# Life, Health, Property, Casualty:

## Canadian Insurance Company Directors and Effective Climate Governance

**Janis Sarra**
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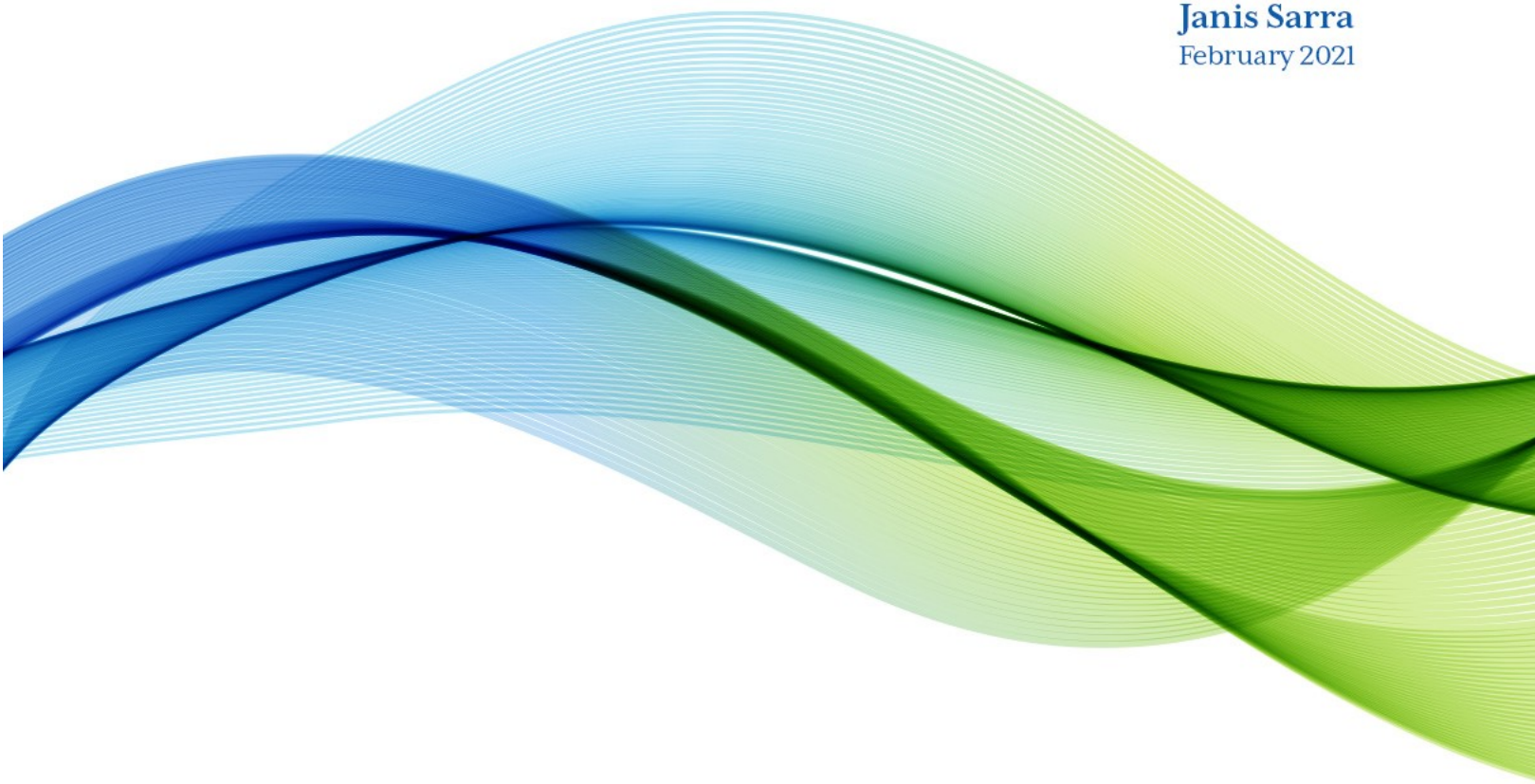

Canada Climate Law Initiative | L'Initiative canadienne de droit climatique

## ABOUT THE CANADA CLIMATE LAW INITIATIVE

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

The Canada Climate Law Initiative acknowledges that the UBC Point Grey campus is situated on the traditional, ancestral, and unceded territory of the xwməθkʷəy̓əm (Musqueam).

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## IN BRIEF

Climate change has become a prudential risk for Canadian insurance companies, requiring their attention as a fundamental business issue. Climate change creates multiple risks in respect of product design and delivery, expected loss coverage, underwriting services, investment portfolios, and management of assets. The insurance sector is important to effective management of climate-related financial risks because it provides the financial safety net for many Canadians suffering losses associated with climate impacts.

Insurance companies are somewhat unique in that they have to manage climate-related risks on both sides of the balance sheet. On the asset side, insurance companies are significant investors and there are numerous risks to their portfolios as countries transition to net-zero emissions. On the liabilities side, more frequent and severe wildfires, flooding and other acute and chronic events are increasing claims volumes while the probabilities of occurrence are becoming harder to predict and price. Directors should ensure that the insurer is assessing climate-related risks and opportunities across all product lines, services, and operations. Canadian insurers have a critically important role in the management of climate-related risks in their capacity as risk managers, risk carriers, and investors. They also need to be aware that prudential supervisors now consider climate change a prudential risk to Canada's financial system and are heightening oversight of the board's actions in this regard.

Canadian insurers are at different stages of addressing climate-related risks. Key to fulfilling their duties, directors should ensure that the board has in place effective governance mechanisms to oversee and manage climate-related risks and opportunities. Oversight of climate risk is both immediate and longer term, and actions taken now could significantly mitigate adverse impacts later.

This guide discusses what directors in the Canadian insurance sector should be considering as they engage with climate-related risks and opportunities and develop strategic plans to address climate change. It offers an overview of the risks that insurers face due to climate change on both the liability and asset sides of the balance sheet, separated into a discussion of the different types of risks for non-life and life and health insurers. It sets out the legal duties of directors of insurers in terms of their obligations to engage in effective oversight and disclosure of material climate-related financial risks. It offers insights into best practices in climate governance, including offering guidance as to how directors of insurance companies can begin to implement effective governance, strategies, risk management, and targets and metrics, aligned with the Taskforce on Climate-related Financial Disclosures (TCFD) framework. The board should develop an action plan to decarbonize, setting clear goals that can be immediately acted on and that will have measurable results over the next five years.

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## GLOSSARY OF TERMS

| | |
|---|---|
| AMF | l'Autorité des marchés financiers |
| CSA | Canadian Securities Administrators |
| D&O | director and officer |
| GDP | gross domestic product |
| GHG | greenhouse gas |
| IAA | International Actuarial Association |
| IAS | International Accounting Standards |
| IAIS | International Association of Insurance Supervisors |
| IBC | Insurance Bureau of Canada |
| IFRS | International Financial Reporting Standards |
| IPCC | Intergovernmental Panel on Climate Change |
| MD&A | management discussion and analysis |
| NatCat | natural catastrophe |
| ORSA | Own Risk and Solvency Assessment |
| OSFI | Office of the Superintendent of Financial Services |
| P&C | property and casualty |
| SASB | Sustainability Accounting Standards Board |
| SIF | Sustainable Insurance Forum |
| SCC | Supreme Court of Canada |
| TCFD | Taskforce on Climate-related Financial Disclosures |
| TFCRAII | Task Force on Climate Risk Assessment for the Insurance Industry |
| UN PRI | United Nations Principles for Responsible Investing |

# I. Introduction

## I. INTRODUCTION

Climate change has become a prudential risk for Canadian insurance companies, requiring their attention as a core business issue. Canadian appellate courts have observed that climate change poses an existential threat to human civilization and the global ecosystem, with considerable economic and human costs.[1] For insurers, climate change creates multiple risks in respect of product design and delivery, expected loss coverage, underwriting services, investment portfolios, and management of assets. The insurance sector is important to effective management of financial risks because it provides the financial safety net for many Canadians suffering losses associated with climate-related events.

Mean global temperatures are already 1°C higher that pre-industrial temperatures.[2] Canada is warming at twice the global rate, and the Canadian Arctic at almost three times the rate.[3] If the current warming rate continues, the world could reach human-induced global warming of 1.5°C as early as ten years from now, with serious consequences for economic activity, water and food security, and the health and well-being of countless individuals.[4] In Canada, increasing temperature and precipitation extremes are already contributing to the frequency and intensity of acute events such as floods, wildfires, windstorms, heatwaves, and droughts.[5] Severe weather damage in Canada caused CA$2.4 billion in insured losses in 2020.[6]

Insurance companies are somewhat unique in that they have to manage climate-related risks on both sides of the balance sheet. On the liabilities side, more frequent and severe events are increasing claims volumes while the probabilities of occurrence are becoming harder to predict and price.[7] On the asset side, insurance companies are large investors facing growing risks to their investment portfolios.

Prudential supervisors have also recognized that climate change is a prudential risk to the safety and soundness of Canada's financial system. The Bank of Canada observes that climate change "looms as a potentially large structural change affecting the economy and the financial system".[8] The Office of the Superintendent of Financial Institutions (OSFI) reports that climate change may result in unexpected re-evaluation of assets in debt and equity securities held by insurers and increased probability of default due to pressures to devalue assets, which could lead to higher capital requirements for insurance companies in order to

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[1] *Reference re Greenhouse Gas Pollution Pricing Act*, 2019 ONCA 544 (Ont CA) at paras 3,6, 15, 16. *Reference re Greenhouse Gas Pollution Pricing Act,* 2019 SKCA 40 (Sask CA).
[2] Intergovernmental Panel on Climate Change (IPCC) Intergovernmental Panel on Climate Change (IPCC), *Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas ("GHG") emission pathways,* https://www.ipcc.ch/sr15/ (hereafter IPCC 2018).
[3] Government of Canada, *Canada's Changing Climate,* (2019), at 84, 125, Canada's Changing Climate Report (hereafter *Canada's Changing Climate*).
[4] IPCC 2018, note 2 at 81.
[5] *Canada's Changing Climate*. note 3 at 119.
[6] Insurance Bureau of Canada, 'Severe Weather Caused $2.4 Billion in Insured Damage in 2020' (18 January 2021), http://www.ibc.ca/on/resources/media-centre/media-releases/severe-weather-caused-$2-4-billion-in-insured-damage-in-2020.
[7] BlackRock, *To what degree? A climate scenario analysis of US insurers' portfolios* (2019), to-what-degree.pdf (blackrock.com) (hereafter BlackRock 2019).
[8] Miguel Molico, 'Researching the Economic Impacts of Climate Change, Implications for monetary policy and financial stability', Bank of Canada (19 November 2019), at 1, Researching the Economic Impacts of Climate Change - Bank of Canada (hereafter Bank of Canada).

meet federal liquidity and safety and soundness obligations.[9] The International Association of Insurance Supervisors (IAIS) and the Sustainable Insurance Forum (SIF) observe: "The insurance industry plays a critical role in the management of climate-related risks in its capacity as a risk manager, risk carrier, and investor."[10]

Assessing, managing, and underwriting risk is at the heart of the insurance business. As risk underwriters, insurance companies offer protection to people, businesses, and governments by assessing, pricing, assuming, carrying, and transferring risks to the insurer in return for a premium from policyholders.[11] Insurance coverage is the guarantee that policyholder losses will be indemnified, insurers relying on pooling of risks; retrocession, whereby cumulative and peak risks can be capped by transferring a certain portion to reinsurance companies; and securitization, in terms of insurers packaging and selling the risks in financial markets.[12] Insurance is a broad category. It includes public and private insurance programs in health and dental insurance, car insurance, agricultural insurance, annuities, and protection of property and life. This guide focuses on the private sector.

In order to stabilize climate change and have any chance that the Earth will not heat up beyond the capacity of humans to thrive, Canada and the rest of the world need to move from current greenhouse gas (GHG) emissions to net-zero emissions.[13] 'Net-zero emissions' means shifting to technologies and energy systems that do not produce carbon emissions, and balancing any remaining emissions by absorbing an equivalent amount from the atmosphere.[14] A recent scientific study reports that the net-zero emissions needed to stabilize the climate requires both acceleration in the use of non-carbon energy sources and a rapid decline in the global share of fossil fuels in the energy mix.[15] Failure to effectively manage the transition to net-zero carbon emissions could affect the solvency of some insurers. Given the broad scientific consensus that unabated climate change poses an existential threat to human existence, there is considerable urgency that insurers act now to contribute to the mitigation and adaption needed. It requires a significant shift in capital and infrastructure investments, and the directors of insurers need to have the skills and information to manage this transition.

While Canada's insurers have commenced climate-related risk management, and some are undertaking strategic planning to capture the upside potential of climate-related opportunities, most insurers do not yet have the data, modelling or mechanisms to understand

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[9] OSFI, *Navigating Uncertainty in Climate Change, Promoting Preparedness and Resilience to Climate-related Risks* (January 2021), at figure 4, Navigating Uncertainty in Climate Change – Promoting Preparedness and Resilience to Climate-Related Risks (osfi-bsif.gc.ca) (hereafter OSFI 2021).

[10] International Association of Insurance Supervisors (IAIS) and Sustainable Insurance Forum (SIF),'Draft Application Paper on the Supervision of Climate-related Risks in the Insurance Sector', (13 October 2020), at 16, www.iaisweb.org (hereafter IAIS & SIF 2020).

[11] Maryam Golnaraghi, *Climate Change and the Insurance Industry: Taking Action as Risk Managers and Investors* (2018), The Geneva Association, at 16, Climate Change and the Insurance Industry: Taking Action as Risk Managers and Investors | Geneva Association (hereafter Golnaraghi).

[12] *Ibid* at 16, 40.

[13] Energy and Climate Intelligence Unit, 'Net zero, why is it necessary?' (2019), Net zero: why is it necessary? | Energy & Climate Intelligence Unit (eciu.net).

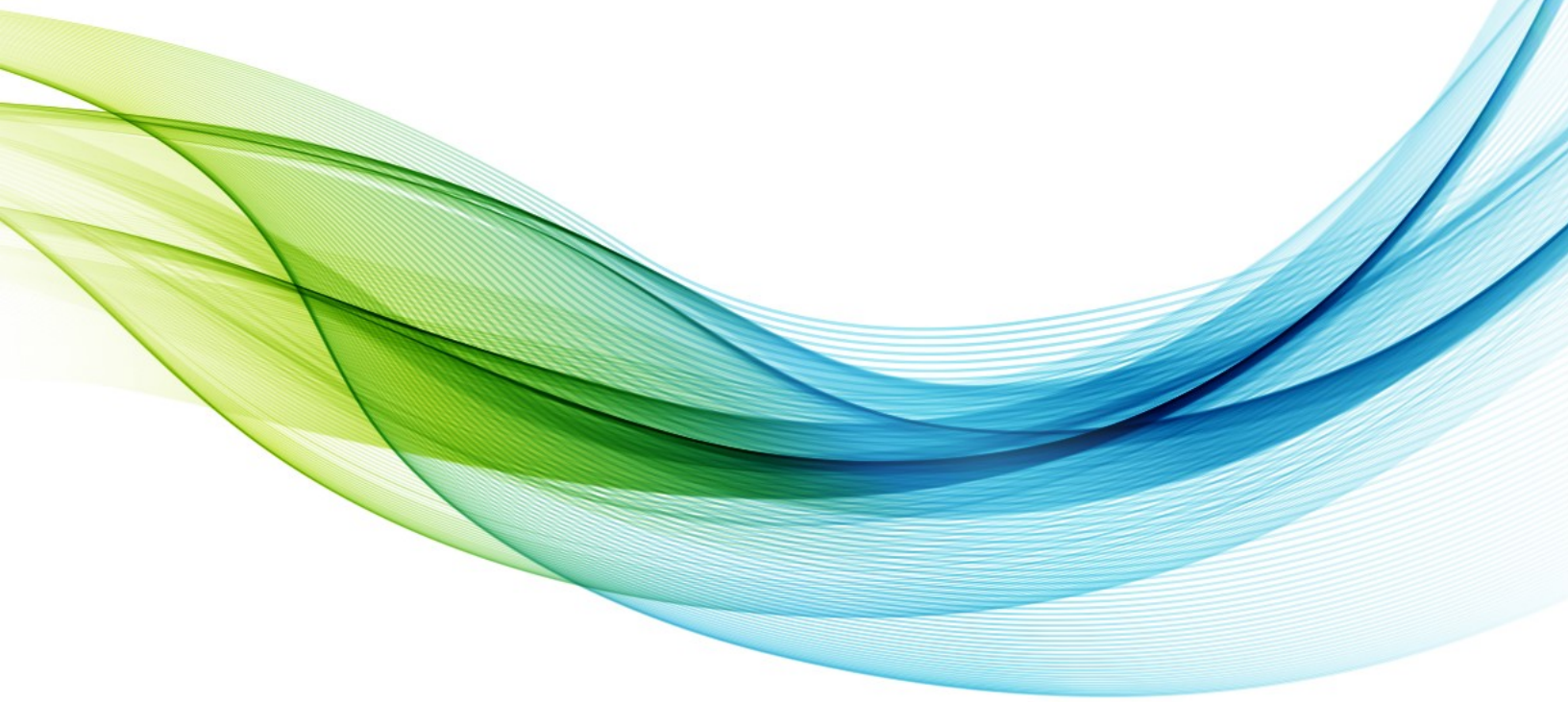
[14] Janis Sarra, *From Ideas to Action, Governance Paths to Net Zero* (Oxford, 2020, Oxford university Press) at 16 (hereafter Sarra, *From Ideas to Action*).

[15] Science Advisory Group of the UN Climate Action Summit 2019, *United in Science,* World Meteorological Organization (22 September 2019), United in Science 2020 | World Meteorological Organization (wmo.int) (hereafter *United in Science*).

the long-term impacts of climate change on morbidity, mortality, and the value of investment assets. Many Canadian insurers have not yet embedded climate-related risks into their financial statements or business plans. Yet given the acceleration in climate-related impacts, insurers will have to build the actuarial and risk assessment models even as they are trying to manage the risks. It requires effective governance by directors in their oversight of insurers.

This guide offers an introduction to what directors in the Canadian insurance sector should be considering as they engage with climate-related risks and opportunities and develop strategic plans to address climate change. It commences in part II with a discussion of the legal duties of directors of insurers in terms of their obligations to engage in effective oversight of climate-related financial risks. Parts III and IV then consider the types of risks that insurers face due to climate change on both the liabilities and assets sides of the balance sheet. These risks will manifest over different time horizons and in different ways across Canada's diverse geographical landscape. The discussion is divided into an analysis of property and casualty (P&C) and other non-life insurers' risks first, and then risks faced by life and health insurers. While there are a few multiline insurers in Canada, most of the market is segregated into life and non-life and they face different issues in respect of managing climate-related risks. Part V turns to a discussion of effective climate governance, including governance, risk management, strategy, targets, and metrics. It offers directors questions they should be asking their managers, accountants, and actuaries in order to start to shift towards effective climate governance.

# II. Directors' Duties of Oversight and Management of Climate-Related Financial Risks



## II. DIRECTORS' DUTIES OF OVERSIGHT AND MANAGEMENT OF CLIMATE-RELATED FINANCIAL RISKS

Directors and officers of insurance companies have essentially the same duties as all corporate directors and officers. They have both a duty of care and a duty of loyalty, often referred to collectively as their fiduciary obligations, to act in the best interests of the company.[16] These common law obligations have been enshrined and strengthened in statutes across Canada, requiring directors to discharge their duties honestly and in good faith, and to exercise care, diligence, and skill with a view to the best interests of the company.[17] Under financial services legislation, that duty is also viewed as a prudential duty — directors have an obligation to ensure the company is managed prudently so that there is sufficient capital that the promises to insurance policyholders and to annuities and pension beneficiaries can be met.

For example, the federal *Insurance Companies Act*[18] specifies:

> 166 (1) Every director and officer of a company in exercising any of the powers of a director or an officer and discharging any of the duties of a director or an officer shall
>
> (a) act honestly and in good faith with a view to the best interests of the company; and
>
> (b) exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances.
>
> (2) Every director, officer and employee of a company shall comply with this Act, the regulations, the company's incorporating instrument and the by-laws of the company.
>
> (3) No provision in any contract, in any resolution or in the by-laws of a company relieves any director, officer or employee of the company from the duty to act in accordance with this Act and the regulations or relieves a director, officer or employee from liability for a breach thereof.[19]

As section 166 specifies, the standard expected of directors is that of a reasonably prudent person in terms of the care, diligence, and skill that they would exercise in comparable circumstances. Directors also have a duty to ensure the insurer is meeting the capital and liquidity requirements set by prudential regulators.

