Canadian Construction Association
Best Practices Services

Building resilience: A guide to climate governance for Canada's construction sector

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I. Introduction

The House of Commons[1] and 650 Canadian municipalities[2] declared a climate emergency in 2019 and 2022 respectively. Canada has been, and is still, warming at a rate that is double the global average.[3] Warming temperatures are bringing with them heat domes, variance in extreme cold, increasing annual precipitation, earlier spring peak streamflow, shorter snow and ice cover seasons, thinning glaciers, thawing permafrost, rising sea levels, and an increase in frequency and intensity of extreme weather events.[4] Canadians are already feeling these effects.

Extreme rainfall alone, for example, has impacted Canadians from coast to coast. In November 2021, an atmospheric river in British Columbia caused landslides and flooding, cutting off main access routes in the province.[5] In July 2024, in just three hours, approximately 10 centimetres of rain fell in Toronto, overwhelming the city's infrastructure.[6] A month later, 55 communities in Québec suffered record-breaking floods from Hurricane Debby.[7] Extreme rainfall is expected to continue to increase, and with more than 80 per cent of Canadian cities located fully or partially in flood zones,[8] more Canadians, more often, will be effected by rainfall brought about by climate change more intensely.

Tackling climate change requires individuals, governments, and companies to make both mitigation and adaptation efforts. Climate mitigation involves addressing the causes of climate change to minimize the worsening of future climate loads and includes measures to reduce or prevent greenhouse gas (GHG) emissions.[9] Climate adaptation involves addressing the current or anticipated impacts of climate change, including adjusting current processes, systems, and environments to be more resilient and withstand the effects of climate change.[10] Canada's commitment to net-zero emissions by 2050 also means embracing a net-zero economy.[11] While some additional warming and GHG emissions will be unavoidable as Canada and the world transition to net-zero emissions by 2050,[12] careful consideration on how to mitigate and adapt to climate change, now and moving forward, will be pivotal for building sustainable and resilient businesses and communities for the future.

Net-zero means the elimination of as many GHG emissions as possible and then balancing out any remaining GHG emissions with an equivalent value of carbon removal.

A. The role of construction industry directors

The Canadian construction industry is uniquely positioned to play a key role in building sustainable and resilient businesses and communities. As a major economic driver – employing 1.6 million people and generating approximately $162 billion annually; approximately 7.5 per cent of Canada's gross domestic product (GDP) – the industry already plays a vital role in shaping our communities.[13] With nearly 30 per cent of the country's GHG emissions linked to construction, including both operational and embodied carbon, the sector has a powerful opportunity to be a catalyst for climate action and innovation. [14]

Over half of Canada's GHG emissions from the buildings and construction sectors are from commercial and institutional buildings.[15] There are over 564,000 commercial and institutional buildings in Canada, plus 34,000 buildings owned and managed by the Government of Canada.[16] 40 per cent of Canada's existing building stock was built over 50 years ago, and 70 per cent is expected to still be in use in 2050.[17] Yet, 25 per cent of all buildings Canadians will need by 2030 are still waiting to be constructed.[18]

