legal, technological, political and scientific developments regarding climate change including company strategies dealing with the transition to a low-carbon economy. Indirect risks and opportunities may include changes in market or customer demand for a company's products or services, impact on the company's reputation, and the current and potential impact on asset valuations (e.g., asset impairments).
- **Oversight and governance of climate-related matters:** disclosure of how the company manages and oversees climate-related risk including whether climate-related criteria (e.g., GHG emissions reduction targets) are incorporated into executive compensation structures.

1. Overall

The majority of companies are making climate-related disclosures, but the nature and extent varies.

79% of the companies reviewed had some form of climate-related disclosure and identified exposure to climate risk (Figure 1). However, as detailed later in the report, the nature and extent of the disclosures varied.

All companies reviewed from the energy and utilities sectors made climate-related disclosures (Figure 2). The 21% of companies that did not make any climate-related disclosures were from the consumer discretionary, consumer staples, financials, industrials, materials, IT, telecommunications and healthcare sectors.

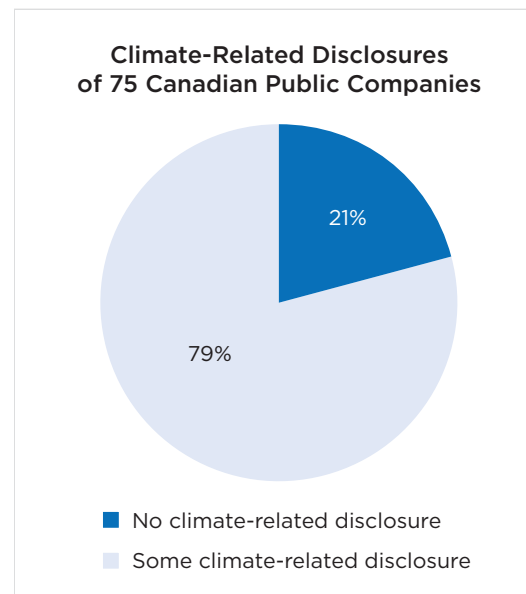


FIGURE 1

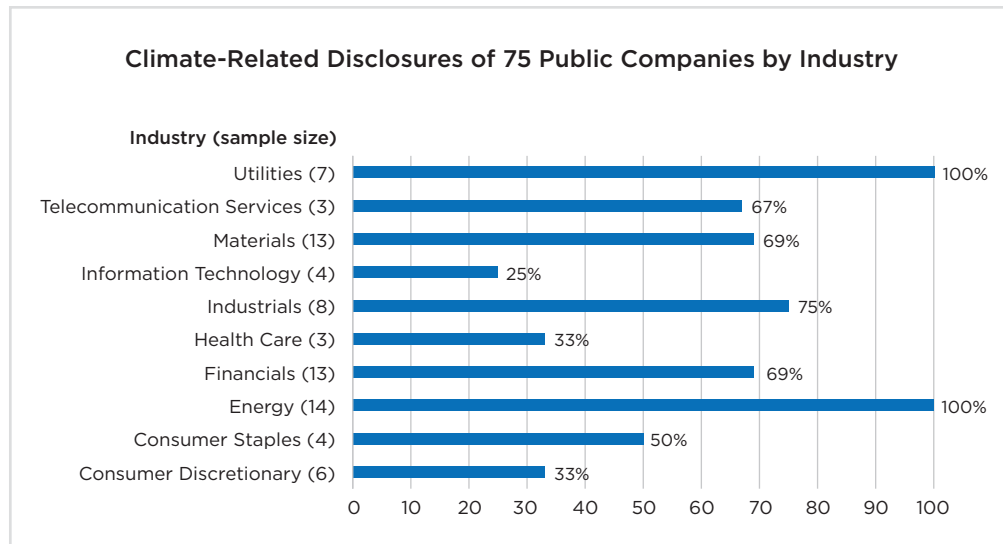


FIGURE 2

Most climate-related disclosures did not provide sufficient context for users to understand the relative significance of existing and potential business, risk-management and financial implications relative to past performance, company targets or industry peers.

Climate-related disclosures varied significantly in nature and level of specificity. Eight percent of climate-related disclosures acknowledged a climate-related risk or opportunity generally, without identifying company-specific impacts (see Appendix 1 for more detailed descriptions of categories of disclosure attributes). Seventy-three percent of climate-related disclosures made reference to risks and opportunities specific to the company's business or operations. However, we observed a broad spectrum of company-specific disclosures with few companies providing a meaningful analysis demonstrating the actual and expected impacts of climate-related developments on financial results and the company's business, operations and strategy.

At one end of the spectrum, a company would, for example, include a high-level statement that increasingly stringent GHG emissions regulations could negatively affect company operations. At the other end of the spectrum, a company would include a detailed discussion of the specific impacts that increasingly stringent GHG regulations could have on each of the company's facilities, including the annual costs of compliance, how these costs were expected to increase over time and the linkage to company profitability.

Eighteen percent of the disclosures included metrics (Figure 3). The level of detail and types of metrics reported also varied significantly (see Figure 11 for information on types of metrics disclosed). Even among companies that used metrics in disclosures, most disclosures did not provide sufficient context for users to understand the relative significance of existing and potential business, risk management and financial issues. Table 1 provides examples of the types of disclosures observed among the 75 companies reviewed.