The *Insurance Companies Act* also specifies that directors must, among a number of responsibilities, manage or supervise the management of the business and affairs of the company; establish procedures to provide statutorily required disclosure of information to customers of the company and for dealing with complaints; designate a committee of the board of directors to monitor compliance with the procedures; and establish investment and lending policies, standards, and procedures in accordance with the *Act's* requirements.[20] These duties require directors to consider any material risks to the best interests of the

[16] Yalden *et al, Business Organizations: Practice, Theory and Emerging Challenges*. Toronto: Emond, 2017).
[17] See for example, Section 122(1), *Canada Business Corporations Act*.
[18] *Insurance Companies Act,* SC 1991, c 47, as amended.
[19] *Ibid,* s 166.
[20] *Ibid,* ss 165(1) and (2).

company, to assess their investment policies against the risks, and to devise strategies to manage the risks.

Provincial insurance statutes mirror these provisions. For example, the Ontario *Insurance Act* offers directors protection from liability if they have exercised the care, diligence, and skill that a reasonably prudent person would have exercised in comparable circumstances, including reliance in good faith on financial statements of the insurer that were represented to them by an officer of the insurer or in a written report of an auditor of the insurer fairly to reflect the financial condition of the insurer.[21] Directors have an obligation to be duly diligent in oversight of climate-related financial risks, but they can rely on outside expertise where that expertise is not on the board.

The Québec *Loi sur les assureurs (Insurers Act)* specifies that directors must ensure that the insurer adheres to sound commercial practices and sound and prudent management practices.[22] Directors of Québec insurers have protection from liability where they have acted with a reasonable degree of prudence and diligence in the circumstances.[23] L'Autorité des marchés financiers de Québec (AMF) has issued an Integrated Risk Management Guideline for insurers governed by Québec legislation, which sets out its expectation that insurers will carry out integrated risk management that is supported by strategies, policies, and procedures that enable them to identify, assess, quantify, control, mitigate, and carefully monitor material risks.[24] It specifies that the board's mandate requires the directors to have knowledge and understanding of the risks to which the financial institution is exposed.[25]

The Geneva Association has observed that insurers have a fiduciary duty to enhance the value of their assets so that they remain solvent and can make payouts to their policyholders with the highest probability at any time; and that these fiduciary duties pose constraints on the industry's investment strategies.[26]

### 1. The Court's Expectation of Directors

The Supreme Court of Canada (SCC) has been clear that where cases alleging breach of directors' duties come before it, the court will assess the decisions and conduct of directors against an objective standard of what a reasonably prudent person would do in comparable circumstances.[27] This objective standard means that a director's personal views on climate change are irrelevant. Given that climate-related risks are widely recognized by the scientific

[21] Ontario *Insurance Act,* RSO 1990, c I 8, as amended, s 437.22(9).
[22] Québec *Insurers Act,* SQ chapter A-32.1, s 94.
[23] *Ibid,* ss 88, 505, 522, 523,
[24] Québec l'Autorité des marchés financiers (AMF), Integrated Risk Management Guideline, (2015), Les lignes directrices de l'Autorité, Lignes directrices - Assureurs | AMF (lautorite.qc.ca), including *An Act respecting insurance*, CQLR, c A-32; *An Act respecting financial services cooperatives,* CQLR, c C-67.3; and *An Act respecting trust companies and savings companies,* CQLR, c S-29.01. See also Québec Autorité des marchés financiers, Governance Guideline (2016), Ligne directrice sur la gouvernance (lautorite.qc.ca).
[25] AMF, Integrated Risk Management Guideline, *ibid* at 4.
[26] Golnaraghi, note 11 at 16.
[27] *Peoples Department Stores Inc (Trustee of) v Wise*, [2004] 3 SCR 461 (SCC) at 491; *BCE Inc v 1976 Debentureholders*, [2008] 3 SCR 560 (SCC) at paras 36-8 (hereafter BCE).

community, the courts, and governments, directors have a duty to identify and ensure effective oversight of management of the company's exposure to those risks.[28]

The SCC has held that, from an economic perspective, the best interests of the corporation means the maximization of the value of the corporation.[29] It has held that directors can take into consideration the prevailing socio-economic conditions and that the "establishment of good corporate governance rules should be a shield that protects directors from allegations that they have breached their duty of care."[30] In *BCE Inc v 1976 Debentureholders,* the SCC held that it will assess whether directors acted in the best interests of the corporation, having regard to all relevant considerations:

> [81] As discussed, conflicts may arise between the interests of corporate stakeholders *inter se* and between stakeholders and the corporation. Where the conflict involves the interests of the corporation, it falls to the directors of the corporation to resolve them in accordance with their fiduciary duty to act in the best interests of the corporation, viewed as a good corporate citizen.
>
> [82] The cases on oppression, taken as a whole, confirm that the duty of the directors to act in the best interests of the corporation comprehends a duty to treat individual stakeholders affected by corporate actions equitably and fairly. There are no absolute rules. In each case, the question is whether, in all the circumstances, the directors acted in the best interests of the corporation, having regard to all relevant considerations, including, but not confined to, the need to treat affected stakeholders in a fair manner, commensurate with the corporation's duties as a responsible corporate citizen.[31]

Thus, directors have an obligation to treat stakeholders fairly, commensurate with the company's duties as a responsible citizen, which could be held to relate directly to exercising a duty of care in respect of climate-related risks. As stewards of governance, directors and officers of insurers have a duty to be proactive, and to critically evaluate and address the material financial risks and opportunities associated with climate change.[32] Boards must ensure their managers are giving them the most effective information on these risks and opportunities, to allow them to devise short-, medium- and long-term strategies for the business. [33] Balancing these different time horizons, risk factors, and different stakeholders is a key responsibility of directors and officers, and as information on climate risk continues to become available, these decisions can be complex.[34]

Failure to act on both material risks and opportunities from climate change leaves insurers and their fiduciaries vulnerable to charges that they have breached their duties to the company.[35]

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[28] Janis Sarra, 'Duty to Protect: Corporate Directors and Climate-Related Financial Risk', CD Howe Institute E-brief, (Toronto: CD Howe Institute, 2020) at 3, citing a number of studies (hereafter Sarra, CD Howe).
[29] *Peoples Department Stores Inc (Trustee of) v Wise,* note 27 at para 42.
[30] *Ibid* at para 64.
[31] *BCE*, note 27, at paras 81-82.
[32] Sarra, CD Howe, note 28 at 4.
[33] *Ibid.*
[34] *Ibid.*
[35] *Ibid.*

## 2. Directors' Duties under Securities Laws and Accounting Standards in Canada

### i. Securities Law and Material Climate-related Risk

Canadian securities regulators have stated that climate change is now a mainstream business issue, and publicly-listed insurers and other companies must disclose material climate risks and how they are managing them.[36] They have cautioned that boilerplate disclosure is no longer acceptable. Directors should be asking their managers for financial metrics that allow them to measure and disclose material risks and opportunities.[37] Securities regulators have stated that even if the company is only beginning to develop a capacity to measure carbon emissions, it must disclose material risks identified and its efforts to measure and manage them.[38]

The scope and content of continuous disclosure obligations of publicly-listed companies in Canada is set by National Instrument 51-102 Continuous Disclosure Obligations.[39] The objective of the continuous disclosure requirements is to improve the quality, reliability, and transparency of annual filings, interim filings, and other materials that insurers and other issuers file under securities legislation.[40] The Canadian Securities Administrators (CSA) Staff Notice 51-358 Reporting of Climate Change-related Risks specifies that the audit committee is required to review an issuer's financial statements and MD&A, as well as its continuous disclosures such as material change reports, before the issuer publicly discloses this information.[41] Directors must be satisfied that adequate procedures are in place for the review of the insurer's public disclosure of financial information extracted or derived from its financial statements, and must periodically assess the adequacy of the company's procedures.[42]

The CSA states that omitting or misstating material information in required continuous disclosure documents can lead to the board, management, and the company itself facing potential risks, including litigation, enforcement, or other regulatory actions such as an order to refile continuous disclosure documents.[43] As Hansell has observed, directors should be aware that their decisions about disclosure under securities law are not protected by the business judgment rule.[44]

Privately-held Canadian insurance companies do not have to meet these securities law disclosure requirements; however, they are required to disclose material information to their

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[36] *Ibid.*
[37] CSA Staff Notice 51-358 Reporting of Climate Change-Related Risks (2019), CSA Staff Notice 51-358 Reporting of Climate Change-related Risks - (gov.on.ca) (hereafter CSA SN 51-358)
[38] *Ibid.*
[39] NI 51-102 Continuous Disclosure Obligations, (6 June 2018), 51-102 Continuous Disclosure Obligations | BCSC.
[40] Janis Sarra, Roopa Davé, Meghan Harris-Ngae, and Ravipal Bains, *Audit Committees and Effective Climate Governance, A Guide for Boards of Directors*, (December 2020), Canada Climate Law Initiative, at 10, https://law-ccli-2019.sites.olt.ubc.ca/files/2020/12/CCLI-Guide-for-Audit-Committees-on-Effective-Climate-Governance.pdf (hereafter *Audit Committees*).
[41] CSA SN 51-358, note 37 at 4.
[42] *Audit Committees,* note 40 at 11.
[43] CSA SN 51-358, note 37 at 7.
[44] Hansell LLP legal opinion, 'Putting Climate Change Risk on the Boardroom Table', (June 2020), Hansell-Climate-Change-Opinion.pdf (ubc.ca) (hereafter Hansell).

shareholders on an annual basis, and given the growing materiality of climate risk, such financial information is increasingly material.

### ii. Accounting Standards and Climate Change

All Canadian federally-regulated financial institutions, including insurance companies, must comply with International Financial Reporting Standards (IFRS) in their financial reporting.[45] Most other Canadian insurers have adopted IFRS. The IFRS make clear that the standards require disclosure of material climate-related risks "when the effect of those matters is material in the context of the financial statements taken as a whole"; advising that "information about how management has considered climate-related matters in preparing a company's financial statements may be material with respect to the most significant judgments and estimates that management has made."[46]

The IFRS Foundation published specific guidance in 2020 on climate disclosure across 11 international accounting standards (IAS): IAS 1 Presentation of Financial Statements, IAS 36 Impairment of Assets, IAS 2 Inventories, IAS 12 Income Taxes, IAS 16 Property, Plant and Equipment, IAS 38 Intangible Assets, IAS 37 Provisions, Contingent Liabilities and Contingent Assets, IFRS 7 Financial Instruments: Disclosures, IFRS 9 Financial Instruments, IFRS 13 Fair Value Measurement, and IFRS 17 Insurance Contracts.[47] The IFRS Foundation reports that:

> Climate-related matters may increase the frequency or magnitude of insured events or may accelerate the timing of their occurrence. Examples of insured events that could be affected by climate-related matters include business interruption, property damage, illness and death. Climate-related matters may, therefore, affect the assumptions used to measure insurance contract liabilities applying IFRS 17. Climate-related matters may also affect required disclosures about (a) the significant judgments and changes in judgments made in applying IFRS 17, and (b) a company's exposure to risks, concentrations of risk, how it manages risks and sensitivity analysis showing the effect of changes in risk variables.[48]

It means that internal accounting and audit functions of insurers and their client companies already need to identify and account for material climate-related risk, and it is only a matter of time before external auditors will raise climate issues as a 'key audit matter'. In turn, this requirement to measure and disclose climate-related risks may lead companies to shift some of their priorities for insurance coverage, pricing, and carrier, in turn impacting insurers.

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[45] Government of Canada, 'International Financial Reporting Standards (IFRS)', (2020), https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/international-financial-reporting-standards-ifrs.html (hereafter Government of Canada, IFRS). IFRS Foundation, 'Canada', (2020), https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-byjurisdiction/canada.

[46] IFRS, Effects of climate-related matters on financial statements, https://cdn.ifrs.org/-/media/feature/supporting-implementation/documents/effects-of-climate-related-matters-on-financial-statements.pdf?la=en (hereafter IFRS 2020). See also International Accounting Standards Board, 'IFRS Standards and Climate-related Disclosures' (2019), IFRS, Nick Anderson, IFRS Standards and climate-related disclosures, https://cdn.ifrs.org/-/media/feature/news/2019/november/in-brief-climate-change-nick-anderson.pdf?la=en

[47] IFRS 2020, *ibid* at 2-6.

[48] *Ibid* at 6.

When IFRS 17 comes into force, some of its key principles, such as identifying as insurance contracts those contracts under which the entity accepts significant insurance risk from the policyholder, and its requirement to recognize and measure a risk-adjusted present value of the future cash flows that incorporates all of the available information in a way that is consistent with observable market information, will necessitate careful assessment of how these requirements relate to climate risks.[49]

IFRS are principles-based, which leaves room for companies to determine what is material to their business. The disclosure standards under IFRS and Canadian securities laws align in specifying that "information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions of the primary users of financial statements".[50] Thus, directors of insurance companies need to be aware of the company's obligations under these accounting standards, as well as the market challenges that might arise from their policyholders, clients, and investors.

[49] IFRS Foundation, 'About IFRS 17', (2020), IFRS – IFRS 17 Insurance Contracts.
[50] IFRS 2020, note 46 at 6.

# III. Climate-Related Financial Risks to Property, Casualty, and Other Non-Life Insurers in Canada

## III. CLIMATE-RELATED FINANCIAL RISKS TO PROPERTY, CASUALTY, AND OTHER NON-LIFE INSURERS IN CANADA

Non-life insurers in Canada cover P&C insurance for homes and businesses, car insurance, agricultural insurance, director and officer (D&O) liability insurance, professional errors and omissions (E&O) insurance, and other types of non-life general insurance. Federally, there are 149 P&C insurers regulated by OSFI.[51] Many other companies are regulated by provincial financial services authorities.

Climate-related financial risks have now been well-documented by scientists, accounting, and actuarial organizations.[52] New claims risks are arising from unexpected confluence of extreme events such as closely sequential hurricanes or concurrent tropical storms. PwC reports that anthropogenic (human-caused) climate change is the biggest long-term risk for insurers, posing a "very large, even existential, threat to the insurance industry".[53] McKinsey reports that insurers' concerns no longer comprise only particular acute events; rather, they are the interactions between the global climate and human systems, finding that "because its effects are systemic, climate risk is likely to stress local economies and —more grimly— cause market failures that affect both consumers and insurers."[54] It observes that:

> As the frequency and severity of tail events—formerly thought to be low probability—increase, so do changes to the balance sheet, including higher capital requirements for reinsurance consumption. Financial markets can rapidly reprice assets that are exposed to climate risk, affecting insurers' investment portfolios and their own market valuations negatively… Some historically stable premium and profit pools will shrink, and possibly disappear, in places and industries that are exposed to climate risk while assets will become harder to insure… the industry should develop products that cover climate-related risk specifically and should revisit its (potentially carbon-intensive) investment strategies.[55]

The G20 countries commissioned the Financial Stability Board Taskforce on Climate-related Financial Disclosures (TCFD) to examine how to address climate-related financial risks. The TCFD reports two primary types of climate-related risks — physical risks and transition risks.[56] It observes that emissions "are a prime driver of rising global temperatures and, as

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[51] OSFI, Who We Regulate, (2021), Who We Regulate (osfi-bsif.gc.ca).
[52] See for example, IPCC 2018, note 2; World Economic Forum, Deloitte, EY, KPMG and PwC, "Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation", White Paper, (22 September 2020), https://www.weforum.org/reports/measuring-stakeholder-capitalism-towardscommonmetrics-and-consistent-reporting-of-sustainable-value-creation (hereafter Towards Common Metrics); and International Actuarial Association, Importance of Climate-Related Risks for Actuaries (September 2020), Climate Risk Task Force, (hereafter IAA).
[53] PwC, 'Insurance Banana Skins', (2019) at 32, Insurance Banana Skins 2019: Financial services: PwC..
[54] McKinsey & Company, *Climate change and P&C insurance: The threat and opportunity* (19 November 2020), at 2, https://www.mckinsey.com/industries/financial-services/our-insights/climate-change-and-p-and-c-insurance-the-threat-and-opportunity# (hereafter McKinsey).
[55] *Ibid* at 4. See also 'Climate risk and response: Physical hazards and socioeconomic impacts', McKinsey Global Institute, (16 January 2020), Climate risk and response | McKinsey.
[56] Task Force on Climate-related Financial Disclosures, *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, Financial Stability Board, (June 2017), https://www.fsb-tcfd.org/publications/final-recommendations-report (hereafter TCFD *Final Report*).

such, are a key focal point of regulatory, market, and technology responses".[57] More than 1,500 organizations have expressed their support for the TCFD recommendations and over 120 countries have now committed to net-zero carbon emissions by 2050.[58]

## 1. Physical Risks of Climate Change and Implications for P&C and Other Non-life Insurers

Physical climate risks represent both foreseeable and unforeseeable financial risks to the insurance sector.[59] Insurers' underwriting activities are highly exposed to physical acute or catastrophic climate risks. Since underwriting such risks is their core business, non-life insurers have been modelling risks of acute catastrophic events for decades, aimed at ensuring that they are sufficiently capitalized to cover policyholders' claims when such events occur.[60] It is the increasing frequency and intensity of climate-related events and their non-linearity that pose new challenges.

Physical risks can be broadly categorized into acute and chronic risks. Acute or catastrophic risks refer to risks that are event-driven, including increased severity of extreme weather events such as cyclones or hurricanes.[61] The insurance sector uses the term catastrophic events to refer to large, unforeseen events.[62] Chronic physical risks refer to longer-term shifts in climate patterns, such as sustained higher temperatures that cause chronic heatwaves and sea level rise.[63] Both acute and chronic physical risks have financial implications for insurers on both the assets and liabilities side of the balance sheet. Physical risks also interplay with transition risks in that they will each affect the trajectory of the other.

### i. On the Liabilities Side of the Insurer's Balance Sheet

Insurers are particularly exposed to physical risks through insurable catastrophic events. More frequent and severe weather events result in claims for losses due to damaged property. Wildfires, windstorms, hurricanes, tropical storms, extreme rainfall, and flooding attributable to climate change are already disrupting manufacturing operations and supply chains in Canada.[64] Repeated acute events in some regions, such as both wildfires and extreme flooding in Fort McMurray, have rendered some residential and business properties uninsurable or insurable only at a cost that is becoming prohibitive for policyholders. For example, the 2017 Fort McMurray wildfire resulted in total insured damage of CA$4.5

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[57] TCFD, 'Task Force on Climate-related Financial Disclosures Forward-Looking Financial Sector Metrics', (2020), https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Consultation-Forward-Looking-Financial-Sector-Metrics.pdf.
[58] *Ibid.*
[59] *Audit Committees*, note 40 at 30-33.
[60] The Geneva Association, *Climate Change Risk Assessment for the Insurance Industry: A holistic decision-making framework and key considerations for both sides of the balance sheet*. Golnaraghi *et al,* First Report of the Geneva Association Task Force on Climate Risk Assessment for the Insurance Industry (25 February 2021) at 6 (hereafter TFCRAII).
[61] Sarra, *From Ideas to Action*, note 14 at 47.
[62] IPCC, *Climate Change: New Dimensions in Disaster Risk, Exposure, Vulnerability, and Resilience* (2012), 1 - Climate Change: New Dimensions in Disaster Risk, Exposure, Vulnerability, and Resilience (ipcc.ch).
[63] *Ibid.* See also TCFD *Final Report,* note 56 at 6.
[64] Sarra, *From Ideas to Action*, note 14 at 47.

billion.[65] Less than three years later, the same community experienced flooding that caused CA$562 million in insured damage, with the majority of damage relating to commercial properties.[66] Two hailstorms in Calgary and surrounding areas, and flooding and windstorm damage in Edmonton in summer 2020 resulted in CA$2 billion in additional damage.[67]

For P&C insurers, climate-related losses are already resulting in increased claims for loss of property. Acute climate events disrupt business operations, and in some cases, render companies unable to operate. Canadian insurers paid out more than CA$1 billion per year in catastrophic insured losses from natural disasters between 2010 and 2019, more than double the previous average of CA$400 million per year for the three decades prior.[68] The Insurance Bureau of Canada (IBC) and the Federation of Canadian Municipalities report that an estimated CA$5.3 billion per year – equivalent to 0.26% gross domestic product (GDP) – is needed to avoid the worst impacts of climate change at the municipal level.[69] The Co-operators Group observes that extreme weather is the 'new normal' and that insurers need to prepare and be resilient.[70]

Physical risks are a significant driver of climate liability risk in Canada. To date, flood-related losses comprise the majority of insured losses, 50% of all natural disasters in Canada from 1970-2015 were caused by floods.[71] Where policyholders are underinsured, it affects their personal wealth in terms of the value of their assets.[72] For businesses experiencing flooding, the economic impacts include increased costs associated with the premature replacement of assets, inventory, and infrastructure, providing emergency services, and rising insurance costs.[73]

For Canadian P&C insurers, the biggest risk to date is fluvial and pluvial flooding, as reinsurer Swiss Re observes in the box below.

