A GUIDE TO EFFECTIVE CLIMATE GOVERNANCE IN THE CANADIAN COMMERCIAL REAL ESTATE SECTOR

BUILDING FOR THE NET-ZERO FUTURE

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

REALPAC

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About the Canada Climate Law Initiative

The Canada Climate Law Initiative (CCLI) provides businesses and regulators with climate governance guidance so they can make informed decisions toward a net-zero economy. Powered by the nation's top expertise, we engage with boards of directors and trustees to ensure businesses understand their legal duties with respect to climate change. Our legal research allows us to stay one step ahead in a rapidly transforming policy landscape.

CCLI is supported financially by family foundations, and is established at the University of British Columbia Peter A. Allard School of Law and Osgoode Hall Law School, York University.

REALPAC

About the Real Property Association of Canada

Founded in 1970, REALPAC is the national leadership association dedicated to advancing the long-term vitality of Canada's real property sector. We champion our industry's contribution to a flourishing Canada, and help strengthen the economy through providing employment, facilitating investment in and development of real estate, protecting the environment and growing strong urban centres nationwide.

With 125+ member companies, our members include publicly-traded companies (almost all the REITs in Canada), pension funds, private companies, fund managers, asset managers, developers, government real estate agencies, lenders, banks, life insurance companies, investment dealers, brokerages, consultants/data providers, large general contractors, and international members. Our members represent all asset classes in Canada – office, retail, industrial, apartment, hotel, seniors residential – from coast, to coast, to coast. REALPAC delivers value through:

- Connecting senior Canadian real estate executives to help build new relationships, identify opportunities, access and build markets, and grow companies and investments
- Advocating nationally directly with government at all levels to achieve the most desirable business, environmental, tax, infrastructure and capital market conditions
- Supporting the industry by providing smart tools, meaningful data services and benchmarks, best practice guides and practical voluntary standards to enhance management practices and results
- Educating the industry by providing events, conferences, training, research reports, education and educational resources to senior real estate professionals

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A Guide to Effective Climate Governance in the Canadian Commercial Real Estate Sector: Building for the Future

Executive Summary

This Guide provides information to help boards, management, and professionals in the Canadian commercial real estate sector understand and deal with the increasing implications of climate change and the net-zero transition, including the risks, legal duties of those that should manage them, effective governance practices they should embrace, and where and how to leverage the emerging opportunities. It covers the latest Canadian and international developments and provides a comprehensive list of necessary questions that directors and executives should be asking.

***Risks**:* Climate change creates risks for Canada's commercial real estate industry in the global and Canadian net-zero transition. There is no generally agreed way to understand and deal with these risks, but there are emerging best practices.

- The physical risks that most boards, executives and professionals currently understand include extreme weather events, floods, and fires, often seen as acute or chronic. However, as shown in Table 1, these risks have become differential and compounded: differential risks arise because some geographical locations are impacted by extreme weather events, floods, fires, and other hazards more than others; and compounded risks result from the blurring of the lines between clearly chronic or acute impacts as multiple fires, flooding, extreme weather events, and other risks manifest more frequently and in succession, making them increasingly unpredictable and expensive to manage.
- Transition risks result from legal, policy, market, technology, reputational and other impacts of societal responses on real estate entities, markets, and investment. Laws and policies designed to regulate low-carbon transition and the net-zero agenda create most of the market, technology, reputational and other societal-generated risks. Specific risk sources include the Pan-Canadian Framework 2017, statutes to implement it, policy plans expanding on the statutes, and resulting cases, most notably as indicated by *Saskatchewan et al v. Canada*, 2021, as shown in Table 2.

Given this variety of risks, the Canadian commercial real estate sector faces systemic risks resulting from the combination of multiple physical and transition risks occurring close to one another at an increasingly higher rate. Some of them, mostly physical risks, may be quantified, but others cannot, making it difficult to calculate costs and benefits. Largely guided by information from disclosure, insurance is the most common short-term means to manage physical risks, based on such information disclosed and the due diligence of insurers, but it is not well equipped to handle the long-term and transition uncertainties. Therefore, the commercial real estate sector must develop a systemic risk governance approach that cuts across societal systems, rather than a limited financial approach.

***Legal Duties**:* Boards, management and professionals within the commercial real estate industry must manage systemic risks in line with their current and future legal duties. Legal duties in business are often fiduciary — arising from the nature of a relationship between two parties where one, the fiduciary, is in a position of privilege over the other, the company or investment beneficiary, within the scope of their relationship — and grounded in common law and statutes, but may also arise from contracts, personal relationships such as in torts, court decisions, and

voluntary codes. Duties backed by statutes and other policy instruments come from diverse sources, including climate and low-carbon law, securities law, accounting standards, federal regulation, and voluntary reporting policies. They apply in myriad of ways to the commercial real estate industry. We discuss them as applicable to three categories of commercial real estate entities in Canada: publicly traded companies, Office of the Superintendent of Financial Institutions (OSFI) regulated financial institutions and investors, and privately held companies.

Based on the discussion of the legal duties that apply to these three categories of commercial real estate entities, the Guide identifies several duties of directors and executives. For instance:

- Directors, officers, and investors have a duty to be competent, provide leadership to executives, and proactively seek to identify, measure, and manage climate-related risks and opportunities that are material to their companies.
- They must ensure that there are clear and feasible governance mechanisms to manage climate-related risks and opportunities, including amending the company's strategy to reduce emissions throughout the value chain.
- They must be quick and effective in addressing concerns that could affect the short-, medium-, and long-term viability of their companies.
- They must be concerned about their contribution to emissions when constructing, running, and demolishing buildings and infrastructures, and should be working with suppliers and other key stakeholders to reduce emissions, including through an improved quantitative-qualitative risk governance approach to measuring and managing the sustainability of the products they use and create.

***Effective Governance**:* The Taskforce on Climate-related Financial Disclosures (TCFD) informs several governance ideas, which other important organizations such as the World Economic Forum (WEF), build on, for managing climate risks. Recommended actions revolve around disclosure on governance, metrics and targets, risk management, and strategic planning.

However, while many Canadian companies have adopted the TCFD framework or its versions, there are notable concerns about their quality of climate-related disclosures. For instance, the Canadian Securities Administrators (CSA) observes that 92% of publicly listed companies disclose climate-related risks, but 41% of those disclosures are vague or use boiler-plate information whilst 25% of disclosures do not address the financial impacts of the material climate-related risks they identify. The CSA is looking toward mandatory reporting and proposing new regulations that will require greater levels of transparency and measurability of net-zero targets and activities. To align, Canada's commercial real estate sector should plan for mandatory disclosure.

Building on the TCFD and WEF frameworks and the Canadian context the Canada Climate Law Initiative (CCLI) adds, we recommend six enhanced governance practices that should guide not only disclosure but also other risk governance actions. These practices are based on corporate governance themes: governance structure, board oversight, risk assessment and management, disclosure, setting targets and metrics, and designing strategy.

***Opportunities**:* As boards, executives and professionals effectively manage climate risks, they should also create new opportunities. We classify and discuss five categories of opportunities for Canada's commercial real estate sector: resource efficiency, incentives, investment, resilience, and others. These opportunities will help them cut costs, become more competitive, and be positioned to make money while enhancing their reputation, protecting their business and contributing to Canada's net-zero targets.

Guiding Questions

We outline the questions below to guide corporate directors, executives, professionals, and other relevant stakeholders advising and representing them in meeting legal responsibility in the Canadian commercial real estate sector. The questions are classified into categories based on the elements under section 4.1. (A) of this Guide and are adapted from the CCLI retail guide[1], which originally developed the questions by building on the CCLI guide for audit committees[2] and the WEF framework.[3]

There are three categories of questions on: A) governance structure, oversight, and design of strategy; B) risk assessment, management, and communication backed by metrics and targets; and C) disclosure through financial statements. However, these categories and questions are illustrative rather than exhaustive.

i. Governance Structure, Oversight, and Design of Strategy

- How should we integrate climate risks and opportunities into our board governance structures?
- As directors, do we have the appropriate skills and expertise needed for a robust assessment, management, and communication of the climate risks and opportunities for our company?
- Are we connecting climate risks and opportunities to our existing business processes, including reporting, accounting, auditing, and risk management?
- While climate change is the responsibility of the full board, do we need to allocate responsibility for its oversight to several board committees, or does it warrant a dedicated climate committee?
- Do the agendas of the board and its relevant committees permit adequate time for climate risk and opportunity issues to be considered?
- Is the climate risk assessment conducted by management and the board sufficiently broad to encompass the breadth and interconnectedness of climate risks and opportunities? Does it consider risks to and impacts on suppliers and financiers?
- How does the company determine which of these foreseeable risks may have a material impact on financial position, performance, and prospects, and how do we assess the potential impact of these issues on the key drivers of risk and opportunity? On what basis are risk appetites set and these issues prioritized?
- How do management and the board gain and maintain an appropriate level of knowledge about foreseeable climate risks and opportunities for a company operating in our sector, markets, and geographical regions?
- What is our policy position, and do we need a specific policy on climate change?

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[1] Sarra, *Retail's Route to Net-zero Emissions: The Canadian Retail Sector and Effective Climate Governance* (Canada Climate Law Initiative, 2022) at 36 [hereafter Sarra, "*Retail's Route to Net-zero Emissions*"].
[2] Sarra, *Audit Committees and Effective Climate Governance: A Guide for Boards of Directors* (Vancouver: Canada Climate Law Initiative, 2019) [hereafter Sarra, "*Audit Committees and Effective Climate Governance*"].
[3] World Economic Forum, How to Set Up Effective Climate Governance on Corporate Boards: Guiding Principles and Questions (WEF, 2019) [hereafter WEF, "How to Set Up Effective Climate Governance on Corporate Boards"].

- Has the board adopted a climate action plan with appropriate resources to meet targets, measure progress, and report accurately? Is the action plan embedded throughout the company, its supply chain, and its real estate portfolio?
- How do we set appropriate metrics for the assessment of relevant climate-related issues in the context of our business?
- What are appropriate targets for our management of those risks within short-, medium-, and long-term time horizons – and on what basis do we consider these targets to be credible? How do we verify our progress against the targets? Has the company set a baseline year against which to measure and report emissions reductions?
- Do we have a transition plan as recommended by the TCFD?

- How should the consideration of climate change be integrated into our normal strategic planning processes?
  - Are the assumptions and methodologies we apply fit for their forward-looking purpose?
  - Is the board aware of how our company's investors, creditors, and other capital providers are factoring climate-related risks into their investment and voting decisions?
- Has external expertise been applied to our analysis of climate-related issues? If not, are we satisfied that our internal capabilities are robust?
- Are our board remuneration structures aligned with our strategic approach to climate change?
- How is executive remuneration linked to the company's achievement of its climate-related targets?

ii. Risk Assessment, Management and Communication backed by Targets and Metrics

- How have climate-related issues been considered and integrated within our prevailing risk assessment and management framework?
- Who is responsible and accountable for the execution of the company's policy and strategy on climate change at a management level?
- Are we satisfied that we have the right executive leadership in place for the strategic direction we want to take on climate change?
- What governance processes are in place to ensure that emerging risks and opportunities are captured, assessed, verified, and reported to the board?
  - Based on our company's identified purpose and goals, has the board set science-based targets for scope 1, 2, and 3 emissions reductions for managers to implement?
  - Has the board asked management to give its best estimate of any forecasted changes in consumer, supplier, and competitor behaviour expected to result in positive or negative changes in the volume or price of future sales?
  - Is the board satisfied that the company is respecting federal guidance on environmental labels and claims in Canada?
- Have the potential risks and opportunities to our strategy been stress-tested across scenarios representing the plausible range of climate futures, including a pathway to net-zero emissions?

- On what basis have we determined that the scenarios are appropriately robust, science-based, and internally consistent?

- Is the board confident that management is considering new technologies and logistics systems to reduce emissions and keep pace with changes in the real estate sector?
  - How are management mitigating risks of service interruption due to acute and chronic climate events?
  - Has management considered different transportation modalities to ensure that it is using the most energy-efficient and least carbon-emitting supply and distribution channels?
- Has the company directed appropriate resources to collect accurate data that will assist in developing emissions reduction plans?
  - Is the company negotiating energy efficiency and emissions reduction data into commercial leases and supply contracts to access that data?
- Is the company negotiating requirements for emissions reduction targets in supply contracts?
- How do we communicate the risks and our commitment to finding opportunities in the transition to net-zero emissions to customers and key stakeholders?
- Is the company engaging with stakeholders and consumers at multiple points of interaction to communicate the company's strategies to reach net-zero carbon emissions?

iii. Disclosure through Financial Statements

- What assessment has been undertaken to ensure that relevant and material matters disclosed in the MD&A are consistently integrated across the company's financial statements?
- Which climate change-related variables are material to the accounting estimates in our financial statements? Have they been considered and applied in determining these estimates, and have relevant assumptions been applied consistently?
- When climate change is a significant factor in a value-in-use calculation, is the disclosure providing an explanation of the key assumptions used in impairment testing, depreciation rates, decommissioning, restoration liabilities, and forecast effects on the company's future cash flows?
- Which material climate-related assumptions (and associated uncertainties) are material to investors' reasonable understanding of our financial statements, and thus warrant disclosure in the notes to the financial statements – even where there is no quantitative impact on the relevant accounting estimate?
- Are our financial disclosures aligned with TCFD recommendations on governance, strategy, risk management, and metrics and targets that are decision-useful for a reasonable investor? Do these disclosures address risks and opportunities for both our business model and value chain, and our approach to their management over defined short-, medium-, and long-term time horizons?
- Is the board satisfied that the company is appropriately reporting key climate-related targets such as targets related to emissions reductions, water, and energy usage, and

climate-related biodiversity impacts, including for the full upstream and downstream value chain, where appropriate, in line with financial goals and financial loss tolerances?

  - Given the interactions between climate change and biodiversity, have we systematically evaluated direct and indirect impacts on biodiversity?
  - Are we monitoring key data and indicators, and which global reporting standards are met by the company regarding biodiversity?

- Are directors confident that management has factored expected government action, such as carbon pricing, standards to decarbonize activities, or income tax-related changes, into estimates of future cash flows and the discount rate?
- Have any climate-related issues been raised as “key audit matters” by our external auditors? To what extent has the audit committee engaged in dialogue with the external auditor to evaluate the audit quality of climate-related risk and performance disclosure?
- Is the audit committee assessing and reporting to the board the company’s disclosure of avoided greenhouse gas (GHG) emissions through the entire property, addressing whether the target is absolute, or intensity-based, timeframes over which the target applies, a base year from which progress is measured, and key performance indicators used to assess our progress against targets?
- Is the board, on the advice of the audit committee, 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 standards required by Canadian securities regulators, corporate law, accounting standards, and stock exchange listing requirements?

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List of Abbreviations

AcSB	Canadian Accounting Standard Board
AIF	Annual Information Form
ASPE	Accounting Standards for Private Enterprises
BC	British Columbia
CAD	Canadian Dollars
CAPSA	Canadian Association of Supervisory Authorities
CCLI	Canada Climate Law Initiative
CEO	Chief Executive Officer
CEPA	Canadian Environmental Protection Act
CFO	Chief Financial Officer
CNAA	Canadian Net-Zero Emissions Accountability Act
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
CP	Companion Policy
CPA	Chartered Professional Accountants of Canada
CRO	Chief Risk Officer
CRREM	Carbon Risk Real Estate Monitor
CSA	Canadian Securities Administrators
CSRD	Corporate Sustainability Reporting Directive
ESG	Environmental, Social, and Governance
ETI	Economically Targeting Investing
EU	European Union
EUR	Euro
FLI	Forward-looking Information
FOFI	Future-oriented Financial Information
FRFI	Federally Regulated Financial Institutions
FRPP	Federally Regulated Pension Plans
FSB	Financial Stability Board
GAAP	Generally Accepted Accounting Practices
GBP	Great British Pound
GDP	Gross Domestic Product
GGPPA	Greenhouse Gas Pollution Pricing Act
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
IIROC	Investment Industry Regulatory Organization of Canada
IPCC	Intergovernmental Panel on Climate Change
ISSB	International Sustainability Standards Board
MD&A	Management's Discussion and Analysis (Form)
MFDA	Mutual Fund Dealers Association
NI	National Instrument
OBPS	Output-based Reporting System
OECD	Organisation for the Economic Co-operation and Development
OSFI	Office of the Superintendent of Financial Institutions
P&C	Property and Casualty
PAE	Publicly Accountable Enterprise
POGG	Peace, Order and Good Governance
RAF	Risk Appetite Framework

REALPAC	Real Property Association of Canada
REC	Renewable Energy Certificates
REIT	Real Estate Investment Trust
RICS	Royal Institute of Chartered Surveyors
SEC	Securities Exchange Commission
SFDR	Sustainable Finance Disclosure Regulation
SIPP	Statement of Investment Policies and Procedures
SN	Staff Notice
SRO	Self-regulatory Organization
TCFD	Taskforce on Climate-related Financial Disclosures
UK	United Kingdom
ULI	Urban Land Institute
US	United States
USD	United States Dollars
WEF	World Economic Forum

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1. Introduction

The Canada Climate Law Initiative (CCLI) has collaborated with the Real Property Association of Canada (REALPAC), an industry association that represents more than 125 commercial real estate companies in Canada, to create this Guide for the country's commercial real estate sector. CCLI designed the project and engaged the leadership of REALPAC to understand the commercial real estate sector. Based on this engagement and original research, the Guide offers insights into climate-related (financial and other business) risks, legal duties and opportunities for commercial real estate corporate and investment directors, executives, and professionals, and suggest best practice guidance to help them become effective in their governance roles, including addressing growing regulatory requirements and stakeholder expectations while finding opportunities in Canada's net-zero emissions transition.

We define the scope of this Guide mainly based on the organization types and asset classes. Based on the organization types, the Guide addresses issues of interest to a broad range of companies and other business organizations that are or engage with commercial real estate entities. The authors think of these organizations in terms of who regulates them. There are three categories of entities: publicly listed companies, privately held companies, and financial institutions and investors that are federally regulated by the Office of the Superintendent of Financial Institutions (OSFI). Investing heavily in commercial real estate, OSFI regulated financial institutions and investors that we cover include banks, trust companies, investment funds and pension funds, and all discussion of the duties imposed on them is in specific reference to their role as investors in commercial real estate. While Real Estate Investment Trusts (REITs) may form part of this discussion on OSFI-regulated financial institutions and investors, we do not discuss them specifically or in isolation. As for the asset classes, the Guide addresses issues impacting commercial assets, including office, retail, hotel, industrial, manufacturing, and storage and distribution buildings. Where suitable, we identify these specific commercial asset classes. However, most of the discussion is also relevant to residential assets within some contexts. For instance, while some laws and incentives that apply to commercial and residential assets may be different, issues impacting infrastructures serving them and the legal, policy and governance expectations of their owners and trustees may create no distinction between the two asset categories.

The Guide is organized into four sections in addition to this introduction. Section 2 introduces physical and transition risks and how they impact the Canadian commercial real estate sector, paying closer attention to their emerging differential and compacted impacts in Canada. Section 3 enhances an understanding of the laws and policies regulating climate risks in this commercial real estate sector, creating a taxonomy of how they apply to the three organization types: publicly listed companies, OSFI-regulated financial institutions and investors, and privately held companies. Section 4 then makes governance recommendations to corporate and investment boards, management, and professionals for ways to manage climate risks to meet their legal and policy duties while finding new opportunities in Canada's net-zero transition. Section 5 concludes.

2. Understanding Physical and Transition Risks and their Implications for Canada's Commercial Real Estate Sector

Canadian regulators, markets and sectors, including the commercial real estate industry, have recognized the physical and transition[4] risk categories. However, while physical risks in Canada's

[4] Mark Carney, Governor of the Bank of England and Chairman of the Financial Stability Board, "Breaking the Tragedy of the Horizon – Climate Change and Financial Stability", (Speech at Lloyd's of London, London, September 29, 2015), at 4, Online: Bis.org < https://www.bis.org/review/r151009a.htm>; Task Force on Climate-Related Financial Disclosures (TCFD),

commercial real estate sector have become very apparent in recent years from growing flooding, heat waves and atmospheric rivers, among other climate hazards, the timing and severity of transition risks are more difficult to estimate.[5]

Nonetheless, both physical and transition risks are increasing. As climate impacts such as higher extreme heat, longer growing and shorter snow and ice cover seasons, earlier spring peak streamflow, rising sea level, thawing permafrost and thinning glaciers intensify in Canada, physical risks to businesses and investments will keep increasing and becoming widespread.[6] Extreme changing weather patterns, flooding, fires, heat wave, and natural disasters will increasingly affect commercial real estate preferences, valuation, investment, and profitability. As society responds to climate change and its physical risks, transition risks also increase. For instance, Canada's main carbon pricing policy instrument, the Pan-Canadian Framework on Clean Growth and Climate Change (the Pan-Canadian Framework) finalized in 2016 and now implemented through legislation, raises emissions mitigation standards, creates additional compliance costs, and is designed to support some technologies over others[7] in the commercial real estate industry and across sectors.

Table 1 provides a snapshot of some of the types of risks emerging from climate hazards/impacts and the societal responses to them that create risks to the Canadian commercial real estate sector. There are two columns: one dedicated to physical hazards/impacts and risks and the other to transition impacts and risks.

Table 1: Physical and Transition Risks in Canada's Commercial Real Estate Sector

Examples of Physical Hazards and Risks	*Examples of Transition Impacts and Risks*
Extreme Weather Events: Extreme weather events such as hurricanes/cyclones, tornadoes, droughts, heat waves, large storms, tropical cyclones, atmospheric rivers, and landslides cause damage to buildings and infrastructure such as roads, power lines and pipelines, potentially reducing their market value and competitiveness. They also impact commercial real estate workers, for instance by impacting their ability to go to work.	*Policy and Legal:* Changing policies and laws, including court judgments, on higher disclosure standards, building codes, carbon pricing, subsidies, and other social, financial and economic issues impact the commercial real estate sector in various ways, for instance through higher compliance standards and costs.
Flooding:	*Market:* Commercial real estate properties and other assets affected by climate change and policies

Task Force on Climate-Related Financial Disclosures, Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD, 2017) [hereafter TCFD Recommendations].

[5] *Ibid*.

[6] Global warming reached about 1°C above pre-industrial levels in 2017, increasing at 0.2°C, and the impacts will continue for centuries to millennia and cause long-term climate change and impacts. See M R Allen and others, "Framing and Context" in V. Masson-Delmotte and others, eds, *Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming Of 1.5°C Above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, In The Context Of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty* (Intergovernmental Panel on Climate Change [IPCC], 2018), online: <https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_Chapter1_Low_Res.pdf>. see Elizabeth Bush and Donald S Lemmen, *Canada's Changing Climate Report* (Ottawa: Government of Canada, 2019). Report, online: <https://changingclimate.ca/site/assets/uploads/sites/2/2020/06/CCCR_FULLREPORT-EN-FINAL.pdf>.

[7] *Greenhouse Gas Pollution Pricing Act* 2018, SC 2018, c 12, s 186 [hereafter *GGPPA 2018*].

Flooding impacts buildings, infrastructure, machinery, production processes, and workers in the commercial real estate sector.	are impacted by changing buyer and renter preferences affecting demand and vacancy rates, may gain or lose market value impacting their valuation and competitiveness in the coming years and decades, may attract higher insurance premiums, and would eventually face higher material costs and resource scarcity for development.
Fires: Fires impact buildings and infrastructures, with consequences for real estate value, and capacity to rebuild or sell. For example, a wildfire in June 2021 destroyed an entire community, Lytton, in British Columbia, increasing costs for property owners, insurance, and investors in the commercial real estate sector.	*Technologies:* Emerging low-carbon technologies for retail, industrial, apartment and other types of buildings will impact commercial real estate property desirability and their investment competitiveness. Newer low-carbon technologies are replacing older carbon-intensive technologies, with implications for the valuation, competitiveness, retrofit costs, and other aspects of properties and assets.
Differential and Compounded: Extreme weather events, flooding, fires and other risks and related events do not affect locations the same way, leading to differential impacts. For instance, coastal communities and Northern communities in Canada are exposed to some risks more than others. Also, extreme weather events, floods and fires combine with several other acute (e.g., extreme winds) and chronic (e.g., extreme winter weather, freeze thaw cycles, and diseases) physical risks such as heat waves, sea level rise, rise in temperature, permafrost, water scarcity and others to compound impacts. For instance, the costs of dealing with wildfires alone would be different from what is needed to deal with successive risks of fires and flooding recently experienced in BC.	*Reputation:* There are reputation risks related to getting investors, including lower liquidity and assets, less attractive portfolio, and diminished brands. Also, Canadians, especially younger generations, are increasingly aware of climate change and its impacts and are starting to take investment, employment and other decisions and actions based on their knowledge. They will likely choose commercial real estate companies, properties and investment portfolios that take climate action over those that do not. Also, there are social movements pressurizing organizations to decarbonize and take climate actions, sometimes shaming them where they do not. For instance, the fossil fuel divestment movement is active across sectors and may eventually pressurize Canada's commercial real estate industry.

Source: Original Design by the Authors

In this section of the Guide, we discuss select physical and transition risks and their financial and systemic implications for the commercial real estate sector. Examination of current impacts globally signal how emerging risks are likely to eventually manifest in and affect Canada. Many of the recent foreign developments are in New Zealand, Europe, and the United States (US).

There are four important findings on climate-related risks facing the commercial real estate sector that we discuss how to address. First, the commercial real estate sector faces systemic risks resulting from the combination of multiple physical and transition impacts occurring close to one another at an increasingly higher rate. Second, while some of these risks may be quantified, others cannot, making it difficult to calculate costs and benefits. Third, insurance is the most common short-term means to manage physical risks, but it is not well equipped to deal with the long-term and transition uncertainties. Fourth, to address systemic risks and other problems, the commercial real estate sector must develop a systemic risk governance approach that cuts across

societal systems as opposed to the dominant financial approach focusing on insurance, often based on information gathered from risk disclosure.

2.1 Physical Risk

Boards, executives, and professionals within the commercial real estate sector are continuing to acquire a deeper understanding of the physical risks to real estate holdings and investment portfolios, and impacts on the real estate corporate finances, such as revenue losses and rising insurance costs.[8] This knowledge can better inform the governance of risks moving forward, as discussed in Part 4 of this Guide.

PHYSICAL RISKS are the potential harms that could come to businesses and the systems within which they operate as a result of the natural hazards caused by climate change.

The physical risks that most boards, executives and professionals currently understand include acute impacts such as storms, flooding and fires, and chronic impacts such as rising temperatures and water scarcity. These risks have implications for the operation and valuation of assets of some entities more than others. For instance, the Expert Panel on Climate Change Risks and Adaptation identifies potential risks affecting the physical infrastructure of commercial real estate due to extreme weather events,[9] which may, for instance, cause increasing power outages.

In Canada, the most understood physical risks are extreme weather events, floods, fires, and risks relating to them, as explained in Appendix 1. The most significant development on the impacts of these risks is that they have become differential and compounded.

A. Differential Risks

Some locations are impacted by extreme weather events, floods, fires, and other hazards more than others. In a recent Urban Land Institute (ULI) study, Burgess and Rapoport identify "location-specific physical threats posed by factors such as sea-level rise, hurricanes, wildfires and forest fires, heat stress, and water stress"[10] as easily recognized risks facing the commercial real estate sector, and observe these risks could "lead to increased insurance premiums, higher capital expenditure and operational costs, and a decrease in the liquidity and value of buildings."[11] The study points us to physical impacts across countries such as Germany, Finland, and several states in the United States, but we can observe such differential impacts in Canada.