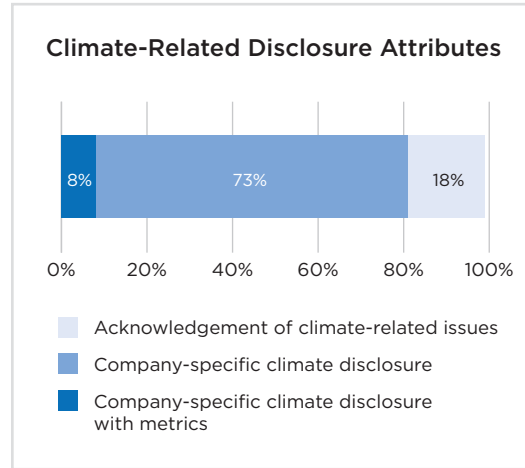


FIGURE 3

TABLE 1: EXAMPLES OF DISCLOSURE ATTRIBUTES⁴⁴

Type of Disclosure ⁴⁵	Examples ⁴⁶
Company-specific climate disclosure with metrics	<ol style="list-style-type: none"> We recorded \$XX million of expenses under these GHG regulatory programs in 2015. There are federal, regional, state and provincial initiatives currently in development. While economic events may continue to affect the scope and timing of new regulations, we anticipate that most of our facilities will be subject to future regulations to manage industrial GHG emissions. We have introduced programs that led to XX% savings on electricity usage at our properties since 2010, a reduction in power consumption equal to the electricity used in XX,XXX homes. And our Canadian property business has reduced greenhouse gas emissions by XX% since 2010, equivalent to taking X,XXX cars off the roads. With approximately XXX hydro stations and wind farms on three continents, the Company is one of the world's largest suppliers of renewable power. Our \$XX billion portfolio produces XX,XXX MW of power, enough clean electricity to supply approximately X million homes. Historically, the annual impact of the GHG regulation on the Company has ranged from \$X million to \$X million per year based on a valuation of \$XX per tonne, depending on variations in production and facility operations from year to year that directly impact CO2 emissions. With the increased emission reduction stringency and compliance price in 2016 and 2017, the expected compliance cost is expected to rise to between \$X million and \$XX million in 2017. The Company estimates its compliance cost in 2016 to range between \$X.X million to \$X.XX million.

44 The disclosure examples are provided for illustrative purposes only and are not intended to represent best practices.

45 See [Appendix 1](#) for descriptions of categories of disclosure attributes.

46 Examples have been redacted, paraphrased or otherwise modified to remove identifying information.

Type of Disclosure	Examples
Company-specific climate disclosure	<ol style="list-style-type: none"> 1. Several areas of the Corporation's operations further raise environmental considerations, such as greenhouse gas emissions and disposal of hazardous residual materials. Failure to recognize and adequately respond to changing governmental and public expectations on environmental matters could result in fines, missed opportunities, additional regulatory scrutiny or harm to the Corporation's brand and reputation which could potentially have an advance effect on the Corporation's business and financial results. 2. It is likely that any GHG reduction strategies eventually adopted by the Canadian government will materially impact the nature of oil and gas operations, including those carried out by the Company and its customers. At present, it is not possible to predict the impact such strategies will have on the Company's business, operations and/or finances ... The Company does not expect ongoing compliance costs associated with these regulations at its facilities to have a materially adverse effect on the Company's operations or financial condition; however, the GHG regulations may become more stringent and apply to more facilities over time, and future regulations enacted by the government may result in further regulatory requirements that could affect the Company's business, or the businesses of its customers. At this time, the costs of complying with any such requirements are unknown. 3. The revenues generated by our facilities are proportional to the amount of electricity generated which in turn is dependent upon available water flows, wind and weather conditions generally. Hydrology, wind and weather conditions vary naturally from season to season and year to year and may also be permanently transformed because of climate change or other factors. 4. Developments regarding climate change and the effects of greenhouse gas emissions on climate change and the environment may decrease the demand for our major product, petroleum-based fuel. Attitudes toward our product and its relationship to the environment and the "green movement" may significantly affect our sales and ability to market our product. New technologies developed to steer the public toward non-fuel-dependent means of transportation may create an environment with a negative attitude toward fuel, thus affecting the public's attitude toward our major product and potentially having a material effect on our business, financial condition and results of operations.
Acknowledgement of climate-related issues	<ol style="list-style-type: none"> 1. Failure to adequately prepare for the potential impacts of climate change may have a negative impact on our financial position or our ability to operate. 2. Important risk factors that could cause actual results or events to differ materially from those expressed include the failure to recognize and adequately respond to climate change concerns or public and governmental expectations on environmental matters. 3. Some scientists have concluded that increasing concentrations of GHG in the atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, droughts, floods and other climatic events. If any such effects were to occur, they could have an adverse effect on our assets and operations.

Climate-related disclosures were not always comparable across or within industries.

Sixteen percent of companies made disclosures across all four categories of disclosure. Figure 4 illustrates the proportion of climate-related disclosures made in the four categories by industry. Inconsistent use of terminology (e.g., changing weather patterns, catastrophes, extreme weather, climatic variability, fuel conservation measures, emissions reduction measures, air emissions regulations, carbon policies) contributed to the lack of comparability of disclosures and made it difficult to ascertain when companies were discussing the same topic.

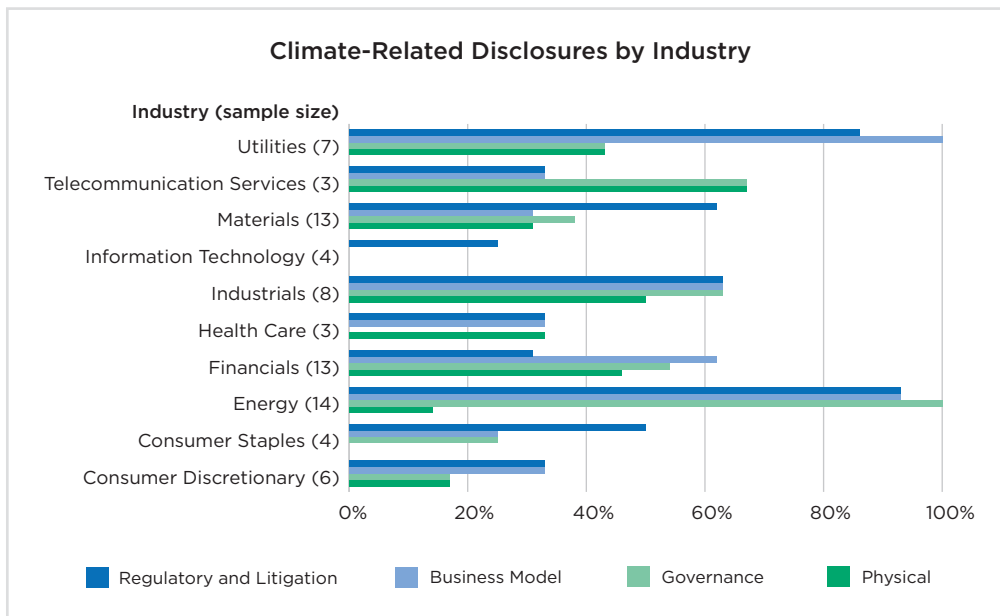


FIGURE 4

Climate-related disclosures were most commonly found in the AIF and MD&A.