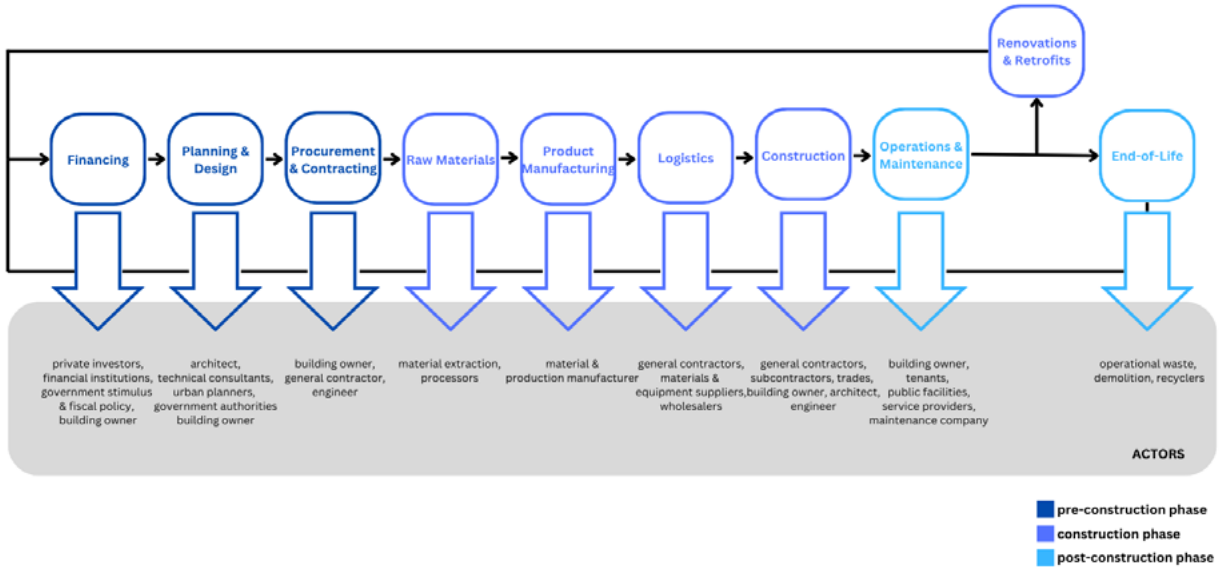
The Government of Canada has set a goal of net-zero emissions and climate resilient buildings by 2050, with an interim goal of a 40 per cent emissions reduction from 2005 levels by 2030.[19] This means all new buildings in Canada need to be at least net-zero energy ready by no later than 2030. [20] Therefore, with the sizeable climate impact of the buildings and construction sectors and ambitious climate targets set, companies within Canada's construction industry are positioned to have a significant role in addressing climate change and advancing the net-zero transition.

Directors, as company leaders, are central to the development, implementation, and promotion of more sustainable practices for Canadian construction companies. Directors are also responsible for ensuring that their companies are able to carefully consider the risks brought about by climate change. While some Canadian construction companies may not yet be subject to specific climate-related regulations, prioritizing and furthering effective climate governance is a strategic imperative.

B. The construction value chain

Effective climate governance within the Canadian construction industry requires an acknowledgement and understanding of the construction value chain. The construction value chain spans from project inception and financing to operations maintenance, renovations, and end-of-life phases.[21] At each stage of the construction value chain, several actors are engaged, each with their own distinct operations, internal processes, and interests to manage.[22] For example, at the construction stage of a project, contractors, sub-contractors, developers, architects, and engineers may be engaged simultaneously. Decisions that are made at an earlier stage in the construction process can have cascading effects for actors along the chain.[23]

Figure 1: Overview of the construction value chain[24]



While there are several actors who may be engaged at any one stage of the construction value chain, they also tend to work together on a fixed-term or a project basis.[25] This leaves the construction industry highly fragmented, where not all the same actors are working together across a series of projects or even from the start to end of a project.[26] The fragmentation within the construction value chain means that a holistic, system lens approach is needed for effective climate change mitigation and adaptation, that is not disjointed and ineffective.

Members of the Construction and Building Materials Forum for the Task Force for Climate-related Financial Disclosure (TCFD) highlighted that climate mitigation and adaptation in the construction industry cannot be addressed by any one company or sector of the value chain.[27] A decision made by one actor at one stage of the construction value chain can significantly limit the potential options available for those operating in later stages in the value chain.[28] For example, decisions at the design and planning stages of a project often determine the types of materials and energy required for construction, the amount of energy and water that will be consumed during the operation of the building, and the waste created at the end of the building's lifespan.[29] However, actors at the construction stage can play an integral role in shaping the project's climate impact and resiliency. Contractors, for example, often act as a gatekeeper between the building owner and a project's suppliers and therefore can also have a significant influence on the building materials and methods of construction that are considered and employed in a project.[30]

A holistic, systems lens approach allows companies within the construction value chain to locate key areas for intervention.[31] It allows companies to work across the value chain, leveraging their knowledge, skills, and innovation to shape how the construction industry addresses the impacts of climate change.[32] It opens the door for companies to collaborate and support communities' adaptation to the changing environment. A company at any point along the construction value chain, whether large or small, can take a holistic, systems lens approach and exercise its influence to ensure decisions that are made at one stage of the project expand the potential options and responses to climate change that are available to actors throughout the construction value chain. Its impact can expand beyond the construction and buildings sectors to include manufacturing, transportation, and energy generation industries, by freeing up clean energy resources and supporting industry emission reduction efforts.[33]