In Canada, the Expert Panel on Climate Change Risks and Adaptation Potential classifies six top categories of climate risks and provides insight into their differential impacts in the country.[12] Most of them are associated with extreme weather events, fires, and flooding, and at least three of them are physical risks facing the commercial real estate sector. First, there are risks to physical infrastructures from extreme weather events. Such risks include "damage to homes, buildings,

[8] See Sven Bienert, "Climate Change Implications for Real Estate Portfolio Allocation: Industry Perspectives" (ULI, 2016), at 1 online (pdf): <https://1bl5hbukq5a2dpgyuo8uvz44-wpengine.netdna-ssl.com/wp-content/uploads/2019/03/2017-Climate-Change-Implications-for-Real-Estate-Portfolio-Allocation-Report.pdf> [hereafter Bienert, Climate Change Implications].
[9] The Expert Panel on Climate Change Risks and Adaptation Potential, *Canada's Top Climate Change Risks* (Ottawa: The Council of Canadian Academies, 2019) [hereafter The Expert Panel on Climate Change Risks and Adaptation Potential].
[10] Katharine Burgess and Elizabeth Rapoport, Climate Risk and Real Estate Investment Decision-Making (Urban Land Institute and Heitman, 2019) at 5, online (pdf): <https://www.heitman.com/wp-content/uploads/2019/02/ULI-Heitman-Climate-Risk-Report.pdf> [hereafter Burgess and Rapoport].
[11] *Ibid* at 2.
[12] The Expert Panel on Climate Change Risks and Adaptation Potential, *supra* note 9.

and critical infrastructure from heavy precipitation events, high winds, and flooding; increased probability of power outages and grid failures; and an increased risk of cascading infrastructure failures."[13] Second, there are risks to coastal communities. For instance, there is "damage to coastal infrastructure, property, and people from inundation, saltwater intrusion, and coastal erosion due to sea-level rise and storm surges."[14] Third, there are risks to northern communities and people. For instance, "damage to buildings, roads, pipelines, power lines, and airstrips due to thawing permafrost; reduced or disrupted access to communities and facilities due to warmer temperatures; and increased risks from marine accidents due to increased marine traffic and reduced summer sea-ice extent."[15]

While the commercial real estate sector should pay attention to these risks, for instance in its climate resilience framework, across the five Canadian regions — the Atlantic Provinces, Central Canada, the Prairie Provinces, the West Coast and the Northern Territories — and within specific cities, towns and villages, some places are more impacted by certain risks than others. For instance, coastal communities will likely be disproportionately impacted by seal level rise and flooding, and Northern communities will likely be more impacted by thawing permafrost.

B. Compounded Risks

What seems to be even more troubling is that, compared to previous physical risks that were relatively clearly chronic or acute, Canada now has a compounded problem of extreme weather events, fires, flooding, and other risks. The Intergovernmental Panel on Climate Change (IPCC) describes this compounding, explaining that "complex risks result from multiple climate hazards occurring concurrently, and from multiple risks interacting, compounding overall risk and resulting in risks transmitting through interconnected systems and across regions."[16] Multiple fires, flooding, extreme weather events, and other risks are now happening more frequently and in succession, making them increasingly difficult and expensive to manage. According to Robert McLeman, a Wilfrid Laurier University environmental studies professor and the coordinating lead author on an IPCC report's chapter on health, well-being, and the changing structure of communities, "these events [were] sort of discrete events: there was a flood last year or there was a forest fire three years ago... Now the risk that's starting to emerge is that these events start to happen closer together, that they're more severe when they do occur."[17]

Also, the hazards of extreme weather events, fires, flooding, and others combine with special vulnerabilities within cities to create more cascading effects. According to Luna Khirfan at the University of Waterloo, also a contributor to an IPCC report's chapter on cities:

> Cities are very complex, so their vulnerabilities are complex… You have the direct vulnerabilities to climate hazards, to climate-related risks like flooding, urban heat islands. Coastal cities face storm surge, beach erosion. So, these physical risks are compounded in cities because you have a concentration of human lives and livelihoods.

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[13] *Ibid* at ix.
[14] *Ibid*.
[15] *Ibid*.
[16] Intergovernmental Panel on Climate Change (IPCC), Impacts, Adaptation and Vulnerability: Summary for Policymakers (IPCC, 2022) 11, at 10 [hereafter IPCC, "Impacts, Adaptation and Vulnerability"].
[17] Nicole Mortillaro, "What the New IPCC Report Says Climate Change Could- and is- Costing Canadians" (5 March 2022), online: *CBC New* <https://www.cbc.ca/news/science/ipcc-report-canada-1.6371746> [hereafter Mortillaro].

Canada's commercial real estate companies have properties and other assets tied to cities, making them more vulnerable to these compounded risks. Coastal cities especially have differential vulnerabilities that require paying closer attention to them.

There is little understanding of these compounded risks. Before now, governments, industries and experts have focused more on the impacts of and interactions between individual risk categories such as fires and flooding that happen from time to time, but we know very little about the compounding of these risks, especially occurrences close in time to one another and at higher rates. Extreme weather events, fires, flooding, and other risks will continue to interact to create "compounding cascading impacts across borders and disrupt global supply chains."[18] This compounded problem will combine with increasing vulnerability to create more significant financial loss and systemic impacts.

Knowledge limitation also impacts regulatory and management responses to compounded risks. Regulators and managers do not yet fully understand what is needed to mitigate and adapt to these risks. This limitation makes things worse because "the severity and frequency of the impacts will be far more extreme, which in turn will hugely reduce the capacity of societies the world over to adapt, compounding the impacts."[19] It is therefore timely that the Canadian commercial real estate industry addresses this gap within the context of its business. For instance, the climate resilience framework of the commercial real estate sector should address how compounded physical risks impact its industries and how to deal with them.

2.2 Transition Risk

Market, policy, legal, technology, and reputational risks impact real estate markets and investment in various ways. For instance, companies locked in carbon-intensive assets and services may face stranding; transition market-based and non-market policies and court judgments may subject investments to stricter requirements and increased compliance costs; and real estate corporate directors and officers and investment trustees, managers, and advisors may need to change their business plans, spend more money and time to find new technologies in the interest of their stakeholders, and ultimately mitigate their risk exposure and liabilities, including protecting their reputation.

TRANSITION RISKS mostly result from fast-changing laws and policies regulating low-carbon agenda and actions. They have heightened in the efforts to achieve net-zero emissions.

When compared to physical risks, we know far less about these transition risks facing commercial real estate. Nonetheless, significant knowledge generation on transition risks in the real estate sector globally started at least close to ten years ago. A study by Bienert for the ULI in 2014 recognized that climate regulations would impact the profitability of the real estate sector.[20] Subsequently, the institute has identified transition risks impacting the real estate sector as "those that result from a shift to a lower-carbon economy and using new, non-fossil-fuel sources of energy. These include regulatory changes, economic shifts, and the changing availability and price of resources."[21]

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[18] Daniel Quiggin, Kris De Meyer, Lucy Hubble-Rose and Antony Froggatt, *Climate Change Risk Assessment 2021* (Chatham House, 2021) at 13, online: <https://www.chathamhouse.org/sites/default/files/2021-09/2021-09-14-climate-change-risk-assessment-summary-quiggin-et-al_0.pdf>.
[19] *Ibid* at 12.
[20] Sven Bienert, "Extreme Weather Events and Property Values – Assessing New Investment Frameworks for the Decades Ahead" (London: Urban Land Institute, 2014) [hereafter Bienert, "Extreme Weather Events"].
[21] Burgess and Rapoport, *supra* note 10 at 5.

In 2015, The Royal Institute of Chartered Surveyors (RICS) considered whether there would be increased costs for running commercial buildings within European Union countries, finding that, without retrofitting action, the cumulative cost of the eight countries studied could reach 450 billion GBP by 2050,[22] equivalent to 550 billion EUR at the time of the study (equivalent to 759 billion CAD), with the cost totaling more than 8% of the gross domestic product (GDP) of Germany, Spain, and Greece.[23] Also, the study found that the risks have "different origins, including fuel prices, insurance costs, comfort conditions and user satisfaction, obsolescence of assets and envelope characteristics, among many characteristics,"[24] and they are not equally distributed across regions, building types, and construction quality and thermal characteristics.[25]

A. Canadian Transition Risks

Canada's commercial real estate sector now faces several transition risks, most of which arise from low-carbon laws and policies. Table 2 below summarizes the key risks arising from laws and policy instruments, identifying the sources, type of instrument (law and non-law), their short description, their actual or potential impact, and the area of impact.

CANADIAN TRANSITION RISKS
mainly arise from low-carbon and net-zero laws and policies, and how they affect other areas such as technologies, markets, and reputation, within Canada.

Table 2: Current Transition Risks Facing Canada's Real Estate Sector

Source	*Legal status*	*Purpose*	*Impact*	*Area of Impact*
Pan-Canadian Framework 2017	Non-law – policy framework	Sets guidelines for carbon pricing and complementary mechanisms	Legal instruments implementing the framework enforce carbon pricing and other complementary mechanisms that make emissions costlier	Market, technology, reputation
Greenhouse Gas Pollution Pricing Act (*GGPPA 2018*)	Law - statute	Seeks to implement carbon pricing by regulating the price of emissions under both the fuel charge and the Output-Based Pricing System mechanisms	Real estate entities and facilities that produce more emissions incur higher GHG costs while those with less emissions enjoy a reduction of GHG costs	Market, technology, reputation
Canadian Net-Zero Emissions Accountability Act (*CNAA 2021*)	Law - statute	Seeks to implement transparency measures by regulating the duty of governments to set, plan and report on emissions reduction actions	Governments will apply pressure on emitters to reduce and report on emissions	Market, technology, reputation

[22] Gareth Roberts, Juan Jose Lafuente & Theodore Darviris, *Climatic Risk Toolkit: The Impact of Climate Change in the Non-Domestic Real Estate Sector of Eight European Countries* (London: RICS, 2015) [hereafter Roberts, Lafuente & Darviris].
[23] Burgess and Rapoport, *supra* note 10 at 5.
[24] Roberts, Lafuente & Darviris, *supra* note 22 at 15.
[25] *Ibid* at 9.

2030 Emissions Reduction Plan	Law- subsidiary plan under the *CNAA 2021*	Sets and seeks to implement the plans for reducing emissions under the *CNAA 2021*	Governments will collaborate on new policies, programs, incentives, and standards impacting retrofit of buildings and construction, and make policies affecting infrastructures and sectors impacting commercial real estate	Market, technology, reputation
Saskatchewan et al v. Canada, 2021	Law- case law	Upholds the power of the federal government to establish minimum national standards of GHG price stringency to reduce GHG emissions	Federal government will increase minimum national standards of GHG emissions price, leading to increased costs of real estate entities and facilities on GHG emissions	Market, technology, reputation

Source: Original Design by the Authors

The longstanding law relating to climate change in Canada is the *Canadian Environmental Protection Act 1999 (CEPA)*, as amended,[26] including the Greenhouse Gas Reporting Program made pursuant to section 46 of the statute, used to collect information on annual greenhouse gas emissions of facilities. However, this regulation has been aimed at providing information to the government for creating a greenhouse gas inventory and for public awareness, rather than any serious mitigation of emissions. Therefore, it does not pose any major transition risk.

However, there are now more ambitious laws and policies that will have serious impacts on the commercial real estate sector and create new transition risks cutting across sectors because they do more than provide information. Most of them build on the Pan-Canadian Framework, which we explain in more detail under section 3.1. of this Guide focusing on legal and policy framework for regulating climate risks. They include current legislation on carbon pricing across provinces and the federal backstop system under the *GGPPA 2018*, the *CNAA 2021* and its "2030 Emissions Reduction Plan: Canada's Next Steps for Clean Air and a Strong*"*, proposed laws and policies such as a private Senator's Bill for a *Climate-Aligned Finance Act*[27] and the just transition programme and its future legislation,[28] and other instruments being developed by regulatory and supervisory agencies, industries, standard-setting organizations, and experts.

For now, the *GGPPA 2018* is Canada's most important national legislation that impacts the commercial real estate sector directly by implementing the carbon pricing pillar of the Pan-Canadian Framework. This statute provides the benchmark for carbon pricing in Canada, creating two mechanisms for making GHG pollution costly or otherwise: a fuel charge system and an Output-Based Pricing System (OBPS). The fuel charge system, which is a carbon tax mechanism, attaches pollution prices to fuels based on their emissions, including how much renewable content they have. For instance, gas used to heat up office, retail, industrial, apartment and hotel buildings

[26] *Canadian Environmental Protection Act*, SC 1999, c 33 [hereafter *CEPA*].

[27] An Act to enact the Climate-Aligned Finance Act and to make related amendments to other Act, Bill S-243, online: <https://www.parl.ca/DocumentViewer/en/44-1/bill/S-243/first-reading> [hereafter Bill S-243].

[28] Government of Canada, "People-Centred Just Transition: Discussion Paper" (Minister of Natural Resources, 2021) online (pdf): < https://www.rncanengagenrcan.ca/sites/default/files/pictures/home/just_transition_discussion_paper_-_en_-_july_15.pdf>; Temitope Tunbi Onifade, Fossil Fuel Subsidies in Canada: Governance Implications in the Net-zero Transition (Vancouver: Canada Climate Law Initiative, 2022) [hereafter Onifade 2022].

will incur higher charges than those running on electricity powered by a fuel mix with a high renewable content. The CRA administers this fuel charge[29] and has applied it in Ontario, Manitoba, Saskatchewan, Alberta, Yukon, and Nunavut[30] as of 9 August 2021. The OBPS, a carbon credit system distinct from carbon tax, attaches a price to industrial emissions of 50,000 tonnes of carbon dioxide equivalent (CO2e) or more per year[31] and issues surplus credit to facilities that stay below their emissions limit. For instance, a key implication is that buildings and facilities in heavy industries such as cement, steel making, chemical production, mining, aviation, ship building, locomotive manufacturing, and others that exceed their emissions limits face higher prices. Environment and Climate Change Canada administers and applies the OBPS system to facilities in Ontario, New Brunswick, Manitoba, Prince Edward Island, Saskatchewan, Yukon, and Nunavut as of 9 August 2021.[32]

Pursuant to the *GGPPA 2018,* the Government of Canada will increase the price of emissions under both the fuel charge and the OBPS systems, which may cause further risks if real estate companies fail to plan for these changes. For instance, emission was $30 a tonne in 2020, has increased to $50 a tonne in 2022 and is planned to reach $170 a tonne by 2030[33] based on government regulations under the legislation.[34] Depending on the carbon budget Canada has by 2030 to achieve net-zero emissions by 2050, this upward trend in carbon price will likely increase significantly between 2030 and 2050 when Canada plans to achieve net-zero emissions under the *CNAA 2021*. Hence, the steps taken to cut emissions in this decade will directly impact the bottom line of commercial real estate entities significantly by 2030 and beyond.

Unlike the *GGPPA 2018,* the *CNAA* 2021, which seeks to implement the transparency measures in the Pan-Canadian Framework, does not apply directly to fuels, facilities, and other resources and assets in the commercial real estate sector. Nonetheless, the impact is indirect because its provisions will force governments to apply pressure on emitters in the commercial real estate industry and companies. This pressure will be triggered by the implementation of various provisions of the *CNAA 2021*, some of which we illustrate here. Perhaps the most notable provision is on the timelines for increasing ambition to achieve Canada's net-zero GHG emissions target set for but potentially before 2050 under section 6 of the *CNAA 2021*. To achieve this timeline, there are two other important provisions, guiding us toward the 2030 and then the 2050 targets. First, section 7(2) sets Canada's national greenhouse gas emissions target for 2030 as our nationally determined contribution for that year, which will be the country's mitigation commitment submitted to the Paris Agreement. Second, the Minister of Environment and Climate Change, or other designated minister, then has the duty to set progressively ambitious national greenhouse gas emissions targets thereafter for milestone years set out in section 7(4)—2035, 2040 and 2045 — to achieve net-zero targets by or before 2050.[35] Taking these provisions into consideration, the more ambitious national GHG emissions targets are, the stricter the regulation

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[29] Canada Revenue Agency, "Fuel Charge Relief" (21 February 2019), online: <https://www.canada.ca/en/ revenue-agency/services/tax/excise-taxes-duties-levies/fuel-charge/relief.html>.
[30] *GGPPA 2018*, *supra* note 7 at Part 1, Schedule 1.
[31] Environment & Climate Change Canada, *Overview: Output-Based Pricing System Regulations Under the Greenhouse Gas Pollution Pricing Act* (Ottawa: Her Majesty the Queen in Right of Canada, 2019) at 1.
[32] *GGPPA 2018*, *supra* note 7 at Part 2, Schedule 1.
[33] John Paul Tasker, "Ottawa to Hike Federal Carbon Tax to $170 a tonne by 2030 (11 December 2020), online: *CBC News* <https://www.cbc.ca/news/politics/carbon-tax-hike-new-climate-plan-1.5837709>; John Paul Tasker, "Canada Releases Plan for a 40 Per Cent Cut in Carbon Emissions by 2030" (29 March 2022) online: *CBC News* <https://www.cbc.ca/news/politics/canada-2030-emissions-reduction-plan-1.6401228>.
[34] Environment and Climate Change Canada, 2030 Emissions Reduction Plan: Canada's Next Steps for Clean Air and a Strong Economy (Ottawa: Her Majesty the Queen in Right of Canada, 2022), online (pdf): <https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/erp/Canada-2030-Emissions-Reduction-Plan-eng.pdf> [hereafter Environment and Climate Change Canada, "2030 Emissions Reduction Plan"].
[35] *Canadian Net-Zero Emissions Accountability Act, SC 2021, c 22,* s7 *[hereafter Net-Zero Emissions Act]*.

of the commercial real estate industry and other regulated entities will be to ensure alignment. Also, under section 9*,* the Minister must create greenhouse gas emissions reduction plans in pursuit of the target of achieving net-zero by 2050 as set out under section 6. These plans will increase the pressure on the commercial real estate industry and other regulated entities.

Our newest climate plan at the time of writing, titled "*2030 Emissions Reduction Plan: Canada's Next Steps for Clean Air and a Strong Economy*", is the first of these plans, but others following it in the future will likely be more ambitious to match the requirement for progressive GHG emissions target under section 7(1.1) of the *CNAA 2021*. Among other contributions, the plan has specific provisions on real estate. For instance, the plan provides that the federal government will work with provinces, territories, and other partners to "build off existing initiatives and set out new policy, programs, incentives and standards needed to drive a massive retrofit of the existing building stock, and construction to the highest zero carbon standards."[36] Additionally, there are provisions focusing on sectors such as electricity that have implications for the commercial real estate sector. For instance, some of the measures will enhance "the construction of new power sources and retrofitting and fuel-switching existing power plants and buildings"[37] and "the Government of Canada will work with provinces and utilities to establish a Pan-Canadian Grid Council to promote clean electricity infrastructure investments".[38]

Another transition risk comes from judicial development. Our highest court in the country, the Supreme Court of Canada, has acknowledged climate impacts,[39] making it likely that climate litigation will intensify transition risks, creating some uncertainty for commercial real estate and other sectors. The Supreme Court of Canada has endorsed the *GGPPA 2018,* and its decision signals that it will likely look positively on the *CNAA 2021* and future legislation and regulations increasing ambition on emissions reduction. In an appeal challenging this law on the ground that it amounts to federal encroachment into provincial constitutional powers, the Supreme Court held that "establishing minimum national standards of GHG price stringency to reduce GHG emissions is of sufficient concern to Canada as a whole that it warrants consideration in accordance with the national concern doctrine."[40] The national concern doctrine is based on the introductory clause of section 91 of the *Constitution Act 1867*[41] as amended, empowering the Parliament "to make Laws for the Peace, Order, and Good Government of Canada, in relation to all Matters not coming within the Classes of Subjects by this Act assigned exclusively to the Legislatures of the Provinces." When this Peace, Order, and Good Government (POGG) doctrine holds, then the federal government is empowered to make laws on issues such as climate change that could impact provincial jurisdiction, so we can expect that future emission reduction and potentially other climate legislation and regulations will likely stand to judicial scrutiny and be enforced on commercial real estate industry.

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[36] Environment and Climate Change Canada, *"2030 Emissions Reduction Plan", supra* note 34 at 7.
[37] *Ibid* at 9.
[38] *Ibid*.
[39] *References re Greenhouse Gas Pollution Pricing Act*, 2021 SCC 11 (SCC); *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).
[40] *Saskatchewan et al v. Canada,* 2021 SCC 11, online (pdf): <http://climatecasechart.com/climate-change-litigation/wp-content/uploads/sites/16/non-us-case-documents/2021/20210325_2019-SKCA-40-2021-SCC-11_judgment.pdf>
[41] *Constitution Act* 1867, *The Constitution Acts*, 1867 to 1982 [hereafter *Constitution Acts*]

Table 3: Future Transition Risks that may Face Canada's Real Estate Sector

Source	*Legal status*	*Purpose*	*Impact*
Climate-Aligned Finance Bill	Potential law- statute	Could regulate climate risks and the role of financial institutions	If passed, the law will increase the duty of financial institutions to act on climate change, which would potentially impact the access of real estate entities to finance
Climate litigation surge	Potential law- case law	Could regulate actions and inactions on climate hazards and risks	Courts may impose duties on real estate entities to act on climate hazards and risks
Regulatory agencies, standard setting organizations and industry management (e.g., disclosure plans, scenario analysis)	Potential non-law-soft law	Could regulate diverse actions and inactions in managing climate risks	Various organizations and agencies may increase their expectations on the actions and inactions of commercial real estate entities on climate risk

Source: Original Design by the Authors

Building on current trends, future legislation could intensify transition risks in the commercial real estate sector. Among the most important developments is a private senate bill by Senator Rosa Galvez. She proposed the bill, *An Act to enact the Climate-Aligned Finance Act and to make related amendments to other Acts*, to recognize not only that climate change poses financial risks but that financial institutions pose climate risks. In the white paper[42] informing the bill, Senator Galvez and her co-authors make eight recommendations: financial institutions, among other entities, must align to climate commitments; they must avoid carbon lock-in and consider the entrenchment of fossil fuels in financial decisions; they should set climate targets responsibly; their capital requirements must account for systemic risks that come with their activities; they should recognize that climate change supersedes all other interests relevant to directors' duties; they should avoid conflict of interest and leverage climate knowledge, expertise and experience; they need to respect Indigenous Peoples' rights and other social and environmental goals; and they should make a comprehensive action plan to align all their financial products with climate commitments. Advancing many of these points, the purpose of the proposed bill is "to align the activities of reporting entities with the public interest objective of achieving climate commitments; and … to address systemic risks related to climate change."[43] To achieve this purpose, the bill proposes strategies such as setting baseline requirements for financial entities' climate commitments, providing certainty and transparency on their responsibilities, regulatory and supervisory oversight and adequate capital requirement, requiring directors and management to align their activities, using systemic risk as a lens to align actions, requiring climate expertise on boards and avoiding conflicts of interest, and requiring action plans, targets and progress reports on climate commitments.[44]

Additionally, it is only a matter of time before commercial real estate beneficiaries and stakeholders raise new causes and claims alleging liability in Canadian courts. These causes and claims are likely to come up in this decade that Canada is racing to achieve net-zero. Past and

[42] Rosa Galvez, Me Karine Péloffy, Nick Zrinyi and Stéphane Laviolette, "Aligning Canadian Finance with Climate Commitments" (The Office of the Honourable Rosa Galvez, 2022).
[43] Bill S-243, *supra* note 27 at s 3(1).
[44] *Ibid* s 3(2).

current causes and claims in Canadian cases have challenged corporations for non-compliance with Canadian emissions laws,[45] cheating in emissions testing[46] and on other grounds. The list of causes and claims will continue to grow to accommodate new grounds based on the scientific consensus that humans caused climate change, emerging knowledge on climate-related hazards and risks facing the commercial real estate sector, and new laws, policies and practices that would address such hazards and risks.

Regulatory and supervisory agencies, standard-setting organizations, industries, and experts across sectors and levels are also developing other processes and instruments to increase accountability for effectively managing transition risks in the commercial real estate industry. They include the Bank of Canada processes[47] on financial stability, OSFI steps[48] to regulate federally regulated financial institutions such as banks, pension funds and insurance companies, the Canadian Securities Administrators (CSA)[49] efforts in respect of disclosure requirements for publicly-traded companies, including publicly-held real estate companies, and the International Financial Reporting Standards Foundation's new exposure drafts on accounting standards by the International Sustainability Standards Board (ISSB)[50] for both public and private companies. Sometimes, these regulators collaborate on programs and processes that have the potential of yielding future policies, standards, and practices. For instance, OSFI has worked with the Bank of Canada and six federally-regulated financial institutions on a pilot program to use scenario analysis to assess the transition risks of financial institutions,[51] which will impact future policies regulating credit and other financial transactions of the commercial real estate industry. We discuss some of these future Canadian developments in detail under section 3 of this Guide.

[45] Koskie Minsky LLP, "Mercedes BlueTEC Class Action" (2017), online: <https:// kmlaw.ca/ cases/ 17anada17g-bluetec-class- action/ >.

[46] Kalra v. Mercedes-Benz Canada, Inc., online <https://www.bluetecsettlement.ca>; Aleksandra Sagan, "Volkswagen Emissions Lawsuit in Canada Reaches $2.1B Settlement" (27 April 2017) online: *Toronto Star Newspaper* <https://www.thestar.com/business/2017/04/27/volkswagen-emissions-lawsuit-in-canada-reaches-21b-settlement.html >; Erica Alini, "Volkswagen Agrees to $290M settlement in Canada over emissions scandal" (2018) online: *Global News* <https://globalnews.ca/news/3962165/volkswagen-agrees-to-290m-settlement-in-canada-over-emissions-scandal/>.

[47] Bank of Canada, Financial System Review (Ottawa: Bank of Canada, 2019) online: <https://www.bankofcanada.ca/2019/05/financial-system-review-2019/#Vulnerability-5-Climate-change>; Erik Ens and Craig Johnston, *Scenario Analysis and the Economic and Financial Risks from Climate Change* (Ottawa: Bank of Canada, 2020).

[48] Office of the Superintendent of Financial Institutions, *Navigating Uncertainty in Climate Change: Promoting Preparedness and Resilience to Climate-related Risks* (Office of the Superintendent of Financial Institutions, 2021) online (pdf): <https://www.osfi-bsif.gc.ca/Eng/Docs/clmt-rsk.pdf> [hereafter OSFI, "*Navigating Uncertainty in Climate Change*"]

[49] Canadian Securities Administrators (18 October 2021) <https://www.osc.ca/sites/default/files/2021-10/csa_20211018_51-107_disclosure-update.pdf>.

[50] International Financial Reporting Standards, "ISSB delivers Proposals that Create Comprehensive Global Baseline of Sustainability Disclosures" (31 March 2022), online: <https://www.ifrs.org/news-and-events/news/2022/03/issb-delivers-proposals-that-create-comprehensive-global-baseline-of-sustainability-disclosures/>.

[51] Bank of Canada and Office of the Superintendent of Financial Institutions, *Using Scenario Analysis to Assess Climate Transition Risk: Final Report of the BoC-OSFI Climate Scenario Analysis Pilot* (Ottawa: Bank of Canada, 2022).

B. Extraterritorial Transition Risks

Having regard for the best practices and ongoing developments in climate risk and sustainability trends abroad can help commercial real estate companies to anticipate forthcoming transition risks and therefore better prepare for and manage them. Due to globalization, it is now possible to predict changes that would impact governance in Canada. Close trading and other business and investment partners with Canadian companies will expect Canadian governance and reporting standards to be comparable to what they have at home. Consequently, it makes sense for countries with close trading ties to harmonize their climate governance requirements with the current global best practices.

EXTRATERRITORIAL TRANSITION RISKS often arise from low-carbon and net-zero transition laws and policies, and how they affect other areas and interests such as technologies, markets, and reputation, beyond national borders.

Canada has close ties with the US and several other countries. The most significant changes to climate governance in those jurisdictions that are most likely to impact regulatory changes and other industry expectations in Canada are found in New Zealand, the UK, the EU, and the US. The most prominent international development that is already making inroads into these countries and Canada is the TCFD mandatory reporting, fully or partly based on the elements of the TCFD framework shown in Figure 1 below. We identify the key developments based on this TCFD framework in New Zealand, UK, US, EU, and Canada, noting what Canada's real estate industry should pay close attention to.