Climate-related disclosures were most commonly found in a company’s AIF (61%). Figure 5 also shows that 57% made climate-related disclosures in their MD&A, 47% in their Information Circulars while only 11% made these disclosures in their financial statements. Only 36% of companies made climate-related disclosures in both their AIF and MD&A; many companies

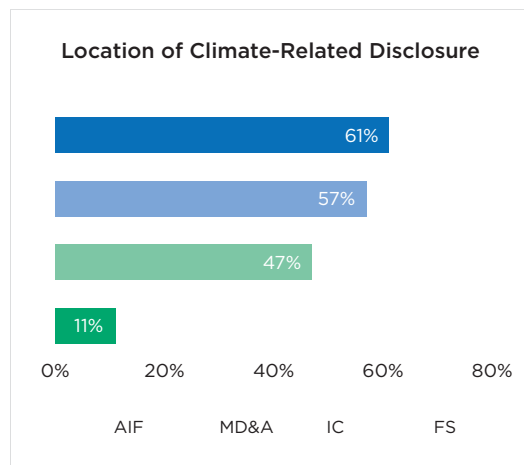


FIGURE 5

made disclosures in only one or the other of these documents. Only one company made climate-related disclosures across its AIF, MD&A, financial statements and Information Circular.⁴⁷

AIFs generally included more detailed discussions of climate-related issues than all other documents. Most companies discussed climate change in one location within their securities filings. Our analysis highlighted a lack of connectivity among the different regulatory reports.

2. Governance

Less than one third of companies made specific disclosure of board or senior management oversight of climate-related issues.

Disclosures of board or senior management responsibility for climate-related issues provide insight into how companies are integrating climate considerations into their governance practices and strategic planning.

Twenty-nine percent of companies made specific disclosures regarding oversight and management of climate-related risks, such as board or senior executive reviews of reports on climate-change risk or established policies or processes associated with mitigating climate-change risks in the company's lending activities. The majority of these disclosures discussed environmental- or sustainability-related board sub-committees that considered climate change as part of their broader mandates. Disclosures of oversight responsibility for climate-related risks were most likely to be made in a company's information circular and were determined through a contextual review of all disclosure documents.⁴⁸ Figure 6 highlights the disclosures of oversight responsibility and governance of climate-related matters.

47 Climate-related disclosure in financial statements included a discussion of the financing of various renewable energy projects and the stable and predictable cash flows generated by these assets.

48 Reviewers conducted a contextual review by reviewing all disclosure documents together and analyzing climate-related disclosures in each document in the context of all the other documents. For instance, if a company's information circular indicated that a board sub-committee was responsible for its "Environmental and Social Risk Policy" and then that company's AIF discussed climate change as part of its "Environmental and Social Risk Policy", we concluded that the board sub-committee had oversight of climate-change issues.

All companies in the energy sector disclosed their governance practices relating to climate change, and all indicated that the board was responsible for oversight and management of climate-related risks. The financial sector was the only sector with companies disclosing that senior management oversaw climate-related risk. The telecommunications and materials sectors were the only sectors with companies that disclosed climate-related responsibility was overseen at the C-suite level.⁴⁹

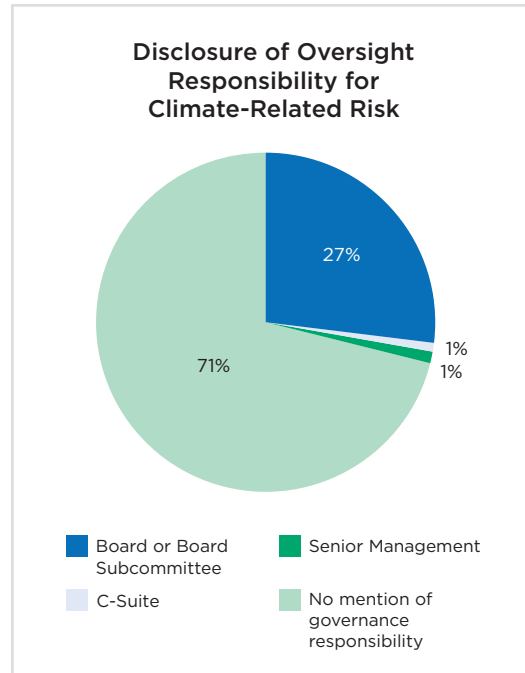


FIGURE 6

A small percentage of companies disclosed compensation schemes linked to management of climate-related issues.

Figure 7 shows 11% of the companies reviewed linked executive compensation to climate-change-related goals. For example, one company’s executive compensation is, in part, dependent on achieving certain strategic priorities, which include setting energy targets and assessing performance against such targets. Another company linked a portion of executive compensation to sustainability performance as measured against certain objectives relating to environment, energy and biodiversity. Several companies included climate-related metrics as one component of their short-term incentive programs.

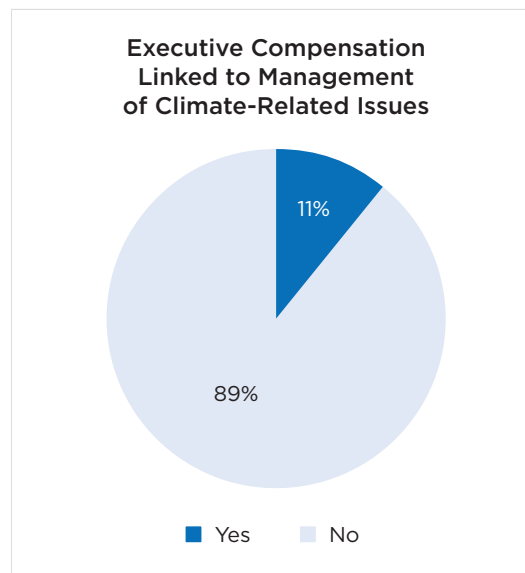


FIGURE 7

49 In this report, the term “C-Suite” refers to a corporation’s senior executives such as CEO, CFO or COO.

Four of the eight companies that linked executive compensation to climate-change-related goals were in the energy sector, three were in the materials sector and one was in the telecommunications sector.

3. Strategy

Only one quarter of companies disclosed proactive strategies to deal with the transition to a low-carbon economy.

Company disclosures demonstrated varying levels of responses to a low-carbon future. Disclosures regarding how a company planned to mitigate or manage climate-related risks or take advantage of new opportunities were rare. The strategies disclosed ranged from the reactive (usually based on regulatory compliance) to the more proactive and forward looking. Five percent of companies disclosed reactive, climate-risk response strategies, generally focused on regulatory compliance related to GHG emissions, such as purchasing offsets to comply with new carbon regulations or passing higher costs on to customers.

Twenty-four percent of companies disclosed proactive strategies to adapt their businesses to align with the transition to a low-carbon, climate-resilient future. Examples of proactive strategies include investing in renewable energy or resilient infrastructure, adopting new technologies or adapting their business to predicted changes in supply and demand. Further examples are provided in the call-out box below.