C. Guide structure

This Guide centers on the construction phase of the value chain, focusing on the role of general contractors within the Canadian commercial (i.e. construction of buildings and other structures for commercial purposes), institutional (i.e. construction of public buildings), and industrial (i.e. construction of factories, power plants, warehouses, and other highly specialized facilities) construction sectors. It aims to provide information and insights to assist boards of directors, management, and other professionals on their path toward effective climate governance. This Guide clarifies the legal landscape of climate change and the net-zero transition for Canadian construction companies, and offers key questions for boards of directors, management, and other professionals to ask themselves to ensure they continue to meet market expectations, regulatory requirements, and fulfill their duties in managing and overseeing the impacts of climate change and the transition to a net-zero economy.

While this Guide focuses on the Canadian commercial, institutional, and industrial construction sectors, its content is also, in large part, relevant to other sectors of the construction industry, including the civil infrastructure sector. This Guide can also provide insights into effective climate governance for all actors, large and small, up and down the construction value chain, and how everyone can work seamlessly together to mitigate and address the impacts of climate change, and the net-zero transition.

This Guide is organized into six parts. Following this introduction. Section II provides a general overview of climate-related risks affecting the Canadian construction industry. Section III highlights some of the potential opportunities the transition to climate resiliency and net-zero emissions that are open to companies within Canada's construction industry. Section IV provides an overview of the legal landscape of climate change and the net-zero transition for the Canadian construction industry including the duty of care owed by directors regarding climate change, the evolving regulatory framework driven primarily by provincial and municipal governments, the additional climate-related reporting obligations for publicly-listed companies, the emerging sustainability accounting standards, the impact of international climate-related reporting obligations on Canadian companies, and an overview of some of the global trends and anticipated changes to the legal landscape for construction companies. Section V proceeds to provide practical information and outline potential approaches for companies in developing governance, risk management, strategies, and metrics and targets, to respond to climate-related risks and opportunities, and for directors and management to fulfill their obligations through effective climate governance. Section VI provides a brief conclusion to this Guide.

II. Understanding climate-related risks for the Canadian construction industry

With the construction industry's capital-intensive nature, fixed assets,[34] and heavy reliance on labour and outdoor activities,[35] the industry is inherently vulnerable to the effects of climate change. Although the construction industry has always had to cope with temperature, humidity, and winds,[36] climate change brings more extreme heat, variance with extreme cold, and more intense and frequent precipitation.[37] Severe weather events can bring with them more flooding and wildfires, thawing permafrost, and rising sea levels.[38] Reliance on a company's existing weather adaptation and mitigation strategies may leave companies unprepared, with significant delays and cost overruns.

Companies in the Canadian construction industry face direct physical and transition risks from climate change. Climate change risks impacting others along the construction value chain will also cause domino effects for those companies operating further along the chain.

A. Physical risks

A physical risk is a risk of physical damage or disruption to people, property, or productivity as a result of changes in climate patterns.[39] Changes in climate patterns may be acute (event-driven), such as floods, tornadoes, or hurricanes, or chronic (longer-term shifts), such as sustained higher temperatures resulting in sea level rise, melting permafrost, heat waves, or more frequent precipitation.[40] In Canada, insured damage from severe weather events alone exceeded $3.1 billion in 2023.[41] 45 per cent of construction projects are impacted by the weather annually, causing significant added costs for companies.[42] As the impacts of climate change continue to intensify, the number of projects affected by weather can be expected to rise. Climate change creates risks to the worksite, construction timeline, construction of buildings, supply chains, project feasibility, and longevity. For a detailed discussion of the physical risks to Canada's construction industry, see Appendix I.A of this Guide.