Figure 1: TCFD Disclosure Elements

Source: TCFD

Figure 1 shows the TCFD disclosure elements: governance, strategy, risk management, and metrics and targets. The Guide briefly explains them under section 2.4.

New Zealand: New Zealand has already introduced TCFD-based mandatory reporting on climate-related matters. The mandatory requirements will take effect in 2023 for all 2022 disclosures. The country went a step further by removing the original comply-or-explain approach to the TCFD

climate disclosure, instead opting for all relevant companies to comply with the law or face sanctions.[52]

UK: The UK has also implemented mandatory TCFD-aligned disclosures beginning in October 2021 for large pension funds, premium listed companies, banks, insurance companies, and all other financial and non-financial companies.[53] They must comply by no later than 2025.

US: Recently, the US Securities Exchange Commission (SEC) has proposed new rules that mandate climate disclosures in a standardised format that draws on the four pillars of the TCFD recommendations.[54] However, the proposal goes further than the TCFD recommendations and Canada's framework to implement it,[55] meaning that listed Canadian companies that report using the TCFD and Canadian disclosure standards are likely to fall short of the SEC's requirements. The requirements for disclosure set by the proposed rule include:

- Board management and oversight of climate-related risks.
- The impact identified climate-related risks are likely to have on the business, its financial statements, its outlook, its strategy, and its business model.
- The companies process for identifying, assessing, and managing climate-related risks.
- The transition plan of the company.
- The company's scenario analysis assessment and the details of the analysis conducted.
- The company's internal carbon price and information on how it is set.
- Details on scope 1, 2, and 3 emissions that are material to the company.
- Information on any publicly set climate targets and goals, including their scope, the plan for attaining those targets, data to demonstrate any progress, and information on the use of carbon offsets or renewable energy certificates (RECs).
- The assurance of disclosed information. This assurance can occur at two levels—limited and reasonable. Limited assurance equivalence is that of a review over a company's financial statements, whereas reasonable assurance is comparable to that of an audit to a company's consolidated financial statements.

EU: The European Commission adopted a proposal in April 2021 that will expand the scope of climate reporting requirements to more companies. The Corporate Sustainability Reporting Directive (CSRD) will require reporting in accordance with the EU sustainability reporting

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[52] *Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 No 39*, New Zealand Parliament, 2021 [*Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 No 39*].
[53] Financial Conduct Authority, "Climate-related reporting requirements", (20 April 2021), online: *FCA* <https://www.fca.org.uk/firms/climate-change-sustainable-finance/reporting-requirements>; "UK to enshrine mandatory climate disclosures for largest companies in law", online: *Gov.uk* <https://www.gov.uk/government/news/uk-to-enshrine-mandatory-climate-disclosures-for-largest-companies-in-law>.
[54] David Cifrino & Jacob Hollinger, "SEC Proposes Landmark Standardized Disclosure Rules on Climate-Related Risks", (8 April 2022), online: *Harvard Law School Forum on Corporate Governance* <https://corpgov.law.harvard.edu/2022/04/08/sec-proposes-landmark-standardized-disclosure-rules-on-climate-related-risks/>; Joseph Hall, Margaret Tahyar & Ning Chiu, "SEC Proposes Climate Disclosure Regime", (9 April 2022), online: *Harvard Law School Forum on Corporate Governance* <https://corpgov.law.harvard.edu/2022/04/09/sec-proposes-climate-disclosure-regime/> [hereafter Hall, Tahyar, and Chiu].
[55] Hall, Tahyar, and Chiu ibid; Janis Sarra, "Canadian Securities Regulators must keep Pace with the U.S. on Mandatory Disclosure of Climate-related Financial Risks" (Toronto Star, 2 April 2022) online: *The Star* <https://www.thestar.com/business/opinion/2022/04/02/canadian-securities-regulators-must-keep-pace-with-the-us-on-mandatory-disclosure-of-climate-related-financial-risks.html>.

standards.[56] The EU has recognised that many companies use the TCFD recommendations for their climate disclosures and aim to create the EU sustainability reporting standards with the TCFD recommendations in mind. However, there is no indication that the standards will be solely aligned with the TCFD. The first set of standards is expected in October 2022. The CSRD will require all large companies (more than 25 employees and more than 40 million turnover and/or more than 20 million in total assets) and all listed companies (including foreign listed companies but excluding micro-enterprises) to disclose information related to their environmental protection.[57] The CSRD will expand the current disclosure requirements to include:

- Materiality in the form of climate risk impacts on the company and the company's impact on the environment.
- Additional forward-looking information.
- The method used to determine materiality.
- Information on the company's intangible assets.
- Reporting in accordance with The Sustainable Finance Disclosure Regulation (SFDR) and the EU Taxonomy Regulation.
- Confirmation of an audit of reported information.[58]

The EU Taxonomy Regulation is an important consideration for Canadian commercial real estate companies as it affects those that sell products or provide services to entities in the EU. All companies that sell products or provide services to entities in the EU must report on the sustainability or environmental characteristics of their economic activities.[59] Failure to comply with the particulars of this regulation could impact a Canadian commercial real estate company's ability to do business in the EU. The taxonomy works by creating a classification system that guides investments toward companies with more sustainable economic activities.[60] The taxonomy provides four categories that, when met, amount to an environmentally sustainable economic activity. These are activities that involve:

- The provisioning of food and water.
- Regulating the control of climate and disease.
- Supporting nutrient cycles and oxygen production.
- Cultural services providing spiritual and regulation benefits.[61]

Canada: Canada is already catching up with some of these emerging international developments and best practices on TCFD-based disclosure. The move toward TCFD-aligned climate disclosures in Canada is already underway. In its 2021 spring budget, the Canadian Federal Government announced that all Crown Corporations will implement the TCFD recommendations

[56] *Proposal for a Directive if the European Parliament and of the Council amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting*, 2021, COM2021 189 [hereafter *CSRD*].
[57] "Questions and Answers: Corporate Sustainability Reporting Directive proposal", (21 April 2021), online: *European Commission* <https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_1806>.
[58] *CSRD*, *supra* note 56.
[59] *Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (Text with EEA relevance)*, 18 June 2020, Official Journal of the European union L198/13 [hereafter *EU Taxonomy Regulation*].
[60] "EU taxonomy for sustainable activities: What the EU is doing to create an EU-wide classification system for sustainable activities.", online: *European Commission* <https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en>.
[61] *EU Taxonomy Regulation*, *supra* note 59 at para 31.

in their annual reporting, with corporations with over $1 billion in assets reporting using the TCFD framework from 2022, and smaller corporations beginning in 2024.[62]

Moreover, the 2022 budget has extended mandatory TCFD-aligned reporting to federally regulated financial institutions (FRFI). Following consultation with FRFI through OSFI, the government will require financial institutions to disclose climate-related matters using the TCFD recommendations beginning in 2024. Importantly, the 2022 budget states that "the federal government is committed to moving toward mandatory reporting of climate-related financial risks across a broad spectrum of the Canadian economy, based on the international TCFD framework."[63] Mandatory reporting that aligns with the TCFD recommendations is not likely to stop at crown corporations. Financial institutions and a prudent board will start to consider the move toward TCFD recommendations in their annual and interim climate disclosures.

However, an important point to note is that the EU and the US have taken a different direction on climate reporting that will likely impose higher expectations than the TCFD. These developments may impact Canada's commercial real estate sector in at least two ways.

- Canadian commercial real estate companies listed in these jurisdictions or with trading partners there may have to comply with these higher standards.
- Those standards may influence Canadian regulators and supervisors to raise their requirements in the future.

Given either of these scenarios, the Canadian commercial real estate industry and companies should consider the future impacts of these extraterritorial developments. The impacts will only intensify.

2.3 Financial Risk

Both physical and transition risks have financial implications. However, there are more data on physical risks than transition risks, making it easier to account for the former than the latter. These financial implications constitute what we describe as financial risks. Burgess and Rapoport summarize why and how the two categories of risks constitute financial risks:

> Both the physical and transitional risks associated with climate change have financial impacts for real estate owners and operators. Physical risks, such as catastrophes, can lead to increased insurance premiums, higher capital expenditure and operational costs, and a decrease in the liquidity and value of buildings. Transitional risks, which center on the economic, political, and societal responses to climate change, can see locations, and even entire metropolitan areas, become less appealing because of climate-change-related events, leading to the potential for individual assets to become obsolete.[64]

FINANCIAL RISKS are the threats physical transition and other risks pose for financial health.

In developing risk management and strategic business plans, real estate boards, executives and professionals will have to manage increased insurance premiums, higher capital expenditures

[62] Government of Canada, *2021 Budget: A Recovery Plan for Jobs, Growth, and Resilience* (Ottawa: Her Majesty the Queen Right of Canada, 2021) at 176 [hereafter Government of Canada, "*2021 Budget*"].
[63] Government of Canada, 2022 Budget: A Plan to Grow Our Economy and make Life more Affordable (Ottawa: Her Majesty the Queen Right of Canada, 2022) at 106 [hereafter Government of Canada, "2022 Budget"].
[64] Burgess and Rapoport, *supra* note 10 at 2.

and operational costs, potential reduced liquidity and value of property, and potential reduced desirability and markets for property. These financial risks will increase and create multiple impacts across systems as climate hazards and societal transition and adaptation actions intensify.

A. Estimating Financial Risks

There are a growing number of tools to estimate the costs of physical risks, including risk analysis, modelling, cost and benefit analysis, and other risk calculation tools and methods. For instance, the ULI has developed a risk analysis model that sets out the steps for calculating risks,[65] and Clayton and others mention cash flow modelling of assets that may influence estimates of market value.[66] However, we are not aware of a generally agreed Canadian model applicable to the Canadian commercial real estate sector.

Nonetheless, using the various globally available methods to create estimates, experts agree that flood and related extreme weather events, wildfires and other physical risks are costly everywhere, and they tend to use insurance as the major indicator of the cost and for managing risk exposure. For instance, in 2017 alone, when Hurricanes Harvey and Maria "hit the United States and storms battered northern and central Europe, insurers paid out a record $135 billion globally for damage caused by storms and natural disasters,"[67] and the value of the actual damage far exceeds this amount.

Canada's commercial real estate sector will likely be among the most financially impacted by physical risks in the country. The losses resulting from extreme weather events in Canada have increased from an average of $405 million annually between 1983 and 2008 to $1.8 billion annually between 2009 and 2017,[68] reaching $2.1 billion in 2021 in insured damage[69] and indicating a rising pattern depicted in Figure 2. Wildfires contribute significantly to these costs. For instance, the 2016 wildfire in Fort McMurray, Alberta led to $3 billion in insured damages alone, and the fire suppression cost of Alberta in 2017 was $500 million.[70] Floods also contribute to these costs, especially in cities. For instance, the 2013 Calgary flood was estimated to cost about $1.8 billion in insurance losses, but there were also $6 billion in uninsured costs.[71] Municipal governments in cities bear a significant portion of these costs, for instance in mitigation and adaptation of public infrastructures. Real estate entities also bear costs, for instance in adapting their properties and incurring higher insurance premiums.

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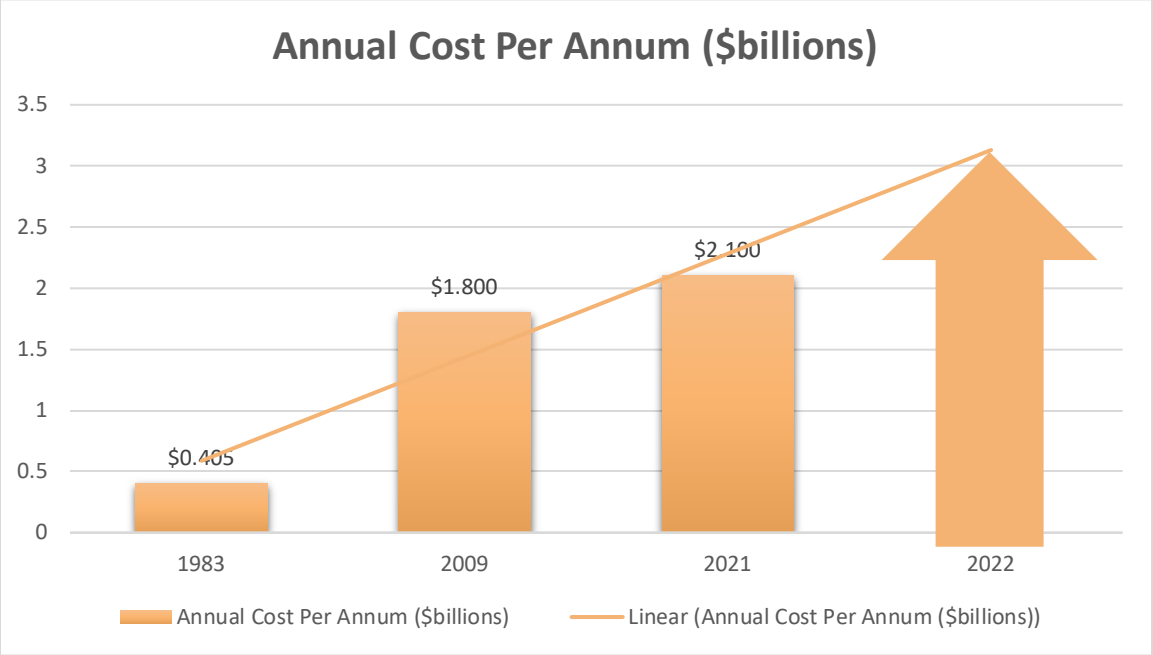
[65] Urban Land Institute Center for Sustainability, *A Guide for Assessing Climate Change Risk (*Washington, DC: Urban Land Institute, 2015).
[66] Jim Clayton, Steven Devaney, Sarah Sayce and Jorn Van de Wetering, *Climate Risk and Commercial Property Values: A Review and Analysis of the Literature* (UNEP FI, 2021) [hereafter Clayton, Devaney, Sayce and Van de Wetering].
[67] Burgess and Rapoport, *supra* note 10 at 4.
[68] Blair Feltmate, "Canada's Climate Adaptation Deficit" (9 October 2018) online: *Policy Options* <https://policyoptions.irpp.org/fr/magazines/october-2018/canadas-climate-adaptation-deficit/>.
[69] Insurance Bureau of Canada, "Severe Weather in 2021 Caused $2.1 Billion in Insured Damage" (2022) online: *IBC* <http://www.ibc.ca/ns/resources/media-centre/media-releases/severe-weather-in-2021-caused-2-1-billion-in-insured-damage>.
[70] Mortillaro, *supra* note 17.
[71] *Ibid.*

Figure 2: Rising Annual Losses from Extreme Weather Events



Source: Original Design by the Authors

Figure 2 shows the upward trend of annual loss from climate hazards. The trend suggests that the loss would become costlier.

Because Canada has the longest coastlines in the world, with environments altered over a relatively shorter period when compared to non-coasts, cities along those coasts are significantly exposed to floods, storms, saltwater intrusion, and other risks.[72] For instance, low-lying coastal cities experience flooding as a result of severe cyclones and storms pushing water against the coast, potentially causing damage in cities such as Halifax, Vancouver, and Richmond.[73] The financial implications will be significant. For instance, the estimates of the Canadian Climate Institute show that "within 30 years, climate change will likely increase annual damages of coastal and inland floods to homes and buildings by $4.5 billion to $5.5 billion annually, three to four times today's cost."[74]

However, property owners, lenders, insurers, and others in the commercial real estate sector do not have enough information to evaluate the costs and benefits of investment and other actions in coastal cities. The result is that they are significantly exposed to risks and must manage them based on the best available science and information, including data they can get from governments and research organizations providing estimates and analysis.

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[72] C S L Mercer Clarke, P Manuel and F J Warren, "The Coastal Challenge" In D S Lemmen, F J Warren, T S James and C S L Mercer Clarke, eds, *Canada's Marine Coasts in a Changing Climate* (Ottawa: Government of Canada, Ottawa, 2016) at 69.

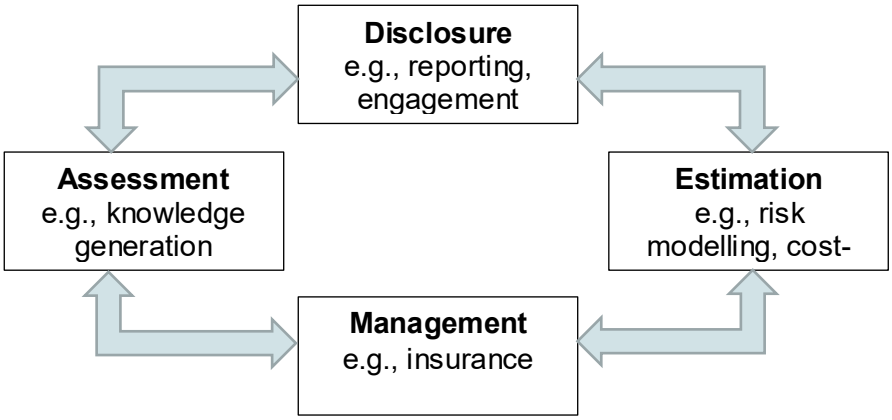
[73] Janis Sarra "Life, Health, Property, Causality: Canadian Insurance Company Directors and Effective Climate Governance" (CCLI, 2021), at 24 online: CCLI UBC (pdf) <http://ccli.ubc.ca/wp-content/uploads/2021/04/Life-Health-Property-Casualty-Canadian-Insurance-Company-Directors-and-Effective-Climate-Governance-1.pdf> [hereafter Sarra, "Life, Health, Property, Causality"].

[74] Ryan Ness, Dylan G Clark, Julien Bourque, Dena Coffman and Dale Beugin, *Under Water: The Costs of Climate Change for Canada's Infrastructure* (Canadian Institute of Climate Choices, 2021) at viii, online (pdf): <https://climatechoices.ca/wp-content/uploads/2021/09/Infrastructure-English-FINAL-jan17-2022.pdf> [hereafter Ness, Clark, Bourque, Coffman and Beugin].

B. Managing Financial Risks

The leading mechanism that the commercial real estate sector has used to mitigate climate risks, although more for physical than transition risks, is insurance, used alongside other measures that could help avoid or manage risks in other ways, including risk assessment, disclosure, and estimation. However, insurance is not adequate for multiple reasons discussed in Appendix 3 addressing the limitations of insurance, meaning that real estate entities need to search for other complementary and alternative methods of managing risks.

Figure 3: A Financial Risk Handling Cycle



Source: Original Design by the Authors

Figure 3 depicts key stages in a financial risk handling model. Risk assessment involves confirming that climate change poses risks and identifying the types and other patterns of the risks. Risk disclosure involves telling decisionmakers and stakeholders about the risks. Risk estimation gets into the calculation of such risks, often based on quantification tools. Risk management involves accepting the risks that are acceptable, often because they cannot be avoided, and avoiding or mitigating those that are not acceptable, among other normative decisions. The successive stages have feedback loops into each other.

There are emerging alternative and complementary methods for managing risks, which Canada's commercial real estate boards, executives, investment managers, professionals and other business and financial leaders should consider. Some of these methods, which have also mostly been applied to physical than transition risks, make use of regulatory controls of carbon dioxide (CO_2) emissions, environmental and sustainability strategies, and the greening of real property portfolios.[75] Although not focusing on Canada, Burgess and Rapoport identify some of these emerging alternatives or complements that may apply[76] precautionary measures to address transition risks. For instance, investors and investment managers are increasingly incorporating climate risks into due diligence and other processes guiding their investments, building climate mitigation and adaptation measures into assets, mitigating risks through investment patterns, and getting involved in the policy design of resilience strategies and plans often led by cities to learn of potential transition risks.

[75] Bienert, "Extreme Weather Events", *supra* note 20.
[76] Burgess and Rapoport, *supra* note 10.

2.4 Systemic Risk

The idea of systemic risk, which was mostly developed in response to the 2007/2008 global financial crisis,[77] has since been expanded to characterize and frame solutions to risk problems across sectors. This idea is now applied to climate change as the dominant alternative to the financial, insurance or other limited perspectives that might not depict the entire range of climate-related risks.

SYSTEMIC RISKS *are the society-wide threats of physical, transition and other risks impacting financial health.*

A. A Systemic Lens

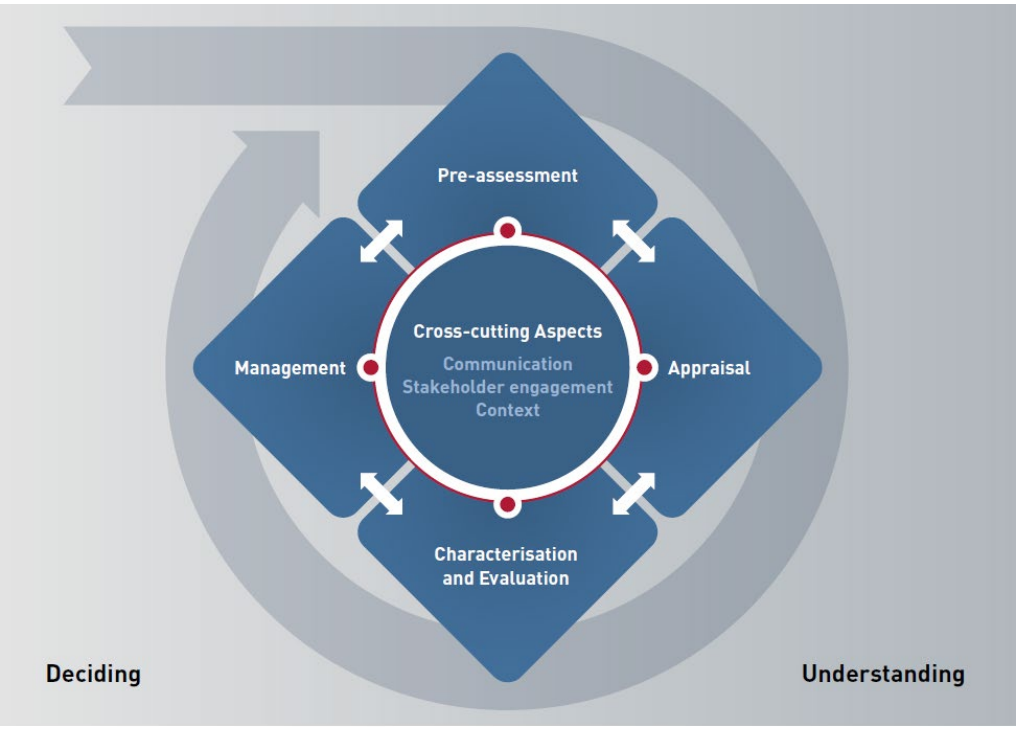
How do you recognize systemic risks? Many risks are complex in that they interact, but what makes any of them systemic? The Organisation for Economic Co-operation and Development (OECD) has identified some factors that make any risk systemic.[78] For instance, where a risk is global in nature, has high and unpredictable connection to other areas of life, and has no clear cause-effect relationships, then it is systemic. Based on these criteria, climate change is a systemic risk, not just a financial risk. To address it, we need a systemic lens, which we explain in Appendix 2, to guide its management.

B. Managing Systemic Risks

The risk governance model,[79] such as the International Risk Governance Council (IRGC) framework shown in Figure 3 below, is an influential risk handling model informed by a systemic lens and could guide corporates in taking care of differential and compounded physical, transition and other systemic considerations. We contrast it with the TCFD framework to illustrate how the former would enhance the perspective of corporate boards and management beyond the limits of the latter.

[77] Ian Goldin and Tiffany Vogel, **"**Global Governance and Systemic Risk in the 21st Century: Lessons from the Financial Crisis" (2010) 1 Global Policy 4.
[78] Hui-Min Li, Xue-Chun Wang, Xiao-Fan Zhao and Ye Qi, "Advances in Climate Change Research" (2021) 12(3) 384 [hereafter Li, Wang, Zhao, and Qi]
[79] Wee-Kiat Lim, "Understanding Risk Governance: Introducing Sociological Neoinstitutionalism and Foucauldian Governmentality for Further Theorizing" (2011) International Journal of Disaster Risk Science, 2(3), 11-20; Andreas Klinke and Ortwin Renn, "Adaptive and Integrative Governance on Risk and Uncertainty" (2012) 15(3) Journal of Risk Research 273.

Figure 4: A Risk Governance Model



Source: IRGC

Figure 4 depicts the IRGC risk governance framework, but there are others. This IRGC model shows four key connected stages of risk handling: pre-assessment, appraisal, characterization and evaluation, and management. At the pre-assessment stage, boards, committees, and management disclose and frame risks and make early warmings and preparations based on feedback from diverse stakeholders. The appraisal stage draws on the knowledge from pre-assessment to identify and create options for accepting, rejecting, managing, or otherwise making other decisions on risks. Under the characterisation and evaluation stage, boards and management would generate and compare the options from the appraisal stage, informing decisions about risks that are acceptable and how to manage those unacceptable. Management involves designing and implementing plans and strategies to implement the chosen option, including steps to avoid, share or reduce (e.g., adapt or mitigate) risks. There are also cross-cutting elements such as communication, stakeholder engagement, and context, featuring across stages. These cross-cutting elements are important for several reasons, including transparency and accountability, stakeholder participation, feedback loops, and overall enriching risk handling practices.

Because of the influence of the TCFD recommendations, currently the most acclaimed approach to addressing climate risks in the business and finance community is disclosure, working alongside insurance other practices within the stages in Figure 3. The TCFD recommendations set out four elements of disclosure: governance - how an organization governs issues around climate risk and opportunities; strategy - the actual and potential impacts that climate risks and opportunities would have on an organization's businesses, strategy and financial planning; risk management - the processes an organization uses to identify, assess and reduce climate-related risks; and metrics and targets - the quantified climate mitigation goal and data used to assess climate risk and opportunity. However, merely disclosing risks based on these elements is not sufficient to address the transition and systemic risks of climate change for multiple reasons. For instance, there may be inadequate emissions data to help with quantitative assessment of transition risks and systemic impacts that go beyond the financial sector, and disclosure is only

one stage in the risk handling process, as seen from Figure 3. The risk governance model responds to these problems of the TCFD recommendations.

Therefore, while requiring disclosure on governance, strategy, risk management, and metrics and targets are important starting actions, real estate boards and management should take a step back from the TCFD disclosure model to evaluate its elements with the risk governance model, and how they might provide ways to avoid or prevent climate risks at various stages of the value chain. For instance, governance practices, strategic planning, risk management processes, and target-setting could be designed to reduce exposure to climate-related risks rather than merely reporting them. Table 4 below illustrates some of the limitations of the TCFD elements and the solutions that risk governance might provide. However, the discussion of specific steps that real estate directors and executives can take is in section 4.1. of the Guide.

Table 4: Innovations of the Risk Governance Model

TCFD Elements	*Limitations*	*Risk Governance Innovations*
Governance	Boards have oversight, and their executives report to them, but both tend to rely on technical experts to inform their decision-making, leading to limited understanding of and solutions to climate risks	Risk governance advocates involving non-technical experts such as communities affected by risks and other stakeholders to enhance the understanding of boards and management and their solutions to climate risks
Strategy	Many boards and executives have tended to focus on short-term benefits	Risk governance suggests that involving right-holders such as Indigenous communities and stakeholders would lead to the pressure from those actors to consider medium and long-term strategies
Risk Management	Boards and executives have been focusing on scenario analysis and other tools based on information from experts, and make top-down decisions that might not fully reflect the interests of stakeholders	Risk governance tells us to integrate technical and non-technical information such as qualitative experience of and feedback from stakeholders, and bottom-up decision-making
Metrics and Targets	Boards and executives rely on quantitative metrics and targets focusing more on mitigations	Risk governance provides a lens to integrate quantitative metrics and targets with other qualitative information and values that cannot be quantified or monetized, for instance those on hazards and tradeoffs

Where real estate directors and executives apply risk governance as their guiding model, then their management practices would benefit from some of the innovations that the risk governance model offers. They should use the risk governance model to inform thinking about creating suitable business governance design, strategies, management plans and actions, and metrics and targets across the value chain.