Generally, the disclosures around strategies lacked detail or dealt with only one aspect of a company's business. Very few companies disclosed proactive climate strategies that integrated both climate-change mitigation and adaptation components and applied them across business units.

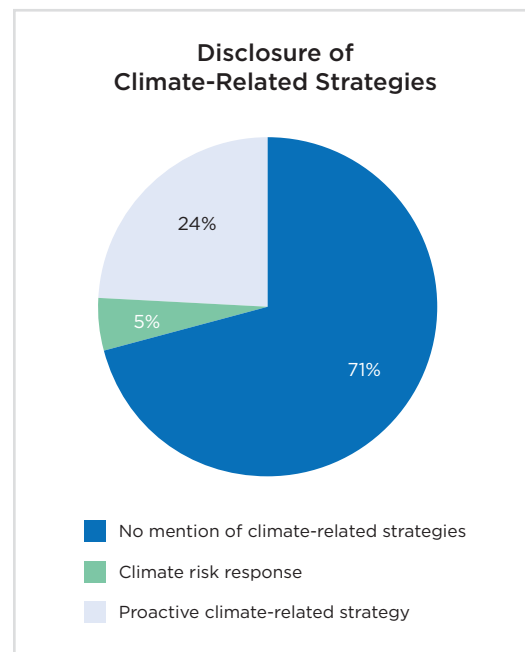


FIGURE 8

Eighteen companies from the energy, utilities, financials, industrials, telecommunications and materials sectors disclosed proactive strategies. Six of these were from the energy sector (42% of the energy companies reviewed). Figure 9 shows how the disclosure of climate-related strategies differed by industry.

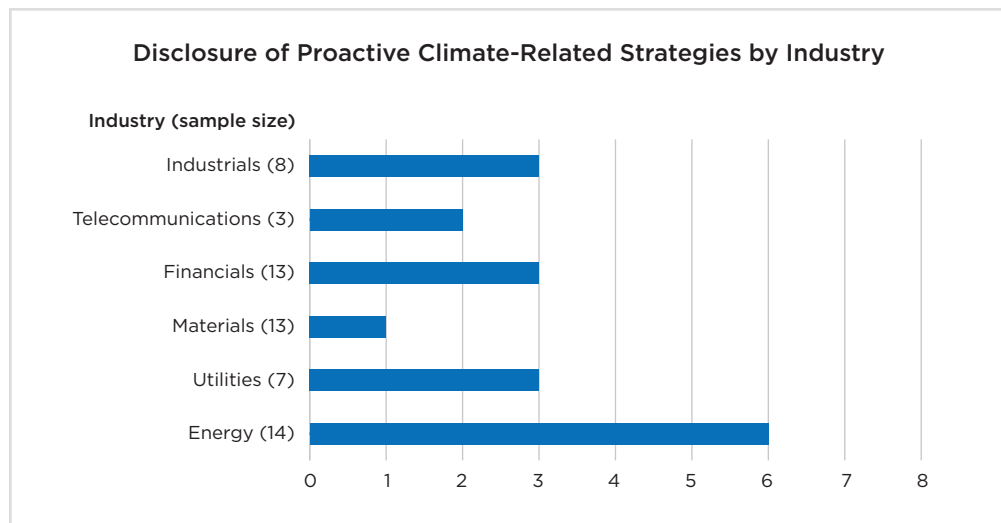


FIGURE 9

Examples of proactive strategies disclosed:

- Build upon our diverse portfolio of contracted and low-cost power generation assets while maximizing the value of our existing investments through safe and reliable operations.
- Leverage our experience building, operating and investing in a diverse set of generation technologies, fuel types and commercial structures to replace aging infrastructure and participate in the shift from higher carbon-emitting electricity sources to natural gas-fired, renewables and non-emitting resources.
- Adapt our business model to these changing realities by investing in wind and solar technology and experiment with battery storage technology.
- Focus on growing shareholder value by identifying reliable and affordable energy solutions, typically involving the replacement of higher-carbon electricity generation with generation from cleaner sources.

- Pursue an integrated emissions reduction strategy, to ensure we are able to comply with existing and future emissions-reduction requirements.
- Conduct business continuity planning and readiness for the potential effects of a changing climate on our operations.
- Help customers realize their climate-change targets through technological product and service solutions.
- Implement a comprehensive energy management program, as well as network efficiency and technology upgrades, such as turndown of legacy equipment and improvements in the efficiency of power and cooling systems.

4. Risk Management

Climate-related disclosures focused most commonly on risks related to greenhouse gas emissions regulations.

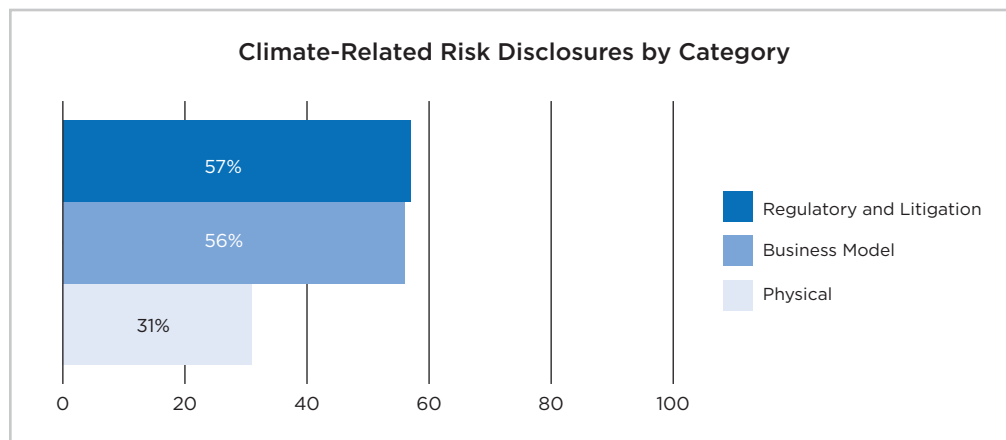


FIGURE 10

Over half (57%) of companies disclosed regulatory and litigation risks associated with greenhouse gas emissions. Fifty-six percent of companies disclosed business-model risks and opportunities, with the majority of disclosures focusing on downside risk rather than upside opportunities (Figure 10). A sample of the types of risk and opportunity observed in the disclosures of some of the 75 companies is provided in Table 2.

Physical-risk disclosures were limited.