While many companies have historically relied on insurance to help protect against the financial consequences of weather-related risks, insurance may become a less feasible or cost-effective option in the coming years. The Insurance Institute of Canada estimates that severe weather claims paid out by insurers could double by 2030.[43] The Insurance Bureau of Canada has highlighted climate change, and its associated losses, including business and supply chain disruptions, as among the largest issues facing business insurance.[44] Thus, there are calls within the Canadian insurance industry to increase insurance premiums to account for the anticipated increases in insurance claims.[45] In certain regions, insurance has become unaffordable or unavailable, for example, State Farm has cancelled policies in California,[46] and insurance companies are no longer offering policies in parts of Australia.[47]

B. Transition risks

A transition risk is a risk arising from the transition to a lower-carbon economy.[48] The risks may be a result of policy, legal, technology, or market changes.[49] Understanding the transition risks for a construction company is an important step towards building a sustainable company.

The buildings and construction sectors are not currently on track to meet Canada's 2030 or 2050 emission reduction targets within the current regulatory framework.[50] Therefore, further regulations aimed at climate change mitigation, attempting to curb or constrain actions that contribute to the adverse effects of climate change, or at climate change adaptation efforts are expected.[51] For example, the Canadian Commission on Building and Fire Codes is working to update its national model energy code to create a net-zero energy ready code, requiring the measuring and reporting of emissions from a building's design or construction, and adding climate resiliency considerations.[52] Municipalities are adding requirements to measure, reduce, and report emissions to their building permit applications.[53]

The market is also shifting because of climate change. Demand for certain building materials, products, and services will change as clients and companies across the construction value chain consider their climate-related risks and opportunities further.[54] The market is also requiring construction companies to share greater climate-related information more often. To even get a foot in the door to bid on construction projects, within either the public or private sectors, the market is moving towards requiring companies to address their climate impacts and actively engage in the net-zero transition. By 2030, 80 per cent of public and municipal organizations will have climate change adaptation considerations as a part of their decision-making processes.[55]

For a detailed discussion of the transition risks including policy, legal, technology, and market changes facing Canada's construction industry, see Appendix I.B of this Guide.

Understanding the physical and transition risks to companies in the Canadian construction industry is key to companies preparing for and adjusting to the impacts of climate change and the transition to net-zero emissions. Instead of simply reacting to the realities of climate change, being able to plan for and adapt their operations to the changing landscape of the Canadian construction industry is vital to building sustainable companies and communities.

III. Identifying climate-related opportunities for the Canadian construction industry

Despite its inherent vulnerabilities to the impacts of climate change, the Canadian construction industry has been identified as having some of the greatest potential for climate change adaptation and for leveraging the net-zero transition.[56] The net-zero transition of the construction value chain has the potential to unlock an estimated $1.8 trillion worldwide.[57] The green building sector already accounts for approximately $19.13 billion of the Canadian construction industry.[58] The development of new products and services, unlocking green incentives, and keeping companies competitive in the local and global marketplace are just a few of the opportunities available for companies in Canada's construction industry to build a resilient business.

Companies in the Canadian construction industry can strategically position themselves in the changing market. By building out a company's climate change knowledge, its skills and capacity to track and disclose climate-related information, and its ability to work with other actors to access climate-related information from other stages of the value chain, companies in the construction industry can differentiate themselves in the marketplace, meet the evolving needs of their clients, and enhance their business resiliency.

Companies also have the opportunity to introduce and deliver new products and services, working towards climate mitigation and adaptation, to their clients. For example, companies may offer lower embodied carbon building solutions for new construction,[59] climate resilient buildings, or deep carbon retrofits for existing buildings.[60] Companies can also take advantage of green incentives to assist in making this transition. For a detailed discussion on the opportunities available to companies within Canada's construction sector, see Appendix II of this Guide.

Climate change and the net-zero transition open the door to several new opportunities for companies within the Canadian construction sector. Through strategic positioning and developing capacities around climate change, companies have the opportunity to reach new financial incentives, build out greener building offerings, and become more competitive in the market.

IV. The legal landscape of climate change and the net-zero transition for the Canadian construction industry

The legal landscape of climate change and the net-zero transition for companies in Canada's construction industry continues to evolve. All levels of government are working towards developing more comprehensive climate-related reporting requirements and policies aimed at accelerating the transition to a more climate resilient and decarbonized buildings sector for their communities. Notwithstanding the regional disparity in the regulation of Canada's construction and buildings sectors, whether a company is large or small, publicly-listed or privately-owned, they are required to consider the effects of climate change within their business.