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[65] Janis Sarra, 'Flotsam, Financing and Flotation: Is Canada "Resolution Ready" for Insurance Company Insolvency? ', in *Annual Review of Insolvency Law* (Toronto: Carswell, 2018) at 1061 (hereafter Resolution Ready).
[66] Insurance Bureau of Canada, 'Insured Damage for Fort McMurray Flood Rises to $522 Million' (August 2020), Insured Damage for Fort McMurray Flood Rises to $522 Million (newswire.ca).
[67] Insurance Bureau of Canada, *Investing in Canada's Future: The Cost of Climate Adaptation at the Local Level,* (27 February 2020), The-Cost-of-Climate-Adaptation-Report-EN.pdf (ibc.ca) (hereafter IBC, *Cost of Climate Adaptation*).
[68] *Ibid* at 9.
[69] *Ibid*.
[70] Cooperators, 'Extreme weather is the new normal', (2021), Extreme weather is the new normal. Prepare and be resilient. (cooperators.ca).
[71] The Canadian Disaster Database, Government of Canada, http://www.publicsafety.gc.ca/cnt/rsrcs/cndn-dsstr-dtbs/index-eng.aspx.
[72] IBC, *Cost of Climate Adaptation,* note 67.
[73] Association of Municipalities of Ontario, *Come Hell or High Water: Flooding, Climate Change and Municipal Responses,* (19 October 2020), AMO_DiscussionPaperComeHellorHighWater20201019.aspx.

> Floods in Canada cause annual average economic losses of over CA$1.2 billion, of which CA$800 million are uninsured, with homeowners bearing 75% of the burden. In 2013, the greater Calgary area and parts of Southern Alberta were inundated by widespread flooding following days of torrential rainfall. Twenty-six neighbourhoods were placed under a mandatory evacuation order. Three people lost their lives and more than 100,000 people were forced to abandon their homes. The total economic damage for the province of Alberta was devastating, with economic losses exceeding CA$5 billion, while insured losses totalled CA$1.9 billion.
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> The two primary types of flood affecting Canada are pluvial flooding and fluvial flooding. Pluvial flooding is created by torrential rainfall of short duration – intense and localized precipitation that can equal the rainfall average of one or two months. Torrential downpours trigger flash floods in hilly areas and inundation in flat areas, overburdening sewer systems and resulting in damage from water backing up. Fluvial (river) flooding is the melting of accumulated winter snowpack (freshet flooding). Combined with days or weeks of continuous rain, rivers can overflow their banks, which can leave thousands of square kilometres of river plains under water for weeks.
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> Swiss Re reports that despite the high number of disasters, residential homes have either remained financially unprotected or only marginally protected from the impact of flooding losses.

Swiss Re, *The road to flood resilience in Canada*[74]

It is important to acknowledge that while climate change is a key driver of flood risk in Canada, other factors are contributing to growing catastrophic losses, including increased urbanization, inadequate investment in modernizing old municipal infrastructure, and consumer investments in fully using their basements, which create risks from flood damage.

In Canada, flood hazard is highly decentralized, and while municipal governments generate flood maps and data, many are outdated and do not provide decision-relevant information for the public, contributing to confusion for property owners in how they should manage their own flood risk.[75] Public disaster assistance programs, currently the main source of risk transfer, face mounting costs and have failed to incentivize rebuilding to reduce or prevent future flood risks.[76] While private insurance coverage expanded in the past five years to include damage caused by overland flooding and sewer backup, it is optional coverage and market penetration remains below 50%; and such coverage is not widely available in high-risk areas.[77] Insurance companies may have an incentive to stop providing flood insurance for high-risk properties, exacerbating costs and stresses on communities recovering from disasters.[78]

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[74] Swiss Re, *The road to flood resilience in Canada,* at 2, 3, 6, https://www.preventionweb.net/files/49295_theroadtofloodresilienceincanada.pdf.
[75] Geneva Association, *Flood Risk Management in Canada, Building flood resilience in a changing climate,* (7 December 2020), at 6, Flood Risk Management in Canada | Research report | Geneva Association (hereafter *Flood Risk Management*).
[76] *Ibid.*
[77] *Ibid* at 7.
[78] *Ibid* at 20.

Canada is also experiencing supply chain disruptions resulting from changing water levels along shipping routes due to extreme weather events, including torrential rain and mudslides.[79] One example is supply chain disruptions along the St. Lawrence River.[80] Changing supply patterns can interfere with productive activity, in turn increasing temporary shutdowns and layoffs, affecting employment security.

For low-lying coastal areas in Canada, many policyholders are now experiencing coastal flooding due to increased cyclone and storm severity, causing storm-force onshore winds that push the water against a coast, with the enormous breakers causing substantial damage.[81] Storm surges have the potential to increase highwater-level frequency in major commercial areas such as Halifax, Vancouver, and Richmond.[82] Over the longer term, policyholders in coastal regions are exposed to sea level rise, increasing claims risk. Businesses that depend on fresh water sources are at risk of operational disruptions due to sea level inundation into fresh water sources needed for production, which may increase the volume and size of insurance claims.[83] For agricultural insurers, increasing frequency of extreme rainfall and associated flooding is causing damage to crops, as well as an increase in infestation of insects.[84]

In addition to direct damage to property, windstorms can give rise to significant pollution and consequent liabilities, especially where industrial sites such as power stations, production facilities, and oil rigs are affected.[85] The IAIS and SIF report that "non-life insurers may be affected by the increased frequency and severity of natural catastrophes on their products like property insurance, transport insurance or liability insurance".[86] Acute events related to climate change can cause business disruption for insurers themselves. An example was the 1998 Québec ice storm that caused a major power failure; it prevented insurers from conducting their normal business operations at a time when policyholders needed support.

In terms of managing the physical risks of climate change, P&C insurers, D&O insurers, and agricultural insurers can adjust their prices annually to account for increasing claims that are arising from changing climate-related impacts. Canadian insurers can model and appropriately price risks because non-life insurance is renewed annually and the industry can price evolving risks, accounting for any unexpected variability. To date, industry modelling has been able to track rapid changes in risk by using quantitative exposure monitoring and NatCat (natural catastrophe) risk modelling capabilities, insurers successfully addressing rapid increases in insured loss potential.[87] Product availability and pricing, as well as the cost and availability of reinsurance for those products, are all driven in part by NatCat models that ascribe probabilities to events generating losses of a certain quantum. However, an industry expert observes that climate change is exposing the problem of over-reliance on these models, as evidenced by the frequency of Toronto flooding in recent years, when

[79] Council of Canadian Academies, *Canada's Top Climate Change Risks The Expert Panel on Climate Change Risks and Adaptation Potential* (2019), Report-Canada-top-climate-change-risks.pdf (cca-reports.ca).
[80] *Ibid* at 63.
[81] IAA, note 52 at 3.
[82] *Flood Risk Management,* note 75 at 20.
[83] Sarra, *From Ideas to Action,* note 14 at 29-37.
[84] *Ibid.*
[85] IAA, note 52 at 4.
[86] AIS & SIF 2020, note 10 at 16.
[87] TFCRAII, note 60 at 11.

modelling had predicted only highly infrequent occurrence over 50 years.[88] Climate change is also highlighting that unmodelled risk can overwhelm insurers, such as the huge increase in wildfire damage claims. Thus, insurers' boards of directors need to understand how insurers are mitigating against 'model risk'.

Over the long term, non-linear and unexpected large increases in claims may result in pricing/liability mismatches. Many Canadian P&C insurers deploy NatCat risk management systems to understand the present value of embedded climate change.[89] However, to date, NatCat modelling does not adequately provide quantitative information over a longer time horizon, in order to appropriate price.[90] This lacuna may undermine the ability to efficiently transfer risk, or, ultimately, may reduce the availability of insurance if premiums become unaffordable. While P&C and general insurers may believe that they have the capacity to continue adjusting exposures from extreme events through annual contract repricing, physical climate risks may change in non-linear ways, resulting in unexpectedly high claims burdens.[91] In turn, uninsured losses may affect resource availability and profitability of firms and specific assets, create supply chain disruptions, reduced access to water for production inputs, and ultimately, impact insurance market demand, with cascading impacts across the financial system.[92]

Thus P&C and other non-life insurers need business plans that account for risks that are likely to manifest over unknown timeframes. The trajectory of non-life claims is closely interrelated with the transitions risks discussed below, because failure by governments and businesses to move swiftly to decarbonize could result in steadily increasing physical impacts and their resultant claims.

Canadian P&C and other non-life insurers use reinsurance to deal with potential large losses, risks that an insurer does not want to or cannot underwrite, such as climate-related catastrophic claims. While reinsurance has given insurers a measure of protection, there is a live issue as to whether reinsurance will continue to be available at a manageable price with the growing frequency and intensity of catastrophic events. There may also be increased disputes between insurers and reinsurers on what reinsurance actually covers. An example was the CA$147 million legal dispute between the insurer and its reinsurers arising out of the Fort McMurray wildfire, where the reinsurer refused to cover this amount under the reinsurance contract and ultimately won that dispute.[93] Where Canadian insurers cannot hedge against catastrophic risks, such events can lead to liquidity risks, and in the future, possibly solvency risk.

The Geneva Association, an international think tank on insurance risk management, has commenced a Task Force on Climate Risk Assessment for the Insurance Industry (TFCRAII),

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[88] Correspondence on file with author.
[89] TFCRAII, note 60 at 8.
[90] *Ibid.*
[91] IAIS and SIF, 'Issues Paper on Climate Change Risks to the Insurance Sector' (July 2018), at 11-12, 14, www.iaisweb.org (IAIS/SIF 2018).
[92] *Ibid* at 14.
[93] David Gambrill, 'Arbitration glitch sidetracks $147-million Fort Mac reinsurance dispute', (21 March 2018) *Canadian Underwriter*, Arbitration glitch sidetracks $147-million Fort Mac reinsurance dispute Canadian Underwriter.

which includes three of Canada's largest insurers, Manulife, Sun Life and Intact Financial.[94] It is developing new climate risk assessment methodologies and tools.[95] It observes that climate change is not yet impacting the insurability of NatCat risk, except for wildfire zones, but limited data make it difficult to isolate impacts on concentrated asset values in high-risk zones.[96] It reports that P&C insurers and reinsurers benefit from a short-tail liability pattern, but they need to be cognizant of risks to insurability and the viability of their business model over the longer term horizon of 2030 to 2050.[97] The TFCRAII observes that rapid intensification of climate change and/or exceeding climate tipping points could have a dramatic impact on both chronic and acute risk, where risk adaptation and mitigation become core cornerstones to maintain insurability.[98]

### ii. On the Assets Side of the Insurer's Balance Sheet

Climate change impacts all insurers in terms of their management of assets and the financial risks associated with carbon-intensive investment portfolios.[99] However, P&C and other non-life insurers invest their assets differently than life and health insurers. They frequently invest with a three to five year time horizon so that their assets are liquid enough to adjust to unexpected claims losses.[100] Even with a shorter investment horizon, non-life insurers need to respond to increasing shifts in capital investment towards more sustainable economic investments. Direct investments by insurance companies, particularly in high carbon-emitting sectors, may be at risk of diminution of the value of assets. For example, increasing insolvencies in the oil and gas sector in Canada can negatively affect insurers' portfolio values. Less capital may affect the insurer's ability to conduct business. The chief financial officers of 50 companies have stated that to "limit the increase in global average temperatures to 1.5°C, emissions need to halve by 2030, and drop to net-zero by the middle of the century for the best chance of avoiding the worst impacts of climate change."[101] Investments are therefore closely entwined with the physical risks and where capital investment is slow to shift, the results are likely continued increases in physical impacts and P&C claims.

Physical risks are also likely to affect existing valuation of insurers' assets, liabilities, and business plans. As noted in part II, insurers that use IFRS need to ensure that they are accounting for climate risks across all accounting standards. At the same time, climate change offers insurers tremendous investment opportunities in the move to a more sustainable economy, as discussed in part V.

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[94] TFCRAII, note 60 at 1.
[95] *Ibid* at 7.
[96] *Ibid* at 8.
[97] *Ibid* at 8.
[98] *Ibid* at 20.
[99] Resolution Ready, note 65 at 1058.
[100] Golnaraghi, note 11 at 16.
[101] Accounting 4 Sustainability, Chief Financial Officer Net Zero Statement of Support, (2021), CFO Net Zero Statement of Support (accountingforsustainability.org).

## 2. Transition Risks

The TCFD reports that transition risks due to climate change include regulatory risks, technological risks, market risks, legal risks, and reputational risks. These risks are interconnected with physical risk as the decisions taken today will influence the frequency and severity of the physical risks. There is still uncertainty in respect of the degree to which governments, businesses, and civil society will work together to transition to effective climate mitigation and adaptation, which creates uncertainty for insurers' assessment of physical and transition risks. The IAIS and the SIF report that transition risks manifest through a decrease in the value of assets due to measures taken to transition to a low-carbon economy.[102] Risk identification requires granular analysis by region and sector, including identifying conduct and compliance risks.[103]

### i. Regulatory Risks

Government policy actions may tighten regulation, cap the use of resources, and introduce carbon taxes or other carbon pricing mechanisms, which can reduce demand for products and services or increase operating costs.[104] Canada's carbon pricing legislation is a good example of policy aimed at internalizing the cost of emissions and encouraging companies to lower carbon-emitting production and services. In Canada, substantial resources have been consumed in carbon-pricing litigation as governments disagree on jurisdictional authority to regulate. These regulatory uncertainties create risks for insurers.

Insurers may also face increased costs of enhanced disclosure requirements or regulatory action as a result of non-compliance with existing climate-related disclosure requirements.[105] While insurers already disclose material risks and how they are managing them, there are likely to be enhanced requirements regarding investment policies if Canadian regulators follow regulatory announcements in the United Kingdom (UK) and European Union, and early climate action announcements by the United States (US) Biden administration.[106] Prime Minister Trudeau and President Biden recently agreed to launch High Level Climate Ministerial cooperation to align Canada/US policies and create more ambitious goals to tackle the climate crisis.[107] Canadian insurers with cross-border operations are also financially affected by governmental policy in other jurisdictions; for example, more than 40 countries have enacted carbon pricing legislation.[108]

Insurers perform a critical function for society by putting a price on risk, and in some cases, constraining capacity, which can help guide behaviour, for instance, decisions regarding

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[102] IAIS & SIF 2020, note 10 at 16.
[103] *Audit Committees,* note 40 at 38.
[104] *Ibid* at 36.
[105] CSA Staff Notice 51-358, note 37 at 11.
[106] HM Treasury, *Chancellor sets out ambition for future of UK Financial Services,* (9 November 2020), Chancellor sets out ambition for future of UK financial services - GOV.UK (www.gov.uk). The White House, *Executive Order on Tackling the Climate Crisis at Home and Abroad*, (27 January 2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad.
[107] Government of Canada, 'Prime Minister of Canada welcomes plan to revitalize and expand ties with the United States' (23 February 2021), https://pm.gc.ca/en/news/news-releases/2021/02/23/prime-minister-canada-welcomes-plan-revitalize-and-expand-ties-united.
[108] *Audit Committees*, note 40 at 36.

whether or not to build on a flood plain. These price/availability signals may help governments and society identify where risky behaviour should simply cease or where adaptation and mitigation actions are required. As insurance capacity becomes constrained, public policy pressure to underwrite unprofitable risks can become significant, with adverse consequences for insurers. Directors need to be alert to political risks attached to pricing and capacity issues. That said, the function of establishing proper risk pricing is a public good. Insurers provide a valuable societal service by helping point governments to the highest priority areas for mitigation and adaptation.

The United Nations Principles for Responsible Investing (UN PRI) reports that a forceful policy response to climate change in the near term is not priced into today's markets, and it is inevitable that governments will be forced to act more decisively than they have thus far, leaving investor portfolios exposed to significant risk.[109] Uncertain timing of regulatory responses to climate change is likely to result in disruptive and disorderly transition, creating non-linear risks.[110] Policy decisions by both governments and the private sector will drive the trajectory of global warming and lack of consistency or clarity create risks to insurers in terms of being able to model and appropriately price risk coverage.[111]

### A. On the Liabilities Side of the Insurer's Balance Sheet

The transition to a net-zero carbon economy is now the express objective of the Canadian government, supported by many of Canada's financial institutions and institutional investors.[112] Given these regulatory signals, directors of insurance companies need to be attuned to the potential impacts of climate-related financial risks on their business, on their investments, and in respect of the types of insurance products and services that their clients may start to request or require.

Uncertainty can arise from changing government policies that amend or repeal climate-related or other closely-related legislation. One example is that the Ontario government in late 2020 amended the *Conservation Authorities Act* to allow it to overrule determinations from the conservation authority that a proposed development is too exposed to flood risk; significantly limiting the ability of conservation authorities to protect Ontario's people and property from flooding.[113] This decision is likely to give rise to increased costs of underwriting claims from flood-related losses.

Policy risk can also arise from inaction. The IBC reports that Canada lacks any national plan to protect Canadians from losses due to climate threats, calling for a national adaptation

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[109] UN PRI, 'Inevitable Policy Response, Preparing financial markets for climate-related policy/regulatory risks', (2020), at 2, https://www.unpri.org/download?ac=9833.
[110] *Audit Committees,* note 40 at 36.
[111] Sarra, *From Ideas to Action,* note 14 at 154-170.
[112] Government of Canada, 'Government of Canada charts course for clean growth by introducing bill to legislate net-zero emissions by 2050', (November 2020), Government of Canada charts course for clean growth by introducing bill to legislate net-zero emissions by 2050 - Canada.ca; Ontario Teachers' Pension Plan, 'Ontario Teachers' Pension Plan commits to net-zero emissions by 2050' (21 January 2021), Ontario Teachers' Pension Plan commits to net-zero emissions by 2050 - Ontario Teachers' Pension Plan (otpp.com).
[113] Conservation Ontario, 'Province Misses Chance to Respond to Ontarians' Concerns About the Environment', citing Bill 229 of the *Budget Measures Act,* passed 8 December 2020, Conservation Authorities Act // Conservation Ontario.

plan.[114] The IBC notes that the federal government's new Task Force on High Risk Residential Flood Insurance and Strategic Relocation is an important development given the urgency of climate-related flooding, and insurers should work with governments to ensure Canadians have access to affordable flood insurance.[115] Canada's Expert Panel on Sustainable Finance recommends protocols to assess insurability earlier in processes to design infrastructure, observing that risk transfer to insurers directly, or via pooled insurance vehicles or capital market parametric structures such as catastrophe bonds, will assist the government manage its liability as Canada's insurer of last resort.[116]

### B. Asset Management

Increasingly, prudential regulators and oversight supervisors in Canada are viewing climate change as part of prudential risk.[117] Insurers may face changing capital adequacy and liquidity requirements if prudential supervisors become concerned about the resilience of the insurance sector, the protection of policyholders, and/or the stability of the financial system. The current consultation by OSFI, discussed in part V, is examining whether insurers' Own Risk and Solvency Assessment (ORSA) need to be adjusted to effectively assess climate-related risks and determine appropriate level of capital.[118] As financial regulators globally shift capital and liquidity requirements, Canada may implement new requirements that align, fully recognizing the direct and indirect risks to insurers' viability.

The Canadian government is considering whether to make TCFD disclosure mandatory for Canadian insurers and other financial institutions, following suit with governments in the UK, France, Sweden, and New Zealand. If it does, insurers will need to realign their financial reporting. In November 2020, the chief executive officers of eight of Canada's largest pension fund investment managers, representing CA$1.6 trillion in assets, issued a statement calling for standardized climate disclosure aligned with TCFD from their portfolio companies, expressly recognizing the need for a post-pandemic recovery that puts sustainability at the centre.[119]

#### ii. Market Risks

Market risks arise from shifts in supply and demand for certain commodities, products, and services as climate-related impacts are increasingly considered, including increased market demand for low carbon and renewable energy, net-zero buildings and other sustainable economic investments, and changing conditions of debt financing due to climate risks.[120]

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[114] IBC, *Cost of Climate Adaptation,* note 67.
[115] *Ibid.*
[116] Government of Canada, *Final Report of the Expert Panel on Sustainable Finance, Mobilizing Finance for Sustainable Growth*, (2019), at 50, En4-350-2-2019-eng.pdf (publications.gc.ca) (hereafter Expert Panel).
[117] OSFI 2021, note 9 at 3.1.
[118] *Ibid* at 4.11.
[119] Press Release, 'Companies and investors must put sustainability and inclusive growth at the centre of economic recovery', https://mma.prnewswire.com/media/1341331/British_Columbia_Investment_Management_Corporation__BCI__CEOs_of.pdf?p=pdf.
[120] *Audit Committees,* note 40 at 33.