Only 31% of companies made disclosures related to physical risks of climate change. No metrics (financial or non-financial) were observed in any of the physical-risk disclosures. An additional 16% of companies made physical-risk disclosures referring to impacts of “weather” without linking to the longer-term trend associated with climate change.

TABLE 2: EXAMPLES OF CLIMATE-RELATED DISCLOSURES OBSERVED, BY CATEGORY⁵⁰

Disclosure Category	Examples
Regulatory Risk	<ul style="list-style-type: none"> climate change legislation/GHG emissions-reduction requirements, including the Paris Agreement and associated compliance costs accelerated closure of coal facilities company-wide GHG emissions or emissions intensity R&D in energy efficiency, carbon capture and sequestration technologies investment in renewable forms of energy such as wind power and biofuels environmental certifications (e.g., LEED certification)
Physical Risks	<ul style="list-style-type: none"> changes in weather patterns, including extreme weather events impacts on hydrology and/or wind levels impacts on power-generation levels damage to property, infrastructure or other assets disruption of operations resource shortages
Business-Model Risks and Opportunities	<ul style="list-style-type: none"> increasing consumer demand for/industry focus on alternative fuels decreased demand for petroleum-based fuel negative publicity or perception surrounding fuel suppliers increase in supply or distribution costs new technologies, facilities and infrastructure that increase efficiency and environmental sustainability investments in renewable power generation and transmission introduction of new products and services
Governance	<ul style="list-style-type: none"> responsibility for developing environmental strategy setting environmental performance standards and targets, and reporting on performance, including emissions and climate risk linking executive-officer annual bonus to corporate performance based on certain metrics, including greenhouse gas emissions intensity management and board review of impacts of a variety of carbon-constrained scenarios on company strategy monitoring of developments related to climate change and how the company is responding to new regulatory and market dynamics

⁵⁰ These are paraphrased actual examples found in disclosures reviewed and are not to be considered a best-practices list or exemplary disclosure. They do not indicate the most detailed or relevant topics discussed in each disclosure category, nor do they provide a comprehensive checklist or set of best practices for climate-related disclosures. Moreover, not all companies reviewed discussed any or all of the topics included in Table 2.

5. Metrics and Targets

The majority of climate-related disclosures did not include financial metrics or targets.

Twenty-eight percent of companies used metrics to quantify risks and opportunities in their disclosures.

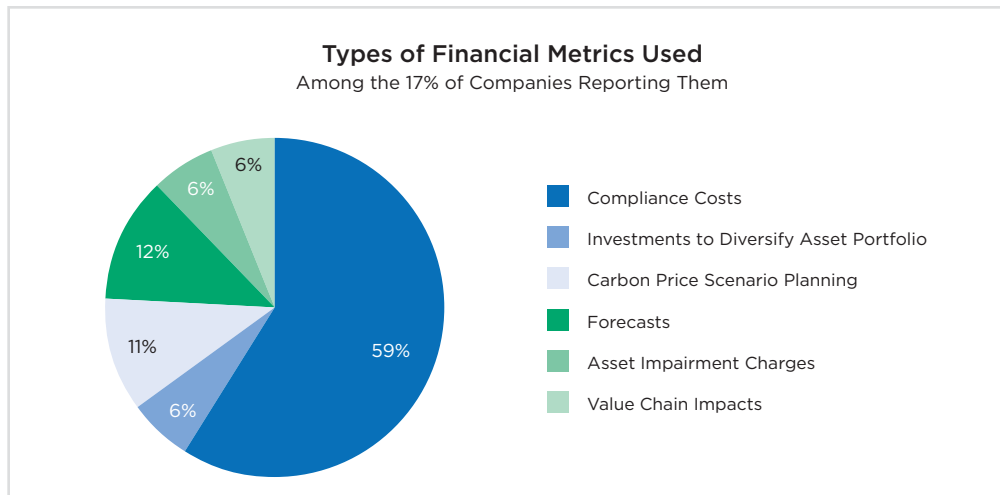


FIGURE 11

Metrics reviewed fell into one of two categories: financial metrics and non-financial metrics. Financial metrics refer to quantitative metrics linked to financial performance and were generally assigned a dollar value. The categories of financial metrics observed in disclosures were: compliance costs, investments to diversify asset portfolio, carbon-price-scenario planning, forecasts, asset impairment charges and value chain impacts.

Non-financial metrics refer to quantitative metrics that were not assigned a dollar value. These included percentage of savings in energy usage (%), fuel efficiency increases (%), nameplate capacity of renewable facilities (kwh) and GHG emissions (tonnes).

Examples of metrics used to quantify climate-related risks and opportunities:

- Financial metric (compliance cost)**
 “The Company’s operations are subject to the Province’s carbon pricing regime and the cost related to 2015 amounted to \$X, while for 2016 it is expected to be approximately \$X.”
- Non-financial metric (nameplate capacity of renewable facilities)**
 “The Company’s renewable energy interests include X wind power projects in operation with a gross generating capacity of X MW, including the X wind farm which commenced operations in 2015. Total capacity decreased from X MW in 2014 due to the sale of the A and B wind farm assets during 2015.”

Only 17% of companies disclosed financial metrics or targets linking climate-related risks and opportunities to financial performance. Figure 12 illustrates the types of financial metrics used in these disclosures.

Financial metrics were used primarily in regulatory and litigation-risk disclosures, and to a lesser extent in disclosures related to business-model risks and opportunities. Companies that used financial metrics in their disclosures were in the energy, utilities, materials, consumer discretionary and consumer staples sectors (all other industries did not include financial metrics). Figure 12 provides a breakdown of the types of financial metrics used by companies in each sector where these disclosures were found. Two companies in the energy sector disclosed use of carbon-pricing scenarios in their planning processes.