While every climate-related regulation and reporting requirement may not currently be mandatory for every Canadian construction company, or every one of its construction projects, companies may choose to adapt their practices to more stringent climate-related regulations or to voluntarily begin reporting their climate-related information. This can position companies ahead of the curve by establishing reporting measures and practices, building out their knowledge and capacities around lower emissions and more climate resilient construction, and helping uncover new opportunities before they become commonplace in the market or mandatory. Voluntary compliance with climate-related reporting can also help improve the company's trust and transparency throughout the construction value chain, with their clients and stakeholders, and move the company into a more competitive position when bidding on projects.

This section of the Guide aims to provide a snapshot of the legal framework applying to companies within Canada's construction industry. It highlights key provincial and municipal developments alongside the federal framework and the development seen globally, to clarify the current duties, regulations, and policies impacting companies as of March 25, 2025, and the anticipated direction that climate-related policies and regulations are likely to take as the Canadian construction industry continues towards net-zero emissions and overall better climate resiliency.

A. A director's duty of care

Under Canadian corporate law, directors of a corporation are responsible for the management and oversight of a corporation.[61] A corporation's interests are not limited to the consideration of short-term profits and share value.[62] They also include consideration of a corporation's long-term interests and the environment.[63] Directors, thus, need to include climate considerations into their management and oversight responsibilities. What each corporation needs to address climate change and the net-zero transition adequately will depend on the unique characteristics and circumstances of the corporation.

In a director's fulfillment of their management and oversight responsibilities, a director owes a duty of care to the corporation.[64] Given the significant impacts of climate-related risks, overlooking climate change could amount to a breach of the director's duty of care, according to the 2022 legal opinion of Carol Hansell.[65] This encompasses directors in the Canadian construction industry. To fulfill the duty of care owed to a corporation, a director is required to exercise care, diligence, and skill.[66] Care, diligence, and skill concern the time and effort undertaken by a director to become informed about the corporation's affairs.[67] Exercising the required care, diligence, and skill requires a director to critically consider the information available to them before coming to a decision and all of the relevant issues to a corporation, and determine whether they have the information they need to be able to make an informed decision.[68]

The standard of care is an objective standard, not a subjective one.[69] A director's actions and decisions are assessed against what a reasonably prudent person in comparable circumstances would do.[70] It takes a contextual approach, considering what the director knew or ought to have known at the time.[71] This includes the factual circumstances of the corporation and the "prevailing socio-economic conditions."[72] The comparable circumstances do not include the competence or personal beliefs of an individual director.[73] Carol Hansell's legal opinion highlights that "[a]ll directors, even those who are skeptical about the climate change risk alarms that international organizations and governments are sounding, must be informed by more than their personal views about the risks facing the corporation."[74] The socio-economic implications of climate change and the net-zero transition, as outlined in this Guide, support the argument that a reasonably prudent person in comparable circumstances to the directors of Canadian construction companies today would take steps towards becoming better informed and prepared through effective climate governance strategies and to start taking steps to address the impacts of climate change and the net-zero transition their companies may face. This includes the following best practices for effective climate governance; actively monitoring and managing climate-related risks, and implementing and overseeing appropriate mitigation and adaptation efforts across a corporation's operations.

Directors, however, are not expected to be perfect.[75] The decisions a director makes must only be decisions that a reasonably prudent person in comparable circumstances would have made.[76] If a director's decision is challenged, the courts are to defer to the director's decision, provided the director made a reasonable decision on an informed basis, in good faith, and in the interests of the corporation, in accordance with the business judgment rule.[77] It recognizes that there is an inherent degree of uncertainty wrapped up in business decisions, and in hindsight, the outcome is often believed to be more predictable than when the decision was made.[78] Therefore, provided a director's decision regarding how a corporation is overseeing its climate-related risks and opportunities, responding to its climate-related risks, or pursuing its climate-related opportunities was made on a well-informed basis, honestly, and in furtherance of a corporation's best interests, that decision should be deferred to.