### A. On the Liabilities Side of the Insurer's Balance Sheet

On the liabilities side of the balance sheet are two considerations: inaccurate risk assessment and management in a changing market in which some sectors will inevitably shrink; and the risk of future uninsurability. Insurers face market risks arising from contraction of market demand in certain sectors from changing investor preferences that direct capital away from high risks sectors and geographical regions. The TFCRAII reports that as carbon-intensive sectors reduce or suspend their operations in the face of market pressure, the opportunities to offer these businesses insurance protection will diminish.[121] It observes that insurers and reinsurers are facing market pressure to no longer underwrite risks for carbon-intensive businesses in order to reduce insurance liability exposure.[122] There may be market shifts in terms of policyholders seeking different kinds and sources of coverage.

Insurers' capacity to write insurance business may be constrained by increasing risks to policyholders' insured property and assets. The UK Prudential Conduct Authority notes that the insurance industry's current loss estimates are incomplete because of insufficient consideration of secondary perils.[123]

The International Actuarial Association (IAA) notes that "If risk-based pricing rises beyond demand elasticity and customer willingness to pay", and property in high risk areas is being rendered uninsurable due to high exposure to physical risks, it may affect revenue sources."[124] Adaptation measures may prevent or reduce risks, but the location of businesses, homes, and commercial properties may render them uninsurable. In California, insurers have refused to cover more than 340,000 homes because of the extreme risk of wildfires.[125] If insurers are unable to price at a level that homeowners can afford, homeowners will be left extremely vulnerable to loses from climate-related events and insurers will lose premium revenues.

In assessing and pricing climate risk, insurers need to consider a wide range of pathways that include the interlinkages between how the magnitude and pace of action or inaction to address transition risk may influence the trajectory of physical risks.[126] If mitigation actions are insufficient, "climate change will introduce longer-term shifts in climate patterns and present chronic risks that impact the geographic locations and subsequently impact pricing and premiums at which P&C re/insurers can offer insurance protection." [127]

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[121] TFCRAII, note 60 at 45.
[122] *Ibid.*
[123] Charlotte Gerken and Anna Sweeney, 'Letter sent to participating firms: Insurance stress test 2019 and COVID-19 stress testing: Feedback for general and life insurers', Prudential Regulation Authority, Bank of England, (17 June 2020), bankofengland.co.uk. See also Bank of England, *Discussion paper: The 2021 biennial exploratory scenario on the financial risks from climate change*, (December 2019), The 2021 biennial exploratory scenario on the financial risks from climate change | Bank of England.
[124] IAA, note 52 at 17.
[125] Christopher Flavelle, 'Wildfires Hasten Another Climate Crisis: Homeowners Who Can't Get Insurance', (2 September 2020) *New York Times*, Wildfires Hasten Another Climate Crisis: Homeowners Who Can't Get Insurance - The New York Times (nytimes.com).
[126] TFCRAII, note 60 at 22.
[127] *Ibid.*

### B. Asset Management

In the P&C and non-life sector, investments need to remain relatively liquid to address unexpected upsurge in claims. The Bank of Canada observes that the assets that could be affected from changing market preferences are not limited to the oil and gas sector; they include other carbon-intensive sectors such as transportation, real estate, electricity generation, heavy industry, and agriculture.[128] Directors need to be assessing risks to portfolio investments in a timeframe commensurate with the non-life insurer's need to have the capital available to meet claims payments. These transition risks are of particular significance for the carbon-intensive Canadian economy. There is increasing pressure by investors for insurers to reduce insurance asset portfolio exposure.[129]

## iii. Technological Risks

### A. On the Liabilities Side of the Insurer's Balance Sheet

Insurers will need to assess and price risks across their entire market as new technology industries replace the importance of legacy industries, particularly in transportation, energy, and real estate. Legacy industries that lag in shifting to net-zero emissions will decrease in value and may experience liquidity issues. The value of their insurable assets may decline. Risk-based insurance prices can signal to businesses the impacts of the hazards they face, in turn encouraging policyholders to take mitigation measures to reduce their vulnerability.[130] The TFCRAII observes that the ability to offer some lines of business such as surety, where the insurer guarantees performance of a contractual obligation to carbon-intensive sectors, could be significantly affected as governments curb carbon emissions dramatically.[131]

New technologies that support the transition to a net-zero carbon economy can impact the demand for existing products and displace or disrupt existing markets. Climate change can negatively affect the value of both existing and new technologies, such as direct damage from acute events that reduce the value and functionality of the assets, which could lead to increased loss claims. As technological innovations are scaled up to full commercial production and service, there will be new opportunities for insurance underwriting and new investment opportunities for the Canadian insurance sector.[132] Insurers will need to effectively price new technologies before they have had some experience in the market. There may be costs associated with having to write-off the expense of unsuccessful innovations.[133]

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[128] Bank of Canada, note 8 at 2.
[129] See for example, Climate 100+ , Climate Action 100+ and The UN-Convened Net-Zero Asset Owner Alliance, Net-Zero Asset Owner Alliance (allianz.com).
[130] The Geneva Association, 'Benefits of an Integrated Approach to Managing Extreme Events and Climate Risks: From International Policy Dialogue to Action' (September 2016), An Integrated Approach to Managing Extreme Events and Climate Risks | Geneva Association.
[131] TFCRAII, note 60 at 21.
[132] *Audit Committees,* note 40 at 35.
[133] *Ibid.*

### B. Asset Management

As new technologies develop to shift the Canadian economy to renewable energy, energy efficient commercial and residential buildings, and zero emissions transportation technologies, investment portfolios will be impacted. Insurers need to assess the risks to existing investments from developing technologies and also assess the upside potential of shifting their portfolio mix. There are technological risks as companies adopt low-carbon processes or innovations, or languish for failure to adopt them.[134] Older technology assets may more rapidly depreciate in value than previously expected, which may have implications for the value of these assets in insurers' portfolios.

Climate change can also negatively affect the value of assets where insurers are lenders, from increased borrowers' default risk when their businesses are directly negatively impacted and where insurers have holdings in the bond or other debt markets that are carbon-intensive.[135]

## iv. Litigation Risks

There are numerous climate-related liability risks to Canadian insurers, primarily in respect of regulatory orders and/or fines to cure disclosure deficiencies, or lawsuits by investors alleging failure to disclose material climate-related risks.[136] While there are not yet lawsuits against Canadian companies, lawsuits globally initiated by investors, states, cities, and civil society groups are seeking monetary damages from companies for alleged misrepresentation, breach of fiduciary obligations, tort and nuisance liability, and for their historic and current contributions to global warming.[137] There are direct litigation risks to insurers in terms of potential lawsuits against the directors for their inaction in managing financial risks.

### A. On the Liabilities Side of the Insurer's Balance Sheet

There are litigation risks related to the potential costs to policyholder companies from lawsuits if courts find a breach of fiduciary obligation, violation of securities laws for failure to disclose material financial risks to investors, or tort claims as a result of losses due to acute events involving insurer-owned assets.[138]

Early climate-related tort lawsuits against US companies were dismissed based on challenges to standing or causation; however, development of attribution science has meant that litigants can increasingly adduce evidence that attributes proportional harms caused by the specific activities of GHG-emitting firms in their pursuit of damages.[139] Thus, litigation risk is becoming increasingly foreseeable and insurers are increasing their due diligence in

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[134] Sarra, CD Howe, note 28 at 2.
[135] OSFI 2021, note 9 at 3.1.
[136] *Audit Committees*, note 40 at 37.
[137] For a detailed discussion, see Sarra, *From Ideas to Action,* note 14, chapter 7,
[138] Sarra, CD Howe, note 28 at 2, citing a number of studies.
[139] Sarra, *From Ideas to Action,* note 14, at 220, 227. See for example, *Lliuya v RWE AG*, (2015) No 2 O-28, in which the German Court of Appeals has allowed a case by a Peruvian farmer against RWE, Germany's largest electricity producer to move forward into the evidentiary phase to determine whether the farmer's home is threatened by flooding or mudslide as a result of the increase in the volume of the glacial lake, and how RWE's emissions contribute to that risk, discussed at *ibid* 227.

pricing and risk assessment in order to manage the risks of underwriting litigation risk. Policyholders in high carbon-emitting sectors such as mining, transportation, and energy may be facing higher litigation risks for failing to identify and manage climate-related financial risks. These developments offer potential avenues for increased insurance business, but at the same time, can pose a challenge for ensuring the appropriate assessments of probability and materiality are built into products and services. It will require assessment of how to control the short term risks and appropriately price services over the longer term.

Where companies have general insurance, professional indemnity insurance, or D&O insurance, they may look to insurers to cover claims or damages awards from court judgments for damages arising from acute events or claims of breach of directors' duties under securities or insurance company law. Many D&O insurance policies provide both corporate balance sheet protection and protection for directors and officers when they are sued in that capacity and the corporation cannot indemnify them, such as for derivative lawsuits. The IAA reports that:

> Attempts to recover such losses could impact many types of organizations and may frequently involve litigation between the involved parties. In some cases, the party being sued may have at least partial financial protection against such costs through the purchase of general insurance contracts such as professional indemnity or directors' and officers' insurance, with a consequent impact on the insurers. Insurers identify the insurance coverage of legal risk as *liability risk* on their own balance sheets.[140]

The PG&E bankruptcy case in the US highlights the growth in claims against directors for the harms caused by failing to manage climate change risks, including lawsuits again directors and officers personally for failure to act.[141] As third-party insurers, insurance companies have been caught up in hundreds of costly lawsuits.[142]

While there are not yet any final decisions on approximately 20 lawsuits against the major high carbon-emitting companies, a significant finding of liability in one case will significantly increase the liability risks for the other companies, as it did in tobacco and asbestos tort cases, accelerating the risk of probability and quantum of insurance payouts where they do not fall within policy exclusions. In the US, the cases are seeking contributions from these companies for massive adaptation measures that state and municipal governments are having to expend in response to sea level rise, coastal storm surges, and increasing wildfires.[143] If

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[140] IAA, note 52 at 5.

[141] See the discussion in Resolution Ready, note 65. See also York County v Rambo (2019) 3:19-cv-00994 US District Court for the Northern District of California, in which bond purchasers commenced a securities class action against PG&E alleging that it failed to take proper fire mitigation measures, and in failing to do so, directly contradicted representations made in offering documents for US $4 billion worth of bonds, discussed in Sarra, *From Ideas to Action,* note 14, at 224.

[142] Resolution Ready, *ibid*.

[143] Sarra, *From Ideas to Action,* note 14, at 232-238, discussing *State of Rhode Island v Chevron Corp et al*, US District Court for the District of Rhode Island (22 July 2019), CA No 18-395 WES and other cases, all of which have final outcomes pending. In *State of Rhode Island v Chevron Corp et al,* the fossil fuel companies filed a petition for writ of certiorari in December 2020 seeking review of the First Circuit's decision affirming the remand order in the climate change case brought by Rhode Island, Rhode Island v. Chevron Corp. - Climate Change Litigation (climatecasechart.com).

these suits are successful, policyholders may be seeking compensation support from their insurers and there will be impacts on pricing, coverage, and insurability more generally.

Another litigation risk to policyholder companies is from civil society actions. For example, the Conservation Law Foundation has brought legal action against ExxonMobil for 'climate deceit' and clean water act violations at its oil storage facility in Massachusetts and elsewhere that are vulnerable to flooding from storms and rising seas.[144] It alleges that ExxonMobil has known since the 1970s that climate change caused by human activities would be devastating if left unchecked. The case is ongoing.

Given the number of lawsuits pending, there is considerable uncertainty in respect of the risks to D&O insurers. There are similar risks for errors and omission (E&O) insurance, in that professional duties of care could lead to climate-related claims for failure to account for physical and transition risks, impacting E&O coverage and claims payouts.[145] Given the pronouncements by securities regulators and accounting standards setters regarding the requirement to account for and disclose climate risks, accounting and other professionals may face litigation regarding failure to account for and address climate risks in their advice to companies, investors or other stakeholders. Large damages awards could disrupt the D&O and E&O insurance market and create short-term cash flow issues and longer term pricing risks. Commercial general liability policies may also be affected, in terms of duties to defend lawsuits and indemnify the company if it is found liable for failing to address climate-related risks. Many exclusions in commercial general liability policies for pollution do not apply to climate change-based litigation as they tend to cover contaminants, not release of carbon emissions.[146] There is also risk of litigation over the scope of coverage under D&O and E&O policies, to date an untested area of litigation when it comes to climate-related damages.

As noted in the discussion under physical risks, there is already evidence of legal disputes between insurers and reinsurers on what reinsurance actually covers. Where different insurers have underwritten part of the insurance risks of particular projects or companies, there is litigation risk in respect of disputes arising as to which insurers will cover what percentage of the costs of damages from acute events or lawsuit liability judgments.

Insurers are likely to receive increased requests for D&O insurance relating to climate, but do not yet have the history of claims payment to reliably predict future type, quantum, and frequency of claims, making policies difficult to accurately price.

In Canada, appellate courts have recognized that climate change is disproportionately negatively impacting Indigenous communities.[147] In addition to direct claims for insurance coverage, there could be liability risks associated with insurers' investments in activities that are financing projects harmful to Indigenous rights and communities, in violation of Canada's commitment to the United Nations Declaration on the Rights of Indigenous Peoples, the British Columbia legislation codifying that commitment, and the proposed federal legislation

[144] Conservation Law Foundation, 'Exposing ExxonMobil's Dangerous Campaign of Deceit and Denial (2021), Putting ExxonMobil On Trial | Conservation Law Foundation (clf.org). Appeal of a stay of proceedings in this case is ongoing; Conservation Law Foundation v ExxonMobil Corp, Docket 20-1456, http://climatecasechart.com/case/conservation-law-foundation-v-exxonmobil-corp/.
[145] TFCRAII, note 60 at 19.
[146] *Ibid.*
[147] *Reference re Greenhouse Gas Pollution Pricing Act*, 2019 ONCA 544 (Ont CA), at para 12.

doing the same.[148] These new rights and obligations that add to existing constitutional obligations to Indigenous peoples in Canada are untested to date, and insurers will have to assess potential risks (and opportunities) on both sides of the balance sheet.

For catastrophic event coverage, insurers have started to alert local and regional governments that they may not be able to cover increasingly foreseeable damage due to flooding and other severe events, which could impact the availability of municipalities and other governments being able to hedge their risk. There is risk that taxpayers will begin to bring lawsuits against governments for their failure to manage climate mitigation and adaptation to protect homes and businesses in low-lying coastal areas or high risk flood and wildfire areas, with government as underwriters of last resort for harms caused by catastrophic climate events. There is also litigation risk associated with possible legal disputes as to the allocation of payment for losses, and ultimately, risks could materialize in terms of the insurability of particular geographical areas or economic sectors.

Insurers also make societal contributions in that their development of new products can proactively reduce litigation risks for policyholder companies by requiring them, as a condition of continuing insurance coverage, to undertake specified mitigation or adaptation measures, in order that policyholders can limit their premium costs or prevent later loss of insurance coverage. In this respect, managing litigation risk can benefit both insurers and policyholder companies.

### B. Asset Management

Insurers are large institutional investors, and in that capacity are vulnerable to litigation for failure to manage climate-related risks and opportunities. The failure of directors, officers, and accounting professionals to consider and manage climate-related risks to the insurer's business or investments may give rise to liquidity or solvency risks where investors, beneficiaries or other stakeholders seek compensation from the company and/or directors personally. In terms of indirect effects, the value of investments may be impaired if investee companies unsuccessfully defend litigation against them as damages awarded to investors for breaches could affect the value of the insurer's assets.

There are also risks to insurers from failure to comply with securities and financial services law disclosure requirements. As discussed above, Canadian securities regulators have cautioned that climate-related risks are material and need to be disclosed in financial statements. To date, regulators have not been actively enforcing disclosure deficiencies. However, with the recent announcement by the US securities and Exchange Commission that it will begin monitoring and enforcing material gaps or misstatements in issuers' disclosure of climate risks,[149] Canadian securities regulators are likely to follow suit. Failure to adequately disclose material risks in the financial statements could lead to insurers facing administrative or regulatory sanctions for failure to adequately disclose material risks and

[148] United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html; British Columbia *Declaration on the Rights of Indigenous Peoples Act,* SBC 2019, c 44; and Bill C-15, Government of Canada, Bill C-15, An Act respecting the United Nations Declaration on the Rights of Indigenous Peoples (first reading 3 December 2020).

[149] SEC, 'SEC Announces Enforcement Task Force Focused on Climate and ESG Issues' (2021), SEC.gov | SEC Announces Enforcement Task Force Focused on Climate and ESG Issues.

how the company is managing them. While investors may independently allege misrepresentation or fraud against the insurance company in offering of debt or equity securities or breach of continuous disclosure requirements, deficiencies identified by regulators can also lead to civil lawsuits by investors because the breaches have already been evidentiarily established by regulators.

Investors or civil society organizations may also allege 'greenwashing' misrepresentation against companies in which insurers have investments. An example is the consumer class action alleging that Volkswagen wrongfully misled purchasers of its diesel cars into believing that they were much 'cleaner' than they actually were, with the lawsuits in the US settling for US$15 billion thus far.[150] In Canada, the Court ordered Volkswagen to pay $196.5 million to the Canadian government for violating emissions standards.[151] Another case in which an investor alleged that BP misled the shareholders by giving misleading information on the company's management of climate risks was not proceeded with when the company withdrew its advertising in 2020.[152] As with compliance with securities and financial services law, directors can also be held liable for misrepresentation of the company's business plan in respect of managing climate-related risks.

Also on the asset management side, directors or insurers may be faced with the question of whether to commence negligence lawsuits against their external accountants and other professionals that have given outdated and inadequate advice on accounting for foreseeable climate-related financial risks in their advice to directors and officers.

As discussed in part II, under Canadian corporate law, courts will defer to the business judgments of directors in their decisions, if they have acted with care, prudence, skill, and due diligence. That means that duly diligent directors that adopt proactive approaches to risk management and climate mitigation, drawing on external advice and expertise as required, are unlikely to be found personally liable in hindsight for errors of judgment in their oversight of climate risk.[153] Even where directors are not at risk of being found personally liable, the company could be vulnerable for tort or nuisance lawsuits or to regulatory sanctions or investor claims regarding misrepresentation in financial disclosures. Embedding management of these risks as part of core business risk management is key to reducing litigation risk. As the SCC has held: "What is required is a reasonable decision in light of the specific circumstances of each case, not a perfect decision", and "although Board decisions are not subject to microscopic examination with the perfect vision of hindsight, they are subject to examination."[154] Canadian courts are more likely to find that directors met their fiduciary duties where there is evidence that they have fully integrated climate risk management into

[150] See for example, Volkswagen class action settlement, (2017), Volkswagen Diesel Class Action Lawsuit Settlement | Class Action.
[151] Nicole Thompson, 'Volkswagen ordered to pay $196.5M in emissions scandal (22 January 2020), *CTV News,* Volkswagen ordered to pay $196.5M in emissions scandal | CTV News | Autos.
[152] Client Earth v BP; however, the UK National Contact Point for the OECD Guidelines for Multinational Enterprises (NCP) assessed the complaint as being material and substantiated, despite the complaint not proceeding due to BP ending its ad campaign; Client Earth, 'BP greenwashing complaint sets precedent for action on misleading ad campaigns' (June 2020), BP greenwashing complaint sets precedent for action on misleading ad campaigns | ClientEarth.
[153] *Audit Committees,* note 40 at 37.
[154] *BCE*, note 27, at para 155.

their business plans, strategies, and financial reporting, even where decisions are made on less than perfect information.

#### v. Reputational and Social Risks

All insurers face some reputational risks as climate-related impacts from acute and catastrophic events continue to increase and policyholders see insurance companies as failing to fully protect them while continuing to be profitable. While insurers view annual price adjustments as an effective way to manage the changing landscape, consumers and civil society may view these adjustments as unfair. Insurers can recognize and manage these reputational risks. 'Social risk' is a broad catchall of risks to stakeholders and society at large, including consumers, employees, and pension and annuities beneficiaries, which can generate very public challenges in social media and elsewhere on insurers' social license to operate.[155]

Confidence in Canada's insurance market, and risks that climate change may disrupt it, mean that reputational risks are prudential risks, as a failure of public confidence could set off a series of consumer moves away from Canadian insurers.