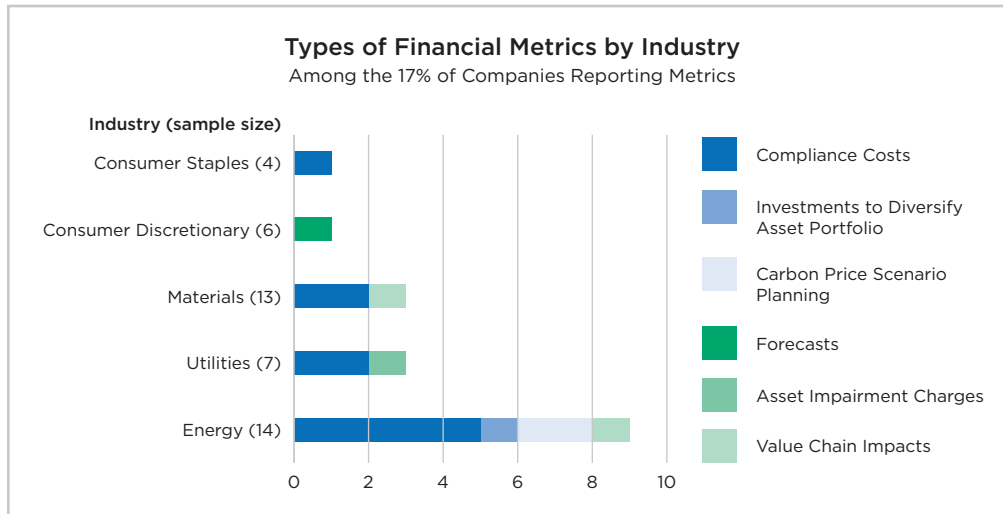


FIGURE 12

Disclosure of GHG emissions data was rare and not linked to performance targets or specific risks.

Few companies (8%) disclosed company-wide GHG emissions data in the regulatory filings reviewed in this study (Figure 13). Ten percent of companies directed investors to other external reports where emissions data could be found (e.g., the company's CDP submission or sustainability report). One company noted that it participated in an emissions reporting program but provided no more information.

Companies generally did not include emissions reduction targets, compare company performance against measurable outcomes or provide explanations for any observed trends. Only 7% of companies included GHG emissions-reduction targets. No companies disclosed the implications of limiting global warming to two degrees Celsius in alignment with global commitments under the Paris Agreement.

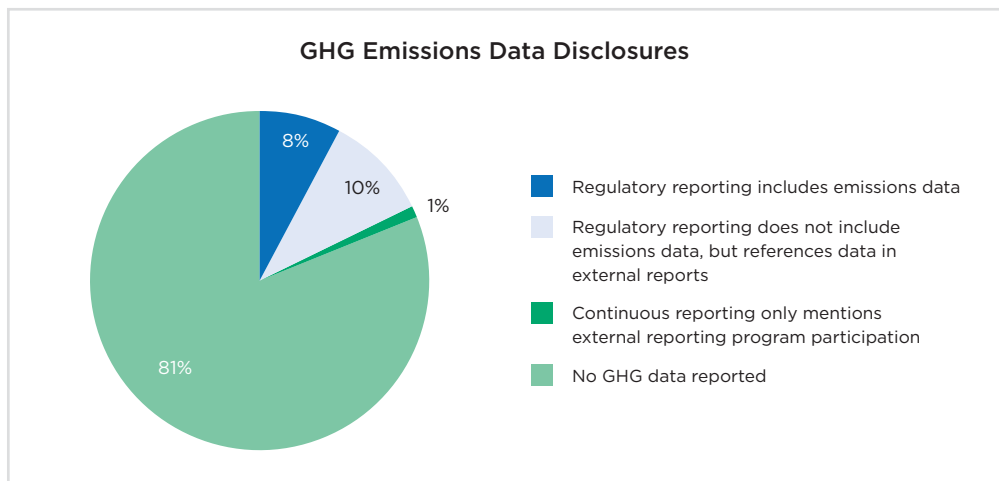


FIGURE 13

More companies disclosed actions taken to reduce or manage GHG emissions than discussed actual company-wide emissions data.

Despite the limited discussion of actual company GHG emissions data, 47% of the companies reviewed disclosed emissions-management information, such as actions to reduce, offset or limit GHG emissions or technological advances in fuel-economy and energy-generation devices. An industry breakdown of emissions information disclosed is provided in Figure 14.

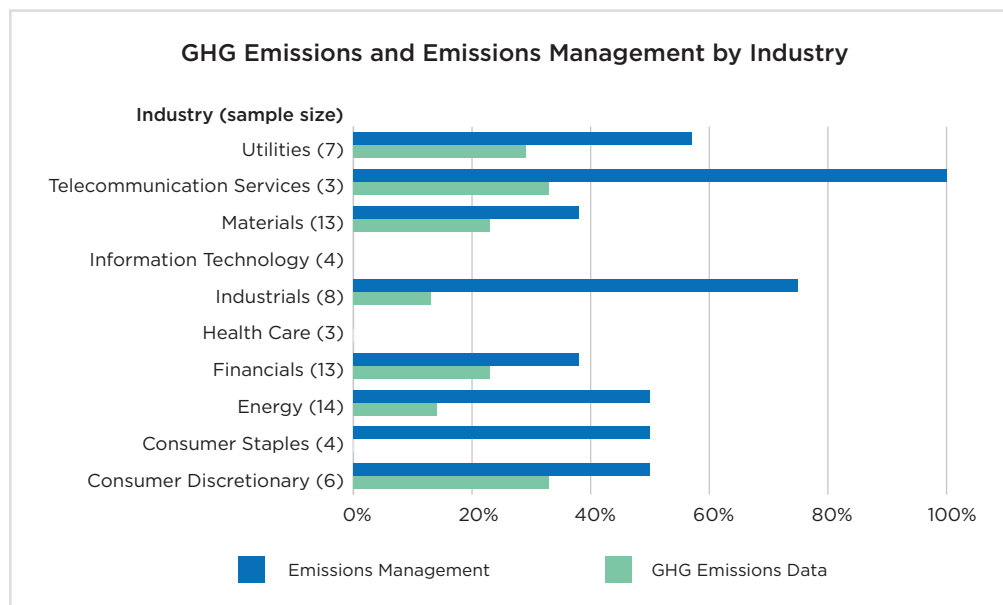


FIGURE 14

Considerations for Public Companies and Regulators

Disclosure Gap?

This review indicates a broad range of climate-related disclosures among Canadian public companies across industry sectors. Connections between climate-related impacts and implications for business and operations are emerging with the various levels of disclosure. However, the nature and level of specificity of disclosures varied; few companies integrated analysis of company-specific impacts, metrics or strategies to manage climate-related risks and opportunities into their disclosures. Significant inconsistencies were noted within and across industry sectors with respect to the identification of risks and opportunities, thus making it difficult for users to compare companies and analyze trends. Users are also challenged to locate relevant information among the various securities documents containing climate-related disclosures.

While this review indicates broad disclosure of climate-related information among Canadian companies, it also suggests room for improvement in current corporate reporting practices. We can only speculate as to the underlying cause of the varying levels and quality of disclosures observed. Some reasons might include:

- expectations gaps between users and preparers with respect to the perceived importance of climate-related information
- judgments by management and boards that the information is not considered material for disclosure
- lack of relevant and reliable data and information for disclosure due to uncertainties and long-term nature associated with climate-change impacts

Companies may need to consider a more robust assessment of materiality, including longer-term thinking when making climate-related disclosures.