Embracing the risk governance model to reform the practices of the commercial real estate industry would yield benefits. For instance, although there are ideas about using engagement to

mitigate risk exposure,[80] risk governance goes beyond engagement into risk communication, which could expand information sources and ideas for managing climate risks, create new opportunities for reconciliation with Indigenous and other vulnerable communities, and provide evidence of board and management openness to stakeholders that could facilitate legal defence when challenged in courts.

3. Laws and Policies Regulating Climate-Related Financial and Systemic Risks in Canada's Commercial Real Estate Sector

Climate-related financial risks trigger the legal responsibilities of company directors, pension fund and other investment trustees and managers, fund and asset managers, consultants, and other executives and professionals within Canada's commercial real estate sector under several legal sources. The category of these legal duties best recognized in law is technically described as fiduciary and established by court decisions and legislation, and individuals bearing these duties are called fiduciaries. Other sources of law and policy instruments may establish responsibilities that do not rise to a fiduciary duty, but nonetheless must be complied with. For instance, there are contractual duties, court-mandated duties, duties owed to stakeholders under torts, and voluntary commitments to duties from non-legally binding policy documents of organizations such as guidelines.

FIDUCIARY DUTIES arise where the nature of the relationship between two parties puts one, the fiduciary, in a privileged position over the other. This relationship is in director-company, trustee-beneficiary and expert-client relationships, and courts determine it based on facts where it is not obvious.

To enhance an understanding of the range of legal duties from these diverse sources, this section of the Guide starts with a snapshot of the legal framework. After, we identify the existing legal duties of directors, officers, managers, and other executives and professionals in the commercial real estate sector and how they are likely to further evolve. We look at these duties within groups of companies classified mainly based on their regulators: publicly listed companies mostly regulated by the CSA alongside other public regulators such as the Public Company Accounting Oversight Board, federally-regulated companies, and financial institutions and private businesses regulated by various provincial, federal (e.g., Canadian Accounting Standards Board) and, where applicable, international (e.g., ISSB) regulators. Across the subsections, we also synthesize important cases that indicate the current and future legal landscape, particularly cases from the Supreme Court of Canada.

3.1 Overview of Legal and Policy Framework

The Guide classifies the sources of law and policy requirements on climate-related financial and systemic risks in Canada's commercial real estate sector into two categories: regulatory policy and industry policy frameworks. Targeting climate change issues, the regulatory policy framework mostly includes laws and public policy instruments produced by governments to regulate low-carbon agenda and related actions, including mitigation, adaptation, and transition to net-zero emissions. The central regulatory climate policy instrument is the Pan-Canadian Framework, but multiple policy documents and laws have been built on it. The industry policy framework draws on laws, other regulatory policy instruments and governance documents from governments and

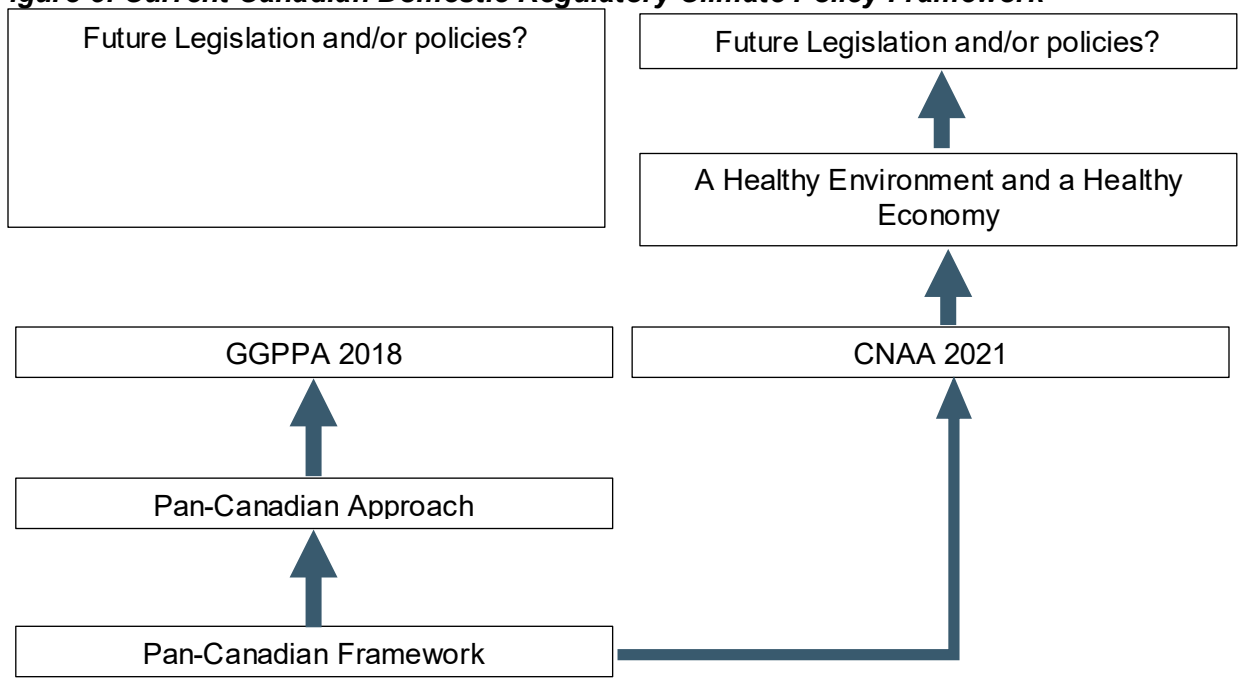
[80] For instance, Janis Sarra, *From Ideas to Action: Governance Paths to Net Zero* (Oxford: Oxford University Press, 2020) [hereafter Sarra, "*From Ideas to Action*"]; Maziar Peihani, "Pension Fiduciaries and Climate Change: A Canadian Perspective" (2020) 46(1) Queen's Law Journal 1; Onifade 2022, *supra* note 28.

various sectors and industries regulating issues in and aspects of business and investment in the commercial real estate sector impacting climate change and action. For instance, there are instruments at Canada's federal and provincial levels relevant to the commercial real estate sector, including instruments traditionally regulating companies, banks, pension plans, property, and other business and investment spheres.

A. Regulatory Policy Framework

Canada's climate policy framework is emerging fast, building on the foundational instrument, the Pan-Canadian Framework. Carbon pricing is its most important mechanism for many reasons. For instance, other strategies revolve around it and the Government of Canada presents the country as a leader in carbon pricing internationally. However, the Pan-Canadian Framework also introduces four other broad categories of mechanisms: complementary actions to reduce emissions across sectors, including electricity, built environment, transportation, industry, forestry, agriculture, and waste; adaptation and climate resilience; clean technology, innovation, and jobs; and reporting and oversight. These groups of mechanisms impact the commercial real estate sector in various ways.

Figure 5: Current Canadian Domestic Regulatory Climate Policy Framework



Source: Original Design by the Authors

Figure 5 depicts the current domestic regulatory climate policy framework in Canada. The foundational instrument is the Pan-Canadian Framework. The Pan-Canadian Approach to Pricing Carbon Pollution (Pan-Canadian Approach)[81] *formulates this central carbon pricing pillar of the Pan-Canadian Framework. The GGPPA 2018 is the main legislation to drive the implementation of this central carbon pricing pillar. The CNAA drives the implementation of the reporting and oversight elements of the Pan-Canadian Framework. The Pan-Canadian Framework and the two principal legislation, GGPA 2018 and CNAA 2021, could inform other legislation and/or policy instruments in the future.*

[81] Environment & Climate Change Canada, Pan-Canadian Approach to Pricing Carbon Pollution (3 October 2016), online: <https://www.canada.ca/en/environment-climate-change/news/2016/10/canadian-approach-pricing-carbon-pollution.html>.

While all the mechanisms of the Pan-Canadian Framework have significant implications for the commercial real estate sector, the approaches to climate resilience under the "adaptation and climate resilience" mechanism pays specific attention to infrastructure and buildings. The mechanism sets out two approaches to achieving climate-resilient property: investing in infrastructure that strengthens resilience and developing climate-resilient codes and standards. First, federal, provincial, and territorial governments will work together to use financing to regulate built infrastructures such as roads, dykes, seawalls, bridges, and living natural infrastructures such as constructed/managed wetlands and urban forests. Second, they will work together to ensure the revision of "national building codes for residential, institutional, commercial, and industrial facilities and guidance for the design and rehabilitation of climate-resilient public infrastructure by 2020 will be supported by federal investments."

The government of Canada has taken steps to implement some of the mechanisms of the Pan-Canadian framework. The earliest step was to create the Pan-Canadian Approach and then use it to guide the design of legislation to drive the implementation of the ideas for reducing emissions through carbon pricing. The result is the *GGPPA 2018*, discussed above in part 2 of this guide, which introduces the two key mechanisms for emissions reductions: a fuel charge system and the OBPS.[82] Another climate plan, called "A Healthy Environment and a Healthy Economy", advances more of the complementary actions by paying attention to diverse strategies such as energy efficiency, renewable energy, other "next-generation clean energy and technology," carbon pricing, and performance standards, investments and incentives to promote Canada's competitiveness across sectors, including energy, transportation, industries, and the built environment. Unlike other climate plans, it provides specific details for home retrofits and municipal and community buildings. As it did for carbon pricing, the Government of Canada has also enacted legislation to implement reporting and oversight: the *CNAA 2021*,[83] also discussed above in Part 2 of this guide. This statute sets Canada's national greenhouse gas emissions target for 2050 as net-zero emissions,[84] as statutorily defined.[85]

NET-ZERO means that anthropogenic emissions of greenhouse gases into the atmosphere are balanced by anthropogenic removals of greenhouse gases from the atmosphere over a specified period.

B. Industry Policy Framework

Regulators and investors are placing greater significance on climate change, its risks, and its effect on the long-term value of companies. They use several laws and other policy instruments, including those setting out and enforcing rules in companies (company laws and regulations), investment (e.g. pension fund, banking and insurance laws and regulations), trust, property and energy, while investor groups, sometimes responding to regulatory pressure, use transparency and accountability, engagement and other investor governance processes.[86] This regulatory and governance trend is further emphasised by shareholder advocacy groups and proxy advisors,

[82] *GGPPA 2018*, *supra* note 7.
[83] *Net-Zero Emissions Act, supra* note 35.
[84] *Ibid* s 6.
[85] *Ibid* s 2.
[86] See Matt Orsagh, *Climate Change Analysis in the Investment Process* (CFA Institute, 2020) online: <https://www.cfainstitute.org/-/media/documents/article/industry-research/climate-change-analyis.ashx>.

such as the Institute for Corporate Directors,[87] the Canadian Coalition for Good Governance,[88] and the Institutional Shareholder Services.[89] These groups and advisors shift shareholder engagement into the climate governance direction through the publication of their policy statements and guidelines.[90]

Moreover, many Canadian corporations seek to increase investor trust through their voluntary involvement in initiatives such as the TCFD framework[91] and the Sustainability Reporting Guidelines provided by the Global Reporting Initiative (GRI).[92] Although these initiatives have become influential as climate governance best practices, they are not legally binding. Therefore, not all corporations have chosen to adopt them, and there is invariable inconsistency in the information provided in climate disclosures made by publicly listed companies adopting them.[93] Nonetheless, these initiatives have the tendency to inspire and inform laws, so they must be taken seriously. We have seen this with the TCFD framework in Canada.

3.2 Legal Duties of Publicly-Listed Companies

A company will be considered a publicly-listed company and subject to securities regulation if it has issued securities under a prospectus in one or more jurisdictions in Canada. Publicly listed companies are subject to rigorous climate governance requirements as they are regulated by securities legislation and stock exchanges, corporate regulation, and accounting standards requirements. Although the basic premise of fiduciary and other legal duties holds true for a publicly-listed company, there are specific requirements to which it must adhere.

When considering a company's climate-related risk disclosure requirements, the main sources for consideration are national instruments and staff notices under securities law, and accounting guidelines. However, other guidelines such as the TCFD recommendation can help to ensure that fiduciaries are fully compliant.

A. Continuous Disclosure

All publicly listed companies are subject to continuous disclosure requirements as set out in the *National Instrument 51-102 on Continuous Disclosure Obligations* (*NI 51-102*).[94] As this instrument has been adopted by all the provincial and territorial securities regulators and exchanges in Canada, it applies to all jurisdictions in which the company is a reporting issuer.[95] Continuous disclosure requires publicly-listed companies to regularly file and update all materially

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[87] "ICD", online: <https://www.icd.ca/>.
[88] "CCGG", online: <https://ccgg.ca/>.
[89] "ISS", online: <https://www.issgovernance.com/>.
[90] *The Directors' E&S Guidebook: Practical insights and recommendations for effective board oversight and company disclosure of environmental and social ("E&S") matters* (CCGG, 2018); "Climate Change and Corporate Governance - A Briefing for Boards of Directors", online: *ICD* <https://www.icd.ca/Education/ICD-National-Webinars/Climate-Change-and-Corporate-Governance-A-Briefing/Climate-Change-and-Corporate-Governance-A-Briefing>; "Board Oversight of Climate Change", online: *ICD* <https://www.icd.ca/Education/ICD-Courses/Issues-Oversight/Board-Oversight-of-Climate-Change-BOCC>; "ISS Launches Climate Voting Policy", online: *ISS* <https://www.issgovernance.com/iss-launches-climate-voting-policy/>; "ISS Launches Custom Climate Voting Service", online: *ISS* <https://www.issgovernance.com/iss-launches-custom-climate-voting-service/>.
[91] "Task Force on Climate-related Financial Disclosures", online: *FSB-TCFD* <https://www.fsb-tcfd.org/>.
[92] "GRI Standards", online: *GRI* <https://www.globalreporting.org/>.
[93] Rosemary McGuire, *2019 Study of Climate-Related Disclosures by Canadian Public Companies* (Chartered Professional Accountants of Canada, 2019).
[94] Canadian Securities Administrators, National Instrument *51-102 Continuous Disclosure Obligations* (CSA, 30 March 2004) [hereafter *NI 51-102*].
[95] *Ibid*, s 11.1(1)(c).

relevant company information such as financial statements, the Management's Discussion and Analysis (MD&A) (Form 51-102F1) and the Annual Information Form (AIF) (Form 51-102F2). The only exceptions are investment funds.[96] Investment fund continuous disclosure is instead mandated under *National Instrument 81-106*[97] (*NI 81-106*) and its Companion Policy 81-106CP.[98]

A company's continuous disclosure on climate-related matters must transverse three levels of oversight: the audit committee review,[99] the approval by the board of directors,[100] and certification by the Chief Executive Officer (CEO) and the Chief Financial Officer (CFO).[101] The oversight requires there to be appropriate procedures in place to assist management in gathering, analysing, and disclosing pertinent and timely climate-related information. These procedures should be established by the audit committee and the certifying officers (the CEO & CFO) and checked regularly to ensure accuracy and consistency.[102] Specifically, *National Instrument 52-110* (*NI 52-110*) requires that the audit committee review the oversight procedures and certify their adequacy on an ongoing basis.[103] Meanwhile, *National Instrument 52-109* (*NI 52-109*) requires certifying officers to confirm that they are responsible for the disclosure and financial reporting procedures and that they have designed and evaluated these procedures.[104] At each level of approval, reviewers must have regard for climate-related risks that affect the company, specifically considering:

- The scale, source, and nature of all current and future risks.
- How risks have and will affect the financial position of the company with regard to revenues, expenditures, and subsequently, liquidity.
- The materiality of the information currently known about climate-related risk, and how the materiality of that information has been assessed.
- If the disclosure made in the AIF, MD&A and the financial statements are consistent with that materiality assessment.[105]

NI 51-102 and its Companion Policy 51-102 CP[106] do not expressly set out disclosure requirements for environmental risk. However, the AIF & MD&A, which are required as part of continuous disclosure, do. For some examples that illustrate the inclusion of climate-related risks in their AIF &MD&A, see the climate disclosure documents for Summit Industrial Income REIT, SmartCentres Real Estate Investment Trust on Sedar.[107] These may not necessarily be the best

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[96] *Ibid*, s 2.1.
[97] Canadian Securities Administrators, National Instrument *81-106 Investment Fund Continuous Disclosure* (CSA, 2005) [hereafter NI *81-106*].
[98] Canadian Securities Administrators, Companion Policy *81-106CP Investment Fund Continuous Disclosure* (CSA, 2005) [hereafter 81-106CP].
[99] Canadian Securities Administrators, National Instrument *52-110 Audit Committees*, s 2.3(5) [hereafter NI *51-110*].
[100] NI *51-102*, *supra* note 94, ss 4.5(1) and (2).
[101] Canadian Securities Administrators, National Instrument *52-109 Certification of Disclosure in Issuers' Annual and Interim Filings*, s 2.1 [hereafter NI *52-109*].
[102] Canadian Securities Administrators, "Staff Notice 51-333: Environmental Reporting Guidance" (CSA, 2010) at 23, online: *Ontario Securities Commission* <https://www.osc.ca/sites/default/files/pdfs/irps/csa_20101027_51-333_environmental-reporting.pdf> [hereafter CSA SN 51-333].
[103] NI *51-110*, *supra* note 99, s 2.3(6).
[104] NI *52-109*, *supra* note 101, s 3.1.
[105] CSA SN 51-333, *supra* note 102 at 22.
[106] Canadian Securities Administrators, Companion Policy *51-102CP Continuous Disclosure Obligations* (CSA, 2004) [hereafter 51-102CP].
[107] Summit Industrial Income REIT, online: *Sedar.com* <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00023154>; SmartCentres Real Estate Investment Trust, online: *Sedar.com* <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00017520>.

in class on disclosure, but they provide an example of real estate companies who are working toward the requisite changes in a proactive way.

B. Relevant Forms

The AIF**:** The AIF requires environmental disclosure inasmuch as companies should disclose on the form any material information on climate-related risks that may affect the performance of the business and the investors' decisions to buy, sell or retain shares.[108] This information includes any risk factors that could influence investor decision-making in relation to the company. In particular, where a company has implemented environmental policies that are fundamental to their operations, they should describe them and the steps that their company has taken to implement them, and companies should describe how the their competitiveness, revenue and spending are affected by environmental protection requirements now and in the future.[109] In both instances, a company should focus on including, within the discussion, the associated costs, the impact of these costs on operations and the foreseeable trends in such costs. With regards to the environmental policies implemented by the company, they should explain the purposes of these policies, how effective they have been, and the monitoring process implemented for the benefit of investors, so they can competently assess the adequacy of the implemented policies in terms of the stated purpose.[110]

The MD&A: The disclosure of climate-related risks in the MD&A involves the inclusion of analytical information pertaining to the company's operations for the most recent financial year. Such information is expected to contain any commitments, events, risks, or uncertainties that the company reasonably believes will materially affect its future performance.[111] The MD&A should disclose any material information not demonstrated in the company's financial statements and any risks or developments that have affected or will affect the financial statements in the future.[112] The company should provide a comprehensive analysis of its performance over the last fiscal year, and assess whether any environmental risks or trends are likely to impact the company's, revenues, capital, cashflows, liquidity, expenditure, or operations.[113] The assessment should include the nature of the liabilities, their probability of occurrence, and their forecast magnitude and time of arrival. Any environmental remediation costs associated with asset retirement obligations should also be disclosed, along with the costs associated with complying with current climate-related regulation such as recycling and reclamation technologies and disposing of hazardous products.[114] Furthermore, for environmental liabilities that involve a critical accounting estimate, the estimate should be quantified where it is material to investors

RECLAMATION TECHNOLOGIES are ways in which what would have otherwise been a waste product is recycled, reused, or repurposed.

[108] Canadian Securities Administrators, "Staff Notice 51-358: Reporting of Climate Change-related Risks" (2019) 17 at 9 [hereafter CSA SN 51-358].
[109] Canadian Securities Administrators, *51-102F2 Annual Information Form*, items 5.1(4) and 5.1(1)(k) [hereafter AIF].
[110] CSA SN 51-333, *supra* note 102 at 16.
[111] CSA SN 51-358, *supra* note 108 at 9.
[112] Canadian Securities Administrators, *51-102F1 Management's Discussion & Analysis Form*, part 1(a) [hereafter MD&A].
[113] SN 51-333, *supra* note 257 at 11.
[114] *Ibid* at 14.

and such quantitative information is available.[115] Any uncertainty pertaining to the estimate must also be disclosed along with any further delineation specific to the estimate that would clarify the level of reliance on such an estimate.[116] It is important that a discussion of possible material climate-related liabilities should always be included in the MD&A regardless of whether or not the liability is disclosed through the financial statements or the in the notes to the financial statement.

C. Relevant CSA Staff Notices

Created by the Canadian Securities Administrators (CSA) to provide practice guidance for reporting companies who have disclosure requirements. The climate-risk-related staff notices (SN) that are relevant for any public listed company are detailed here to provide a comprehensive list with a practical delineation. Staff Notice 51-330 was released in 2009 to provide a detailed document on the "do's and don'ts" of filing forward-looking information (FLI) disclosures. The information presented is based on CSA staff experiences of previous yearly disclosures. Subsequently, the first and most prominent staff notice is the Staff Notice in Environmental Reporting Guidelines (SN 51-333) released in 2010.[117]

In 2018 the CSA released Staff Notice 51-354[118] which detailed their findings of the year-long Climate Change-Related Disclosure Project.[119] The CSA found that there was a lack of clarity and consistency in climate-related disclosures[120] and that there was a greater need for improved quality in those disclosures. The main requirement is that material climate-related information needed to be mandated under securities law, while non-material information should be encouraged on a voluntary basis.[121] The CSA has intimated that it will continue to observe climate-related disclosures and disclosure frameworks and best practices with a view to introducing additional disclosure obligations where necessary.[122]

Staff Notice 51-358 on Reporting of Climate Change-related Risks (SN 51-358)[123] was released by the CSA in August 2019 and expands on the guidance provided in SN 51-333[124], whilst putting increasing emphasis on the need to report on climate change-related risks and describing the challenges that can arise in evaluating what constitutes material information. The staff notice stresses the importance of eschewing boilerplate disclosures and disclosures which are ambiguous.[125] Any disclosure made on climate risk should delineate how the board of directors and management assess climate-related risks and their impact on the business.[126] To enhance the standard of reporting, the staff notice also stipulates that disclosure should be subject to a review and approval process whereby financial statements and MD&A are assessed by an audit committee prior to public disclosure.[127] Moreover, directors much have the correct procedures in place to ensure that climate risk information is effectively collected and communicated to and from

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[115] *MD&A*, *supra* note 267 item 1.12 (i)(A), whereby a critical accounting estimate is required only in instances where the company needs to make assumptions on highly uncertain information at the time of an accounting estimate.
[116] *Ibid* item 1.12(ii).
[117] SN 51-333, *supra* note 257.
[118] Canadian Securities Administrators, "Staff Notice 51-354: Report on Climate change-related Disclosure Project" (CSA, 2018) 42 [hereafter CSA SN 51-354].
[119] Willem J L Calkoen, *The Corporate Governance Review*, 9th ed, The Law Reviews (London, UK: Law Business Research Ltd, 2019).
[120] CSA SN 51-354, *supra* note 273 at 18.
[121] *Ibid* at 23.
[122] *Ibid* at 34 and 38.
[123] CSA SN 51-358, *supra* note 108.
[124] CSA SN 51-333, *supra* note 102.
[125] CSA SN 51-358, *supra* note 108 at 5.
[126] *Ibid* at 5 and 9.
[127] *Ibid* at 4.

management to allow for precise and timely disclosures. These procedures should be reviewed on an ongoing basis to ensure their adequacy.[128]

D. Materiality

Currently, information related to environmental risks is only subject to continuous disclosure, in as much as it is considered material. Therefore, understanding what constitutes material information is the first step. Information is material if it would influence "a reasonable investor's decision [on] whether or not to buy, sell or hold securities in [a] company [...] if the information in question was omitted or misstated".[129] Of note, and discussed in section 3.7, proposed *NI 51-107*, when implemented, will require disclosure of climate governance and risk management regardless of materiality.[130]

MATERIAL INFORMATION is information that is important enough to impact an investor's decision.

When considering the materiality of climate-related risk disclosures, the CSA has provided detailed guidance through various SNs. SN 51-333 sets forth the current environmental disclosure requirements and delineates how directors are to determine what information is material for disclosure. It also identifies the environmental risks that are relevant to disclosure and the oversight, management and forward-looking information that companies must be cognizant of when deciding on material information for climate-related disclosures. With regard to what risks are material, SN 51-333 provides guidance on five key disclosure requirements in *NI 51-102* that relate to environmental matters.[131] *NI 51-102* does not specifically make mention of these environmental matters, but instead requires the completion of an AIF. The AIF must contain all the material information relevant to the key risks that could affect the company, including environmental risks.[132] An effect on the company should include anything that could have an impact on the company's ability to operate efficiently due to possible problems with the property, employees, infrastructure, the public, possible disruptions to supply chains and the availability and cost of insurance. The risks that can impact a company are:

- Physical risk: whether the hazards of climate change will impact the company's ability to operate efficiently given any risks to property, employees, infrastructure, and the public, and the effects this will have on company operations, possible disruptions to supply chains and the availability and cost of insurance.
- Regulatory risk: relating to how current and future climate-related regulation will affect the company's performance and strategy. This disclosure should include all requirements from building codes and must include the cost of complying with the relevant current and future regulation.
- Litigation risk: whether the company is party to any climate litigation or whether there is anticipated litigation.
- Reputational risk: on whether the company has the reputational capital to seek regulatory approval, and funding, and whether there is a relationship with local communities, employee loyalty and customer respect.

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[128] *Ibid* at 7.
[129] *AIF*, *supra* note 109, part 1(e); *MD&A*, *supra* note 267, part 1(f).
[130] Canadian Securities Administrators, Consultation Climate-related Disclosure Update and CSA Notice and Request for Comment Proposed National Instrument 51-107 Disclosure of Climate-related Matters (CSA, 18 October 2021) online (pdf): <https://www.osc.ca/sites/default/files/2021-10/csa_20211018_51-107_disclosure-update.pdf> [hereafter Proposed NI 51-107 Consultation].
[131] CSA SN 51-333, *supra* note 102 at 8.
[132] *AIF*, *supra* note 109, item 5.2.

- Business model risk: regarding how the business can prepare for changes in the markets caused by climate-related matters, and what the opportunities are in terms of emerging technologies, demand fluctuations, and increased competition in certain climate-related markets.[133]

SN 51-333 also raises the possibility that some liabilities may not be adequately disclosed as they may not be easy to recognize or quantify due to their long-term or subjective nature. Also, some liabilities may not appear to be material on an individual basis; however, companies should consider that together they may amount to a material risk over time.[134]

SN 51-358 provides specific guidance on determining the materiality of climate-related disclosures. It acknowledges that there are challenges that arise in climate-related disclosure that are associated with the uncertainties of climate change but contends that the information provided for climate-related disclosures "should reflect a thoughtful assessment of the information available as to the materiality of certain risks affecting their business and the impact of such risks."[135] To achieve this the following should be reviewed:

- The material **exposures** to climate-related risks of your industry.
- The **assessment** of the materiality of climate-related risks may involve the adaptation of risk assessments for a better understanding of climate-related risks specifically.
- The **time** horizons of climate-related risks may affect the materiality of the climate-related risk disclosure; however, medium-and-long term risks should still be disclosed if it is a risk factor that is material regardless of whether there is uncertainty of its eventual occurrence.
- The effective **measurement** of climate-related risks in terms of their size, timing, and nature, should be considered. This could include reasonable estimates and assumptions, or industry peer benchmarking. This will help to ensure the materiality assessment is able to quantify and disclose the potential impacts of climate-related risks.[136]

E. Forward-Looking Information

FLI includes all targets or goals that are achievable based on economic assumptions of the future and controllable actions of the company. Again, it is necessary to deem whether the FLI is material information. SN 51-333 assists with the disclosure of FLI, whether targets or goals qualify as FLI, and if they would be considered material.[137] If the company regards the information as FLI, then there are a number of conditions in Part 4A of *NI 51-102* that must be met for the document containing the FLI to be in compliance with the law, namely:

- That there be a reasonable basis for the FLI.
- That the information must identify FLI.
- That there be a disclaimer to the fact that the outcome of the FLI could be different.
- That the material risks that could affect the outcome of the FLI are identified.
- That there is a detailed description of the material factors and assumptions used in constructing the FLI.
- That there is a clear policy for updating the FLI.[138]

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[133] CSA SN 51-333, *supra* note 102 at 9–10.
[134] *Ibid* at 13.
[135] CSA SN 51-358, *supra* note 108 at 8.
[136] *Ibid* at 8–9.
[137] CSA SN 51-333, *supra* note 102 at 20.
[138] NI *51-102*, *supra* note 94, part 4A.3(d).