### A. On the Liabilities Side of the Insurer's Balance Sheet

Insurers are viewed by most Canadians as financial protection for unanticipated events in their lives and businesses. In this respect, while private insurers are profit-based organizations, they also have fiduciary and social obligations to policyholders to manage their capital such that they have the assets available to cover policyholders' claims. One reputational risk is that the insurable market will decrease, and the number of Canadians exposed to climate risk without insurance coverage will increase, creating a protection gap for Canadians that is so large that the industry's reputation is impaired. Such a gap is both a market risk and reputational risk. Failure to effectively manage climate-related risks and opportunities can result in severe reputational damage to insurers and, in some instances, challenge the public's acceptance of their activities.

There are reputational risks with respect to consumers, particularly as millennials and Gen C Canadians start to express consumer preferences for insurance and investments that are aimed at a sustainable economy. OSFI gives the example of reputational risk where an insurance company may be viewed as a perpetrator of climate change due to investments in high carbon-emitting industries.[156] A recent example is the very public campaign by a global coalition of 32 environmental, Indigenous, and citizen groups calling on the insurance companies listed on the insurance certificate on a Canadian pipeline to drop their insurance policies ahead of the renewal deadline.[157]

There is growing civil society recognition that a 'pure actuarial fairness' approach to insuring against climate-related acute and chronic impacts is unfair to homeowners and small

[155] *Ibid* at 36.
[156] OSFI 2021, note 9 at 3.1.
[157] Stand.Earth, 'Insurance companies must drop Trans Mountain Pipeline, says global coalition', (2019), Insurance companies must drop Trans Mountain Pipeline, says global coalition | Stand.earth/

businesses.[158] A recent study concluded that under this model, 1 in 20 Australian homes will be uninsurable by the end of the century, leaving the owners of those properties vulnerable, with strong reputational risks to insurers because losses to due wildfire, windstorms and other acute events are not due to policyholders' actions.[159] The study reports that bushfires in Australia are resulting in insurers refusing to insure hundreds of thousands of homes in high risk areas, or insuring only at extremely high prices, resulting in policyholders on fixed-pension incomes being faced with the stark choice of paying high premiums or risk losing their primary asset.[160] As insurance premiums increase, owners of high-risk properties may choose to purchase fire insurance while owners with lower-risk properties will opt out, in turn raising premiums further for high-risk owners, causing those owners to opt out of the regime, further depressing the market for insurance.[161]

While Canadian insurers have not yet started to refuse to insure homeowners in high risk areas, such refusals in California and elsewhere have spillover effects for public perception in Canada. There are reputational risks that are intergenerational, in that property losses now will diminish the assets available to the next generation to get a start in the housing market. Losses experienced by families from catastrophes now will resonate with the children as they mature into consumers of insurance, if they view insurers as unresponsive to the losses their families experienced.

There is also a growing civil society discussion regarding 'insurance fairness as justice', with advocates calling for basic insurance to be a universal right that is unconnected to individual risks, similar to the structure of the Canadian health care system.[162]

### B. Asset Management

New intergenerational social alliances are calling on companies, including insurers, to be accountable for their past, present, and future GHG emissions.[163] Civil society, governments, and investors are increasingly assessing companies' climate action plans against the United Nations Sustainable Development Goals, which are expressly aimed at tackling climate change in a manner that works towards ending structural inequality, racism and poverty, improving health and education, creating clean water, promoting economic growth and sustainable cities, and working to preserve ocean and land ecosystems.[164] As these efforts gain momentum, there is heightened risk of negative publicity in relation to insurers' investment choices and their failure to have meaningful mitigation and adaptation plans.[165]

Institutional investors are also increasingly incorporating environmental, social, and governance (ESG) factors, including climate-related factors, into investment decisions and actively engaging with insurers on climate-related issues and larger social concerns such as

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[158] D Burkett and J Moss, *Social Justice and The Future Of Fire Insurance In Australia,* UNSW Climate Transitions Series, (20 May 2020), The-Future-of-Fire-Insurance-in-Australia-2.pdf (climatejustice.co) (hereafter UNSW).
[159] *Ibid* at 11.
[160] *Ibid* at 7.
[161] *Ibid*.
[162] *Ibid*.
[163] *Audit Committees,* note 40 at 36.
[164] United Nations, Sustainable Development Goals, https://sdgs.un.org/goals.
[165] *Audit Committees*, note 40 at 36.

the impact on the rights, well-being, and interests of people and communities.[166] Shareholders have started to use engagement strategies, including direct engagement with the board; refusing to vote for directors during reelection; and/or voting against renewal of external auditor contracts where they believe directors and auditors are failing to manage climate-related risks to the insurer's assets.[167]

[166] See for example, University of Toronto Asset Management Corporation, 'Responsible Investing' (2020), https://www.utam.utoronto.ca/responsible-investing/.
[167] IIGCC, 'Voting for better climate risk reporting: the role of auditors and audit committees', https://www.iigcc.org/download/iigcc-2018-voting-and-climate-risk/?wpdmdl=917&refresh=5dee6f5b13c1a1575907163. For a detailed discussion, see Sarra, *From Ideas to Action,* note 14, chapter 7.

# IV. Climate-Related Financial Risks to Canadian Life and Health Insurers

## IV. CLIMATE-RELATED FINANCIAL RISKS TO CANADIAN LIFE AND HEALTH INSURERS

There are 63 federally-regulated life and health insurance companies in Canada,[168] as well as some life and health insurers regulated by provincial authorities. These insurers offer a range of products such as term life insurance, whole life insurance, critical illness and disability insurance, long-term care insurance, and group insurance.

The most immediate climate-related risks for life and health insurers is on the asset management side, in that insurers are large investors with portfolios increasingly at risk due to climate-related regulatory risks, market risks, technological changes, and increasingly, reputational risks. In this respect, climate-related financial risks are similar to the financial risks facing pension funds. A critically important issue facing life and health insurers is that they have not yet embedded climate risk in their core business planning or financial reporting. It is also important to take note of the risks to non-life insurers discussed in part III, as some of those risks create secondary impacts on life and health insurance.

### 1. Physical Risks of Climate Change to Life and Health Insurers

Until recently, many Canadian life and health insurers believed that climate change affects only non-life insurers. They are now beginning to realize that the physical risks associated with climate-change are not restricted to P&C insurers, D&O and other non-life insurers, although the timelines for life and health risks are quite different and require different kinds of risk management strategies. Overall, the physical risks of climate change to Canadian life and health insurers are generally not expected to have a material impact on their finances over the short term, but the longer term is unknown.

#### i. On the Liabilities Side of the Insurer's Balance Sheet

The TFCRAII reports that given the longer-time horizon of the risks assumed by life insurers, the mortality impact is likely to be small relative to a life insurer's overall book of business.[169] Existing risk management practices use early warning and emergency preparedness, and are diversifying assumed risks, which help to reduce concentrated exposures and limit the potential for outsized mortality losses.[170] However, it cautions that while the mortality impact has historically been small, what is not yet known are the long-term outcomes of respiratory illnesses due to wildfires and increased pollution, increased spread of infectious diseases, and agricultural impacts that adversely affect diet and nutrition.[171] While limited data make it difficult to identify longer term impacts, the TFCRAII concludes that it will take time before mortality reaches a level of statistical significance relative to the overall size of an insurer's exposures.[172]

The morbidity risks are more discernible, although statistically, they are not yet significant. Heavy rain that overwhelms drainage, water treatment and sewage systems is increasingly

[168] OSFI, Who We Regulate, (2021), Who We Regulate (osfi-bsif.gc.ca).
[169] TFCRAII, note 60 at 24.
[170] *Ibid.*
[171] *Ibid.*
[172] *Ibid* at 23-24.

contaminating drinking water.[173] Floodwater can also mix with pollutants such as agricultural waste, chemicals or metals.[174] Flooding can therefore lead to physical health problems for policyholders, and while the claims incidence today is not a risk to insurance coverage, primarily because Canada's national healthcare system is the primary underwriter of health impacts in Canada, it is unknown how a potentially sudden huge increase over time will change the risk profile of morbidity claimants. One industry expert observes that actuarial tables have shown steady increases in longevity for several decades now, and life and health insurers continue to use mortality reinsurance as a means of managing short-term earnings at the expense of future profits. Reinsurers continue to be willing to underwrite mortality risk.

To date, morbidity risk in life and health insurance are one to three year risks that are largely underwritten as part of group employee benefits or short term individual health policies. They can therefore be re-underwritten and re-priced in relatively short timeframes. Given Canada's national health care system, life and health insurers only underwrite a minor and low risk portion of Canadians' health risks, and costs such as claims for medication are passed through to the employer client under group life and health policies. Long-term disability can be a more significant longer term underwriting risk, but to date, the long-term impacts of climate are not statistically significant for life and health insurers.

One largely unquantified risk to health insurers is the long-term mental health effects of increasing climate impacts. Severe hurricanes and flooding have been shown to harm mental health over extended periods, including long-term health issues, such as anxiety, depression, and post-traumatic stress disorder.[175] For example, two years after Hurricane Katrina, most adults with post-traumatic stress disorder still had not recovered.[176] Actuarial tables do not yet reflect these evolving risks.

Another health impact for which actuarial risk tables have not yet been recalibrated are the long-term effects of unprecedented average temperature increases, heatwaves, and increasing air pollution.[177] Environment Canada defines a heatwave as a period of more than three days when temperatures are more than 32°C.[178] Related health impacts of extreme heat can include edema, loss of consciousness, heat stroke, and/or exacerbation of chronic cardiac or respiratory illness.[179] 'Urban heat islands' in some cities are amplifying heat-wave-related health impacts.[180] Heatwaves also increase GHG emissions from extensive use of air conditioning, which adds to pollution and creates air quality issues for asthmatics and other vulnerable policyholders.[181] Insurers may face unexpected higher claims that have not been factored into their premiums, which in turn may affect the life and health sector's

[173] Government of Canada, 'Climate Change and Public Health Factsheets' (2021), Climate change, floods and your health - Canada.ca.
[174] *Ibid.*
[175] *Ibid.*
[176] *Ibid.*
[177] KPMG, Preparing for climate-related disclosures, (2020), Preparing for climate-related disclosures - KPMG Global (home.kpmg).
[178] National Collaborating Centre for Environmental Health, 'Extreme Heat', (2021), Extreme Heat | National Collaborating Centre for Environmental Health | NCCEH - CCSNE.
[179] *Ibid.*
[180] Sarra, *From Ideas to Action*, note 14 at 23, 27.
[181] IAA, note 52 at 2-3.

underwriting portfolios.[182] Climate change impacts can also affect the general workforce from increased employee illness from heatwaves and pollution.[183] Depending on the frequency with which health, disability, and life insurance products are repriced, there is some risk of price/liability mismatch over the longer term. While group policies are generally reviewed and renewed every few years, unprecedented increases could affect contract renewals.

While climate change is primarily viewed as a morbidity risk in Canada, globally, effects of warming on mortality are becoming increasingly recognized. *The Lancet* reports that vulnerable populations were exposed to an additional 475 million heatwave events globally in 2019, increasing both morbidity and mortality.[184] Swiss Re reports 70,000 additional deaths in France during the 2018 heatwave, suggesting that "heatwaves are expected to become more severe, spanning areas previously not impacted where a large proportion of the world population lives."[185] In the past decade, heat-related mortality in people older than 65 years increased by 53.7%.[186] While the insurance sector has been able to manage risks from these outcomes, risk of exponential increases has not yet been folded into actuarial calculations. Internationally, there are growing calls to recalibrate actuarial tables and other modelling to more accurately reflect the long-term mortality risks from climate acute and chronic events, so that mortality risks and outcomes are accurately quantified and standardized.[187]

In terms of chronic effects, climate change harms biodiversity, creating direct and indirect impacts for insurers. Global warming means that bacteria and viruses that could not previously survive in Canada are now spreading.[188] *The Lancet* reports that the "climate emergency and COVID-19, a zoonotic disease, are both borne of human activity that has led to environmental degradation."[189] Deforestation and habitat loss creating animal and bird migration is resulting in pathogen migration, carrying new viruses to humans.[190] Infectious diseases carried by insect vectors such as ticks are increasing in Canada, driven by a warming climate that has allowed ticks to invade new environments and carry Lyme disease and other diseases harmful to humans.[191] Climate change has made conditions favorable to the spread of infectious diseases, waterborne diseases, and mosquito-borne diseases.[192] These changes will affect health claims in Canada in unprecedented ways that have not yet been accounted for in modelling.

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[182] IAIS & SIF 2020, note 10 at 18.
[183] IAA, note 52 at 3.
[184] N Watts *et al, The 2020 report of The Lancet Countdown on health and climate change: responding to converging crises* (2 December 2020), https://doi.org/10.1016/S0140-6736(20)32290-X (hereafter Watts).
[185] Swiss Re Group | Swiss Re.
[186] *The Lancet,* 'Climate and COVID-19: converging crises' (2 December 2020), *The Lancet,* Vol 397, Issue 10269 at 71, Climate and COVID-19: converging crises (thelancet.com) (hereafter *Lancet*).
[187] D Saulnier *et al,* 'Disaster risk reduction: Why do we need accurate disaster mortality data to strengthen policy and practice?', UN Office for Disaster Risk Reduction About UNDRR | UNDRR; UK Parliament, Environmental Audit Committee published its Ninth Report of Session 2017–19, *Heatwaves: adapting to climate change* (26 July 2018), Heatwaves: adapting to climate change: Government Response to the Committee's Ninth Report - Environmental Audit Committee - House of Commons (parliament.uk).
[188] Climate Atlas of Canada, (2020), Lyme Disease Under Climate Change | Climate Atlas of Canada.
[189] Watts, note 184.
[190] Dr Aaron Bernstein, 'Coronavirus, Climate Change, and the Environment, A Conversation on COVID-19' (2020) Harvard T H Chan School of Public Health, Coronavirus and Climate Change – C-CHANGE | Harvard T.H. Chan School of Public Health.
[191] Climate Atlas of Canada, (2020), Lyme Disease Under Climate Change | Climate Atlas of Canada.
[192] *Lancet,* note 186.

The World Economic Forum's 2020 global risk survey reported that biodiversity loss is the second highest risk globally.[193] In a report co-authored with Deloitte, EY, KPMG and PwC, the World Economic Forum reported that US$44 trillion of economic value generation – over half of the world's total GDP – is moderately or highly dependent on nature and the services it provides, and that the ongoing destruction of biodiversity and consequent loss of nature's benefits present material risks to businesses.[194] In turn, claims for supply chain disruption could increase, or loss of key supply sources could lead to business failure and loss of insurance business. Businesses may or may not be insured for these losses, and insurers need to be attuned to potential liabilities arising from such risks. Loss of biodiversity may also impact insurers to the extent that they are underwriting new medications or other businesses highly dependent on natural capital for production of goods and services.

Moreover, as the COVID-19 pandemic has illustrated, when the public infrastructure that supports catastrophic events becomes overburdened, such as full capacity of hospital beds, surgeries, chemotherapy, and other treatments are delayed, which increase morbidity and mortality risks.[195] If Canada experiences an unexpected exponential increase in heat-related or virus-related hospitalizations, there will be ripple effects on reduced access to important medical and health services, in turning increasing life and health claims.

The COVID-19 pandemic is illustrative of Canadian insurers' recent experience, in that, to date, morbidity and mortality impacts have been immaterial for the industry, even though the pandemic has been devastating personally and economically for millions of Canadians. Scenario testing for pandemics have priced risks to account for probability and magnitude, taking into account advances in medicine and public health interventions. In early 2020, before it was clear that the societal response to the pandemic would be effective, uncertainty created massive negative market impacts on Canadian life and health insurers. Had Canadian governments not responded in a timely and effective manner, the impact of this failure on the economy and on insurers' balance sheets would have occurred far sooner, and would have had far greater impact, than morbidity/mortality experience.

While climate-related pricing mismatch risk has not been on the radar of Canadian life and health insurers, actuaries are increasingly focusing on relationship of climate change to insurance term life, annuities, and other products.[196] The IAIS and SIF report that "life insurers in particular may incur increased losses due to an increase in mortality rate from climate events like heatwaves".[197] Pricing risks are increasing from insured assets having changing risk profiles from changing mortality profiles and demographic trends in health services, and strategic and market risks arising from changing market dynamics.[198]

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[193] World Economic Forum, *Global Risks 2020, An Unsettled World*, (15 January 2020), https://www.weforum.org/reports/the-global-risks-report-2020.
[194] Towards Common Metrics, note 52 at 27.
[195] Camille Bains, 'Canada learning from surgery cancellations during first wave of pandemic: doctor', *Toronto Star* (19 November 2020), Canada learning from surgery cancellations during first wave of pandemic: doctor | The Star.
[196] IAIS & SIF 2020, note 10 at 18.
[197] *Ibid* at 16.
[198] *Ibid.*

Mortality risk may become relevant over longer-time horizons for life and health insurers, given the potential impact of prolonged exposure to more severe events.[199] Insurers need to monitor changing risk in terms of how it may affect their book of business over the medium and longer term, essentially from now until 2050.[200] The TFCRAII observes that the potential effects of climate change on longer-duration lines of business, such as mortality protection and retirement savings, will require establishing assumptions for societal progress in combatting climate change and how climate change may impact key drivers such as economic growth and financial market performance.[201] The TFCRAII reports:

> Over the long term (2030–2050), the impacts of both physical and transition climate change risks are more uncertain for life re/insurers. For example, they could cause a rise in mortality through increased cardiovascular and respiratory illnesses, agricultural impacts that adversely affect diet and nutrition and the increased spread of infectious and vector-born diseases, or reduction in mortality linked to reduced air pollution from transitioning to a low-carbon economy, with some segments of society being more adversely impacted than others… It is important, when considering climate change's potential effects on mortality rates and related claims – and an insurer's overall financial picture – to also account for changes in longevity trends and impacts on other lines of business. An assessment of how climate change may impact the life insurance industry should also account for the potential impacts of second-order effects, such as potential declines in economic growth, population migration, geopolitical conflict and shifts towards low-carbon business models, which will highly depend on the pace and degree of action to address the various aspects of transition risk (i.e. policy, legal, market and technological risks). However, research on the impacts of climate change on life exposures – and whether the impacts are statistically significant in light of the long-term nature of life re/insurers business – needs to be further developed.[202]

Life and health insurers may not be as nimble in their ability to reprice insurance where the chronic effects of climate change create sudden and sustained increases in morbidity from extreme heatwaves and continuing rapid spread of new pathogens due to a warming climate. Actuarial tables have not yet been revised to model these potential risks over the long term. In the future, it could affect the insurer's liquidity and stability of its capital structure. Appropriate pricing will control this risk, but it may require more innovative pricing models that account for greater uncertainty regarding the trajectory of climate change.

### ii. On the Assets Side of the Insurer's Balance Sheet

Climate-related physical risks will affect the assets side of the life and health insurer's balance sheet. The risks are to assets insurers hold, such as commercial buildings, production plants, and infrastructure, particularly given the concentration of Canadian insurer portfolios in real estate.[203] The extent of the risk will depend on where the assets are located, such as in high-flood-risk areas or low-lying coastal regions. Ironically, the degree to which

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[199] TFCRAII, note 60 at 18.
[200] *Ibid*.
[201] *Ibid* at 18.
[202] *Ibid* at 24-25.
[203] Sarra, *From Ideas to Action*, note 14 at 14.

there are risks to these portfolio assets will depend in part on the insurance coverage of these assets.

There are also risks to the value of investments as the market shifts. In meeting the COP 21 Paris Climate Agreement goals, two-thirds of the world's fossil fuel reserves will not be used, placing trillions of investment dollars at risk absent carefully planned transition.[204] Former Bank of Canada Governor Mark Carney cautions that to hold global warming to even 2°C means that 80% of coal assets, 50% of gas assets, and one-third of oil assets are unburnable and will be stranded.[205] Stranded assets are assets that experience unanticipated or premature write-downs, devaluations or conversions to liabilities, given changing risks in the transition to net-zero emissions.[206] Insurers should be aware of the implications that climate change has for asset class risk, including commodity risk exposures, industry risk exposures, operational risk, country risk exposures, asset life projections, stranded asset risk, and heightened volatility of expected returns. With the goal of the upcoming COP26 summit in 2021 being to galvanize the world to move to net-zero carbon emissions, risk to investment portfolios may increase further.