Opportunity for Enhanced Climate-Related Disclosures

How do we move forward to ensure public companies are considering and disclosing material information related to climate change? Furthermore, how do we ensure investors are receiving this information through securities filings?

Our study results indicate an opportunity to increase transparency around climate risk through enhanced disclosures, thereby improving the ability of investors and other stakeholders to price risk and allocate capital efficiently during the transition to a low-carbon economy.

The TFCF's recommendations may prove to be one of the key drivers for improved climate-related disclosures and may offer an important toolset for integrating climate change into corporate reporting. In fact, the TCFD's work was cited in a recent CSA project announcement to review the disclosure of risks and financial impacts associated with climate change. The CSA indicated the review is a response to increased scrutiny of reporting issuers' climate-related disclosures.⁵¹

Given the international attention to climate-related disclosures, we see opportunities for CPAs and various other stakeholders to continue to engage in a meaningful dialogue on this topic. As a first step, this report can be used to initiate an open dialogue with multiple stakeholder groups, gathering their views and perspectives in an effort to identify the key issues and priorities to be addressed.

We invite readers of this report, including public companies and regulators, to consider the following questions:

- Why are companies not providing the climate-related information needed by investors in their securities filings?
- How is materiality of climate-related issues assessed by public companies? Would it be useful for securities regulators to provide additional application guidance to assist with materiality determinations in the context of climate-related information?
- How are transactions related to carbon taxes and emissions cap-and-trade systems accounted for in the financial statements? Is additional accounting guidance needed in this area?

51 www.securities-administrators.ca/aboutcsa.aspx?id=1567

- Would it be useful for securities regulators to define “climate risk” and identify it as a specific item that companies must consider when disclosing risk? Is the existing environmental reporting guidance too broad for public companies to understand the unique risks and opportunities posed by climate change?⁵²
- Existing securities regulation requires companies to disclose environmental policies fundamental to operations and the steps taken to implement them. Would it be useful for securities regulators to specifically require companies to disclose whether they have climate-change strategies or explain why they do not?
- How should the issue of time horizon in reporting on climate-related information be addressed and how can uncertainties created by longer-term horizons be overcome to provide sufficient information to investors today?
- How can institutional investors encourage companies to think long term in alignment with their investment time horizons?
- Is more prescriptive guidance needed for those companies in high-impact industries with business models directly impacted by climate change vs. companies with business models indirectly impacted?
- Is there a need for integrated disclosures across various securities filings documents (e.g., AIF, MD&A and financial statements)? If so, what steps could be taken to achieve this integration?
- Which of the areas highlighted in this report should receive the greatest immediate priority by public companies and regulators?
- Do you have any other specific proposals for addressing any of the challenges described in this report?

APPENDIX 1

Scope and Methodology

This report's findings are based on a manual review of 75 Canadian publicly traded companies' 2015 regulatory disclosure filings published to the System for Electronic Document Analysis and Retrieval (SEDAR) filing system.⁵³ Disclosure documents reviewed were Annual Information Forms (AIF), Management Discussion and Analysis (MD&A), financial statements (FS) and information circulars (IC). Non-regulatory documents such as sustainability reports were not reviewed or included as part of this study.

The review focused on four categories of climate-related disclosures:

- regulatory and litigation risk
- physical risk⁵⁴
- business-model risks and opportunities
- oversight and governance of climate-related matters

These categories were developed based on the guidance included in *CSA Staff Notice 51-333: Environmental Reporting Guidance*.

53 It is important to note that many of the recent developments outlined in this report occurred after December 31, 2015, such as the ratification of the Paris Agreement and the establishment of the Pan-Canadian Framework on Climate Change and Clean Growth, which includes a national carbon price. The results of the study pre-date some of these recent developments that took place in the 2016 calendar year. At the time of completing this study, the most recent annual securities filings were those for 2015.

54 There is a distinction between physical-risk disclosures concerning weather and physical-risk disclosures concerning climate change. The risks of extreme weather have long-been a typical disclosure. Disclosures were only considered "climate-related" when the disclosure linked extreme weather to the trend of climate change in order to indicate an increasing risk profile for these weather events.

Company Selection

The 75 companies reviewed represent 78% of the market capitalization of the S&P/TSX Composite Index across its 10 major industry sectors.⁵⁵ Broad market coverage was ensured by selecting at least three companies comprising at least 70% of the market capitalization of each industry sector. Additional companies were selected for review in the energy, industrials, materials, utilities and financials sectors, all of which are considered to be industries more exposed to material climate risks. Companies were selected to ensure representation of small-cap (<\$2B) and mid-cap organizations (\$2B-\$10B) (see Table A1). Table A2 summarizes the number of companies reviewed along with the percentage market cap covered per industry.

TABLE A1: COMPANIES SELECTED BY MARKET CAP

Company Size	# of Companies
Large Cap (>\$10B)	37
Mid Cap (\$2B-\$10B)	25
Small Cap (<\$2B)	13

TABLE A2: COMPANIES SELECTED BY INDUSTRY

Industry Name	Companies Selected (% market cap covered ⁵⁶)
Consumer Discretionary	6 (75%)
Consumer Staples	4 (76%)
Energy	14 (76%)
Financials	13 (77%)
Health Care	3 (98%)
Industrials	8 (80%)
Information Technology	4 (78%)
Materials	13 (70%)
Telecommunication Services	3 (88%)
Utilities	7 (76%)
Total	75 (78%)

⁵⁵ Market capitalization percentages were calculated as at February 8, 2016

⁵⁶ Market capitalization percentage calculated as of February 8, 2016

Key Terms

A high-level manual review was performed of each company's most recent regulatory filings. To ensure that no climate-relevant information was missed, the documents were also searched using the following key terms:

- carbon
- climate
- greenhouse
- emission
- environment
- sustain
- energy
- clean
- alternative
- renewable
- weather
- disaster
- oil
- coal
- methane
- energy efficiency
- social responsibility
- CSR

If a key term appeared in a company's disclosure documents, the disclosure would be read in context by the reviewer. No data or analysis was based solely on the presence of a key term.