However, if the target or goal in question is a financial outlook, then the document must also comply with the future-oriented financial information (FOFI) requisites detailed in Part 4B of *NI 51-102*. These requirements include:

- That the FOFI is based on realistic and reasonable assumptions taking into account all circumstances.
- That a reasonably assumed FOFI is limited to a reasonably estimated period.
- That the FOFI was estimated and assumed using the same accounting standards used for the preparation of the company's other financial statements for the period covered by the FOFI.
- That the approval date of the FOFI by management is clearly provided if the FOFI itself is updated.
- Justified the FOFI and provides a disclaimer that the information is not appropriate for all purposes.[139]

If FLI disclosures have been made previously, then the company must ensure that the obligations under s. 5.8 of *NI 51-102* on the updating of FLI are adhered to. A company must provide an update in the MD&A on:

- Any circumstances that may cause a difference in the results of the FLI.
- The extent to which that difference is expected to be.
- The material differences between the actual results and any previously disclosed FOFI.

If the previous FLI has been withdrawn, then the company must detail in the MD&A that decision and the circumstances surrounding it and whether there are any underlying assumptions that are no longer valid.[140] In both instances, whether updating an FLI or withdrawing it, the company is exempt from reporting the particulars in the MD&A if they disclose the required information in a news release prior to the filing of the MD&A[141]. However, the company must include in the MD&A disclosure information pertaining to the news release, the date of the news release and the Sedar.com URL where the news release can be located.[142] It is important to note, that the requirements around FLI does not mean that companies do not have to disclose material climate-related risks that will only transpire over the long term. Such risk must still be disclosed.[143]

SN 51-330 addresses several ongoing issues that have occurred in FLI disclosures, and in so doing helps the disclosing company to refrain from such missteps in the future. Particularly, the staff notice discourages the use of vague statements pertaining to the inclusion of FLI and requests that any FLI be specifically identified.[144] It also seeks to dissuade the use of "boilerplate" disclosure, unfriendly presentation, and the setting aside of obligations to update past FLI disclosures.[145] Finally, it provides guidance on determining materiality, assumptions, and relevant goals and targets.[146]

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[139] *Ibid*, part 4B.3(b).
[140] *Ibid*, s 5.8(5)(a).
[141] *Ibid*, ss 5.8(3)(a) and 5.8(6)(a).
[142] *Ibid*, ss 5.8(3)(b)(i), (ii) and (iii) and 5.8(6)(b)(i), (ii) and (iii).
[143] CSA SN 51-358, *supra* note 108 at 16.
[144] Canadian Securities Administrators, "Staff Notice 51-330 - Guidance Regarding the Application of Forward-looking Information Requirements under NI 51-102 Continuous Disclosure Obligations" (CSA, 2009) at 1 [hereafter CSA SN 51-330].
[145] *Ibid* at 2–3.
[146] *Ibid* at 1–2.

F. Board Committee Disclosure

Any board committees, including the audit committee, have disclosure requirements that pertain to climate-related risks. First, listed companies must disclose the charter of their audit committee in the AIF as specified in item 1 of the Audit Committee Information Required in an AIF form (Form 52-110F1)[147] and item 1 of the Disclosure by Venture Issuer's form (Form 51-110F2)[148]. Audit committees that have responsibility for risk management, will need to ensure they include environmental and climate-related risk management. This disclosure must include the oversight and management of environmental risks and the development and review of those risks going forward. It must demonstrate the integration of risk management into the company's strategic plan whilst highlighting the significant areas of risk management including assessments and procedures.[149]

Second, under item 8 of form 58-101F1, TSX-listed companies must disclose the existence and function of any standing committees outside of the audit, compensation, and nominating committees.[150] This disclosure includes any committees involved in climate-related risk management.[151]

G. Voluntary Reporting

Information on climate-related risks and other environmental matters may sometimes be disclosed in voluntary reports. Voluntary reports may be prepared in accordance with a number of sustainability reporting frameworks. However, companies have a duty to know what they are required to disclose under the continuous disclosure documents and must ensure that they do not make the mistake of thinking that disclosure in the voluntary reporting document will be sufficient to satisfy that duty. The idea of voluntary reporting is to provide investors with additional information outside of the continuous disclosure remit. As such, companies should ensure that there is consistency between their continuous disclosure reports and their voluntary disclosures. Moreover, companies should be cautious in what they disclose voluntarily as, although the disclosures are not required by securities regulatory authorities, they may be subject to FLI and civil liability for secondary market disclosure under securities regulation if those disclosures amount to misrepresentations. Therefore, all voluntary reports should be robustly reviewed to ensure that:

- The information detailed is correct, reliable, and consistent with the information disclosed in the continuous disclosure documents.
- That the assessment of the materiality of climate-related information in the voluntary report is consistent with that of the continuous disclosure documents.
- That voluntary report information is filed to the securities regulators regularly.
- That any FLI in the voluntary reports complies with the FLI requirements set out in Parts 4A and 4B and section 5.8 of *NI 51-102.*[152]

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[147] Canadian Securities Administrators, 52-110F1 Audit Committee Information Required in an AIF (CSA, 2008) item 1 [hereafter 52-110F1 Audit Committee Information Required in an AIF].
[148] Canadian Securities Administrators, 52-110F2 Disclosure by Venture Issuers (CSA, 2015) item 1 [hereafter 52-110F2 Disclosure by Venture Issuers].
[149] CSA SN 51-333, *supra* note 102 at 17.
[150] Canadian Securities Administrators, 58-101F1 Corporate Governance Disclosure (CSA, 2008) item 8 [hereafter 58-101F1 Corporate Governance Disclosure].
[151] CSA SN 51-333, *supra* note 102 at 17.
[152] *Ibid* at 24–25.

H. Duties Imposed by Accounting Guidelines

The Canadian Accounting Standards Board (AcSB) expects that all interim and annual financial statements of all publicly accountable enterprises (PAE) will be prepared using International Financial Reporting Standards (IFRS).[153] The only exception is pension funds, which the AcSB has different accounting standards for. In response to the stances taken by the AcSB, the CSA issued SN 33-313 detailing that all non-self-regulatory organization (SRO) members that had access to or held client assets would be subject to the new IFRS accounting standards.[154] Subsequently, staff notice 33-314 mandated the use of IFRS for financial reporting for *all* non-SRO issuers regardless of whether they were a PAE or their dealings with client assets.[155] The staff notice provides guidance on who satisfied the definition of non-SRO. The CSA left it to the Investment Industry Regulatory Organization of Canada (IIROC) and the Mutual Fund Dealers Association (MFDA) to set their own standards on IFRS. The IIROC and MFDA subsequently mandated that all members were to adhere to the IFRS accounting standards, and therefore the climate-related disclosures that IFRS require.[156]

The *National Instrument 52-107* (*NI 52-107*) was updated to reflect these changes in financial reporting requirements. Part 3 of *NI 52-107* now reflects the IFRS as the Canadian generally accepted accounting practices (GAAP) for PAE. Part 3 requires that all annual and interim financial disclosures are prepared in accordance with Canadian GAAP that are not IFRS compliant. Moreover, section 3.2(1)(b) requires the inclusion of an "unreserved statement of compliance with IFRS" and 3.2(3)(b) calls for a description and statement of the IFRS to be included in the annual report.[157]

This changeover to IFRS is pertinent to climate-related disclosure as the IFRS Foundation has expressly stated that though there is no explicit reference to climate-related matters in the standards, companies using the standards are expected to "consider climate-related matters in applying IFRS Standards when the effects of those matters is material".[158] To ensure sound and consistent application of the IFRS standards, the IFRS released guidance on the areas where climate-related consideration would be most likely expected in the application of the IFRS standards. The following International Accounting Standards (IAS) and IFRS standards have climate-related consideration requirements:

- IAS 1 — If there is a change in the carrying amounts of assets and liabilities in a company due to assumptions based on the future, then assumptions based on climate-related matters must be considered and disclosed. In similarity to FLI, if an estimate is made on an assumption and then any climate-related risk that may affect those estimates must be

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[153] "International Financial Reporting Standards (IFRS)", (29 July 2009), online: *Canada Revenue Agency* <https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/international-financial-reporting-standards-ifrs.html> [hereafter CRA, "IFRS"].

[154] Canadian Securities Administrators, "Staff Notice 33-313 International Financial Reporting Standards and Registrants" (CSA, 2008) [hereafter CSA SN 33-313].

[155] Canadian Securities Administrators, "Staff Notice 33-314 International Financial Reporting Standards and Registrants" (CSA, 2009) [hereafter CSA SN 33-314].

[156] Investment Industry Regulation Organization of Canada, "Notice 08-0113 Adoption of International Financial Reporting Standards (IFRS)" (IIROC, 2008) [hereafter IIROC Notice 08-113]; Mutual Fund Dealers Association, "Bulletin 0463-P Transition Periods to Adopt International Financial Reporting Standards and Other Form 1 Amendments" (MFDA, 2011) [hereafter MFDA Bulletin 0463-P].

[157] Canadian Securities Administrators, National Instrument *52-107 Acceptable Accounting Principles and Auditing Standards*, ss 3.2(1)(b), 3.2(3)(b) [hereafter NI *52-107*].

[158] The definition of materiality under the IFRS aligns with that of the continuous reporting disclosure obligations. See IFRS, "Effects of climate-related matters on financial statements" (2020) at 1, online (pdf): *IFRS* <https://www.ifrs.org/content/dam/ifrs/supporting-implementation/documents/effects-of-climate-related-matters-on-financial-statements.pdf>.

described. This FLI will extend to the company's ability to continue operations, and therefore any uncertainties to this outcome caused by climate-related matters must be disclosed in IAS 1.

- IAS 2 — This IAS requires that the value of a company's inventory be estimated based on all information available. In so doing, the effects on that estimation should regard any climate-related risks that may have an impact on the price or resale value of those inventories and adequately disclose this.
- IAS 12 — A company must have regard for the effect that climate-related risk may have on deferred tax assets.
- IAS 16 and 38 — Both of these IASs require companies to disclose the value of their assets, the residual values, and the life expectancy of those assets. These figures and estimates may be affected by climate-related matters through damage, depreciation, or obsolescnce of the technology. This must be perceived and disclosed.
- IAS 36 — In reporting the impairment of assets companies need to consider if climate-related risk could affect the usefulness of these assets in the future due to changes in technology or regulation. Moreover, any impairment must be accompanied by an estimation of a recoverable amount based on future economic assumptions. Climate-related matters must be a consideration in supporting those assumptions.
- IAS 37 — Climate-related risk could have a substantial impact on the detection, measurement, and disclosure of liabilities such as levies, new regulatory requirements, onerous contracts, and changes to production to meet new climate-related targets.
- IFRS 7 — In disclosing information about a company's financial instruments it is necessary to consider and include climate-related information pertaining to investments and any specific industries that are vulnerable to climate-related risks.
- IFRS 9 — Requires information on the accounting of financial instruments and as such climate-related factors are a necessary consideration in how those financial instruments will perform in the future.
- IFRS 13 — This standard provides the disclosure of fair value assets and liabilities. Climate-related risks will not only affect the measurement of the fair value, but also the disclosure of the fair value measurement.
- IFRS 17 — The cost and availability of insurance may be impacted by climate-related risks as insured events become more frequent and significant. As such the assumptions used to measure insurance contract liabilities could be impacted. The way in which a company manages the risks it is exposed to should be disclosed in IFRS 17 and climate-related risks are an essential component of this.

Table 5: Relevant Regulation, Guidance, and Forms of Securities Regulation Requirements[159]

National Instruments		
NI 52-110	*Audit Committees*	Audit committee oversight requirements
NI 52-109	*Certification of Disclosure in Issuers' Annual and Interim Filings*	Certify officer responsibilities for disclosure
NI 51-102	*Continuous Disclosure Obligations*	Obligations are imposed on all publicly listed companies to disclose material information that may affect the performance of the company

[159] The relevant regulation, guidance, and forms of proposed *NI 51-107* are detailed in Table 3 below.

NI 81-106	*Investment Fund Continuous Disclosure*	Continuous disclosure obligations for investment funds.
NI 52-107	*Acceptable Accounting Principles and Auditing Standards*	Canadian GAAP requirements for interim and annual reports updated to reflect the move to IFRS
Companion Policies		
51-102CP	*Continuous Disclosure Obligations*	Helpful guidance on the requirements of the continuous disclosure obligations required by NI 51-102
81-106CP	*Investment Fund Continuous Disclosure*	Guidance on continuous disclosure obligations for investment funds under NI 81-106
52-107CP	*Acceptable Accounting Principles and Auditing Standards*	Guidance on ensuring full compliance with Canadian GAAP requirements
Forms		
52-110F1	Audit Committee Information Required in an AIF form	Disclosure of audit committee charter including environmental risk management responsibilities
52-110F2	Disclosure by Venture Issuers form	Disclosure of audit committee charter including environmental risk management responsibilities
58-101F1	Corporate Governance Disclosure	Requires board committees to be disclosed – Including climate-related committees
51-102F1	Management's Discussion & Analysis	Required as part of a company's continuous disclosure obligations under NI 51/102
51-102F2	Annual Information Form	Required as part of a company's continuous disclosure obligations under NI 51/102
Staff Notices		
SN 51-330	Guidance Regarding the Application of Forward-looking Information Requirements under NI 51-102 *Continues Disclosure Obligations*	Clarifies the requirements to disclose FLI
SN 51-333	Environmental Reporting Guidance	Comprehensive guidance on disclosing climate-related risk information under the continuous disclosure obligations of NI 51-102
SN 51-358	Reporting of Climate Change-related Risks	Expands on the guidance provided in SN 51-333 but focuses on climate change
SN 33-313	International Financial Reporting Standards and Registrants	Detailing the change to IFRS financial reporting for non-SRO members
SN 33-314	International Financial Reporting Standards and Registrants	Updating the requirements detailed in SN 33-313
Other		
IIROC Notice 08-0113	Adoption of International Financial Reporting Standards (IFRS)	Requiring members to adhere to the IFRS for financial reporting

MFDA Bulletin 0463-P	Transition Periods to Adopt International Financial Reporting Standards and Other Form 1 Amendments	Requiring members to adhere to the IFRS for financial reporting

3.3 Legal Duties of OSFI Regulated Financial Institutions and Pension Plans

The OSFI regulates FRFIs and federally regulated pension plans (FRPP). Importantly, FRFIs and FRPPs are significant investors in commercial real estate, and as such the boards and trustees need to be aware of their fiduciary duty to report on their investments and the climate-related risks that they pose to the operations and strategies of the business or pension plan. To this end, boards and trustees of OSFI-regulated companies and pension plans must be fully aware of their disclosure duties as directors — and as investors of commercial real estate — and be fully informed as to what climate-related risk those real estate investments constitute. Moreover, it is incumbent on directors of commercial real estate companies to be aware of the reporting requirements of FRFIs and FRPPs who invest in them, as FRFI and FRPP climate disclosure requirements could affect FRFI and FRPP decisions to invest in commercial real estate companies in the future. This is likely especially if the climate-related risks associated with real estate investments are not easy to disclose due to commercial real estate companies failing to take into account the needs of their OSFI regulated investors.

The duties applicable to FRFIs are detailed in the OSFI *Corporate Governance Guideline*.[160] The OSFI previously had a *Guideline for Governance of Federally Regulated Pension Plans,* but instead now encourages administrators and trustees of FRPPs to follow the Canadian Association of Pension Supervisory Authorities (CAPSA) Guideline No. 4: *Pension Plan Governance Guideline*.[161] Neither of these guidelines specifies nor mentions climate-related risks; however, recent publications issued by OSFI on climate-related risks of companies and pension plans under their purview stipulate that the guidelines should be read with climate-related risks in mind and that the expectations on FRFIs and FRPPs to manage risks extend to climate-related risks.[162] However, specific guidance on climate-related risks considerations and reporting for FRFI and FRPPs will be forthcoming by OSFI later in 2022, the particulars of which are discussed in section 3.7 below.

In this section, the corporate governance requirements for FRFI's and FRPPs are slightly different and are thus discussed separately. These are the standard corporate disclosure requirements in risk management that OSFI has since clarified the inclusion of climate-related risks.

A. Federally Regulated Financial Institutions

As discussed in the preceding section above, FRFIs are heavy investors in real estate and therefore need to be cognizant of their duties to report on those real estate assets in light of ongoing climate-related factors. The board of an FRFI is responsible for approving and overseeing the risk management of the financial institution in terms of the Risk Appetite Framework (RAF).[163] The requirements set down for an RAF are:

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[160] Office of the Superintendent of Financial Institutions, *Corporate Governance Guideline* (OSFI, 2018) [hereafter OSFI, "*Corporate Governance Guideline*"] .

[161] Government of Canada, "InfoPensions - Issue 21" (May 2019) online: *OSFI* <https://www.osfi-bsif.gc.ca/Eng/Docs/ip/201905/index.html#toc05>; Canadian Association of Pension Supervisory Authorities, Pension Plan Governance Guideline, Guideline No. 4 (CAPSA, 2016) [hereafter CAPSA, "Pension Plan Governance Guideline"].

[162] OSFI, "*Navigating Uncertainty in Climate Change*", *supra* note 98 at 16, 20.

[163] OSFI, "*Corporate Governance Guideline*", *supra* note 160 at 3.

- It should take into consideration the FRFI's specific risk profile on a national and international level.
- It should be tailored to each FRFI.
- It should be regularly reviewed and updated considering the FRFI's long-term strategic plan, risk factors and current operations.
- It should be disseminated throughout the FRFI.
- It should set clear perimeters on maximum risk levels and tolerable loss margins.
- It should provide boundaries on asset class and liability choices and participation in certain activities, including market activities.[164]

All FRFI choices need to be consistent with the RAF and risks should be adequately controlled by set procedures and processes.[165] With the inclusion of climate-related risks within the RAF, the FRFI must consider climate-related matters in their choice of assets and liabilities and activities going forward. Moreover, OSFI expects FRFIs to take a forward-looking approach to identifying and understanding material risks inherent in their investment activities and managing those risks.[166]

OVERSIGHT FUNCTIONS is a body that identifies, measure, and reports on the FRFIS' risk and risk management considering the RAF.

In its oversight capacity, the board will appoint persons to the Oversight Functions. This body reports directly to the board of directors or an assigned board committee.[167] The risks that need evaluation in risk management and the RAF will need to contain material climate-related risks as well. Furthermore, the board should also create a Risk Committee. This committee should have a full understanding of the risks that the FRFI is exposed to, including climate-related risks, and the procedures for identifying, monitoring, measuring, and reporting on material risks. Moreover, the committee should be cognizant of the ways in which these risks can be mitigated and managed. The FRFI should receive continuous updates from the risk committee on risk exposures that may impact the RAF. To wit, the committee should also be informed of changes to the RAF and the short-and-long-term strategies of the FRFI.[168] In addition to the risk committee, the company should have a Chief Risk Officer (CRO) in place that oversees the risk management function of the institution. The risk management function of the FRFI should be independent of operational functions and is also responsible for detecting, quantifying, monitoring, and disclosing material risks that are relevant to the FRFI. As part of this responsibility, the risk management function and CRO should be capable of influencing the risk-taking of the FRFI whilst remaining objective in its assessment and measurement of those risks. The CRO should regularly report to the risk committee of the board about the risk activities in relation to the RAF.[169]

All FRFIs should have a non-executive, non-affiliated audit committee. The audit committee plays a substantial role in ensuring that financial data reporting by the FRFI is an accurate representation of its financial statements, financial reserves and internal controls.[170] Financial risk modelling can help to assess a company's climate-related risk exposure, however, OSFI does recognize that this can be difficult for most companies to implement as current assumptions do not capture the full extent that climate-related risks can affect the future exposure of the company

[164] *Ibid* at 7–8.
[165] *Ibid*.
[166] OSFI, "*Navigating Uncertainty in Climate Change*", *supra* note 98 at 16.
[167] OSFI, "*Corporate Governance Guideline*", *supra* note 160 at 5.
[168] *Ibid* at 8–9.
[169] *Ibid* at 9.
[170] *Ibid* at 10.

Furthermore, the historical loss rates due to climate-related risk are not available and any available climate-related data may lack sufficient granularity to make reasonable assumptions.[171]

FRFIs have the option to voluntarily report on their climate-related risks and their management of said risks, should they wish to. There are substantial reputational benefits to doing so and as such some FRFIs already voluntarily disclosed their climate-related information.[172] However, if an FRFI should choose to voluntarily disclose they should be sure to review the CSA requirements above on materiality and forward-looking information to ensure they are compliant. Moreover, it is the responsibility of the FRFI to ensure that they make no misrepresentations in those voluntary disclosures that could lead to an action being brought under statutory civil liability.

B. Federally Regulated Pension Plans

Again, FRPPs invest heavily in the real estate sector and therefore have a significant role in real estate governance. Pension plans are expected to prudently manage their funds by taking into account all factors and risks that could affect the performance of their investment funds. This includes climate-related risks.[173] Therefore, it is necessary for FRPPs to be mindful of the climate-related risks faced by the real estate sector and to be engaged with the particulars of how these risks are reported by the boards of real estate companies, and the effect this has on the FRPP's obligations. The obligation of FRPPs to provide a Statement of Investment Policies and Procedures (SIPP) is codified in statute[174] and should provide detailed information on:

- The categories of investments and loans used by the fund.
- The diversification of the investment portfolio.
- The asset mix and rate of return expectation.
- The liquidity investments.[175]

In some instances, depending on the province, environmental, social and governance factors must be included as well.[176]

The management strategies of the pension plans are expected to reflect the objectives of the plan and should be flexible to changes in the investment environment and the objectives of the plan.[177] As such, the greater requirement by investors to consider, and disclose climate-related risk, means pension plan strategies should be adapted to reflect this change in attitude. FRPP administrators and trustees should systematically be managing climate-related financial risk as part of their governance of the plan's investment decisions. In both individual and pool funds, the administrator or trustee must assess the climate-related risks in light of the pension plan's risk appetites. This also includes climate transition scenarios for funds where administrators and trustees invest directly into assets or the inclusion of climate-related risk factors in the authorization to investment managers where pension plan decisions are delegated.[178] For FRPPs the climate-related risk strategy is considered in the context of assessing environmental, social and governance (ESG) factors and the fiduciaries' responsibilities with regard to those ESG

[171] OSFI, "*Navigating Uncertainty in Climate Change*", *supra* note 98 at 19.
[172] *Ibid* at 22.
[173] *Ibid* at 20.
[174] *Pension Benefits Standards Regulations*, 1985, SOR87-19, s 7.1(1).
[175] *Ibid*.
[176] See for example Ontario legislation *Pension Benefits Act, RSO 1990, c P 8,* s 78(1).
[177] OSFI, "*Navigating Uncertainty in Climate Change*", *supra* note 98 at 20.
[178] *Ibid* at 21.

factors.[179] In managing risks of all kinds, administrators should create an appropriate framework to identify, measure, monitor and report on those risks. This framework should include:

- How the risk will be identified.
- How those risks will be assessed and prioritised.
- A clear mandate on the responsibilities of managing those risks.
- The particulars on how the risk will be managed or mitigated within the plan.
- How the risk will be monitored, and whether the current response to risk is effective.
- Comprehensive documentation on how risk is managed.[180]

C. Accounting Standards

In the preparation of all interim and annual financial statements, PAE must use the IFRS. A PAE is an entity that either:

- Has issued, or is in a process of issuing, debt or equity instruments that are, or will be, outstanding and traded in a public market (including a domestic or foreign stock exchange or an over-the-counter market, including local and regional markets).
- Holds assets in a fiduciary capacity for a broad group of outsiders as one of its primary businesses.[181]

Banks, credit unions, insurance companies, securities brokers/dealers, mutual funds, and investment banks typically meet the second of these criteria.[182] Thus the IFRS criteria laid out above will be relevant for FRFI and FRPP as well.

3.4 Legal Duties of Private Companies

Private companies fall outside the scope of securities regulation, but they are subject to corporate governance requirements under their constating federal, provincial, or territorial corporations' statute, which includes mandatory disclosure of material risks to the annual general meeting of shareholders. Private companies may also adopt voluntary corporate governance practices and there are several reasons why it makes good business sense for private companies to voluntarily adopt some or all of the corporate and climate governance practices that are mandated on public companies.

- The increased accountability and transparency allow for the private enterprises to be competitive with public companies.
- Concern over directors' fiduciary duties and their liabilities may prompt boards of private companies to adopt improved corporate governance practices that fall in the line with the statutory requirements of public and federally regulated companies.
- Private companies that plan to go public have an advantage if they are already complying with corporate governance requirements.
- Private companies that seek to be acquired by larger companies are also better placed and more attractive for having corporate governance practices in place.[183]

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[179] *Ibid*.
[180] CAPSA, "Pension Plan Governance Guideline", *supra* note 161 at 9.
[181] "Publicly Accountable Enterprises (PAEs)", (13 April 2010), online: *Canada Revenue Agency* <https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/international-financial-reporting-standards-ifrs/publicly-accountable-enterprises-paes.html>.
[182] *Ibid*.
[183] "Corporate Governance and Private Companies" (McMillan Binch LLP, 2004) online: *McMillan* <https://mcmillan.ca/wp-content/uploads/2020/07/Corp-Governance-Private-Companies-0804.pdf>.

- If a private company gets involved in a joint venture partnership with a public or federally regulated company, then they may be required to disclose their corporate governance and climate-related risk to the mandated company as part of their requirements to report on the risk management of ongoing projects.

A. Accounting Standards for Privately-held Companies

Most private companies have the choice between adopting IFRS,[184] or the Accounting Standards for Private Enterprises (ASPE) to prefer and report their financial statements. However, at a minimum, ASPE accounting standards must be implemented. ASPE are detailed in Part II of the Chartered Professional Accountants of Canada (CPA) handbook. There are numerous handbooks and resource guides to help a private company meet their accounting requirements under ASPE,[185] the discussion of which is beyond the scope of this paper. However, REALPAC has created a helpful handbook to ensure compliance with these standards.[186]

As ASPE contains no climate-related requirements on financial reporting, private companies are encouraged to look toward the future and align their reporting standards with IFRS and the climate-related risk reporting inherent in those standards to best prepare for possible changes in the future.

3.5 Anticipated Changes to Legal Duties

Table 6: Relevant Regulation, Guidance and Forms of Anticipated Changes in Securities Regulation Requirements

National Instruments		
NI 51-107	*Disclosure of Climate-related Matters*	Set outs the potential mandated changes to climate-related risk disclosure expected of publicly-listed companies
Companion Policies		
51-107CP	*Disclosure of Climate-related Matters*	Offers information on why and how the CSA will implement NI51-107 changes to climate-related risk disclosure expected of publicly-listed companies
Forms		
51-107A	Disclosure of Climate-related Matters Form	Climate-related governance disclosure requirements in the directors and management's role in managing climate-related risks

[184] CRA, "IFRS", *supra* note 153.
[185] Dina Georgious, *Research, Guidance and Support: Accounting Standards for Private Enterprises (ASPE)* (Chartered Professional Accountants of Canada, 2021); "Accounting Standards for Private Enterprises (ASPE) - ASPE Consulting Services", online: *BDO Canada* <https://www.bdo.ca/en-ca/Services/Assurance-and-Accounting/A-A-Knowledge-Centre/ASPE>; "Accounting Standards for Private Enterprises: Overview", online: *AcSB* <https://www.frascanada.ca/en/aspe>.
[186] REALPAC, "ASPE Handbook", online: *REALPAC* < https://realpac.ca/product/aspe-handbook/>.