While some smaller or privately-owned companies may operate with less formality or sophistication than their larger or public counterparts, those leading, overseeing, and managing the company are subject to the same obligations to consider climate within their operations. A corporation may not have an external board of directors, formal board meetings, a suite of officers helping to manage the corporation, or other formal structures found in large or public corporations. However, all corporations have at least one director.[79] Directors, whether there is one or many within a corporation, owe a duty of care to their corporation. Notwithstanding its size or lack of formality and sophistication, directors of construction companies need to be informed and consider how to manage the impacts of climate change.

B. Regulatory framework

The regulatory framework of climate change and the net-zero transition for the Canadian construction industry is shaped overall by Canada's commitment to the *United Nations Framework Convention on Climate Change* and the *Paris Agreement*.[80] All three levels of government play a role in constructing the sustainability regulations affecting the construction industry. Provincial and municipal governments are leading the transition by updating energy codes, prioritizing lower carbon building materials and designs in their procurement processes, and leveraging the building permit process to create more sustainable construction and buildings sectors.

a. Provincial regulations

All provinces and territories, except Saskatchewan, have committed under the *Pan-Canadian Framework* to develop and adopt net-zero energy ready model codes by 2030.[81] Notably, British Columbia and Québec have already taken additional steps to create more sustainable construction and buildings sectors. Other provinces and territories, including Ontario and Alberta, are likely to follow suit.

Net-Zero Energy (NZE) building is a building with significantly reduced energy requirements and produces renewable energy onsite or near-site to meet its energy needs. Net-Zero Energy Ready (NZEr) building is designed and constructed in the same way as an NZE building, but does not yet have onsite or near-site renewable energy systems to meet its energy needs.

i. British Columbia

British Columbia has committed to net-zero emissions by 2050 and set a target of a 40 per cent emissions reduction by 2030.[82] The provincial government's *Wood First Act* aims "to facilitate a culture of wood by requiring the use of wood as the primary building material in all new provincially funded buildings, in a manner consistent with building regulations…" and may recommend best practices for the use of wood in provincially funded buildings.[83] Since 2007, British Columbia has required all new public sector buildings to be constructed in accordance with LEED® Gold Standards.[84]

In 2017, British Columbia implemented the BC Energy Step Code, a voluntary standard providing incremental steps beyond code standards to increase energy efficiency in buildings.[85] It is available to municipal governments to require or incentivize construction that meets one or more of its steps.[86] In 2023, the province implemented a companion voluntary standard, the *BC Zero Carbon Step Code*, providing incremental steps aimed at reducing building operational emissions by 2030.[87]

ii. Québec

Québec has committed to net-zero emissions by 2050[88] and to a 60 per cent emissions reduction from government buildings by 2030. [89] The province has adopted the *Québec Wood Charter* aimed at increasing the use of wood in construction and decreasing emissions.[90] The Charter requires the government department or agency in charge of a construction project to consider the possibility of using wood and to undertake an emissions comparison between the use of wood or other materials for all construction projects funded in part by public funds.[91] Québec's approach to the use of wood in construction expanded in 2020 through its Policy for the Use of Wood in Construction, aimed at promoting the use of wood in both residential and non-residential construction projects.[92]

b. Municipal regulations

Operational emissions are emissions emitted during a building's operation and use during its lifespan and are largely from fossil fuels used to heat space and water. **Embodied emissions** are emissions associated with building materials and construction processes used throughout a building's lifespan, including emissions generated from the extraction, manufacture, transportation, and installation of materials.

Municipal governments across Canada are also creating more sustainable construction and buildings sectors for their communities. Toronto, Montréal, and Vancouver have signed onto the Net-Zero Carbon Buildings Accelerator and Clean Construction Accelerator of the C40 Cities Climate Leadership Group, committing to a least a 50 per cent reduction in embodied emissions for all new buildings, major retrofits, and major infrastructure projects, and a commitment to zero emission construction sites by 2030.[93] Mainly by leveraging their building permit and procurement processes, municipalities are expanding their regulation of emissions and climate resiliency of buildings within their communities. Construction companies need to be cognizant of these developments, alongside other emerging by-laws, to ensure they have the knowledge, skills, and capacities to satisfy the municipality-specific climate-related construction and emission reporting requirements where their projects are located.