A 2019 survey of 439 institutional investors found that the majority believe that climate risks are already materializing, with important financial implications for their portfolios.[207] Most have taken at least first steps towards managing climate risks, conducting analyses of carbon footprints and stranded asset risks.[208] Failure to effectively manage these risks in insurers' asset management and investment portfolios could, over the longer-term, create liquidity risk. As will be discussed in part V on targets and metrics, the lack of data on scope 3 carbon emissions creates some gaps in insurers' understanding of the impacts of climate-related risks on their assets.

Capital and liquidity buffers required by Canadian prudential regulators will assist in ensuring there is capital to cover unexpected decreases in the value of insurers' assets, at least in the short term. For life and health insurers, asset exposures due to physical climate risks may manifest over longer time horizons, and Canadian prudential supervisors are currently assessing long-term risks against current liquidity and capital adequacy requirements.

## 2. Transition Risks

Canadian life and health insurers invest in long-term assets that are aimed at ensuring they have the capital available to meet long-term obligations to policyholders of the products they offer. Life insurance contract duration can range from ten years to several decades, involving payout patterns of 20 to 30 years, life insurers generally aiming to generate predictable and

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[204] *Ibid* at 14. See also ICGN, *Guidance on Investor Fiduciary Duties* (2018) at 10 and 11, DownloadURL.pdf (flpbks.com) (hereafter ICGN, *Guidance*).
[205] Mark Carney, 'Presentation to UK House of Lords Financial Affairs Sub-Committee', (18 March 2020), EU Financial Affairs Sub-Committee - Summary - Committees - UK Parliament.
[206] Ben Caldecott and Jeremy McDaniels, 'Stranded Generation Assets: Implications for European Capacity Mechanisms, Energy Markets and Climate Policy', (2014), Smith School of Enterprise and the Environment, University of Oxford, Microsoft Word - SAP Utilities working paper - FINAL FINAL.docx (ox.ac.uk). See also OECD, 'Divestment and Stranded Assets in the Low-Carbon Transition', (2015), Divestment and Stranded Assets in the Low-carbon Economy 32nd OECD RTSD.pdf.
[207] Sarra, *From Ideas to Action*, note 14 at 100.
[208] *Ibid.*

stable income to match cash flows of long-dated liabilities under life insurance contracts' long duration periods.[209] They pay careful attention to the asset-liability mismatch, with interest rates risk being a key issue.[210] The unexpected timing and severity of climate change impacts creates risks in being able to predictably price the risk over the long term. Key to successful transition is making climate-related risk a core business issue, building financial resilience to climate risks and supporting the transition to a net-zero carbon economy.[211]

### i. Regulatory Risks

#### A. On the Liabilities Side of the Insurer's Balance Sheet

Regulatory risks for life and health issuers mirror some of the risks discussed above for non-life insurers, such as uncertainty or changing carbon pricing mechanisms, increased costs of enhanced disclosure requirements, or regulatory action as a result of non-compliance with existing climate-related accounting and disclosure requirements. The non-alignment of federal and provincial governments on carbon pricing creates regulatory uncertainty that may or may not create risks on the liabilities side of the balance sheet. Delays in regulatory responses to climate change are likely to result in disruptive and disorderly transition, creating non-linear risks.[212] Lack of consistency or clarity by regulators across Canada create risks to insurers in terms of being able to model and appropriately price risk coverage.

#### B. Asset Management

Where government policy mandates ambitious targets to decarbonize in sectors such as energy and transportation, it could lead to a diminution of the value of insurers' investments in carbon-intensive sectors. If insurers hedge their risks by diversifying their investments away from carbon-intensive sectors and press their investee companies in those sectors to decarbonize, many of these risks will be managed. Insurers also want more transparency from investee companies on their actions to decarbonize and report on their progress to net-zero emissions, to assist in controlling portfolio risk. Key is asking investee companies to explicitly include climate risks and opportunities in their financial reporting.

A secondary risk for life and health insurers is the broader economic impact if Canada fails to manage climate change risk effectively, which can have an impact on life and health insurers' assets. Canada's Expert Panel on Sustainable Finance recommended that insurance oversight regulators issue a clear supervisory statement on "priorities and plans for assessing materiality, governance, management, disclosure, and stress test resilience in the context of climate risk [that] would help to encourage financial institutions to take a more proactive and strategic approach."[213] It questioned the potential suitability of long-dated revenue-generating assets for life insurance companies, recommending a review of "whether the risk weightings of such assets were unduly inhibiting investment in privately financed infrastructure that could contribute to climate resiliency and GHG reductions."[214]

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[209] Golnaraghi, note 11 at 16.
[210] *Ibid*.
[211] *Ibid* at 8.
[212] *Audit Committees,* note 40 at 36.
[213] Expert Panel, note 116 at 19.
[214] *Ibid* at 25.

OSFI has highlighted the need for more comprehensive portfolio data and a universal climate-related risk taxonomy that ensures consistency and comparability of climate-related financial exposures between federally-regulated financial institutions.[215] Insurers that are interested in sustainable green investing observe that there is need for generally accepted definitions and standards for 'green' as an asset class, and expansion of investable-grade opportunities that meet their investment criteria and risk appetite.[216] Insurers need new tools and methodologies to properly monitor and verify green bond performance and to monitor due diligence of asset managers.[217] Canada's largest financial institutions are currently working with the Canadian Standards Association for a made-in-Canada transition taxonomy, a tool that defines the effect of financial products on carbon emissions, recognizing Canada's financial dependence on high-carbon-emitting sectors and the need for financing to transition the Canadian economy. The Committee plans to release a draft in 2021, hopefully offering a taxonomy that facilitates green investment and transition financing, and encourages meaningful targets and metrics for transition to net-zero emissions.

Canada is likely to enhance regulatory oversight in line with trends globally by prudential supervisors. Given the number of insurance companies deeply invested in the Canadian financial system, the transition taxonomy has the potential to assist insurers with risk management, offering standardized, transparent, and comparable definitions of investment products that directors can use to consider investment opportunities in green technologies, renewable energy, decarbonization of real estate investments, and other sustainable economy opportunities. It will also help insurers identify which sectors and companies are best positioned to transition so that they can take advantage of climate-related opportunities.

### ii. Market Risks

#### A. On the Liabilities Side of the Insurer's Balance Sheet

To date, the market risks to life and health insurance coverage in Canada have not presented a significant challenge, given limited morbidity and mortality risks. That could change if some of the physical risks unexpectedly increase exponentially or there are unforeseen catastrophic events that the sector has not properly modelled and priced. Market forces may limit the viability of legacy industries such as oil, gas, and auto, which could reduce the insurance market for group life and health policies in sectors that have historically been stable sources of revenue.

OSFI observes that current assumptions in financial modelling may not capture the impact of climate change on future direction of insurers' risk exposure, noting, as many financial organizations have, that historical loss data due to climate impacts is insufficient or unavailable as a predictor of future patterns.[218] That means that modelling of future risks cannot rely solely on previous claims payout or financial gain/loss experience.

[215] OSFI 2021, note 9 at 7.2.
[216] Golnaraghi, note 11 at 21.
[217] *Ibid* at 21, 27.
[218] OSFI 2021, note 9 at 4.10.

The TFCRAII reports that life insurers may be directly exposed by being stigmatized by the market for supporting carbon-intensive industries.[219] It suggests that long-term projections of risks for life and health insurers entail uncertainty due to all the transition risks and may require qualitative risk assessment that can support price-setting and the allocation of capital in near-term underwriting until more quantitative data and tools are available.[220] The TFCRAII also reports that credit rating agencies such as Moody's and Standards and Poor's are building capacity in climate risk analytics into their insurer credit rating practices.[221]

### B. Asset Management

There are changing investor preferences regarding where they invest their capital, with growing interest in renewable energy and green technologies. There are risks to insurer investment portfolios where they are concentrated in carbon-intensive sectors or in real estate vulnerable to the intensifying frequency and severity of flooding and other acute events. As major holders of both debt and equity investments, insurers need to identify and manage these risks. OSFI recently completed a preliminary quantification of transition risk, finding that insurance companies' transition risk is mainly driven by their investment portfolios.[222]

Physical and transition risks can interact and materialize into liquidity risks that weaken the financial resilience of insurance companies.[223] The Chief Risk Officers Forum, a global forum for chief risk officers of insurance companies, cautions that systemic risks due to climate change can cause tipping points where a critical threshold is crossed, leading to a system change and triggering acceleration of climate warming.[224] It reports:

> Some of these changes are reversible while others are irreversible. Sudden and non-linear changes are hard to predict and require a good understanding of climate systems and feedback loops. Therefore, monitoring tipping points is key to tracking climate risk. With emissions and warming continuing at near the highest IPCC projections, the risk of tipping points being triggered may increase in the long-term… In combination with the concentration of assets and people in exposed areas, such tipping points could aggravate economic and insured losses.[225]

There is also increasing demand by market participants for transparency in how insurers and other companies are managing climate-related risks and opportunities. The chief executive officer of BlackRock, the world's largest global asset manager with US$8.67 trillion in assets under management, sent a letter to investee companies in 2021, including its Canadian

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[219] TFCRAII, note 60 at 23.
[220] *Ibid* at 8, 28-29.
[221] *Ibid* at 10, citing https://www.spglobal.com/ratings/en/products-benefits/products/esg-in-credit-ratings#sector-report-cards.
[222] OSFI 2021, note 9 at 7.2.
[223] *Ibid* at 3.4.
[224] CRO Forum, 'Emerging Risks Initiative Major Trends and Emerging Risk Radar 2020 Update, (2020) at 6, ERI-Risk-Radar-2020-update.pdf (thecroforum.org).
[225] *Ibid.*

investee companies, observing a 'tectonic shift' towards financing net-zero transition.[226] BlackRock expects companies to disclose how their climate action plan is incorporated into their long-term strategy and is reviewed by the board of directors, asking all its investee companies to report in alignment with the TCFD framework and the Sustainability Accounting Standards Board (SASB).[227]

The Cooperators Group has committed halving it emissions by 2030 and achieving net-zero carbon emissions by 2050.[228] The signatories to the United Nations-convened Net-Zero Asset Owner Alliance, an alliance of the world's largest pension funds and insurers with US$2.4 trillion in investments, have committed to carbon-neutral investment portfolios by 2050.[229] Lloyd's is ending its insurance of coal and oil sands businesses and is ceasing investments in carbon-producing assets by January 2022.[230] Swiss Re, one of the largest providers of reinsurance, has committed to reducing its carbon footprint to net-zero by 2030.[231] Other insurers and reinsurers such as Allianz, AXA, AXIS Capital, Chubb, Generali, Hannover Re, The Hartford, Liberty Mutual, Munich Re, QBE, SCOR, and Zurich Insurance have publicly committed to cutting their insurance and/or investments in carbon-producing fossil fuel businesses.[232] Canadian insurers may be exposed to investment risks if they do not adjust their insurance and investment policies accordingly.

Given that a significant percentage of Canada's current GDP is generated in high carbon-emitting sectors, risks have not yet been effectively managed. As global insurers and reinsurers withdraw capacity and investments, Canadian companies investing in transition capabilities may be unable to get essential insurance coverage. If Canada is declared an 'anathema' by external capital, it will be harder for Canada to transition to net-zero carbon emissions. Domestic insurers will be asked to step up, potentially without the same level of reinsurance support, creating new risks. If Canadian insurers decide to help by providing capital, but don't have the expertise to select and price risk properly, such as an auto insurer agreeing to provide capacity for low-carbon emitting high-tech capability beyond its expertise, there could be risks. Boards will need to ensure they are effectively identifying and managing market transition risks or they may be exposed to legal claims against them for allocating capital to transition instead of green finance.

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[226] Larry Fink, BlackRock letter to CEOs, (January 2021), https://www.blackrock.com/us/individual/2021-larry-fink-ceo-letter (hereafter BlackRock letter).
[227] *Ibid.*
[228] The Co-operators Group, *Annual Integrated Report 2019,* at 7, 47, Integrated Annual Report 2019 (cooperators.ca); Accounting 4 Sustainability, Chief Financial Officer Net Zero Statement of Support, (2021), CFO Net Zero Statement of Support (accountingforsustainability.org).
[229] CDPQ news release, Investors make unprecedented commitment to net zero emissions' *Cision,* Net-Zero Asset Owner Alliance, (2019), Investors make unprecedented commitment to net zero emissions (newswire.ca). In addition to its carbon emissions and energy reduction targets, Zurich Insurance has operated as a carbon neutral business since 2014; Zurich, 'Carbon neutrality at Zurich' (2020), Carbon neutrality at Zurich | Zurich Insurance.
[230] L Howard, 'Lloyd's Moves to End Insurance and Investments in Coal for Climate Sustainability', (December 2020) *Insurance Journal,*
[231] Swiss Re, 'Swiss Re secures prestigious A rating from CDP for tackling climate change' (December 2020), Swiss Re secures prestigious A rating from CDP for tackling climate change | Swiss Re.
[232] Howard, note 230.

### iii. Technological Risks

#### A. On the Liabilities Side of the Insurer's Balance Sheet

Technological innovations and disruptions in transitioning the Canadian economy will have significant impacts on the competitiveness and financial stability of organizations, which could mean loss of some industries in which life and health group insurance policies have longstanding contracts. However, as new technologies are scaled up, there are new markets for group life and health insurance revenues.

#### B. Asset Management

Technological breakthroughs such in renewable energy and energy efficiency could have a material impact on insurer investment portfolios. As with non-life insurers, it will require effective risk management and strategic planning to ensure that insurers have the appropriate investments to meet the longer-term commitments to policyholders, including starting to diversify away from high-carbon emitting sectors that are unwilling to transition. Canadian insurers have started to identify which companies are committing to a business plan aligned with a sustainable economy or that move legacy industry companies towards net-zero emissions so that they can more appropriately invest to manage their climate-related risks.

### iv. Litigation Risks

For life and health insurers, to date, risks of lawsuits or regulatory sanctions for breach of securities or financial services law fall primarily on the asset side of the balance sheet.

#### A. On the Liabilities Side of the Insurer's Balance Sheet

The litigation risks to life and health insurers on the liabilities side have been minor to date. There has not been a climate-related mass event that has fatally injured a large segment of the population that might give rise to claims such that the sector could not manage the risks. However, given the lack of data on the long-term morbidity and mortality risks from wildfires and heatwaves, this situation may change in the future.

#### B. Asset Management

On the asset management side, life and health insurers are large institutional investors, and in that capacity are vulnerable to litigation for failure to manage climate-related risks and opportunities. The failure of directors, officers, and accounting professionals to consider and manage climate-related risks to the insurer's business or investments may give rise to liquidity or solvency risks where investors, beneficiaries or other stakeholders successfully seek compensation from the company and/or directors personally. The value of investments may be impaired if investee companies unsuccessfully defend litigation against them as damages awarded to investors for breaches could affect the value of the insurer's assets.

Insurers may also face lawsuits where directors or their asset managers fail to meet securities law or financial services law disclosure requirements. As discussed in part III, it is likely that Canadian securities regulators will start enforcing violations in disclosure of

material climate-related risks, which could lead to insurers facing administrative or regulatory sanctions for failure to adequately disclose material risks and how the company is managing them. Investors can leverage the evidence underpinning these regulatory sanctions into claims for damages due to misrepresentation.

Depending on the type of assets held, the companies managing the insurer's assets could be held liable under tort and nuisance lawsuits for the emissions generated. Given that there are not yet final judgments by courts that establish the parameters of liability for climate-related risk management and oversight, there is uncertainty in respect of liability risk for life and health insurers as asset managers.[233] Once Canadian courts establish principles for assessing liability, insurers will be able to manage their risks and price the risks appropriately.[234]

Also on the asset management side, there is potential for lawsuits to be filed against directors for failure to identify and manage climate related risks to the firm. Challenges to directors' duties of care will likely take the form of allegations that directors failed to act prudently and with the care, skill and diligence of a reasonable person in the circumstances. Give the widespread acceptance of climate-risks, 'reasonableness' assessed against an objective standard, as discussed in part II, means that directors could be held personally liable for a breach of their duty of care.[235] Directors may also be vulnerable to oppression remedy suits from shareholders or secured creditors where directors unfairly disregard or unfairly prejudice the interests of securityholders.

One litigation risk is lawsuits brought by civil society groups, leveraging judgments against governments to commence lawsuits against companies. For example, in *Urgenda Foundation v The Netherlands*, the Dutch Supreme Court held that the government has obligations to urgently reduce emissions in line with its human rights obligations, and directed it to reduce GHG emissions by 25% by the end of 2020 compared to 1990.[236] Building on this finding, Milieudefensie/Friends of the Earth Netherlands and co-plaintiff 17,000 citizens brought a lawsuit against Royal Dutch Shell alleging that its contributions to climate change violate its duty of care under Dutch law and human rights obligations, seek a court ruling directing Shell to reduce its carbon emissions by 45% by 2030 compared to 2010 levels and to zero by 2050.[237] The case was heard in December 2020 and judgment is pending. If the court finds for the plaintiffs, it will set a precedent globally, encouraging lawsuits in Canada and elsewhere.

There are over 1,600 cases pending globally, of which more than 400 are brought against companies. Depending on the outcomes, litigation risks could suddenly become quite significant. An example of a lawsuit against an institutional investor was the lawsuit filed by a pension plan member against the Retail Employees Superannuation Trust in Australia. It settled in November 2020. The court-approved settlement requires the fund to actively identify, quantify, and embed climate risk in its investment strategy and asset allocation mix; to implement a net-zero carbon footprint by 2050; to ensure that its investment managers

[233] *Ibid.*
[234] *Ibid.*
[235] For a discussion, see Sarra, *From Ideas to Action,* note 14, chapter 7.
[236] OSFI 2021, note 9 at 2.1.
[237] *Milieudefensie et al v Royal Dutch Shell plc* 2019, Hague Court of Appeals, http://climatecasechart.com/non-us-case/milieudefensie-et-al-v-royal-dutch-shell-plc/.

are taking active steps to measure and manage climate-related financial risks; to measure, monitor, and report outcomes towards a net-zero carbon footprint across all its investments; and a host of other measures relating to asset management.[238]

### v. Reputational and Social Risks

#### A. On the Liabilities Side of the Insurer's Balance Sheet

Climate impacts affect the quality of life and financial security of policyholders. Unlike P&C insurance, as Canadians age or become less healthy, they are less able to change life and health insurance carriers for a reasonable price, and in some instances, they may no longer be insurable. There could be reputational risks if chronic negative health outcomes accelerate and the public perceives insurers are not protecting them from unexpected expensive medication and health care costs.

As discussed above with respect to P&C insurers, life and health insurers can also face reputational risks if they continue to insure the activities of high-carbon-emitting companies. Unions that are supporting ambitious moves to decarbonize might negotiate joint employer-union health and welfare group insurance plans away insurers with a poor carbon investment history, causing loss of group business.

#### B. Asset Management

Lawsuits brought by civil society against companies are gaining interest from the public. The above-noted Urgenda lawsuit against the government had 800 plaintiffs; that number grew to 17,000 in the lawsuit against Shell. The climate strikes that were held globally in 140 countries in 2019 drew hundreds of thousands of people, many of them the next generation of insurance consumers. If insurers are seen as supporting high carbon-emitting companies through their insurance practices or their investments, they could lose business on reputational grounds.

[238] McVeigh v Retail Employees Superannuation Trust 2018 NSD1333/2018 Federal Court of Australia and McVeigh v Retail Employees Superannuation Trust, settlement statement, (2 November 2020), Microsoft Word - Statement from Rest 2 November 2020.docx (columbia.edu).

# V. Effective Climate Governance

## V. EFFECTIVE CLIMATE GOVERNANCE

Key to fulfilling their duties, directors should ensure that the board has in place effective governance mechanisms to oversee and manage climate-related risks and opportunities. Swiss Re reports that to achieve net-zero by 2050, 10 to 20 billion tons of carbon emissions need to be removed from the atmosphere annually, meaning that insurers need to be attuned to the massive policy and market shifts that will have to occur to transition to net-zero emissions.[239] Directors in the insurance sector, as in other sectors, need to adapt their business plans even as climate governance tools and best practices are developing. The TCFD framework offers guidance for getting started, and this part briefly canvases governance, risk management, strategy, and targets and metrics, with specific reference to insurers. Of note is that each component is deeply interrelated with the others.