51-107B	GHG Emission Disclosure Form	Requires that strategy, risk management, metrics and targets, and GHG emissions be reported in the AIF or MD&A
Staff Notices		
81-334	ESG-related Investment Fund Disclosure	Provides information and guidance on the requirements expected by the CSA for investment fund disclosure on ESG matters
Other		
Consultation 51-107	Consultation Climate-related Disclosure Update and CSA Notice and Request for Comment Proposed NI 51-107 Disclosure of Climate-related Matters	Describes the CSA's reasons for NI51-107, the changes that would occur and the consultation process

A. Publicly listed companies

The CSA has raised concerns about the quality of climate-related reporting. Disclosures are often incomplete or inconsistent.[187] Moreover, companies are not integrating climate-related disclosure into their reporting structures and are instead selectively reporting using certain voluntary frameworks.[188] In a review of 48 Canadian publicly-listed companies conducted by the CSA in 2021, it was found that:

- 92% of companies disclosed climate-related risks in their AIF or MD&A.
- 59% of risk disclosures were relevant, detailed, and specific, whilst 41% were boilerplate, vague and incomplete.
- 59% of companies provided a discussion of their strategies for managing climate-related risks.
- 68% of risk disclosures provided a qualitative discussion of the related financial impacts; but
- 25% did not address the financial impacts of the risks they disclosed at all; and
- no companies quantified the identified climate-related risk's financial impact.
- 2 companies disclosed the effects of climate-related matters in their financial statements.
- 40% of companies' disclosure entity-specific opportunities related to climate change.
- 33% of disclosures identified climate-related responsibilities in their board of director's mandate.
- 46% of companies provided some disclosure on board oversight of climate-related risks and opportunities.[189]

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[187] Proposed NI 51-107 Consultation, *supra* note 130.
[188] Canadian Securities Administrators, *CSA Notice and Request for Comment Proposed Amendments to National Instrument 51-102 Continuous Disclosure Obligations and Other Amendments and Changes Relating to Annual and Interim Filings of Non-Investment Fund Reporting Issuers and Seeking Feedback on a Proposed Framework for Semi-Annual Reporting – Venture Issuers on a Voluntary Basis*, 44 OSCB 4205 (CSA, 2021) at 2, online (pdf): *Ontario Securities Commission* <https://www.osc.ca/sites/default/files/2021-05/ni_20210520_51-102_continuous-disclosure-obligations.pdf> [hereafter CSA, "*Proposed Amendments to National Instrument 51-102*"] .
[189] Proposed NI *51-107* Consultation, *supra* note 130 at 34–35.

To address these concerns, the CSA released the Proposed NI 51-107 in October 2021.[190] The CSA does not anticipate NI 51-107 coming into force before 31 December 2022, and then there will be a phased-in approach to its implementation with non-venture issuers needing to report on the new standards within a year, whilst venture issuers will have three years.[191] NI 51-107 will improve the ability of investors to compare the climate-related disclosures of a company over several years, or with other similar companies. This more consistent reporting will also improve competition among publicly-listed companies, as their disclosures correctly reflect their climate-related improvements in comparison to previous years and other companies.[192]

As part of this new regulation, there will be two new forms required for companies to be compliant with their climate-related disclosure duties. Form 51-107A requires companies to describe the board of director's oversight of, and management's role in assessing and managing, climate-related risks and opportunities in its management information circular, AIF or MD&A, whilst Form 51-107B entails the disclosure of climate-related strategies, risk management, metrics and targets, and GHG emissions. In particular, Form 51-107B requires:

- Information on the climate-related risks and opportunities identified over the short, medium and long term.
- The impact these risks and opportunities will have on the company's business, strategy, and financial plans.
- A description of the company's process for identifying and measuring climate-related risks.
- A description of the company's process for managing climate-related risks.
- A description of how the company has integrated those processes into its overall risk management.
- Disclosure of the metrics used to measure climate-related risk and opportunities.
- Disclosure of the targets used to manage climate-related risk and opportunities.
- Disclosure of the companies scope 1, 2 and 3 GHG emissions and risks.
- Disclosure of the reporting standard used by the company in the calculation and reporting of its GHG emissions.
- Disclosure on how the reporting standard used to calculate and report on GHG emissions is comparable to the GHG Protocol, if the GHG protocol was not used.[193]

SCOPE 1 emissions are direct emissions from company-owned or controlled entities.

SCOPE 2 emissions include the indirect heating, cooling, and electricity-generated emissions that the company purchases or consumes.

SCOPE 3 emissions are other indirect emissions that are generated through the company's value chain.

[190] *51-107 Disclosure of Climate-related Matters*, Canadian Securities Administrators [*Proposed NI 51-107*].
[191] Proposed NI 51-107 Consultation, *supra* note 130 at 3.
[192] Sarra, "*Retail's Route to Net-zero Emissions", supra* note 1.
[193] Proposed NI *51*-107 Consultation, *supra* note 130.

If no disclosure is given for GHG emissions the company must provide a valid justification for this. If GHG emissions are reported by the company, it must use GHG emissions reporting standards.[194] These new requirements are consistent with the four pillars of the TCFD recommendations.[195] This further demonstrates the growing movement in Canada toward mandatory TCDF reporting.[196] Not only is there a growing international movement toward TCFD-aligned disclosures previously mentioned, but the Canadian Government has clearly intimated its intention to move to mandatory TCFD-aligned reporting in the future. First, by requiring such from Crown Corporations[197] and banks,[198] and now by proposing NI 51-107, which is closely based on the TCFD recommendations. If TCFD recommendations are adopted as mandatory in Canada, this will provide a much-needed standardized approach to the disclosure of climate-related factors.

Importantly, NI 51-107 will not apply to investment funds. Therefore, the CSA has released SN 81-334. This staff notice provides guidance to investment funds and their managers on ESG disclosure requirements.[199] In continuous disclosure reviews conducted by the CSA on 32 ESG-related funds, it was found that:

- More than half of those funds failed to provide detailed disclosure on ESG factors and their evaluation.
- More than half of those funds did not disclose ESG-related risks that were material to the fund.
- One fund did not reference ESG objectives in its investment strategies despite being an ESG-related fund
- More than half the funds used proxy voting to achieve their ESG-related investment objectives but failed to disclose this in their investment strategies[200]

Therefore, the CSA felt it necessary to detail the ESG disclosure requirements for investment funds. Specifically, investment funds are required to describe any material risks, including climate-related risks, that can affect the fund, its objectives and/or strategies.[201]

Moreover, the ISSB which was created at COP26 to develop an international baseline for sustainability disclosures, has launched two proposals on new standards for reporting. The proposed IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information[202] and proposed IFRS S2 Climate-related Disclosures.[203] These proposals are based

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[194] Proposed NI *51-107* Consultation, *supra* note 130.
[195] *Ibid*.
[196] "Letter from the Deputy Prime Minister to the Chair of the Board of Trustees of the IFRS Foundation", online: *Government of Canada* <https://www.canada.ca/en/department-finance/programs/financial-sector-policy/letter-from-deputy-prime-minister-chair-board-trustees-ifrs-foundation.html>; Environment and Climate Change Canada, Final Report of the Expert Panel on Sustainable Finance: Mobilizing Finance for Sustainable Growth (Ottawa: Government of Canada, 2019) at 14-18 [hereafter Environment and Climate Change Canada, "Final Report of the Expert Panel on Sustainable Finance"].
[197] Government of Canada, "*2021 Budget"*, *supra* note 62.
[198] Government of Canada, *"2022 Budget"*, *supra* note 63.
[199] Canadian Securities Administrators, "Staff Notice 81-334 ESG-related Investment Fund Disclosure" (CSA, 2022) online: *British Columbia Securities Commission* <https://www.bcsc.bc.ca/-/media/PWS/New-Resources/Securities-Law/Instruments-and-Policies/Policy-8/81334-CSA-Staff-Notice-January-19-2022.pdf>.
[200] *Ibid* at 6–8.
[201] *Ibid* at 14–15.
[202] *Exposure Draft IFRS S1 General Requirements for Disclosure for Sustainability-related Financial Information* (IFRS, 2022).
[203] *Exposure Draft IFRS S2 Climate-related Disclosures* (IFRS, 2022).

on TCFD recommendations and are planned to be implemented by the end of 2022. The proposals:

- Include the overall requirements for disclosing sustainability-related financial information, including risks and opportunities.
- Provide guidance on how to identify and disclose risks and opportunities not detailed in the IFRS sustainability disclosure standard.
- Provide the detailed requirements for the identification, measurement, and disclosure of climate-related financial information.

Whilst there will be more reporting on climate-related disclosures imposed by NI 51-107 and the new ISSB proposals for IFRS, the CSA is also looking to reduce and streamline the continuous disclosure requirements under NI 51-102.[204] In May 2021, they released a request for comment on proposed changes to reporting obligations which would reduce the reporting burden of companies and increase efficiency. The proposed amendments include:

- Combining the financial statements, the AIF (where applicable), and the MD&A into one reporting document for annual and interim filings. This document will be called the annual disclosure statement or the interim disclosure statement respectively. This would remove any duplication in the reporting and eliminate redundant information or information which places too high a reporting burden on companies with very little return.
- Addressing gaps in the current disclosure requirements.
- Providing clarification of reporting requirements in the AIF and MD&A that will improve reporting and reduce unnecessary disclosure by companies that are unsure of their responsibilities under NI 51-102.[205]

Comments on this proposal have been sought and the amendments are expected to come into effect on 15 December 2023.[206] It is likely that any climate-related reporting that is duplicated by the separate AIF and MD&A requirements, will be removed along with any redundancies. Furthermore, this change will allow for the reporting of risks, including climate-related risks to be in a tabular format, making risk reporting easier and clearer.[207]

B. OSFI Regulated Financial Institutions and Pension Plans

In 2021 OSFI release a discussion paper as part of a review of climate-related financial risks of FRFIs and FRPPs.[208] This discussion paper requested feedback on possible improvements that can be made to climate governance practices among FRFIs and FRPPs to prepare and control for climate-related risks. The paper lays down perspective changes to climate-related governance, reporting, and risk management that could be implemented in the foreseeable future,

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[204] CSA, "*Proposed Amendments to National Instrument 51-102*", *supra* note 188 at 4206.
[205] *Ibid* at 4207–4208, 4331.
[206] "Canadian securities regulators seek comment on proposal to streamline continuous disclosure requirements", (20 May 2021), online: *Canadian Securities Administrators* <https://www.securities-administrators.ca/news/canadian-securities-regulators-seek-comment-on-proposal-to-streamline-continuous-disclosure-requirements/>.
[207] CSA, "*Proposed Amendments to National Instrument 51-102*", *supra* note 188 at 4247.
[208] OSFI, "*Navigating Uncertainty in Climate Change*", *supra* note 98.

taking into account international developments in this area.[209] As part of its investigation, OSFI is considering:

- Whether there are climate-related considerations beyond what is in the existing capital framework that should be considered.
- Whether climate-related risks should be incorporated more specifically into guidance on risk assessment practices.
- The role that climate-related financial disclosures can play in supporting OSFI's prudential oversight of climate-related risk management.[210]

FRFIs: OSFI recognises that for FFRIs to effectively adapt to and weather climate-related risks they must have:

- A risk appetite for climate-related risks.
- An understanding of their exposures to climate-related risks.
- A strategy that adheres to the risk appetite and adequately addresses the climate-risk exposures that have been recognised and understood.
- Flexibility in that strategy to continually acclimate to future evidence-based risk adjustments where necessary.[211]

Within this climate-related risk strategy, companies will be required to adjust their governance practices. The most reliable changes based on international emerging practices include:

- Designating a senior officer responsible for climate-related matters.
- Employing awareness programs to increase the understanding of climate-related risks of decision-makers.
- Implementing senior management performance-based compensation commensurate with climate-related risk management objectives.
- Including climate-related risk in operational risk management.
- Creating a risk management process that identifies, defines, assesses, monitors and managers, climate-related risks to better inform the FRFI's climate-related risk strategy.
- Adapting new risk analysis tools and stress testing to incorporate climate-related matters for better identification of such risks, improved strategy evaluation and greater resilience to economic stresses caused by climate change.
- The development of scenarios to identify where the company will be exposed to climate-related risks and how this will affect the company's performance, and test for financial and operational resilience.[212]

As financial risk modelling can affect the capital adequacy levels of a company, and financial risk modelling can be affected by the lack of data on climate-related risks, FRFIs may need to consider other ways they can fully evaluate their risk exposures to assess whether their capital adequacy requirements may be affected and determine the appropriate level of capital to hold provisionally.[213]

Specifically, OSFI is looking at the following three areas for better management of climate-related risks in the future:

[209] *Ibid* at 24.
[210] *Ibid* at 5.
[211] *Ibid* at 1.
[212] *Ibid* at 17–18.
[213] *Ibid* at 19.

- Capital requirements — Currently climate-related risks are only considered to the extent that they are recognised as part of credit, market and operation risks. OSFI intents to expand on the current inputs for capital requirements by exploring whether there are climate-related risk considerations beyond the current risk parameters.
- Supervisor reviews — OSFI is investigating the necessity and extent of specific climate-related risk guidance that should be included in risk assessment and governance guidelines.
- Market disciplines — OSFI is evaluating how enhanced market climate-related financial disclosures can reinforce OSFI's prudential oversight of FRFI's climate-related risk management.[214]

The 2022 Canadian federal budget stated that following consultation with FRFIs TCFD-aligned climate disclosures will be mandatory for FRFIs. OSFI will take a phased approach to the rolling out of this requirement starting in 2024.[215] Therefore all FRFIs will need to ensure they are familiar with and ready to fully implement the TCFD recommendations in their interim and annual climate disclosures. Moreover, it is important that FRFIs are aware that OSFI will expect FRFIs to report on the climate-related information of their clients as well.[216]

FRPPs: The Expert Panel on Sustainable Finance has recommended that FRPPs be required to disclose whether and how climate-related issues are considered in their SIPP.[217] The report also suggests that FRPPs be required to justify the reasons for not disclosing climate-related considerations.[218] Moreover, OSFI is considering how its guidance for FRPPs on supervisory processes and reporting can be developed to include specific climate-related risk considerations.[219] Lastly, and most importantly, the 2022 federal government budget has confirmed that the disclosure of ESG considerations, including climate-related risks, will be mandatory for FRPPs. There are no details yet on how and when this will be achieved, but pension plans must consider this as part of their transition risk appraisals and should start making plans to ensure they are ready to comply when the time comes.

[214] *Ibid* at 25.
[215] Government of Canada, "*2022 Budget", supra* note 63 at 106.
[216] *Ibid*.
[217] Environment and Climate Change Canada, "*Final Report of the Expert Panel on Sustainable Finance*", *supra* note 196 at 25.
[218] *Ibid* at 21.
[219] OSFI, "*Navigating Uncertainty in Climate Change*", *supra* note 98 at 25.

4. Effective Governance of Climate-Related Financial and Systemic Risks and Opportunities in the Canadian Commercial Real Estate Sector

With the current trajectory of climate governance disclosure and reporting set to increase in the coming years, it is essential that boards and management of both public and private commercial real estate companies implement effective governance practices to identify, measure, oversee, and manage climate-related risks. Effective governance may involve several steps across stages of the value chain but would essentially require evolving the corporate mindset from business as usual, revising business and investment structures and operations, and keeping up with and responding to the fast-changing knowledge and realities of climate risk. Once boards, management, individual directors and executives, and other business and investment leaders with governance responsibilities embrace effective governance steps, they will find themselves looking across the value chain to address physical, transition and other climate risks like any other business risk. The crucial intention is to help corporate boards, investment trustees, professionals, and others representing these bearers of fiduciary and other legal duties in business and finance, for instance, executives, to avoid climate risks that are avoidable and mitigate those that are not.

GOVERNANCE is a term used to encompass corporate governance, which is widely understood to a be a system for controlling companies. Control can come from board of directors or investment trustees and agent, both of which have a fiduciary duty to their principals.

Climate-related risks are now an undeniable part of the risk framework of many Canadian companies, and as such, it is incumbent on boards to address it as any other business risk.[220] The task ahead for commercial real estate is huge. While buildings contribute about 13% of Canada's emissions as of 2020,[221] the GHG emissions from the operation of buildings rose to 28% of all total global energy-related GHG emissions in 2019 alone.[222] Without urgent action, as more commercial buildings and infrastructures are put in place to meet rising population and consumption levels, their increasing rate of GHG emissions contribution will continue upwards, leading to risk exposure. Such risks encompass both direct physical risks and indirect transition risks, including higher costs caused by carbon emissions pricing, higher energy costs and inflation, more rigid building regulations, and fluctuating market expectations leading to economic obsolesce of machines and buildings. The real estate sector relies on raw and refined materials, and needs high investments in energy plants, equipment, and buildings, meanwhile the fixed, locked-in nature of commercial real property reduces the industry's ability to adapt to climate change.[223] The global real estate sector is already taking steps to address these challenges, but Canada's commercial real estate industry could do more:

- 158 real estate companies have set targets for emissions reduction that align with the science-based targets initiative (SBTi). 68 of those have committed to meet 1.5°C, with 27 companies committed to a 2°C target and 63 companies committed overall. **However, in Canada, only five of these companies make these commitments**.[224]

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[220] *Creating Effective Climate Governance on Corporate Boards* (World Economic Forum, 2019) at 6.

[221] Environment and Climate Change Canada, *National Inventory Report 1990-2020: Greenhouse Gas Sources and Sinks in Canada* (Ottawa: Her Majesty the Queen in Right of Canada, 2020.

[222] Antonios Panagiotopoulos & Bert Teuben, *Breaking Down Real Estate Net-Zero Targets* (MSCI, 2019) at 4 [hereafter Panagiotopoulos & Teuben].

[223] Task Force on Climate-related Financial Disclosures, *Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures* (TCFD, 2021) at 66 [hereafter TCFD, "*Implementing the Recommendations*"].

[224] "Companies taking action", online: *Science Based Targets* <https://sciencebasedtargets.org/companies-taking-action/?msclkid=dd1968bacd7611ec93b24295892f328b>.

- The ULI Greenprint Centre for Building Performance's net-zero carbon operations goals has commitments from 25 companies.[225]
- The UK-based, Better Buildings Partnership's Climate Commitment — which requires signatories to publish net-zero carbon pathways and delivery plans — had 34 signatories as of July 2022.[226]
- At the time of writing, the World Green Building Council's Net Zero Carbon Buildings Commitment for New Developments and Existing Buildings has achieved 137 commitments from companies, 28 cities, and 6 states and regions across the world. **However, only Vancouver and Toronto have offered their commitment so far.** [227]

Under this section, the Guide contributes ideas to support the efforts of Canada's commercial real estate sector to implement governance practices to meet with emerging best practices among developed countries in the net-zero emissions transition, potentially putting it on the path to risk mitigation, enhanced competitiveness, and an ambitious contribution to Canada's national efforts. There are three key contributions. First, we point directors and executives to several guides for effective climate governance, but caution that these do not consider the unique context of Canada. There are also Canadian guides for other sectors,[228] but their focus is not on the Canadian commercial real estate sector, so we fill this gap. We also explore the emerging opportunities that come with effective climate governance, including opportunities covered by the existing global and Canadian guides. However, directors, executives, and professionals should again understand these existing ideas do not focus on Canada's commercial real estate sector. Therefore, this guide builds on them to identify opportunities specifically for the Canadian commercial real estate sector.

Also, after the executive summary at the beginning of the Guide, we suggest questions to get Canada's commercial real estate directors, executives, and professionals started in thinking about and addressing climate risks and opportunities. These questions are informed by those in the existing CCLI guides while paying particular attention to the Canadian commercial real estate sector. However, the questions should be seen as a starting point rather than an exhaustive list.

4.1 Guiding Frameworks and Practical Elements for Effective Climate Governance

Climate governance has become an important part of investor decision-making processes. Investors are examining company practices with regard to climate change and recognizing that effective climate governance is a return variable for investment decisions.[229] However, despite its importance, directors and executives are struggling to address transition, liability, and other climate risks for various reasons. For instance, the climate is just one priority amongst many; climate-related risks are complex due to their systemic nature and unknown variables; and companies have a short-term focus on quarterly results for investors.[230] For these reasons and

[225] "Momentum Builds for ULI Greenprint Net Zero Carbon Operations Goal as Eight New Real Estate Companies Representing Over 2,400 Buildings Publicly Align", (12 October 2021), online: *ULI Americas* < https://americas.uli.org/research/centers-initiatives/greenprint-center/greenprint-resources-2/uli-greenprint-goals/>.
[226] "BBP Climate Commitment", (19 September 2019), online: *Better Build Partnership* <https://www.betterbuildingspartnership.co.uk/node/877>.
[227] "The Net Zero Carbon Buildings Commitment", online: *World Green Building Council* <https://www.worldgbc.org/thecommitment?msclkid=df069c0bcd7811ec8dece93a5dc988f5>.
[228] Sarra "Life, Health, Property, Causality", supra note 73; Sarra, "*Retail's Route to Net-zero Emissions", supra* note 1.
[229] WEF, "*How to Set Up Effective Climate Governance on Corporate Boards"*, *supra* note 3 at 9.
[230] *Ibid* at 10.

others, “general governance guidance is not necessarily sufficiently detailed or nuanced for effective board governance of climate issues.”[231]

A. Existing Frameworks on Effective Climate Governance

To fill the gap in governance guidance that thoroughly addresses effective climate governance, several international and Canadian organizations have published frameworks, models, or other collections of ideas to guide business and investment directors, executives, managers, and professionals. In this guide, we rely on the contributions of three organizations for various reasons:

1. The TCFD framework[232] for its international, globally-accepted contribution. The TCFD was created by the Financial Stability Board — an international organization that monitors and recommends steps to stabilize the global financial system — to make recommendations on the sorts of information companies should disclose to adequately assess and price risks related to climate change.[233] TCFD makes these recommendations and the categories to enhance knowledge on disclosure to support investors, lenders, and insurers.
2. The WEF’s guiding principles[234] for their global reach through the WEF’s influence on governments and businesses worldwide. Moreover, these principles have also been recognized by the TCFD.[235] The WEF has taken strategic steps to understand and implement these principles and continues to seek industry input.[236]
3. The CCLI[237] for its Canadian context. CCLI has produced industry climate governance guides in Canada, informing our decision to also build on them to bring out the unique context of the country, especially the insights on the gaps in current governance practices and relevant questions the directors and executives of commercial real estate companies should be asking.

TCFD: Recognizing that “it is increasingly important to understand the governance and risk management context in which financial results are achieved,”[238] the task force recommends there should be climate-related financial disclosures in mainstream annual filings such as those from public companies, with the hope that it would promote:

- Shareholder engagement.
- Lead to the widespread use of climate-related financial disclosures to enhance a better knowledge of climate-related risks and opportunities by investors and other stakeholders.
- Trigger enhanced governance of the information disclosed, for instance through the review of chief financial officers and audit committees.[239]

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[231] *Ibid* at 6.
[232] TCFD Recommendations, *supra* note 4.
[233] TCFD Recommendations, *supra* note 4.
[234] WEF, “How to Set Up Effective Climate Governance on Corporate Boards”, *supra* note 3. See also, WEF, *The Chairperson’s Insights into Climate Action: Highlights from Interviews with Chairpersons on Boards* (World Economic Forum and Climate Governance Initiative in collaboration with Deloitte, 2022) [hereafter WEF, The Chairperson’s Insights].
[235] TCFD Knowledge Hub, “How to Set Up Effective Climate Governance on Corporate Boards: Guiding principles and questions” *online: TCFD Hub* <https://www.tcfdhub.org/resource/how-to-set-up-effective-climate-governance-on-corporate-boards-guiding-principles-and-questions/>.
[236] For example, see WEF, The Chairperson’s Insights”, *supra* note 234.
[237] Sarra “Life, Health, Property, Causality”, *supra* note 73; Sarra, "*Retail’s Route to Net-zero Emissions", supra* note 1.
[238] TCFD Recommendations, *supra* note 4 at ii.
[239] *Ibid* at iv.

To guide what such disclosures should contain, the task force recommends four themes that should serve as the core elements, depicted in Figure 1: governance, strategy, risk management, and metrics and targets. To help those preparing disclosure to implement the recommendations based on these elements, the TCFD has also published several guidance documents, including those on risk management,[240] metrics, targets, and plans,[241] scenario analysis,[242] and ways to implement its framework across sectors.[243] Additionally, it has published other supporting materials, including an overview booklet,[244] an overview summary of changes to some aspects of the TCFD framework,[245] yearly status reports, and others. Commendably, while the TCFD framework and its guidance documents and other publications are intended to guide businesses across the globe, it recognizes national context as well. For instance, it advises that financial disclosure should be based on the national disclosure requirements.

WEF: The WEF builds on the TCFD framework and other corporate governance ideas to suggest eight guiding principles to help direct corporate boards toward effective climate governance:

- Principle 1 is on climate accountability on boards.
    - The board should take responsibility and be accountable to the company for its long-term stewardship.
- Principle 2 is on the command of the climate subject.
    - Boards should have people with backgrounds that make them knowledgeable, skilled, and experienced in climate change to sufficiently understand and take decisions on risks and opportunities.
- Principle 3 is on board structure.
    - Being responsible for the long-term sustainability of the business, the board should decide how to consider climate change in its structure and processes.
- Principle 4 addresses material risk and opportunity assessment.
    - Boards should ensure they consider the short-to-long-term materiality of physical, transition and other climate risks and opportunities on an ongoing basis, and they should be responding in a way proportional to the level of materiality.
- Principle 5 focuses on strategic and organizational integration.
    - The board should ensure strategic investment planning, as well as decision-making processes, are informed by climate considerations, which should also reflect in the ways it manages risks and opportunities.
- Principle 6 turns to incentivization.
    - The board should consider making the incentive system of the company reflected in executive compensation.
- Principle 7 focuses on reporting and disclosure.
    - Material climate-related risks, opportunities and strategic decisions should be disclosed to stakeholders, especially investors but also regulators where applicable, consistently and in a transparent manner.
- Principle 8 addresses exchange.

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[240] TCFD, *Task Force on Climate-Related Financial Disclosures: Guidance on Risk Management Integration and Disclosure* (TCFD, 2020).
[241] TCFD, *Task Force on Climate-Related Financial Disclosures: Guidance on Metrics, Targets, and Transition Plans* (TCFD, 2021).
[242] TCFD, *Task Force on Climate-Related Financial Disclosures: Guidance on Scenario Analysis for Non-Financial Disclosures* (TCFD, 2020).
[243] TCFD, "Implementing the Recommendations", *supra* note 223.
[244] TCFD, *Task Force on Climate-Related Financial Disclosures: Overview* (TCFD, 2022).
[245] TCFD, *2017-2021 TCFD Implementing Guidance (Annex): Summary of Changes* (TCFD, 2021).

- This includes dialogue with peers, investors, regulators, and other stakeholders to ensure that people that would be affected by climate risks are kept in the loop.[246]

These principles are "designed to increase directors' climate awareness, embed climate considerations into board structures and processes and improve navigation of the risks and opportunities that climate change poses to business."[247] They cover a wide array of methods in which boards can ensure they are fulfilling their duties to their companies by working to adequately consider and manage climate-related risks. However, they are not an exhaustive list, and the categories are not mutually exclusive either. Nonetheless, they inform immediate steps directors could take to achieve effective climate governance.

CCLI: CCLI breaks down the TCFD disclosure elements, applying them to audit committees,[248] directors and executives of insurance[249] and retail[250] companies in Canada. However, these CCLI studies also reflect many of the WEF principles.

B. Elements of Effective Climate Governance

The existing TCFD, WEF, and CCLI frameworks provide invaluable guidance for boards, executives, and professionals helping or advising them to think about effective climate governance in the commercial real estate sector. However, they focus more on financial than systemic risks because of their scopes. To address systemic risks, Canada's commercial real estate sector needs effective climate governance that applies ideas of the risk governance model to fill existing gaps in information that would enhance risk assessment and risk management tools. For instance, there is inadequate data for setting metrics and targets, and the tools for estimating costs through insurance, based on the current predominant practices of risk analysis and specific models for calculating hazards and impacts such as modelling and cost-benefit analysis, are more useful for physical than transition risks.