i. Edmonton

Edmonton's Climate Resilience Policy requires all new city-owned buildings to be emissions neutral and consider passive design and energy efficiency strategies.[94] The city also requires all new construction of city-owned buildings to complete an embodied emissions analysis and consider low-carbon materials, when available.[95] Starting in 2025, all city-owned buildings are required to report their emissions. [96]

ii. Montréal

Montréal requires owners of buildings over 2,000 m^2 to disclose building energy data annually.[97] As of 2024, the city requires all new buildings smaller than 2,000 m^2 to have zero operational emissions.[98] The zero operational emissions regulation is expected to be extended to larger buildings in 2025.[99]

iii. Toronto

Toronto adopted a net-zero emissions by 2040 Strategy.[100] In furtherance of its strategy, the city requires all city-owned construction to calculate and report its embodied emissions in accordance with Green Standard v4.0, which sets embodied emission caps for major structural and envelope materials used in a city-owned project.[101]

iv. Vancouver

Vancouver's Climate Emergency Action Plan sets a target of net-zero emissions by 2050, and an interim target of 50 per cent emissions reduction by 2030.[102] In relation to new buildings and construction, Vancouver has a specific target of a 40 per cent embodied emissions reduction by 2030, compared to a 2018 baseline.[103]

Vancouver requires new construction to report on and limit embodied emissions to twice the baseline building value.[104] Beginning in 2025, Vancouver requires building permit applications for new buildings to demonstrate a 10 per cent reduction in embodied emissions compared to the city's baseline building.[105] The required embodied emissions reduction extends to 20 per cent for wood or mass timber projects.[106]

All large buildings in Vancouver are required to meet the second highest level of the *BC Zero Carbon Step Code* as of March 1, 2025.[107] The city also has plans to require all new construction to be zero emission by 2030.[108] Currently, all new city-owned buildings are required to be constructed in accordance with LEED® Gold Standards.[109]

c. Federal regulations

The federal government has set a target of net-zero emissions and a climate resilient buildings sector by 2050, with an interim target of a 40 per cent emissions reduction by 2030.[110] In furtherance of its targets, the government has published The Canada Green Building Strategy outlining its plan for a greener and more energy efficient buildings sector, and to address climate-related risks.[111] The strategy sets three priorities:

- accelerating retrofits;
- building green and affordable from the state; and
- shaping the buildings sector of Canada's future.[112]

These priorities should be achieved through strategic policies and coordination, standards and regulations, and leveraging the federal government's investments and purchasing power.[113]

i. Proposed amendment to the *Canada Business Corporations Act*

The federal government has announced its intention to amend the *Canada Business Corporations Act* to mandate climate-related financial disclosures for large, federally incorporated privately-owned companies in October 2024.[114] While the specifics as to what climate-related information will be required to be disclosed, the timeline for its enforcement, and the threshold for what will be considered a "large" company are still to be released, the federal government has advised that it is the government's intention to harmonize its disclosure obligations with those set by securities regulators in Canada.[115] For a discussion of the climate-related securities regulations see Section IV.C of this Guide.

ii. Life cycle assessments

The Low-carbon Assets through Life Cycle Assessment Initiative of the National Research Council has developed national guidelines for whole building life cycle assessments (LCAs) and life cycle inventory datasets for primary Canadian construction materials including cement, ready-mix concrete, precast and prestressed concrete elements, and concrete masonry block.[116] LCAs are a tool for measuring embodied emissions from across all stages of a building's life and components, including from raw material extraction and processing, transportation, installation, use, and disposal.[117]

iii. Federal government procurement requirements

Canada's Greening Government Strategy introduced low carbon and climate resilience considerations across federal procurement and real property matters.[118] For Canadian construction companies to compete in the federal request for proposals (RFP) process, companies will need to be able to calculate their GHG emissions and set and track emission reduction targets for their company and construction projects.