### 1. Governance

Given that the most immediate significant risk to materialize for Canadian insurers is to their assets, insurers need to identify climate-related risks to their investment portfolios and create an action plan to transition, integrating climate risks into the company's investment strategies, core business plan, and financial reporting, reducing the carbon footprint of their portfolios across all equities and fixed income assets.[240] They can incentivize reduction of carbon emissions by their investee companies through engagement and their investment decisions. They can take advantage of the growing market in renewable energy and other green technologies, including investing at all stages from start-up to scaled-up commercial operations.[241] They can reduce the carbon footprint of their own operations to become sustainable and reduce costs associated with carbon pricing.

Directors already pay careful attention to capital adequacy and liquidity requirements, and this oversight now extends to developing a credible climate action plan to transition their business towards net-zero emissions in line with Canada's commitment.[242] As OSFI observes, building resilience to climate-related risks "requires a holistic approach that includes the development of a climate-related risk appetite and strategy, and implementation of governance" practices that are commensurate with the insurance company's circumstances and that consider risks across all asset classes.[243] The insurer's climate action plan should be disclosed in the financial statements, identifying both the risks and upside opportunities.

The TCFD 2020 status report notes that "insurance underwriters are developing better capabilities for assessing climate-related risk in their decision-making", but concludes that greater disclosure is urgently needed.[244] Of 138 insurers the TCFD assessed, only 24% have governance that manages climate-related risks.[245] While insurers are doing better on strategy, with 49% considering climate-related risks and opportunities, only 8% assess the

[239] Swiss Re, 'Swiss Re SONAR New emerging risk insights' (June 2020), at 28, 50, ZRH-20-05321-P1_Sonar_Publication_2020.pdf (swissre.com) (hereafter Swiss Re SONAR).
[240] Sarra, *From Ideas to Action*, note 14, discussed at length in chapter 5.
[241] *Ibid*.
[242] Resolution Ready, note 65.
[243] OSFI 2021, note 9 at 3.7.
[244] TCFD 2020 Status Report, (September 2020), 2020-TCFD_Status-Report.pdf (bbhub.io).
[245] *Ibid* at 17.

resilience of their strategy. Only 24% are integrating climate risks into overall risk management, and even fewer have set emissions reduction targets.[246] Similarly, a 2018 survey by the Geneva Association of 62 C-suite executives from 21 insurers found that only 38% consider climate change a core business issue.[247] Another 29% have started to map impacts of climate change on their operations; however, one third of the C-suite surveyed still consider climate change to be part of non-financial corporate social, environmental, and sustainable responsibility.[248] It means that insurers globally have a long way to go in embedding effective climate governance and climate resilience as part of their core business.

There are an increasing number of tools available to directors of insurance companies to assist in identifying and managing climate-related financial risks.[249] The IAIS and SIF have published a report that offers guidance for boards on governance strategies that can assist directors in identifying the changing risk landscape.[250] The TCFD suggests how the board can determine the processes and frequency by which directors are informed about climate-related issues; how the board considers climate-related issues when reviewing and guiding strategy, major plans of action, policies, annual budgets, and business plans; and how directors can set the organization's performance objectives and monitor progress against goals and targets.[251] The United Nations Environment Programme Finance Initiative is working with insurers to develop analytical tools to support insurance industry disclosures that are in line with the TCFD recommendations. The IFRS Foundation is currently considering establishing a sustainability standards board to develop a single set of sustainability accounting standards.[252] SASB is working with other organizations to propose a global prototype climate-related financial disclosure standard aimed at assessing how sustainability matters create or erode enterprise value.[253]

The UN Principles for Sustainable Insurance issued a guide in 2020 for management of ESG risks, including climate risks, for non-life insurers.[254] In 2021, it issued a guide on insuring the climate transition, the working group involving Canadian insurers Intact, Desjardins, TD Insurance, and the Cooperators.[255] It recommends establishing a company strategy at the board and executive management levels to identify, assess, manage, and monitor climate and other ESG issues in business operations; integrating sustainability issues into employee engagement and training programs; and incorporating climate-related litigation risk into the governance of the insurer, including in relation to the senior management's and directors'

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[246] *Ibid* at 17.
[247] Golnaraghi, note 11 at 16-17.
[248] *Ibid*.
[249] See for example, *Audit Committees*, note 40; World Economic Forum, *Integrated Corporate Governance: A Practical Guide to Stakeholder Capitalism for Boards of Directors* (June 2020), Integrated Corporate Governance: A Practical Guide to Stakeholder Capitalism for Boards of Directors | World Economic Forum (weforum.org); TCFD Knowledge Hub, TCFD Knowledge Hub - TCFD Knowledge Hub (tcfdhub.org).
[250] IAIS & SIF 2020, note 10.
[251] TCFD, *Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures,* (2017), at 14, FINAL-TCFD-Annex-Amended-121517.pdf (bbhub.io).
[252] IFRS, 'IFRS Foundation Trustees announce next steps in response to broad demand for global sustainability standards', (2 February 2021), IFRS - IFRS Foundation Trustees announce next steps.
[253] SASB *et al*, 'Reporting on enterprise value Illustrated with a prototype climate-related financial disclosure standard', (December 2020), at 4, Reporting-on-enterprise-value_climate-prototype_Dec20.pdf (netdna-ssl.com)
[254] UN Principles for Sustainable Insurance, *Managing environmental, social and governance risks in non-life insurance business* (June 2020), PSI-ESG-guide-for-non-life-insurance.pdf (unepfi.org).
[255] UN Principles for Sustainable Insurance, *Insuring the climate transition Enhancing the insurance industry's assessment of climate change futures* (January 2021), PSI-TCFD-final-report.pdf (unepfi.org).

responsibilities.[256] The Principles for Sustainable Insurance include a commitment to embed ESG issues relevant to the insurance business in decision-making; work with clients and business partners to manage risk and develop solutions; work with regulators and other key stakeholders to promote widespread action on ESG issues; and demonstrate accountability and transparency in regularly disclosing progress in implementing the Principles.[257]

As part of their governance oversight, directors should consider shifting the insurer to circular economy activities in its operations and investment portfolios. While concept of 'circular economy' is still evolving, its goal is to replace the existing paradigm of produce/use/recycle/trash with a much more sustainable framework that uses natural production components that can be returned to the Earth after productive use; directs use of any production outputs (formerly waste) in new productive activities; designs the reduction and eventual elimination of waste into the system of production; and is aimed at net-zero carbon emissions.[258]

### 2. Risk Management

The board of directors is legally responsible for oversight and management of climate-related risks. The board can assign climate risk management to specific board committees such as the audit committee and/or the risk committee, but the board as a whole, and directors as individuals (jointly and severally), have a fiduciary duty to effectively manage the risks and opportunities.[259] It means that that directors should have the information and skills to be able to effectively oversee climate risk management.[260] Identifying, modelling, and managing risk is at the core of the insurance industry. Insurers will need to carefully consider, as part of risk management, contract design, limits, exclusion, pricing, risk appetite, and reinsurance in the provision of such services.[261] As Carol Hansell has opined, directors need to be proactive:

> Since there can be little doubt that directors are aware of climate change risk, they must inform themselves of the risk that climate change poses to the corporation and how that risk is being managed. If this information is not already included in management reports to the board, the board should direct management to deliver the necessary information to them… Making room in the board agenda for regular reports from management on climate change risk is an important part of the board's oversight of risk, but also sends a clear message to management that climate change risk is a priority… [Directors must] be satisfied that the corporation is addressing climate change risk appropriately.[262]

The discussion of physical and transition risks discussed in parts III and IV offer a starting place to assess risk. Directors should systematically review and evaluate the combined exposure of their investment and underwriting portfolios to climate risk; for example, less-

[256] *Ibid* at 75.
[257] *Ibid.*
[258] Sarra, *From Ideas to Action,* note 14 at 16-17.
[259] *Ibid* at 63-78.
[260] *Ibid.*
[261] IAA, note 52 at 8.
[262] Hansell, note 44 at 22-24.

liquid asset classes that were appealing in an environment of sustained low-interest rates, such as real estate, are now more exposed to climate risk.[263]

An important risk management factor for directors to consider is reinsurance. The Canadian general insurance market is comprised of many small insurers that are heavily dependent on the international reinsurance market to provide coverage for major natural catastrophes.[264] Although Canadian acute events, to date, have not presented an issue for large reinsurers, concurrent claims in other regions could create potential for a reinsurance gap to emerge if claims costs rise significantly, or reinsurers stop reinsuring or restrict reinsurance for these natural catastrophes.[265] OSFI has advised Canadian insurers to consider whether their reinsurers' business is concentrated in these areas, and if so, whether there is potential for loss of reinsurance coverage.[266]

Actuaries have been modelling the impacts of climate change on the insurance sector for more than a decade.[267] The IAA's Climate Risk Task Force reports that, to date, a "key challenge in actuarial modelling is the limited technical knowledge that currently exists regarding the translation of future climate possibilities into financial variables that can be modelled" and data deficiency is the main challenge that insurers face in assessing their climate risk exposures.[268] Swiss Re Group reports that as part of risk management, it is paramount for insurers to have reliable data to project future outcomes in mortality and morbidity, its modelling reveals that health impacts are likely significantly underestimated.[269] Actuaries can assist in risk management by modelling climate-related liabilities, considering demographic assumptions and resulting changes that might emerge in longevity, mortality, and morbidity.[270] The IAA notes that:

> Changes in climate-related risks increase uncertainty about trends in the data on which assumptions are based. The impacts of climate change are interrelated, and changes in one area potentially have compounding effects in other areas. Actuaries need to consider the appropriate way to allow for that uncertainty. They also need to consider whether the underlying models used in their work appropriately allow for climate-related risks in the short term as well as in the longer term…
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> Given that many general insurance products are annually renewable, it may be thought that it will be possible to adjust premium rates each year to reflect the gradually emerging impacts of climate change. However, it can be difficult to identify trends in changes in the frequency and/or severity of large catastrophe events and hence to determine the appropriate premiums for physical risks or determining reinsurance requirements. In addition, actuarial models, and the assumptions

[263] McKinsey & Company, *supra* note 54 at 7.
[264] Resolution Ready, note 65 at 1062.
[265] *Ibid* at 1062, citing Jeremy Rudin, OSFI Superintendent, "A Climate of Change" (remarks delivered at the 2016 National Insurance Conference of Canada, Vancouver, BC, 29 September 2016), OSFI, http://www.osfi-bsif.gc.ca/Eng/osfi-bsif/med/sp-ds/Pages/jr20160929.aspx4 (Rudin).
[266] Rudin, *ibid.*
[267] See for example, C Curry *et al*, *Determining the Impact of Climate Change on Insurance Risk and the Global Community, Key Climate Indicators*, (2012), at 2, https://web.actuaries.ie/sites/default/files/erm-resources/research-2012-climate-change-report.pdf.
[268] IAA, note 52 at 2-3.
[269] Swiss Re SONAR, note 239.
[270] IAA, note 52 at 7.

> underlying them, may need to be adapted and developed to recognize that past experience may not be a guide to the future. [271]

New risk management tools such as climate modelling and climate-specific scenario testing can assist in identifying material risks, assessing their potential magnitude, frequency, and probability, aiding directors in setting and evaluating insurers' climate-related risk management strategy.[272] McKinsey suggests that insurers may need to adopt climate-specific stress-testing, beyond traditional catastrophe models, to understand the impact of climate-related risk on their portfolios, using advanced-analytics to project how various acute and chronic hazards are likely to affect them over time to inform pricing and portfolio adjustments.[273] OSFI observes that insurers' climate strategies need to adhere to the insurer's risk appetite, commensurate with the size, complexity, and risk profile of the insurance company.[274] It notes that scenarios can identify potential exposures to climate-related risks, and "can be used to stress test not only the institution's financial resilience to severe but plausible climate-related shocks on individual assets, asset classes or the balance sheet as a whole, but also its operational resilience."[275]

The TFCRAII reports that forward-looking scenario analysis is essential for insurers to assess emerging risks in the face of uncertainty, observing that quantitative assessment can be employed to assist in decision-making regarding price-setting and the allocation of capital over the short term, while qualitative assessment may be employed to facilitate longer-term strategic planning.[276] It observes:

> quantifying the impacts of climate change can be challenging, particularly over the long term, given the inherent uncertainty of key drivers including the timing and breadth of policy action and technological developments, second-order impacts to economic variables and other relevant changes to economic and social conditions.
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> . . .
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> Qualitative scenario building and evaluation could reveal key change agents and feedback loops, supporting early strategic perspectives on the positioning of an insurance portfolio and related investment decisions. Similar benefits are realised when comparing the use of qualitative versus quantitative approaches for life re/insurance exposures where the effects of second-order variables (potential declines in economic growth, population migration, geopolitical conflict, etc.) may be more material than the expected impact to mortality rates.[277]

In 2021, the Bank of Canada and OSFI are conducting a pilot program using climate-change scenarios to better understand the risks to the financial system in transition to a low-carbon economy.[278] The pilot includes Intact Financial Corp, Manulife, Sun Life Financial, and the Co-operators Group, and is aimed at building the climate scenario analysis capability of

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[271] *Ibid* at 6-7.
[272] OSFI 2021, note 9 at 4.9.
[273] McKinsey, note 54 at 5.
[274] OSFI 2021, note 9 at 4.2.
[275] *Ibid* at figure 9.
[276] TFCRAII, note 60 at 28.
[277] *Ibid* at 15, 30.
[278] Bank of Canada, 'Bank of Canada and OSFI launch pilot project on climate risk scenarios' (16 November 2020), https://www.bankofcanada.ca/2020/11/bank-canada-osfi-launch-pilot-project-climate-risk-scenarios/.

Canadian authorities and financial institutions. The pilot seeks to support the financial sector in enhancing the disclosure of climate-related risks; increasing understanding of the financial sector's potential exposure to climate risks; and improving authorities' understanding of financial institutions' governance and risk-management practices around climate-related risks and opportunities.[279] The pilot is aimed at ensuring that the financial sector is prepared to manage through a wide range of transition scenarios.[280] OSFI's plan is to share the knowledge generated with smaller and mid-cap financial institutions.

The tools are still developing and are not yet fully reliable, which means that insurers are having to build new predictive models and risk analyses at the same time they are having to manage the risks. While the outcomes of climate change are predictable, the timing and magnitude of impacts are difficult to predict as insurers cannot rely on prior claims history to develop predictions.

Insurance products and pricing structures need to align policyholders' financial interests with behaviour that promotes innovative climate-adaptive outcomes and product design features that meet changing policyholder needs.[281] Insurers should consider mitigating or eliminating risks where the investment portfolio has a lower-than-anticipated value due to the direct impact of, or correlation with, climate-related risks, and in this respect, actuaries can advise directors on sound methods of measuring climate-related risks in an investment portfolio so that they have data on which to make informed decisions.[282] Other professionals such as accountants, compliance officers, and auditors can assist in designing new risk management models.

### 3. Strategy

Directors and officers should be developing forward-looking business strategies that are in the insurer's best interests, balancing their obligations to policyholders and the need for consistent returns on investment, considering the interests of consumers, investors, and other stakeholders. Insurers can make a pivotal contribution by ensuring that their underwriting and investment portfolios are consistent with the Canadian government's commitment to transition to net-zero carbon emissions. A number of meta-studies have illustrated that ESG investing, including climate resilient investment, consistently produces equal or better economic returns.[283] BlackRock reports that notwithstanding last year's pandemic, mutual funds and exchange traded funds invested $288 billion globally in sustainable assets, a 96% increase over 2019.[284]

As institutional investors, insurance companies can support the transition to net-zero emissions and protect their investment portfolios from transition risks. Insurers should be committing to net-zero emission strategies through reduction of scope 1, 2, and 3 emissions and enhancement of natural carbon sinks and carbon capture technologies. Swiss Re reports

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[279] *Ibid.*
[280] *Ibid.*
[281] IAA, note 52 at 2-3.
[282] *Ibid* at 12.
[283] G Friede *et al,* 'ESG and Financial Performance: Aggregated Evidence from More than 2000 Empirical Studies (2015) 5 *Journal of Sustainable Finance & Investment* at 210-233.
[284] Larry Fink, 'BlackRock letter to CEOs', (January 2021), https://www.blackrock.com/us/individual/2021-larry-fink-ceo-letter.

that the insurance industry can provide specialist risk transfer knowledge and capacity to partners in other sectors of the economy, leading by example as long-term investors in the net-zero journey.[285] It observes:

> For some engineering insurers, the surge in renewable energy capacity has already been a key source of growth. Product innovations such as revenue insurance coverages for no-sunshine, no-wind and drought in the case of hydro energy can complement traditional P&C covers for construction, operation and maintenance. While the opportunities are enormous, insurance market prices need to increasingly reflect this changing risk landscape. Caution is warranted with the accumulation risks from increasing complexity of systems, the number of interfaces, and the exposure to extreme weather events… Insurers can partner with industry to establish risk assessment standards and procedures, including judging degree of success for new technologies, and contribute risk management know-how.[286]

There are opportunities for the insurance sector on the liability side. Insurers are able to offer risk modelling and pricing expertise. They can develop innovative and specialized risk transfer products and services that will build financial resilience to impacts of extreme events, improving the distribution channels and payout mechanisms.[287] Insurers are designing products and services to be responsive to business production, supply, and distribution disruptions from acute climate-related events and products aimed at reducing GHG emissions and enabling pathways for commercialization of green technologies and carbon capture and storage innovations.[288]

Insurers can also develop insurance products that help build climate resilience and incentivize decarbonization. One example is green building insurance, which creates incentives to reduce carbon emissions.[289] The IAA observes that the "opportunities for successful product management include creating insurance products that align policyholders' financial interests with behaviour that promotes improved climate outcomes", which insurers can achieve by "introducing incentives that eliminate or control risk and investment and pension products that are low-carbon or provide capital for initiatives that seek to directly address climate-related risks." [290] Economic resilience can only be maintained when protection gaps due to climate risks are properly addressed.[291] The insurance industry also has opportunities in the 'mobility market' in terms of the opportunities for more flexible and digital insurance solutions, which can encompass new forms of electric transport such as e-bikes, and InsurTech insurance models for gig economy workers.[292] New products can include "innovative risk financing and risk transfer measures to provide protection cover for

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[285] Swiss Re SONAR, note 239 at 28.
[286] *Ibid* at 28-29. It reports that: "Carbon removal solutions – also known as Negative Emission Technologies (NET) and practices – broadly fall into three categories: nature-based processes that use natural plants to capture carbon dioxide from the air, technological processes that use engineering tools, and hybrid approaches, using both natural and technological processes", *ibid* at 35.
[287] Golnaraghi, note 11 at 8.
[288] TFCRAII, note 60 at 11.
[289] *Ibid* at 7.
[290] IAA, note 52 at 8.
[291] M Zweimueller and H van Voorden, 'Implementation Assessment of the Supervisory Material of the Holistic Framework', IAIS 2021 Newsletter (31 January 2021), at 2, www.iaisweb.org.
[292] Swiss Re SONAR, note 239 at 31.

governments, businesses and individuals and distribute or pool the residual economic risk".[293] Insurers can help advance transition to a net-zero carbon economy through their underwriting business, investment strategies, and active reduction of their carbon footprint.[294]

Insurers have an opportunity to offer innovative solutions to cover new and more frequent hazards, both acute and chronic, such as parametric pricing—insuring policyholders against events of a set magnitude instead of insuring the value of losses.[295] McKinsey suggests that long-standing actuarial approaches to risk modelling will need to evolve as climate risk changes, and insurers need to understand the consequences and knock-on effects of specific climate hazards within the context of different sectors and geographic areas in order to develop new market opportunities.[296] Insurers' strategies can better protect businesses from the effects of systemic risks and play a role in matching risk-transfer solutions to alternative capital from investors with more risk appetite.[297]

The TFCRAII reports that P&C insurers and reinsurers have started to leverage their deep knowledge in NatCat and extreme weather risk modelling to better assess the risks and opportunities to insurers' real estate holdings, the task force working to develop "holistic methodologies and tools for conducting meaningful and decision-relevant climate risk assessment and scenario analysis" that considers physical and transition risks, defines and executes meaningful and decision-relevant scenarios, and addresses gaps in data, methodologies, and tools.[298]

The insurance sector also has a role in working with governments to shift from what Golnaraghi refers to as 'post-disaster reaction' towards a more integrated risk management framework, including preventive risk reduction, risk financing, and risk transfer measures.[299] Public Safety Canada has commenced working with insurers to create a national plan to provide low-cost national flood insurance to protect homeowners who are at high risk of flooding and who are without adequate insurance protection.[300] Canada's insurers are engaging with the governments at all levels to address gaps in coverage and affordability, but there is much more to do, such as working with governments to design zoning restrictions on land use, adopting robust building codes that mitigate risk of flooding and have net zero emissions, and developing flood adaptation strategies.[301]

Insurers can collaborate with governments to begin to address existing data gaps by developing guidelines to standardize mapping and improve data sharing; and to provide greater clarity on national decarbonization policy strategies, including phasing out fossil fuel

[293] Golnaraghi, note 11 at 11.
[294] *Ibid* at 8, 25.
[295] McKinsey, note 54 at 6.
[296] *Ibid.*
[297] *Ibid.*
[298] TFCRAII, note 60 at 7.
[299] Golnaraghi, note 11 at 7.
[300] Public Safety Canada, *Building a Safe and Resilient Canada* (2020), Departmental Results Report 2019-2020, at 9, 35, Departmental Results Report 2019-20 (publicsafety.gc.ca).
[301] Golnaraghi, note 11 at 6, 11. See also, New York City Panel on Climate Change, 'Special Issue: Advancing Tools and Methods for Flexible Adaptation Pathways and Science Policy Integration' (2019) New York Academy of Sciences.

subsidies and establishing tax incentives or other financial support for green investment.[302] Insurers can press governments to fund post-catastrophe reconstruction that prevents recurrent risks, builds climate resilience, and creates incentives for risk reduction and prevention measures for new construction.[303]

### 4. Targets and Metrics

The old adage that "you manage what you measure" is particularly appropriate for climate-related financial risks. Once the insurer has a climate action plan, it needs to develop financial metrics to assess and manage material climate-related risks and opportunities, and to measure progress in meeting goals, with strategies that can be adjusted as more knowledge on climate impacts is developed.[304] Directors need to account for risks and opportunities on both sides of the insurer's balance sheet. It is important to develop and price insurance products for policyholders and for risk transfer strategies such as reinsurance and derivatives. On the asset management side, insurers need a plan to decarbonize their own business and to engage with investee companies on emissions reductions or shift their investment portfolios. The board should be ensuring that the company is developing consistency in disclosures measuring climate-related risks and opportunities through the use of metrics and taxonomies.