These challenges make the risk governance model useful for informing effective climate governance as suggested under section 2.4. Guided by the contributions of the TCFD, WEF and CCLI for effectively managing climate risks, we apply the ideas of the risk governance model to generate specific, practical steps for effective climate governance based on six themes: governance structure, board oversight, risk assessment and management, disclosure, setting targets and metrics, and designing strategy. These steps are designed to align with the structure of most companies and address the unique challenges of Canada's commercial real estate companies.

[246] *WEF, "*How to Set Up Effective Climate Governance on Corporate Boards*", supra* note 3 *at 11-17.*
[247] Ibid 3 at 5.
[248] Sarra, "*Audit Committees and Effective Climate Governance*", *supra* note 2.
[249] Sarra, "Life, Health, Property, Causality", *supra* note 73.
[250] Sarra, "*Retail's Route to Net-zero Emissions*", *supra* note 1.

Governance Structure: The governance structure, particularly the relationship between the board, management and other organs, officers and processes of commercial real estate companies and investors, serves as the foundation for effectively managing climate risks. Without a suitable governance structure, a company or other business organization would be incapable of making decisions on the other aspects of climate risk management.[251]

GOVERNANCE STRUCTURE is the relationship between a company's board of directors and other key stakeholders, including operational management, investors, & government regulators. These relationships influence the board's ability to make informed decisions on climate-related risks.

The board has the most important role in the governance structure, accountable for identifying risks and opportunities that can affect the long-term survival of its business.[252] As part of a directors' fiduciary duties and as reflected in WEF's Principle 1, they must include climate-related risks as material factors that impact the company and its stakeholders.[253] Directors can no longer suggest that the climate problem does not exist, and as such, they must ensure that they and their companies are fully informed of physical, transition, and other types of climate risks and the actions they can take to mitigate them.[254] They must take steps to be educated on the specifics of such climate-related risks and how they impact their business. Taking these steps is essential if boards are going to make well-informed decisions to ensure the long-term resilience of their companies.[255]

To fulfil their duties, the directors should first ensure that management is reporting to the board on physical, transition, and other climate-related risks.[256] These reports are an essential oversight tool for boards to ensure that the "climate change is important" mindset of the company filters down.[257] Second, boards need to assess whether they have the necessary information and tools to best address physical, transition, and other risks today.[258] This self-assessment will enable directors to evaluate their ability to question the realities of climate change and the climate risks that affect their business. It will also better prepare them for understanding their ability to make effective decisions on the management and disclosure of climate-related risk.[259]

Ultimately, changes to the governance structure to enhance the effective management of climate risks will enhance the position of companies. Although greater disclosure of climate risks can increase a company's compliance burden, it also offers several opportunities to the discerning board, including cost savings, access to investment opportunities, access to new revenue streams, new products and services, better investments through better information, enhancements to existing processes, creation of new low carbon initiatives, and greater resilience.[260] We explore some of the key opportunities for commercial real estate companies under section 4.2. of this guide below.

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[251] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3; *Ibid* at 9.
[252] Ibid at 11.
[253] Carol Hansell, Putting Climate Change Risk on the Boardroom Table, Legal Opinion (Hansell LLP, 2020) at 1 [hereafter Hansell].
[254] *Ibid* at 22.
[255] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 11.
[256] Hansell, *supra* note 253 at 22.
[257] *Ibid*.
[258] *Ibid* at 13–14.
[259] Liane Langstaff, Jennifer L King & Larissa Parker, Changing Climate, Changing Duties: Shifting Board Liability And Disclosure Issues Around Climate Change (Growling WLR, 2020) at 5.
[260] CSA SN 51-358, *supra* note 108 at 11.

Board Oversight: As seen in WEF's Principle 2, the board's composition plays an important part in ensuring that directors fulfill their oversight duties. Directors should ensure there is a good balance of executive and non-executive members as the differences in operational responsibilities can bring different perspectives to a climate-related issue, and smaller companies may need to engage professionals and consultants that can bring useful insight into climate risks and opportunities.[261]

Hence, boards should be climate competent. They must seek out opportunities to enhance their skills and knowledge on climate-related matters, for instance through training programmes and seminars, ensuring they are well-informed about what the latest scientific studies say about climate hazards, risks and opportunities, and how such information could impact their business.

BOARD OVERSIGHT requires the board of directors to assess its climate competence levels and subsequently make the necessary board composition changes to increase their knowledge of, and ability to deal with, climate-related risks and opportunities.

Beyond being competent themselves, boards should also share their knowledge with and provide opportunities for management and stakeholders to be competent.[262] Despite making efforts to be climate competent and enhancing the knowledge of management, if there are any doubts in management's knowledge and ability to identify and manage climate risks, then the board should hire experts or consult professionals outside the company.[263]

Ultimately, being competent amounts to nothing if it does not translate into action, so boards should always seek out ways to incorporate and integrate climate risks and opportunities into their decision-making processes, as the WEF's Principle 3 suggests. They should ensure that management gives sufficient attention to climate risks and opportunities, including in their financial and operational processes.[264] The board could have committees set up to manage climate risks and opportunities, including the usual risk, governance, compensation, and audit committees, or they could create special climate or sustainability committees. Any committee they create must deal with climate-related risk in the context of its own mandate. Responsible for risk handling policies and practices, the risk committee could oversee and receive reports of risks, including those on climate change and the opportunities they could generate, from the management. The governance committee could be responsible for overseeing the governance of climate risks and opportunities, including their disclosure processes. The compensation committee can align director and management behaviour with climate-related objectives through compensation programs.[265] Usually, the audit committee is responsible for overseeing the financial reporting and other risk reporting, including climate risks and the opportunities from them, although the board must legally approve the financials reported.

Alternatively, a climate or sustainability committee could be given the responsibility to oversee all climate risk and opportunity issues, or at least understand and monitor such issues before referring them to other board-level committees for direction. For random illustration, the risk committee of Manulife Investment Management considers climate risks and opportunities based on the company's Executive Sustainability Council's ongoing monitoring and reporting of emerging climate risks that could affect its business.

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[261] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 12.
[262] See also Hansell, *supra* note 253 at 22–23; WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 12.
[263] Hansell, *supra* note 253 at 22.
[264] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 13.
[265] Hansell, *supra* note 253 at 23.

There are other processes such as engagement and budgeting that could enhance oversight. A board should conduct an internal audit of its company's current climate engagement programs, which could provide a useful platform on which the board can build more effective governance strategies. Also, a board should pay attention to funding allocated in the budget for addressing climate risks and opportunities, including climate education. While these processes are illustrative, boards should be inward-looking and creative in thinking about their structures and how they could create overnight processes to address climate risks and opportunities.

Risk Assessment and Management*:* The board of commercial real estate companies and investors should assess and manage the physical, transition, and other risks of their companies. The board in every company already has a fiduciary duty to oversee and manage the risks of the company, including risks arising from climate change. The presence of specific risk- or climate-related committees does not reduce the board's duties to manage risk.[266]

RISK ASSESSMENT & MANAGEMENT includes the board of director's continual assessment of material risk to ensure an informed and proportionate response to relevant climate-related risks affecting the real- estate sector.

The assessment of material climate risk should be done on a continual basis. The materiality of the risks and opportunities will be sector-specific and so boards must be correctly informed on the risks that are material to the real estate sector before making assessments and responding.[267] In managing those risks, the board must ensure that their response is proportionate. Moreover, any materiality assessment made by directors should be accompanied by scenario analysis to understand the different outcomes depending on time and specific climate factors,[268] especially physical risks, and the board should look for opportunities to qualitatively estimate transition risks. The TCFD recommendations emphasize the need for the real estate sector to "assess risks related to the increasing frequency and severity of acute weather events or increasing water scarcity that impact their operational environment,"[269] but several laws and policies are also emerging and driving the technological, market, reputational and other impacts that might not be easy to quantify, making it important to look for qualitative approaches to understand them.

To assist in risk management in the real estate sector, tech-based tools could help. Boards should familiarize themselves with the options available in the global and Canadian economies. Specifically, Carbon Risk Real Estate Monitor (CRREM) is a possible risk assessment tool.[270] It was originally created to assess the carbon risk associated with the real estate industry in the EU; however, it has started to expand out to North America and Asia. The tool helps to identify the risk associated with future real estate decarbonization to determine through quantitative methods whether transition risks born from changes in regulation and carbon pricing will impact a particular property or portfolio of properties.[271] This tool can help to inform directors on specific future risks to any one of their assets or projects so that those risks can be effectively managed and accurately reported. CRREM also provides the industry with science-based decarbonization pathways to assist in the setting and tracking of feasible carbon-related targets.[272]

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[266] Sarra, "*From Ideas to Action*", *supra* note 80.
[267] WEF, "How to Set Up Effective Climate Governance on Corporate Boards*", supra* note 3 at 13.
[268] *Ibid* at 14; Task Force on Climate-Related Financial Disclosures, Technical Supplement: The Use of Scenario Analysis in Disclosure of Climate-related Risks and Opportunities (TCFD, 2017) online: <https://www.fsb-tcfd.org/publications/final-technicalsupplement/>.
[269] TCFD, "*Implementing the Recommendations*", *supra* note 223 at 66.
[270] "CRREM Phase II", online: *CRREM Glob* <https://www.crrem.org/about-crrem-phase-ii/>.
[271] *Ibid*.
[272] *Ibid*.

Disclosure and Risk Communication: Directors have a duty to ensure that their companies are always compliant with legal duties to disclose. It is therefore incumbent on directors to keep abreast of changes in climate-related reporting compliance. As the knowledge around climate-related risks expands, new risks and better reporting structures will develop. Directors must ensure they are cognizant of these adjustments and must adapt their disclosures accordingly to ensure they are not in breach.[273]

DISCLOSURE is the legal requirement to disclose climate-related risks and opportunities. This should be integrated into annual and financial reporting. The reporting should include industry-specific and company-specific information.

The disclosure of climate-related risks and opportunities should be consistent and comparable across companies. To this end, Canada is moving toward mandatory disclosure based on the TCFD framework under the 2022 budget. The TCFD recommendations emphasize how its framework helps companies to identify and disclose material risks through a consolidated approach to reporting. This framework should make reporting easier and more comprehensive for directors and better to understand and contrast for investors. WEF's Principle 7 also considers climate-related reporting and disclosures and encourages companies to adopt the TCFD recommendations for all disclosures. The climate-related risks and opportunities that should be integrated into the company strategy should also be disclosed within the company's disclosure framework.

Disclosure of climate-related matters should not be a separate disclosure to financial and annual reports.[274] An integrated approach to reporting can help ensure that the implications of climate change to the company's financials are fully comprehended by those who read the disclosures.[275]

Moreover, disclosures should seek to provide all information relevant to climate-related risks and opportunities. Disclosures should:

- Have sufficient detail to allow users to understand the information and explore the company's exposure and approach to climate change.
- Not contain information that is redundant or not strictly necessary as it clouds the relevant information.
- Contain information on the potential impacts of climate-related risks on the company.
- Not contain boilerplate disclosures.
- Contain metrics that adequately describe and reflect the company's management of climate-related risk.
- Be specific about the company's exposures and governance of climate-related risks.
- Contain past and future-orientated information.
- Explain the definition, methodology, and scope of quantitative data.
- Show an appropriate balance between qualitative and quantitative information.
- Be based on data in instances where future-orientated disclosures are made.
- Contain scenario analysis if it is based on data.

[273] Hansell, *supra* note 253 at 23.
[274] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 16.
[275] *Ibid*; Hansell, *supra* note 253 at 23.

- Communicate financial information that serves the needs of a range of financial sector users.
- Contain balanced narrative explanations that provide context for quantitative disclosures.
- Be straightforward in its explanations of issues.
- Be consistent to provide users with a comparable baseline.
- Explain any inconsistencies.
- Allow for meaningful comparisons to strategy, activities, risks, and performance across organizations, sectors, and jurisdictions.
- Provide enough detail to enable the benchmarking of risks across sectors.
- Include high-quality reliable information.
- Be disclosed in such a way as to be verifiable.
- Be timely.

Having both qualitative and quantitative information is particularly important in the commercial real estate sector to address existing knowledge and practice gaps, for instance on transition and systemic risks. The long-life span of real estate means that disclosures should focus on the qualitative and quantitative effects of, among others:

- Stricter constraints on emissions/carbon pricing emissions and related costs.
- The construction materials and physical risks that will impact their availability and operability.
- The introduction of sustainable products that improve efficiency and support a closed-loop economy.[276]

For instance, real estate sector reports should specifically disclose metrics surrounding water availability, including the withdrawal rates of water and water stress possibilities, and areas or properties that are located on designated flood plains.[277]

External exchange also forms part of disclosure. This exchange is covered by WEF's Principle 8 of effective climate governance and involves directors keeping up a constant climate-related dialogue with policy experts and policymakers, industry peers, company stakeholders, and the local community. This exchange ensures the sharing of risk measurement methodologies, industry-specific climate risks, regulatory changes, and the company's progress with the wider community.[278]

Directors may also consider going beyond disclosure into risk communication. While disclosure is legally sufficient, the more ambitious companies may hope to be ahead of the curve in managing risks and taking advantage of opportunities. Risk communication provides an avenue to do so. It involves not just disclosure but also a full exchange of

RISK COMMUNICATION extends beyond the legal requirement to disclose and instead engages with all key stakeholders to communicate the fundamental concerns and opportunities faced by the company. This opens up dialogue that offers the company the chance to perform better against these challenges.

[276] TCFD, "*Implementing the Recommendations*", *supra* note 223 at 66.
[277] *Ibid*.
[278] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 17.

information between boards or executives representing them and those impacted by risks, including shareholders and other stakeholders.

For instance, directors and managers could get ideas from investors in deciding how to assess and manage risks and opportunities. In particular, investors have allocated a lot of time and resources to understanding climate-related risks and opportunities. They should be well informed about how risk can be managed and mitigated in the future, and they have a vested interest in informing the board well. The board could take full advantage of this resource by paying close attention to what investors say about the real estate industry and climate-related risks, the company itself, and its management and disclosure of risk.[279]

Setting Targets and Metrics: An important aspect of effective governance is setting targets on net-zero emissions to help in bringing GHG emissions to net-zero.[280] Achieving this aspect of effective governance will require real estate companies to reduce their emissions in line with science-based scenarios, among other sources of risk evidence. As much as possible, GHG emissions should be measured within scope 1, 2, and 3 regardless of current disclosure requirements.[281] Although this task may seem to be too complex, there are three key ideas from best practice decarbonization and net-zero practices that could guide their actions: targets and metrics should be:

SETTING TARGETS AND METRICS help companies reduce their GHG emissions in line with science-based scenarios.

- Comprehensive — including all significant sources of emissions, even those that are difficult to quantify.
- Ambitious — pursue absolute reductions in the long and short term, in line with science-based scenarios.
- Feasible — support the ambitions by vigorous business strategies that result in demonstrable progress toward those goals.[282]

Targets and metrics should be comprehensive - In a perfect world, targets and metrics are informed by reliable GHG emission data and finding and quantifying that data can be a challenge. In the commercial real estate sector specifically, scope 1 emissions are typically found onsite, for instance, those from a building's burning of fossil fuels and fugitive emissions from appliances, equipment, and pipelines. Because they are from the direct source of emissions production, they are the easiest to measure to inform targets and metrics. Scope 2 emissions include the electricity or gas often used to power heat, cooling, and steam that the commercial real estate company purchases and then use to keep those tools running and tenants comfortable. Scope 2 emissions might not be as easy to calculate as scope 1 emissions because they are not originally produced by the reporting organization, but they are easier to track than Scope 3 emissions. Scope 3 emissions can be large contributory emissions to a real estate company's operation, the two largest being: tenant-controlled energy usage and the activities that surround the development and construction of real estate, including building materials.[283] Scope 3 emissions are the most difficult to calculate because their sources are ubiquitous and easier to miss. When setting targets that are informed by the different scopes of GHG emissions, it is necessary to provide all three

[279] Hansell, *supra* note 253 at 23.
[280] Panagiotopoulos & Teuben, *supra* note 222 at 4.
[281] *Ibid* at 3.
[282] *Ibid* at 4.
[283] *Ibid* at 8.

scopes as this provides a more comprehensive evaluation of the actual emissions in the portfolio.[284]

We should keep in mind that it is always preferable to have estimated data rather than no data. For estimated data, it is important to be clear that it is estimated, set out the limitations, and improve on the method of estimation as data measurement evolves. However, the credibility of any targets set by a company will be measured according to the availability of factual data over estimated data. So, although some gaps can be filled by estimated data, it is best practice for companies to build extensive portfolio emissions reports based on accurate data to inform the targets they set in the future.[285]

Targets and metrics should be ambitious - Setting short-, medium-, and long-term goals is very important for demonstrating effective governance practices. This target-setting is key because short-term goals generally feed into medium-term goals, which then feed into long-term goals. Failure to include short-term goals can raise concerns over the company's sincerity, accountability, and profitability, whilst omitting the long-term goal will demonstrate the company's lack of commitment and long-term vision. Furthermore, the type of target that a company sets can also be an indication of a company's dedication to reducing its carbon footprint. For instance, absolute emissions require real emission reductions, making them preferable to intensity-based targets that specify emission reductions based on the company's output. If intensity-based targets are used, the company should demonstrate that they will translate into real emissions in line with decarbonized pathways.[286]

Targets and metrics should be feasible - To best demonstrate that the company's ambitious targets are feasible, they must include a detailed account of the process it will take to reduce emissions and therefore meet those targets. This account will demonstrate a thoughtful approach to the targets that have been set. As part of this process, a company must provide a business strategy to attain the reduction targets. Moreover, companies will not meet their targets on a linear basis. There are no straight lines to net-zero, but it is best practice for real estate companies to demonstrate a continuous basis. This helps to build up the feasibility of the company's targets and show that the end long-term goal is achievable.[287]

WEF's Principle 6 details the incentivization of management through targets and metrics. Any attempt to incorporate targets into an incentivization scheme must ensure the targets are feasible and appropriately monitored.[288]

[284] *Ibid* at 14.
[285] *Ibid* at 10.
[286] *Ibid* at 17.
[287] *Ibid* at 22–23.
[288] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 15.

Designing Strategy: As WEF's principle 5 emphasizes, a board can only start to discuss and implement company strategies to address climate risks and opportunities when it has been fully informed, putting it in the position to assess and manage such risks. The strategy adopted by a company should be flexible to enable companies to deal with climate risks and opportunities over the short, medium, and long term. Decisions made without consideration for the implications of climate risks and opportunities over these time frames would impact the company's resilience and survival.

DESIGNING STRATEGY is imperative to ensuring the company has a short-, medium-, and long-term plan to approach climate-related risks and opportunities. This strategy should ensure the longevity of the company through forward-looking ideas.

The starting point for designing a solid strategy is to estimate climate risks and opportunities that face a company. Scenario analysis could accompany any strategic decisions to ensure that they are robust against currently known future climate scenarios, [289] mostly those revolving around physical risks. However, boards should also start thinking about how to use qualitative methods to address future transition risks, for instance by collaborating with social science researchers working on climate policy.

The exact ways boards and managers could use scenario analysis and other qualitative studies to understand and predict climate risks and opportunities would vary across specific companies, but we suggest they should start by guiding their steps with the three lines of defence.[290] According to the Institution of Internal Auditors, the three lines of defence are:

- First-line — formed by managers and staff who are responsible for identifying and managing risk in the company.
- Second-line — formed by individuals who specialize in compliance management by monitoring risk management, company performance in compliance, and consistency in reporting.
- Third-line — provided by an internal audit and ensures the first two lines of defence are operating as they should.[291]

Based on these lines or other models for guiding the steps to take in estimating or predicting climate risks, the company's other actions to implement strategy could cover, as a matter of course, work plans and strategic policies. Work plans and strategic policies must be informed by climate risks and opportunities, especially how they impact the long-term success of those strategies and plans.[292] In any event, work plans, strategic policies and other processes under strategy must be forward-looking in nature and inherently conscious of the best interests, resilience, and longevity of the company.[293]

There are many ways to implement a forward-looking strategy in the commercial real estate sector, so we illustrate with two high-level agendas: incentivization and circular economy. The incentivization strategy could address climate risks and motivate directors and executives to find climate opportunities. The WEF's Principle 6 talks about the board creating an incentivization

[289] *Ibid* at 14.
[290] *Ibid* at 14–15.
[291] Chartered Institute of Internal Auditors, (IIA, 2021) online: *iia* <https://www.iia.org.uk/resources/delivering-internal-audit/position-paper-the-three-lines-of-defence/>.
[292] Hansell, *supra* note 253 at 23.
[293] Sarra, "Life, Health, Property, Causality", *supra* note 73 at 59.

structure for management to align the interests of management with that of the company in the context of climate change. This idea could involve creating incentives to better consider the climate risk implications of the decision made by board and management members, or it could be incentives to reduce risk-taking that may have an impact on the climate-related risk management of the company in the future.[294]

Also, the circular economy strategy responds to climate risks and creates opportunities, most notably resource efficiency. A circular economy would embrace the use and reuse of sustainable materials in buildings. It would consider the life cycle of the products and materials used within the industry and evaluate how waste can be better eliminated from the production of buildings at the same time as reducing carbon emissions.[295]

Table 7: Guidance for Building Effective Climate Governance

Steps	*Description*	*Important Questions*

Governance Structure	• About the relationship between the board, management, and other key stakeholders.
	• The board is the most important as accountable for identifying risks and opportunities.
	• Board duties include:
	  ○ Being informed about climate risks & opportunities.
	  ○ Ensuring management is reporting to the board on climate-related matters.
	  ○ Self-assessing whether they have the knowledge and tools necessary to mitigate climate risks.
		• How should we integrate climate risks and opportunities into our board governance structures?
		• As directors, do we have the appropriate skills and expertise needed for a robust assessment, management and communication of the climate risks and opportunities for our company?
		• What governance processes are in place to ensure that emerging risks and opportunities are captured, assessed, verified, and reported to the board?

Board Oversight	• To best fulfil the board's oversight duties, the board must ensure that it is climate competent.
	• Should ensure that management and other key stakeholders are climate competent too.
	• Need to create committees to oversee climate-related risks and opportunities.
	• Board duties include:
	  ○ Conducting an internal audit of the company's current climate governance practices and programs.
	  ○ Ensuring a balanced composition of executive and non-executive directors.
	  ○ Appointing experts to the board or consulting with professionals when needed.
	  ○ Overseeing the inclusion of climate-related risks and opportunities in all committees.
		• While climate change is the responsibility of the full board, do we need to allocate responsibility for its oversight to several board committees, or does it warrant a dedicated climate or sustainability committee?
		• Are we satisfied that we have the right executive leadership in place for the strategic direction we want to take on climate change?

[294] WEF, "How to Set Up Effective Climate Governance on Corporate Boards", *supra* note 3 at 15.
[295] Sarra, "*From Ideas to Action*", *supra* note 80 at 16–17.

	○ Assigning part of the company's budget to climate-related programs.	
Risk Assessment and Management	• The assessment of material risks on a continual basis ensures an informed and proportionate response. • Materiality assessments should be conducted using scenario analysis and qualitative estimates. • Board duties include: ○ A fiduciary duty to oversee and manage the risks of the company, including climate risks. ○ Being aware of the climate-related risks that are specific to the real estate sector. ○ Familiarizing themselves with tech-based tools that can help, such as CRREM.	• How does the company determine which of these foreseeable risks may have a material impact on financial position, performance, and prospects, and how do we assess the potential impact of these issues on the key drivers of risk and opportunity? On what basis are risk appetites set and these issues prioritized? • Has external expertise been applied to our analysis of climate-related issues? If not, are we satisfied that our internal capabilities are robust?
Disclosure and Risk Communication	• Must be compliant with the legal duties to disclose. • Canada is moving toward mandatory climate reporting based on the TCFD framework. • Climate-related disclosures should be integrated into annual and financial reporting. • Risk communication goes beyond the legal requirements to disclose and embraces a full exchange of information with all key stakeholders to get ahead of the curve. • Board duties include: ○ Keeping abreast of changes in climate-related disclosure requirements. ○ Ensuring they are familiar with the TCFD recommendations on climate-related reporting. ○ Talking with policy experts, regulators, key stakeholders, and industry peers to share risk measurement methods, industry-specific climate risks, and future policy changes.	• How do we communicate the risks and our commitment to finding opportunities in the transition to net-zero emissions to customers and key stakeholders? • Are we engaging with stakeholders and consumers at multiple points of interaction to communicate the company's strategies to reach net-zero carbon emissions? • What assessment has been undertaken to ensure that relevant and material matters disclosed in the MD&A are consistently integrated across the company's financial statements? • Are our financial disclosures aligned with TCFD recommendations as applied in Canada?
Setting Targets and Metrics	• Real estate companies will need to reduce their GHG emissions in line with science-based scenarios. • Emissions should be measured within scope 1, 2, and 3. • Targets should be comprehensive. • Targets should be ambitious. • Targets should be feasible. • Board duties include: ○ Incentivizing management to achieve set targets and metrics. ○ Monitoring management's progress.	• How do we set appropriate metrics for the assessment of relevant climate-related issues in the context of our business? • What are appropriate targets for our management of those risks within short-, medium-, and long-term time horizons – and on what basis do we consider these targets to be credible?

	○ Ensuring they are familiar with the TCFD recommendations on climate-related reporting.	• How do we verify our progress against the targets? Has the company set a baseline year against which to measure and report emissions reductions?
Designing Strategy	• A company should have a clear strategy on how it will approach climate-related risks and opportunities. • The strategy should be flexible to deal with short to long-term risks and opportunities. • The risks and opportunities of the company should be measured prior to designing the strategy so as to encourage an informed approach. • The strategy should have three lines of defence: 1) management and staff, 2) compliance management specialists, and 3) internal audit. • The strategy must be forward-looking. • Board duties include: ○ Knowing how to use science-based scenario analysis and qualitative methods to estimate the company's climate-related risks and opportunities.	• How should the consideration of climate change be integrated into our normal strategic planning processes? ○ Are the assumptions and methodologies we apply fit for their forward-looking purpose? ○ Is the board aware of how our company's investors, creditors, and other capital providers are factoring climate-related risks into their investment and voting decisions? • Who is responsible and accountable for the execution of the company's policy and strategy on climate change at a management level?

4.2 Finding Opportunities from Effective Climate Governance

Many business leaders are aware of the risks of climate change, but some may not be aware of the opportunities that come with managing them effectively. TCFD outlines some of these opportunities, varying based on areas of operation, including industries, markets, and regions.[296] Hence, although there are technologies and measures that could help Canada's built environment achieve net-zero today,[297] the solutions would vary across regions and communities. For instance, "Heat pumps that run on clean electricity appear best placed to provide heating and cooling in many regions; however, district energy systems, biomass, and hydrogen — as a zero-emission fuel at the point of use — may be viable solutions to explore in particular contexts";[298] and "Northern, rural, and Indigenous communities will require dedicated solutions given their overall greater reliance on diesel, existing challenges with housing stock, differing ownership structures, and geographic considerations such as permafrost."[299]

Building mostly on the TCFD framework but also other sources, we classify five categories of opportunities for Canada's commercial real estate sector: resource efficiency, incentives, investment, resilience, and others. Taking advantage of these opportunities will help commercial

[296] TCFD, "*Implementing the Recommendations*", *supra* note 223 at ii.
[297] Jason Dion, Anna Kanduth, Jeremy Moorhouse and Dale Beugin, *Canada's Net Zero Future: Finding Our Way in the Global Transition* (Ottawa: Canadian Institute for Climate Choices, 2021)
[298] The Net-Zero Advisory Body, "The Net-Zero Advisory Body's Submission to the Government of Canada's 2030 Emissions Reduction Plan" (2022) at 12-13, online: <https://ehq-production-canada.s3.ca-central-1.amazonaws.com/2b0e60172de531971e98b459e4ac68fb55db00cd/original/1647865467/dc017be9a2f9d28782179a6462aa2060_NZAB_ERP_Submission_-_FINAL_-_March_21__2022_-_FOR_PUBLIC_RELEASE_-_EN.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIBJCUKKD4ZO4WUUA%2F20220512%2Fca-central-1%2Fs3%2Faws4_request&X-Amz-Date=20220512T144134Z&X-Amz-Expires=300&X-Amz-SignedHeaders=host&X-Amz-Signature=43e89754608ad4c12accb8c02e46f564da8631ed103ecc5470f0734bc496b01e> [hereafter The Net-Zero Advisory Body].
[299] *Ibid* at 13.

real estate companies cut costs, become more competitive, and be positioned to make money while contributing to Canada's net-zero targets and enhancing their reputation.