Criteria and Analysis

This report does not assess the quality or adequacy of any disclosure; materiality is a company-specific consideration that differs significantly across industries. It objectively categorizes the extent of the disclosure across each climate-risk category according to the following disclosure attributes:

- **No Disclosure:** no mention of climate-change-related risks or opportunities
- **Acknowledgement of Climate-Related Issues:** encompasses generic language about potential risks or opportunities without linkage to a possible impact on the company
- **Company-specific Climate Disclosure:** links an external climate-related risk or opportunity to a possible company-specific outcome, process or plan
- **Company-specific Climate Disclosure with Metrics:** includes quantifiable metrics such as compliance costs, carbon-price scenario planning, measures of GHG emissions and capacity of renewable facilities

Using the climate-related-disclosure categories and attributes described above, the report provides an overview of the frequency, focus and extent of the climate-related disclosures being made by the Canadian companies reviewed and compiles data to show how disclosure practices compare within and across sectors.

APPENDIX 2:

SASB-Identified Sector and Industry Risks vs. Canadian Disclosures

Organizations such as SASB are working to standardize sustainability-disclosure standards to allow for better comparability among companies in a given industry. The SASB materiality map, for instance, is a tool that helps public corporations identify and assess climate-related risks and disclose material, decision-useful information to investors. Tables A3 and A4 below provide a comparison of the industry-specific climate-related risks identified in SASB's materiality map for the energy and financial sectors respectively with the climate-related issues discussed in the Canadian company disclosures reviewed as part of this study.

TABLE A3: SASB-IDENTIFIED RISKS FOR THE ENERGY SECTOR

Industry	SASB Identified Risks⁵⁷	Canadian Company Disclosures
Energy	<ul style="list-style-type: none"> • gross global Scope 1 emissions, percentage covered under a regulatory program, percentage by hydrocarbon resource • description of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets • total fresh water withdrawn, percentage recycled, percentage in regions with high or extremely high baseline water stress • sensitivity of hydrocarbon reserve levels to future price projection scenarios that account for a price on carbon emissions • discussion of how price and demand for hydrocarbons and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets • description of strategy or plans to address water consumption and disposal-related risks, opportunities, and impacts 	<ul style="list-style-type: none"> • costs of compliance with existing and future emissions-reduction requirements • development of integrated emissions-reduction strategies and carbon-scenario planning • implementation of energy efficiency and fuel conservation measures • increasing frequency and intensity of extreme weather, such as floods, drought and storms, and its potential to impact operations • changes in demand for energy-intensive products due to regulation or technological advancements • growing investments in natural gas, nuclear, wind, hydro and solar

57 Note that these risks were adopted from the SASB Materiality Map section on Non-Renewable Resources, in particular the subsection focused on oil and gas.

TABLE A4: SASB-IDENTIFIED RISKS FOR THE FINANCIAL SECTOR

Industries	SASB Identified Risks	Canadian Company Disclosures
Commercial Banks	<ul style="list-style-type: none"> • discussion of credit risk to the loan portfolio presented by climate change • total loans to companies in the following sectors/industries: energy/oil and gas, materials/basic materials, industrials, and utilities 	<ul style="list-style-type: none"> • management of environmental and social risks associated with credit transactions • implementation of financing guidelines on environmental and social risk for specific lines of business • enhanced due diligence for transactions with clients operating in environmentally sensitive industry sectors • potential for loss or damage to reputation resulting from environmental or social concerns related to the company or its customers • policies, processes and standards associated with mitigating environmental risk in lending activities, including the need to provide commentary on climate change where it could have a material impact (including regulatory, physical or reputational) on the borrower • promotion of environmental products and services to meet demand and promote the “green” economy, such as financing and loans for renewable energy or electric vehicles
Investment Banking and Brokerage	<ul style="list-style-type: none"> • deal size of advisory and underwriting transactions for companies in the following sectors/industries: energy/oil and gas, materials/basic materials, industrials, and utilities 	<ul style="list-style-type: none"> • integration of environmental and social-risk assessments in project finance, project-related corporate loans and related bridge loans in accordance with the Equator Principles • research and benchmarking on environmental issues such as climate change as they may pertain to responsible lending practices

Industries	SASB Identified Risks	Canadian Company Disclosures
Asset Management and Custody Activity	<ul style="list-style-type: none"> percentage of total proxies voted, and number of proxy votes supporting environmental, social, and/or governance (ESG)/shareholder proposals, including percentage resulting in company action ratio of embedded carbon dioxide emissions of proved hydrocarbon reserves held by investees to total assets under management 	<ul style="list-style-type: none"> risk climate-change regulation at the provincial or state, federal and international levels could have an adverse effect on business, financial position, results of operations or cash flows vulnerability of properties in coastal locations and potential damage to assets due to sea-level rise and increased storm frequency or intensity potential impacts of changes in weather patterns and extreme weather on hydrology and/or wind levels, power-generation assets and other assets potential impact of rising sea levels on value of low-lying coastal real assets, including possible imposition of new property taxes or increased property insurance rates and potential for reputational harm
Mortgage Finance	<ul style="list-style-type: none"> number and value of mortgage loans in Federal Emergency Management Agency (FEMA) special flood hazard areas description of how climate change risks are incorporated into mortgage origination and underwriting amount and percentage of credit risk for mortgage loans attributable to default risk from weather-related natural catastrophes, by geographic region 	<ul style="list-style-type: none"> policies, processes and standards associated with mitigating environmental risk in lending activities, including the need to provide commentary on climate change where it could have a material impact (including regulatory, physical or reputational) on the borrower

Industries	SASB Identified Risks	Canadian Company Disclosures
Insurance	<ul style="list-style-type: none"> • Probable Maximum Loss (PML) of insured products from weather-related natural catastrophes, by insurance segment, type of event, and type of risk insured • total annual losses attributable to insurance payouts from (1) modeled natural catastrophes and (2) non-modeled natural catastrophes • percentage of policies in which weather-related natural-catastrophe risks have been mitigated through reinsurance and/or alternative risk transfer • discussion of the investment portfolio risks presented by climate change 	<ul style="list-style-type: none"> • potential business losses or disruption resulting from extreme weather conditions • impact of climate change and costs associated with adaptation • impact of changes in legal or regulatory framework made to address climate change • increased mortality or morbidity resulting from environmental damage or climate change • increase in the number and cost of claims associated with severe storms and other natural disasters, including water damage • pricing and product changes to reflect new climate realities, regular reviews of claims processes and a greater focus on consumer loss prevention • expanded use of deductibles and sub-limits, and the introduction of depreciation schedules in personal property insurance • introduction of aggregate reinsurance treaty



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