Insurers should disclose scope 1, scope 2, and, where possible, scope 3 GHG emissions and the related risks. Scope 1 emissions refer to all direct GHG emissions; scope 2 refers to indirect emissions from consumption of purchased electricity, heat, or steam; and scope 3 refers to other indirect emissions, upstream and downstream, not covered in scope 2 that occur in the value chain of the reporting company, such as transport-related activities in vehicles not owned or controlled by the company, outsourced activities, and waste disposal. Insurers should describe the targets used to manage climate-related risks and opportunities and disclose performance against targets.[305]

Tackling scope 3 emissions is challenging, but could make a huge contribution to decarbonization. The World Economic Forum reports that eight supply chains account for more than 50% of global emissions.[306] It has proposed nine key actions that companies can deploy to engage suppliers to create a net-zero supply chain, allowing insurers to boost their climate impact, including: building a comprehensive emissions baseline, gradually filled with actual supplier data; set ambitious and holistic reduction targets, reducing emissions by revisiting product design choices; reconsidering geographic sourcing strategy; set ambitious procurement standards; and develop internal governance mechanisms that introduce emissions as a steering mechanism to align the incentives of decision-makers with emission targets.[307]

Once the material risks, targets, and metrics are identified, directors need to ensure that the internal controls over managing and reporting the financial effects are in place, working with

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[302] *Flood Risk Management*, note 75 at 6, 21, 27.
[303] *Ibid* at 7.
[304] TCFD *Final Report,* note 56 at 14.
[305] *Ibid* at 63, citing IPCC, *Climate Change 2014 Mitigation of Climate Change,* Cambridge University Press, 2014.
[306] World Economic Forum, *Net-Zero Challenge: The supply chain opportunity* (21 January 2021), at 6, Net-Zero Challenge: The supply chain opportunity | World Economic Forum (weforum.org).
[307] *Ibid* at 14.

internal auditors on accuracy and transparency.[308] Management and any board committee assigned oversight of climate-related risks should regularly report to the board on their assessment of management's compliance with internal policies and progress in remedying any material accounting or other deficiencies related to climate risk management systems.[309] Where necessary, the directors should require managers to hire outside expertise to assist with embedding risk assessing in the financial statements and year-end audit and impairment assessments.[310] The board of directors should identify and implement audit best practices related to significant/material financial risks and opportunities to the business from climate change.

The TCFD-issued guidance to the insurance sector also suggests that insurers should provide supporting quantitative climate risk information on their core businesses, products, and services, including: "information at the business division, sector, or geography levels; how the potential impacts influence client, cedent, or broker selection; and whether specific climate-related products or competencies are under development, such as insurance of green infrastructure, specialty climate-related risk advisory services, and climate-related client engagement." [311] It suggests that insurers that perform climate-related scenario analysis on their underwriting activities should disclose the climate-related scenarios used, including the critical input parameters, assumptions and considerations, and analytical choices.[312] Insurers need to better assess and measure the effectiveness of their climate strategies and resilience of their portfolios over various time horizons.[313]

The TCFD's framework of governance, strategy, risk management, and targets and metrics means that companies can get started now, commencing with early identification of risks and opportunities and making qualitative disclosures, moving to develop targets and metrics as they develop the expertise, tools, and infrastructure for effective climate governance. The TCFD provides a principled framework for organizing governance; insurers need to rely on accounting standards and their modelling to further develop identification, management, and disclosure of risks.

### 5. The Prudential Supervisor is Conducting a Consultation

OSFI is conducting a consultation process in early 2021 regarding how better to promote preparedness and resilience of federally-regulated insurers and other financial institutions to climate-related risks.[314] A central responsibility of OSFI is to protect the rights and interests of policyholders while ensuring the safety and soundness of the financial system.[315] OSFI acknowledges that part of its role is to help federally-regulated financial institutions be prepared and resilient in navigating the challenges of climate change.[316] It is canvassing insurers and other financial institutions to assess how they are identifying and building

[308] *Audit Committees,* note 40 at 12.
[309] *Ibid* at 28, 37.
[310] *Ibid.*
[311] TCFD, Supplemental Guidance for the Financial Sector, (2017) at 29, 30, E20 More information on supplemental guidance for the financial sector.pdf (tcfdhub.org).
[312] *Ibid.*
[313] KPMG, note 177.
[314] OSFI 2021, note 9 at 1.1.
[315] *Ibid* at 1.1.
[316] *Ibid* at figure 1.

resilience to climate-related risks. It is examining whether the existing capital framework is sufficient to capture climate-related risks; and whether climate-related risks should be more specifically incorporated into risk assessment processes such as internal capital adequacy assessments, own risk and solvency assessments, stress-testing, and scenario analysis.[317] As OSFI Assistant Superintendent Ben Gully has observed, "by investing in analytical capabilities now we will ensure that there is a common understanding of the range of possible outcomes with which to (1) set appropriate prudential policy and (2) improve supervision of financial institutions."[318]

One issue is whether insurers' ORSA (Own Risk and Solvency Assessment) needs to be adjusted to more effectively assess climate-related risks and better align capital and risk measures with the economic realities of the insurer's business.[319] Another issue identified by OSFI is that the existing capital framework captures climate-related financial risks to the extent that they are recognized as inputs to the capital regime, but there is some question as to whether there are climate-related financial considerations beyond what is already reflected in assessment processes under Canada's capital framework. It asks whether there are climate factors that should be expressly supervised in respect of assessments under ORSA.[320] It is reasonable to expect that OSFI will be enhancing its prudential oversight of climate-related risks to align with prudential supervisory developments globally.

[317] *Ibid.*
[318] OSFI, 'Panel remarks by Assistant Superintendent Ben Gully at the C.D. Howe Institute via webcast, January 28, 2021', Panel remarks by Assistant Superintendent Ben Gully at the C.D. Howe Institute via webcast, January 28, 2021 (osfi-bsif.gc.ca).
[319] OSFI 2021, note 9 at 4.11.
[320] *Ibid* at 7.6.

# VI. Getting Started – Questions Directors Should Be Asking Their Managers and Financial Professionals

## VI. GETTING STARTED – QUESTIONS DIRECTORS SHOULD BE ASKING THEIR MANAGERS AND FINANCIAL PROFESSIONALS

Some Canadian insurers are ahead of the curve in identifying and managing climate-related risks and opportunities, others lag. The Canada Climate Law Initiative, in its guide for *Audit Committees and Effective Climate Governance,* has developed a checklist of questions that directors should be asking, some of which are excerpted below, supplemented by questions suggested by the IAIS and SIF.[321] Clearly, climate change is a risk that needs to be identified and managed in conjunction with other risks facing the firm, such as cybersecurity and pandemic risks, and some of the questions below apply to a number of risks faced by insurers. Important to note is that the questions below are a starting point; as modelling and climate strategies evolve, new considerations will form part of directors' oversight duties.

### 1. Oversight – Capability, Robust Process, and Methodology

- Does the board have the appropriate skills and expertise needed for a robust assessment of the insurer's climate-related financial risks and opportunities and their relevance to accounting and financial statements, including how the insurer's business strategy should adapt?
    - How can the board gain and maintain an appropriate level of understanding of the foreseeable risks and opportunities associated with climate change in the insurer's markets, sectors, and geographical regions?
    - Is the board investing in capacity building internally to be able to assess climate risks and opportunities quantitatively?

- Do directors understand the prudential risks associated with the insurance sector's vulnerability to climate-related risks and how material risks affect the insurer's business plan, risk profile, capital requirements?
    - Is the board assessing physical and transition risks that will materially affect its asset holdings and investments across all its portfolios? Is materiality being assessed over the short-, medium-, and long-term?
    - Is the board assessing any material risks to liquidity and capital adequacy from climate impacts, and is the board confident that its ORSA is adjusted to effectively assess and account for climate-related risks?
    - Is the board assessing physical and transition risks that will materially affect underwriting business performance, in terms of market demand, claims burden, or other factors, and it is monitoring for accumulating risks?
    - Is the board satisfied that the insurer is adequately incorporating climate risks into the models and assumptions used for product pricing and risk management?
    - Are directors confident that climate-related financial risks have been embedded in the insurer's risk management systems, particularly in the monitoring of changing risks to insurance markets in which the

[321] Audit Committees, note 40 at 38-42 and its Appendices; supplemented by IAIS & SIF 2020, note 10.

company operates and potential pricing/liability mismatches over the immediate and longer term?
    - Is the board monitoring litigation risks, particularly in respect of its high carbon-emitting investments?

- What are the environmental, economic, social, political, technological, and/or reputational issues related to climate change that are relevant for the insurer's business, and how do directors and officers determine which of these foreseeable risks may have a material impact on the insurer's financial position, performance, prospects, and key drivers of risk and opportunity?

- Is there a strategic plan to transition the insurer's business and investments towards net-zero emissions?
    - Is the company's climate strategy identifying, managing, and monitoring climate-related risks and opportunities nimble enough to be adjusted as more information on climate-related risk becomes available?

- How does the board set appropriate science-based targets and metrics for the assessment and measurement of relevant climate-related issues in the context of the insurer's business over short-, medium-, and long-term time horizons?
    - Is the insurer reporting carbon-intensity of sectors for both asset and liability exposures and is it using third-party verification to verify progress against the targets?

- On what basis are risk appetites set and managed, and have the potential risks and opportunities been stress-tested across scenarios representing the plausible range of climate futures, including transition to net-zero emissions?

- Is there a board committee, director and/or senior officer that has overall responsibility to report to the board on management of climate-related risks?
    - Is executive remuneration linked to the company's achievement of its climate-related targets for decarbonization?

- Is the insurer embedding its climate strategy in all supply chain and distribution networks decisions such that it can begin to measure scope 1, 2 and 3 emissions reductions?
    - What is the distribution of energy performance labels in the insurer's commercial and/or residential real estate portfolios and the carbon intensity ratings of various assets and proportion of assets that are exposed to carbon intensive industries?

- To what extent has the audit committee engaged in dialogue with the external auditor to evaluate audit quality of climate-related risk and performance disclosure and to enhance the audit oversight *before* the external auditor raises climate-related risks as a key audit matter?

- For non-life insurers:

- For coal, oil and gas energy operations, what is the firm's exposure to climate litigation and what is its portfolio of relevant insurance liability covers such as for directors and officers?
- What is the percentage of fossil-fuel based power plants locations that are exposed to various levels of water stress, flood, and wildfire risks from the Paris Agreement Capital Transition Assessment model?[322]
- Has agricultural insurance been assessed regarding exposure to drought, variations in weather patterns, and other climate change impacts?

## 2. Financial Reporting – Management Discussion and Analysis

- Does the MD&A describe the insurer's approach to climate-related risk governance, strategy, risk management, targets, and metrics in a manner that is decision-useful for a reasonable investor, including risks and opportunities for both the insurer's business model and value chain and approach to management over defined short-, medium-, and long-term time horizons?

- Do the company's disclosures align with the TCFD recommendations, including stress-testing and scenario-planning across the plausible range of climate futures?

- Are the directors satisfied that the company is appropriately reporting key climate-related targets related to GHG emissions, water and energy usage, and climate-related biodiversity impacts, including for upstream and downstream value chains, where appropriate, in line with financial goals and financial loss tolerances?

## 3. Reporting – Financial Statements

- Are the directors confident that the financial statements and other continuous disclosure documents integrate climate-related assumptions in the accounting estimates and disclose management's assessment of material climate-related risks and opportunities to current accounting and financial disclosure standards?
  - Are directors confident that climate-related financial risks and opportunities are fully and accurately accounted for on both sides of the insurer's balance sheet?
  - Is the insurer assessing how climate-related risks may impact the measurement of fair value or impairment tests of assets?

- Which climate change-related variables are material to the accounting estimates in the insurer's financial statements and how have they been applied?
  - Which material climate-related variables are a matter of significant accounting judgments and estimations of uncertainty? For example, is the audit committee confident that management has appropriately considered the

[322] Paris Agreement Capital Transition Assessment, PACTA tool aggregates global forward-looking asset-level data and enables users to measure the alignment of financial portfolios with climate scenarios across key climate-relevant sectors and technologies, Paris Agreement Capital Transition Assessment – Transition Monitor.

need to modify cash flow forecasts to incorporate the anticipated timing, profile, and magnitude of insurance claims and other impacts of climate change?

- Where climate change is a significant factor in a value-in-use calculation, is the disclosure providing an explanation of the key assumptions used in impairment testing, depreciation rates, decommissioning, restoration liabilities, and forecast effects on the company's future cash flows?

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

- Is the board confident that it is accurately disclosing avoided-GHG-emissions through the entire product life cycle, addressing whether the target is absolute or intensity based, time frames over which the target applies, base year from which progress is measured, and key performance indicators used to assess progress against targets?

# VII. Conclusion - Looking Forward

## VII. CONCLUSION – LOOKING FORWARD

This guide is aimed at commencing a conversation between directors and their management regarding effective climate governance in the Canadian insurance sector. Insurers face risks on multiple levels, including from loss of portfolio value, potentially stranded assets, unexpected claims payouts from acute and chronic climate-related events, and uncertainty in liability risks for the insurer and any policies it has underwritten for P&C losses, health losses, and liability such as D&O liability. Directors have a legal obligation to identify and manage the risks, and insurers are increasingly engaging in effective climate governance, strategy, and risk management. Given the importance of insurance companies to the financial system, climate risk has become a prudential oversight matter.

Canadian insurers are at different stages of addressing climate-related risks. Directors need to ensure that they have the information and skills to assess how climate risks affect their business. Ideally, insurers would have a lead director or a climate competent director, but where that expertise is not on the board, they can seek outside expertise so that they are sufficiently knowledgeable that they can exercise effective oversight over management's modelling, data, and risk management. Directors should consider the company's business plan for addressing climate-related risks and opportunities using the TCFD framework of governance, risk management, strategy, setting targets, and reporting metrics. Oversight of climate risk is both immediate and longer term; and actions taken now should significantly decrease the actions that will need to be taken if governments and business fail to shift the current trajectory of global warming.

The insurer's overall risk framework and mitigation mechanisms should be reviewed to incorporate climate change. Directors should ensure that management is assessing climate-related risks and opportunities across all product lines, services, and operations. Directors should develop an action plan to decarbonize, setting clear goals that can be immediately acted on and that will have measurable results over the next five years. Directors should consider how the business can reduce its carbon footprint, both in its own operations and across its investment portfolios, and should set targets for emissions reductions for both, measuring progress year over year, and disclosing that progress towards net-zero emissions to investors and policyholders.[323] Directors should set longer term objectives, aligning the company's investment strategy with the goal of net-zero emissions by 2050 at the latest, and hopefully much earlier. Directors should be satisfied that the insurer is complying with legal requirements and best practices in reporting on governance strategies and annually evaluating outcomes of strategies. Insurers need to undertake careful assessment of reinsurance needs, coverage, and limitations, with careful attention to market developments. They will be aided by clear, consistent terminology regarding transition and green investments.[324]

An insurer's strategy to implement a climate action plan should be built on the existing risk management and reporting infrastructure already in place in the company. The risks involved should be prioritized in relation to other risks that the insurer is facing, so that directors can meet their prudential oversight responsibilities. Risk reports, actuarial reports, financial statements, compliance reports, and investment policies should be adapted to recognize,

[323] *Audit Committees*, note 40 at 39-42.
[324] Sarra, CD Howe, note 28 at 7.

assess, and disclose long-term climate-related risks. The board should ensure that it is relying on experts using proper models and data, and that material information is disclosed. In parallel, goals to achieve net-zero emissions by the company, its policyholders, and through invested assets, have to be clear, measured on a regular basis, and validated. Insurers should conduct their internal activities and manage their assets toward achieving that goal. Insurers are often part of large financial organizations, and the governance and risk management framework should be applied at the corporate level.

Insurers have a capacity to influence policyholders' behaviour and should adapt their products, prices, and risk selection mechanisms towards decarbonization. Insurers can create new incentives for their insurance clients to shift to risk-reduction measures, such as offering rebates for using resilient construction materials or directly partnering with end customers to develop strategies to avoid and/or mitigate risks, in turn contributing to a shift to a more sustainable economy.[325] Insurers should consider expanding their underwriting products and services to address the protection gap for natural hazards and physical risks of climate and "to reduce business risks associated with the complex green and clean tech value chain".[326] Directors need to assess the materiality of climate-related risks and to embed quantification of those risks in financial statements.[327]

The COVID-19 pandemic is an unexpected catastrophe, climate change is an expected one.[328] Directors of insurance companies have clear notice that they should be acting now to begin to manage climate-related risks and opportunities. Arguably the current pandemic is a wake-up call for insurers to be ahead of the game and prepare for the increasing impacts of climate change. Directors can use their knowledge and skills to protect the insurer's assets and enhance protection of policyholders.

[325] McKinsey, note 54 at 5.
[326] Golnaraghi, note 11 at 28.
[327] *Audit Committees*, note 40 at 42.
[328] Sarra, *From Ideas to Action,* note 14 at 310.

# Appendix

## APPENDIX

The Geneva Association has documented how insurers globally are integrating climate change in their business strategies, developing new opportunities, including:

- Innovating products and services and developing specialized business units providing financial cover for physical climate risks and incentivizing reduction of GHG emissions.
- Expanding underwriting products and services for addressing the protection gap to natural hazards and physical risks of climate.
- Taking institution-wide measures under the direct supervision of the board and/or C-suite to reduce their carbon footprint.
- Setting up innovation units to develop new ideas and solutions to help economies tackle underinsurance and improve socioeconomic resilience to physical risks of climate.
- Offering incentives for risk reduction, such as premium reductions if their policyholders implement preventive measures such as retrofitting homes and commercial buildings against flood or wind damage.
- Offering specialized insurance products for renewable energy ranging and 'green buildings' insurance.
- Improving products and services responding to business interruption, contingent business interruption, and other risks associated with supply chain failures linked to natural catastrophes.
- Developing 'specialized energy business units' offering products and services to address business risks associated with the complex value chain from start-up to commercialization and roll-out to support the development of renewable energy and other technologies.
- Developing comprehensive and integrated climate risk management plans that are risk-informed and involve *ex ante* measures to avoid new risks and risk reduction measures.
- Developing pre-agreed disaster preparedness and response measures to ensure a quick return to normal after a disaster.
- Working with governments to establish policies that enable the insurance industry to provide scalable and sustainable risk transfer solutions to protect individuals and businesses against climate risks, leveraging the industry's innovations in risk transfer solutions, distribution channels, and mechanisms for payouts after disasters.

Source: Golnaraghi, note 11 at 18-19, 26-27.