Table 8: Opportunities from Effective Climate Governance

Opportunity	*Description*
Resource Efficiency	• Greater innovation will lead to cheaper clean technologies providing opportunities to reduce costs whilst meeting climate emission goals. • Most important resource efficiency opportunity for the real estate sector in Canada is moving away from fossil-based heating to renewable energy possibilities such as heat pumps and direct resistance heating.
Incentives	• Opportunities will arise as there is more investment in the transition to a low-carbon economy. • The Canadian government has allocated $10 billion to support the decarbonization of buildings and homes through retrofits. • Natural Resources Canada will receive $150 million over five years to promote the use of low-carbon construction materials and enhance climate resilience in existing buildings. • Natural Resources Canada will also receive $200 million to support deep retrofits in Canada. • The Greener Neighborhood Pilot Programme will have $33.2 million to decarbonize several buildings at once.
Investment	• There are many opportunities to invest in established technology or in new climate-related businesses. • Commercial real estate companies can invest in new buildings or the decarbonization of old buildings using the incentives detailed above. • Commercial real estate companies could also branch into new services and revenue generation streams such as providing vehicle charging stations and smart sensors in their rented buildings.
Resilience	• Companies have the opportunity to create or invest in resilient real estate. • The younger, more climate-conscious, generations are making real estate decisions based on the climate impact on buildings and the future risks. If a building fails to address these concerns, then buyers and renters are likely to overlook them as a viable possibility in the future.
Other Benefits	• Retrofits or the construction of new green buildings creates new jobs, improves the physical and economic health of the country, and contributes to Canada's net-zero transition. • Better human capital. • Increased reputation. • Better relationship with the local communities and governments.

A. Resource Efficiency

As low-carbon innovation intensifies and clean technologies become cheaper, it will be easier to reduce costs across various stages of the value chain within Canada's commercial real estate sector, including building materials and processes, electrification, water system and waste management, machinery and appliances, and transportation. Resource efficiency opportunities across these stages of the value chain include low carbon and net-zero building materials, building envelopes, renewable sources that replace or reduce reliance on fossil fuel combustion for heating, and low-carbon appliances used in buildings and systems such as transportation granting access to buildings.[300]

[300] *Ibid* at 12.

Some of the innovations that have already led to cheaper clean resources include the electrification of buildings with heat pumps (they function like air conditioners in reverse by extracting heat from outside and bringing it inside the building), but there are others. As the IPCC recently observed, some renewable energy technologies such as solar and wind are now cheaper than most fossil fuels,[301] and could power direct resistance heating (e.g., generating electric currents from renewable energy and passing them through resistance units to create heat). In Canada, we already have some of these technologies to enhance resource efficiency, including those to replace fossil-fuel-based heating.[302]

While heating is the most important resource efficiency opportunity, partly because Canada has relatively long cold winters and the expertise in heating appliances, several technologies are evolving fast and will make low-carbon systems that commercial buildings rely on even cheaper in the net-zero transition. They include circular economy solutions, advances in LED lighting technology and industrial motor technology, geothermal power, water usage and treatment solutions, and electric vehicles.[303] The opportunities to use these technologies will increase significantly as some of them become cheaper in this decade. For instance, there will likely be opportunities to use "green steel, tall timber, modular construction, and other emerging technologies and materials that may have additional benefits, such as faster and lower-cost construction."[304]

B. Incentives

There are abundant investment opportunities in the net-zero emissions transition that commercial real estate industry boards and executives should target. The International Energy Agency estimates that the transition to a lower-carbon economy will require around $1 trillion yearly investment.[305] As the transition affects the risk-return profile across all categories of industries and assets, these investments will create new opportunities.[306] We can already predict some opportunities based on Canada's latest budget announcement, but future sources of investment will create more.

Besides allocating a significant portion of the budget to affordable housing, the Government of Canada acknowledges low-carbon opportunities in the real estate sector. Since 2016, it has allocated over $10 billion to support the decarbonization of buildings and homes and to provide incentives for energy-efficient retrofits, but it is taking the next step in pursuit of net-zero emissions targets under the 2022 budget, with the proposition of a national net-zero by 2050 buildings strategy. Under this strategy, the Government of Canada will work "with provinces, territories, and other partners to accelerate both retrofits of existing buildings and the construction of buildings to the highest zero carbon standards."[307]

Commercial real estate companies can benefit in various ways under the net-zero buildings strategy. We illustrate with the Green Buildings Strategy and the Deep Retrofit Accelerator Initiative, both of which are based on budgetary allocations to Natural Resources Canada for the

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[301] Jim Skea, Priyadarshi R Shukla, Andy Reisinger, Raphael Slade, Minal Pathak & others, "Climate Change 2022-Mitigation of climate change: Summary for policymakers" (Intergovernmental Panel on Climate Change, 2022).
[302] The Net-Zero Advisory Body, *supra* note 298 at 12.
[303] TCFD, "*Implementing the Recommendations*", *supra* note 223.
[304] Brodie Boland, Cindy Levy, Rob Palter, and Daniel Stephens, Climate Risk and Opportunity for Real Estate (McKinsey & Company, 2022) at 8, online: <https://www.mckinsey.com/industries/real-estate/our-insights/climate-risk-and-the-opportunity-for-real-estate> [hereafter Boland, Levy, Palter, and Stephens].
[305] International Energy Agency, *World Energy Outlook Special Briefing for COP21* (2015).
[306] TCFD, "*Implementing the Recommendations*", *supra* note 223.
[307] Government of Canada, "*2022 Budget", supra* note 63 at 42.

net-zero buildings strategy.[308] First, the budget proposes to give Natural Resources Canada $150 million over five years beginning 2022-2023 to develop the Canada Green Buildings Strategy, which will set out ways to promote the use of lower-carbon construction materials and enhance climate resilience in existing buildings, potentially by inciting building owners and managers. Second, it also proposes to give Natural Resources Canada $200 million for five years starting from 2022 to 2023 to establish the Deep Retrofit Accelerator Initiative which will support retrofit audits and project management for large projects seeking to accelerate the speed of deep retrofits in Canada. Commercial real estate companies should position themselves and their assets to benefit from these incentives. Those companies that take the necessary steps now will likely be more competitive for these opportunities.

There are also opportunities from the Greener Neighbourhood Pilot Programme under the budget. Canada's Net-Zero Advisory Body has recommended that government should look for opportunities to decarbonize multiple buildings at once. Responding to this call, budget 2022 "proposes to provide $33.2 million over five years, starting 2022/23, to Natural Resources Canada, including $6 million from the Green Infrastructure – Energy Efficient Buildings Program to implement a Greener Neighbourhoods Pilot Program in up to six community housing neighbourhoods to pilot 'Energiesprong' model in Canada." Commercial real estate companies should look for ways to benefit from incentives that will come from this pilot programme.

C. Investment

There are opportunities to make new investments in the net-zero transition. Such investments may involve establishing entirely new lines of business or service.[309] In either case, they could help create new revenue streams, enhance competitiveness in the industry, and improve asset values across time scales.

Establishing new lines of business could take various forms. For instance, as commercial real estate companies invest in new buildings, carry out retrofits or make other adjustments to existing buildings, they could mount solar panels to generate energy that would be contributed to smart power grids, using this power source to meet the needs of their buildings, cut carbon costs that would otherwise accrue to them, and potentially sell excess electricity back to the grid to make a profit.

Commercial real estate companies could also create new services. For instance, they could make money from setting up vehicle charging stations for tenants and other road users that drive electric vehicles or offer at premium devices such as smart sensors to track tenants' consumption of heat, air conditioners, light, and physical space. [310]

D. Resilience

Commercial real estate companies have an opportunity to create resilient buildings and assets that will help them remain competitive and cut costs in the medium and long term, and investors should also risk-proof their money. Resilience building would help both sides cut costs while attracting younger climate-conscious generations of tenants and investors.

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[308] *Ibid*.
[309] Boland, Levy, Palter, and Stephens, *supra* note 304 at 7.
[310] *Ibid*.

As climate change and its impacts intensify, tenants will increasingly realize that "more resilient buildings often require less ongoing expenditure and can be better equipped to return to normal operations following short-term disruptions."[311] As physical and transition risks heighten, with data and supplemental information making them more predictable and measurable, younger generations of Canadians will inform their commercial real property acquisition and investment decisions with the enhanced knowledge going forward. Millennials and Gen Zs are climate-conscious and are likely to increasingly make commercial real estate acquisition and investment decisions based on their enhanced knowledge. As a result, the resilience of commercial buildings and other assets would bear significantly on competitiveness and costs.

There are several ways to enhance resilience, but the type of climate hazard and impacts on buildings should determine the choice. For instance, to address heat, real estate companies could install window shades, enhance ventilation systems, and use heat-resistant roofing material.[312]

E. Other Benefits

These opportunities are not exhaustive, so we acknowledge that there are others that Canada's commercial real estate industry can take advantage of while effectively managing climate risks.[313] For instance, where effective climate governance prompts companies to create retrofits or construct green buildings, these actions would also create new jobs, enhance the health of their host community, and ultimately contribute to the government's agenda for net-zero transition. There are other rewards that may come from these actions and outcomes, including enhancing social capital, licence, and reputation, and creating good relationships with governments, with the potential to impact overall industry- and company-level performance and future opportunities.

5. Conclusion

Physical and transition risks significantly impact Canada's commercial real estate sector. They create not only financial but also systemic risks. While the approach of the sector has mostly been to address the resulting financial risks, this Guide suggests that the commercial real estate industry should focus more on the broader systemic risks, handled through the risk governance model.

Physical risks will have more serious long-term impacts in Canada as GHG emissions continue to rise, disrupt the climate system, and trigger warmer temperatures and other changes to our natural environment that the commercial real estate industry relies on for raw materials, including for building, infrastructure and ecosystem services. Real assets in the industry face physical risks from extreme weather events, flooding, fires, and other hazards. These risks are now differential and compounded. They are differential in that some locations are impacted by extreme weather events, floods, fires, and other hazards more than others, and compounded because multiple hazards are now occurring concurrently, interacting, and resulting in risk transmission through interconnected systems and across regions. To understand these latest developments, the Canadian commercial real estate industry needs to address knowledge gaps within the context of its business. For instance, the climate resilience framework of the sector should address how differential and compounded physical risks impact its industries and how to address them.

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[311] JLL, "How the Real Estate Industry is Protecting Cities from Climate Change" (2020) online: *JLL* <https://www.jll.ca/en/trends-and-insights/cities/how-the-real-estate-industry-is-protecting-cities-from-climate-change>.
[312] Darren Swanson, Deborah Murphy, Jennifer Temmer, and Todd Scaletta, *Advancing the Climate Resilience of Canadian Infrastructure: A Review of Literature to Inform the Way Forward (*Winnipeg: International Institute for Sustainable Development, 2021).
[313] The Net-Zero Advisory Body, *supra* note 298 at 12.

Canada's transition risks have more pressing short-term and medium-term impacts because of the speed at which governments are making low-carbon laws and policies, which in turn influence mandates and incentives for technologies, markets, and corporate and investment actions that influence business performance and reputation. Most current risks are from legislation on carbon pricing across provinces and the federal backstop in the *GGPPA 2018* as well as transparency measures under the *CNAA 2021* and its "2030 Emissions Reduction Plan: Canada's Next Steps for Clean Air and a Strong," but future risks will likely come from proposed laws and policies, including a private Senator's Bill for a Climate-Aligned Finance Act, future legislation on just transition and other aspects of the low-carbon transition, other regulatory instruments being developed by regulatory and supervisory agencies, industries, standard-setting organizations, and experts in Canada, and ambitious extraterritorial laws and policies that regulate or impact Canadian companies, including those listed in the US and others interacting with European and other stock exchanges in important ways.

Until recently, boards and management across sectors have mostly seen these physical and transition risks as financially material, but directors, executives and professionals within the commercial real estate sector must now see them as systemic. Insurance and information-based measures such as disclosure have been the mainstay for dealing with financial risks in the sector, but they have not been adequate for multiple reasons that the guide has identified under section 2 and the Appendix, necessitating the need for other complementary methods of managing risks. The risk governance model opens our eyes to these alternatives, which could also help to address the differential and compounded physical risks facing the commercial real estate sector, the knowledge gaps on transition risks, the limitations of using insurance, and other gaps in the current approaches to risk handling best depicted by the risk analysis model. As climate risks intensify, the commercial real estate industry needs to apply various aspects of the risk governance model, including involving shareholders, investors, creditors, and other stakeholders in deciding how to avoid risks that are avoidable and mitigate those that cannot be avoided.

We apply the risk governance to rethink the TCFD elements. Corporate directors and managers, investment trustees, professionals and other leaders in the commercial real estate sector have fiduciary and other legal duties to manage financial risks under existing legal regimes that we identify under the sections of this guide, but they could also position their companies for success by addressing systemic risks using these processes to inform their actions. There are already frameworks for guiding their actions in addressing physical, transition, and other climate risks but, informed by the risk governance model, we build on those from TCFD, WEF, and CCLI to suggest specific steps they could take, outlined in Table 7, for effective climate governance based on six themes: governance structure, board oversight, risk assessment and management, disclosure and risk communication, setting targets and metrics, and designing strategy.

As directors and executives take these steps to manage climate risks, several opportunities will emerge in Canada's transition to net-zero emissions, including five categories that we discuss under section 4 of this guide: resource efficiency, incentives, investment, resilience, and others. The questions posed at the beginning of this guide, summarized in Table 7, should get them started in thinking about and acting on these risks and finding the opportunities discussed under section 4.2, summarized in Table 8.

APPENDIX

1. Physical Risks

Canada's commercial real estate sector faces multiple physical risks. The most important risks used as context for this guide are extreme weather events, floods, fires, and other risks interacting with them.

1.1 Extreme Weather Events

Diverse climate variables impact the commercial real estate sector. In a ULI report, Bienert observes various ways climate-related variables such as temperature rise, water scarcity, rising sea level, increase weather events and increasing adaptation costs impact commercial and residential real estate property.[314] Focusing more on extreme weather events such as storms, hail, flooding, droughts, tropical cyclones, and landslides, the study found that extreme events have doubled globally since the 1980s to about 800 events per year between 2004 and 2014.[315] Also, the monetary loss from them had tripled within the same time frame, leading to reduced potential for income and creating significant losses even where they cause small drops in value, since real estate makes about 3.5 times the GDP in developed countries.[316]

The US commercial real estate industry has already experienced the financial impacts of extreme weather events, giving the Canadian commercial real estate industry a sense of potential impacts. For instance, property damaged during Hurricane Sandy experienced a significant instant drop of 17% to 22% in value, and there was also a decline in housing pricings up to 8% within New York's flood zones as of 2017, largely because of increased risk perception of potential buyers, without showing signs that things would get better.[317]

1.2 Floods and Related Events

Floods have appeared along with extreme weather events. As many countries have experienced, flooding depends on several factors and may not be insurable when extreme, giving us in Canada an idea of the challenges that await us. In the United Kingdom (UK), a study by Bhattacharya and others found that buildings, infrastructure, machinery, and production are variously exposed to flood risk depending on proximity to the source of flooding, the elevation of the location in question, probability of occurrence of flood, and the existence of flood defence, which are factors that could be impacted by flood duration, velocity, depth, and extension.[318] Also, the study found that insurance is inadequate to mitigate the risks. For instance, it is now common for insurance terms to exclude locations with significant risk exposure and lacking significant mitigation plans.[319] Canada's commercial real estate sector should be aware of these factors and inadequacy of insurance for flood risks. For instance, flooding may contribute to the "risks that an insurer does not want to or cannot underwrite, such as climate-related catastrophic claims."[320]

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[314] Bienert, "Extreme Weather Events", *supra* note 20.
[315] Ibid.
[316] *Ibid.*
[317] Francesc Ortega and Süleyman Taspinar, "Rising Sea Levels and Sinking Property Values: Hurricane Sandy and New York's Housing Market" (2018) 106 *Journal of Urban Economics* 81.
[318] Namrata Bhattacharya, Jessica Lamond, David Proverbs and Felix Hammond, "Impact of Flooding on the Value of Commercial Property in the United Kingdom" (2011) 1st International Conference on Building Resilience, Kandamala, Sri Lanka at 1, online: <https://www.researchgate.net/publication/272749630_Impact_of_Flooding_on_the_Value_of_Commercial_Property_in_the_United_Kingdom_International_Conference_on_building_Resilience>.
[319] *Ibid.*
[320] Sarra, "Life, Health, Property, Causality", *supra* note 73.

Also, floods affect property value, rents, and prices, among other impacts. A RICS study found that the frequency of floods could impact property value, from physical access and business disruption for tenants to the effects of longer-term temperature increases.[321] Increased wear and tear on buildings can affect operating and capital expenditure requirements.[322] Another study by Hirsch and Hahn found that floods have an impact on rents and prices of residential properties in Germany.[323] We can expect impacts on the rents and prices of retail, industrial, apartment and other types of commercial buildings in Canada, especially because "at least a half-million buildings at risk of flooding in Canada are not identified by government-produced flood maps."[324] As a result, "few infrastructure owners or investors are able to assess and manage existing climate risks, let alone future risks associated with climate change."[325]

1.3 Fires and Related Events

Boards and executives should continue to address extreme weather events and floods, but they must also pay attention to other risks that are increasing along with them, most notably fires in Canada. Clayton, Devaney, Sayce, and van de Wetering[326] reviewed studies in 2021 to understand how climate risks impact commercial property value, identifying four areas of risk exposure: flood, wildfires, hurricane/cyclone, and sea level rise. They also identify market factors that could increase the exposure of commercial properties, including proximity to climate change perception and beliefs, impacted locations, governance, availability of liquidity, valuation practices, sustained value erosion, lending behaviour, securitization, insurability, and asset level investment in resilience. Also, the IPCC's latest report focusing on impacts, adaptation, and vulnerability,[327] released in February 2022, observed that places that had fires every 400 years might now have them once in every 50 years.[328] The study has identified fires and flooding as the most significant physical risks in Canada.[329]

With the destruction of Lytton and several properties in BC, it is no surprise that fires are now considered one of Canada's top physical risks,[330] but flooding risk remains highly significant as well, accounting "for 40 per cent of weather-related disasters since 1970."[331]

2. Systemic Lens

Although it emerged mainly to address financial concerns during the 2007/2008 financial crisis, the idea of systemic risk now applies beyond finance. The OECD expanded the use of the term, systemic risk, beyond finance to describe impacts on the social systems that we depend on such

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[321] Roberts, Lafuente & Darviris, *supra* note 22.
[322] *Ibid*.
[323] However, they do not consider some factors that could determine the impacts, for instance differences between building property, quality and equipment, and the dataset only covers asking prices within a limited timeframe. Jens Hirsch & Jonas Hahn, "How Flood Risk Impacts Residential Rents and Property Prices: Empirical Analysis of a German Property Market" (2018) 36 (1) Journal of Property Investment & Finance 50.
[324] Ness, Clark, Bourque, Coffman and Beugin, *supra* note 74 at vi.
[325] *Ibid* at vii.
[326] Clayton, Devaney, Sayce and Van de Wetering, *supra* note 66.
[327] IPCC, "*Impacts, Adaptation and Vulnerability", supra* note 16.
[328] Mortillaro, *supra* note 17.
[329] "IPCC Cites Fires, Floods, Food Supplies as Biggest Climate Risks for Canada" (7 March 2022), online: *Energy Mix* <https://www.theenergymix.com/2022/03/07/ipcc-cites-fires-floods-and-food-supplies-as-biggest-climate-risks-for-canada%EF%BF%BC/>.
[330] Burgess and Rapoport, *supra* note 10 at5.
[331] Mortillaro, *supra* note 17.

as food, energy, and transportation.[332] For instance, for the commercial real estate industry to fully cover the risks that industrial, retail, office and other commercial buildings face, it must consider risks that transfer from public infrastructures such as power grids and other aspects of the electricity system, roads and other components of the transportation system, and pipelines and other elements of the hydro and sewage systems, among other interconnected systems. Subsequent studies have extended the term to emphasize the point that an entire system could break down, as opposed to some parts or aspects of such a system,[333] necessitating using a systemic lens to manage risks.

While climate change is traditionally considered a financial risk to be managed through insurance and financial management, the systemic lens emphasizes the broader implications and responses across societal systems. For instance, the economic approach to systemic risks focuses on developing a collective management response, such as using monetary and financial regulations, rather than just insurance, to mitigate climate change.[334] However, the systemic lens accommodates other non-economic approaches that take the stand that we should have societal responses that consider diverse values rather than a one-sided or limited response such as insurance, for instance incorporating the ethics of Indigenous Peoples in risk management approaches. To consider diverse values, we must use qualitative methods of risk estimation, for instance those advocated by the risk governance model.

Using a systemic lens that accommodates both quantitative and qualitative risk estimation methods, such as the risk governance model, to manage climate risks has the potential to address the compounded risks facing the commercial real estate sector. Multiple sources and types of climate risks interact, and they have multiple impact domains, levels of severity, and probability of occurrences, which could be tracked through this systemic lens.[335] There is no blueprint for solutions, but the systemic lens suggests that we should look for solutions within and beyond the financial system, paying attention to and using mixed quantitative-qualitative methods to estimate how other industries and sectors contribute risks, interact, and could provide solutions.

We adopt this systemic lens in this Guide to think about how the commercial real estate sector should understand climate-related risks and what to do to mitigate the compounding of risks in the face of information and knowledge gaps. Most of the current measures for managing climate risks claiming to be informed by the systemic lens go beyond insurance to embrace closing information gaps through mechanisms such as disclosure, transparency, scenario analysis, and stress testing, mostly to enhance risk assessment and management based on carbon pricing and other market mechanisms. However, the commercial real estate industry should think beyond this limited systemic approach that currently dominates the thinking on managing risks in the real estate sector.

Climate change will continue to create uncertainty, and it will be difficult, if not impossible, to determine the efficient price and other market variables based on the current methods of closing information gaps and managing risks through carbon pricing and other emerging market mechanisms, making these measures inadequate for the future.[336] To complement these existing measures, commercial real estate boards, executives and professionals should not only take a

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[332] OECD (Organisation for Economic Co-operation and Development), *Emerging Risks in the 21st Century: An Agenda for Action* (Paris: OECD, 2013)
[333] George G Kaufman, Kenneth E Scott, "What is systemic risk, and do bank regulators retard or contribute to it?" (2003) 7 The Independent Review 371.
[334] Michel Aglietta & Étienne Espagne, *Climate and Finance Systemic Risks, more than an Analogy? The Climate Fragility Hypothesis* (Paris: Centre d'Etudes Prospectives et d'Informations Internationales, 2016).
[335] Li, Wang, Zhao, and Qi, *supra* note 78.
[336] Hugues Chenet, Josh Ryan-Collins and Frank van Lerven, "Finance, Climate-Change and Radical Uncertainty: Toward a Precautionary Approach to Financial Policy" (2021) 183 Ecological Economics, online: <https://doi.org/10.1016/j.ecolecon.2021.106957>.

precautionary approach that is already well known for anticipating risks but also incorporate industry and firm level systemic risk handling measures that weave together quantitively and qualitative approaches to manage them as found in the risk governance model. In simple language, they need to apply the risk governance model to manage systemic risks.

3. Limitations of Insurance

Insurance remains the leading mechanism to address climate risks in the real estate sector. However, it is inadequate for multiple reasons.

Insurance has performed best in measuring physical risks. However, although "most insurers do not yet have the data, modelling or mechanisms to understand the long-term impacts of climate change on morbidity, mortality, and the value of investment assets,"[337] the insurance industry is taking steps to respond to the increasing risks it will be bearing.[338] For instance, insurers have expanded private coverage to overland flooding and sewer backup for the past half-decade or so, although market take-up remains low at less than 50%.[339] In response to the increasing risks, insurance companies will increase premiums at best,[340] or deny coverage at worse,[341] for instance where they "have an incentive to stop providing flood insurance for high-risk properties, exacerbating costs and stresses on communities recovering from disasters."[342]

Also, the payment ceiling of insurance premiums is often calculated based on historical losses and payments, not future climate losses that will be much more significant.[343] While property and casualty (P&C) insurers' natural catastrophe risk modelling (NatCat) has served as a leading industry tool to quantify physical risk exposure[344] and scenario analysis has emerged as a tool to project into the future costs, the Geneva Association — a reputable international think tank that generates knowledge on the insurance industry — acknowledges that the insurance industry has not yet developed a model that would work for other important multi-dimensional uncertainties, including transition risks in the commercial real estate sector.[345] As a result, relying solely on insurance as the means to manage physical risks may leave room for significant future transition losses that will not be fully covered by premiums.

Another reality that undermines using insurance is that not all physical risks can be predicted through scenario analysis or fully costed through any of the currently available methods, meaning that it would be difficult to arrive at an accurate premium. For instance, the Canadian Climate Institute observes that "Climate science cannot yet predict how climate change might affect many types of extreme weather events… such as ice storms, tornadoes, hurricanes, and hail —that could cause much additional damage."[346]

In addition, while insurance covers unexpected catastrophic events, it does not stop assets from depreciating in value or ability to generate liquidity when they happen. Therefore, insurance is

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[337] Sarra "Life, Health, Property, Causality", *supra* note 73 at 9-10.
[338] Burgess and Rapoport, *supra* note 10.
[339] Sarra "Life, Health, Property, Causality", *supra* note 73.
[340] Onifade 2022, *supra* note 28.
[341] Burgess and Rapoport, *supra* note 10; Elaine Chen and Katherine Chiglinsky, "Many Californians being Left without Homeowners Insurance Due to Wildfire Risk," (4 December 2020) *Insurance Journal*.
[342] Sarra "Life, Health, Property, Causality", supra note 73 at 22.
[343] Burgess and Rapoport, *supra* note 10.
[344] Maryam Golnaraghi and others, *Climate Change Risk Assessment for the Insurance Industry: A Holistic Decision-Making Framework and Key Considerations for both Sides of the Balance Sheet* (The Geneva Association, 2021) [hereafter Golnaraghi and others]; Sarra "Life, Health, Property, Causality", *supra* note 73.
[345] Golnaraghi and others ibid.
[346] Ness, Clark, Bourque, Coffman and Beugin, *supra* note 74 at vi.

useful in the short-term when too much value depreciation has not set in but may not be effective for the medium- and long-term. Given these problems, real estate investors and investment managers have "acknowledged that using insurance as the main protection for asset value is not an effective solution to mitigate the risk of devaluation."[347] The commercial real estate sector needs to find other solutions.

Compared to physical risks, even less is known about the costs of transition risks and how to manage them. Reasons include the uncertainty about future policy changes, market responses, and technological innovation, and the difficulty in measuring the impacts of values behind regulation based on quantitative models. Also, there are unknowns about how future societal actions and inactions will affect the commercial real estate sector.

The Geneva Association acknowledges this problem about the costs of transition risks and offers a solution. It recently reported that "public policies, regulations, technological advancement, market conditions and other aspects of societal transition toward low-carbon economies will affect the level of climate change risk and the future risk landscape,"[348] causing inherent uncertainties that must be assessed. To assess these transition risks, we need long-term projections, for instance to 2050 and beyond, using "qualitative approaches and serve to support raising risk awareness and the high-level, strategic steering of business and investments."[349]

[347] Burgess and Rapoport, *supra* note 10 at 2.
[348] Golnaraghi and others, *supra* note 344 at 8.
[349] *Ibid* at 9.

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