Under the Greening Government Strategy, the Buy Clean policy promotes the use of low or net-zero carbon building materials and designs through the disclosure of embodied emissions of building materials for major construction projects, conducting whole-building or asset LCAs for all major buildings by 2025, and reducing embodied emissions by 30 per cent for major construction projects beginning in 2025.[119]

The Policy on Green Procurement also supports the Greening Government Strategy.[120] The government's Policy on Green Procurement requires government departments to incorporate environmental considerations into their procurement decisions and RFP processes.[121] Two standards, to date, have been developed in furtherance of the government's green procurement policy: (1) the Standard on Disclosure of Greenhouse Gas Emissions and the Setting of Reduction Targets;[122] and (2) the Standard on Embodied Carbon in Construction.[123]

The Standard on Disclosure of Greenhouse Gas Emissions and the Setting of Reduction Targets applies to the government procurement process for projects valued at $25 million or more (including taxes).[124] However, compliance with this standard is strongly encouraged for projects valued under the $25 million threshold.[125] This standard prompts suppliers through the RFP process to measure and disclose their GHG emissions and set science-based GHG emission reduction targets aligned with the *Paris Agreement*.[126] As the federal government continues to move in the direction of net-zero emissions by 2050, suppliers may be requested as part of the RFP process to join the Net-Zero Challenge or an equivalent initiative.[127] The Net-Zero Challenge requires suppliers to:

- set a net-zero emissions target for 2050 or earlier;
- set at least two interim emissions reduction targets;
- identify mitigation measures for their company;
- address corporate governance; and
- make public climate-related financial disclosures.[128]

The Standard on Embodied Carbon in Construction requires a supplier of design services to the government to disclose and reduce the carbon footprint of structural materials, and a supplier of construction services to the government to disclose the embodied carbon footprint of structural materials with Environmental Product Declarations (EPDs).[129] If EPDs are not available for the structural materials used, a LCA verification will be required.[130] Currently, this standard is only required for ready-mix concrete used in projects valued at $5 million or more and are expected to use 100 m^3 of concrete.[131] However, additional structural materials may be added.

Climate-related considerations have been further incorporated into federal procurement through a 2023 amendment to Section 7 of the *Department of Public Works and Government Services Act*.[132] The amendment requires the Minister to consider any reduction in GHG emissions and other environmental benefits when developing construction, maintenance, and repair requirements for public works.[133]

Therefore, companies will need to develop the knowledge, skills, and capacities to calculate operational and embodied carbon emissions for their construction projects, and to develop and track their progress towards science-based emission reduction targets to compete and remain competitive in federal RFP processes.

C. Additional climate-related requirements for publicly-listed companies

While all Canadian companies within the construction industry carry climate-related duties and regulatory obligations, as outlined above, publicly-listed companies are subject to additional climate-related reporting requirements. These additional reporting obligations arise under securities regulations which require companies to make disclosures of climate-related information.

Publicly-listed companies in the Canadian construction industry are directly affected by these additional climate-related reporting obligations under securities regulations. However, privately-owned construction companies in Canada may be indirectly affected by these requirements. Construction companies may be involved in a project where the client is a publicly-listed company, or where other actors within the construction value chain of a project are publicly-listed. Since publicly-listed companies are directly obligated to report climate-related information under securities regulations, companies from across the construction value chain may be asked to provide climate-related information regarding their involvement in a project to these publicly-listed companies. Publicly-listed companies may need information from others to ensure they can satisfy their own reporting obligations. Having the capabilities to collect and provide climate-related information to their clients and other actors along the construction value chain that require this information is important for construction companies to remain competitive when bidding on projects.

Climate-related reporting requirements for publicly-listed companies arise within their continuous disclosure obligations and under a proposed National Instrument mandating climate-related disclosures by the Canadian Securities Administrators (CSA).

a. Continuous disclosure

Material information is information that would be likely to influence an investor's decision to purchase, sell, or hold the issuer's security if the information was omitted or misstated.

Publicly-listed construction companies are subject to continuous disclosure requirements as set out in National Instrument 51-102 Continuous Disclosure Obligations (NI 51-102).[134] NI 51-102 requires companies to report on matters that are material to their company through the regular filing of financial statements, Management Discussion and Analysis Forms (MD&A),[135] and Annual Information Forms (AIF).[136] National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings (NI 52-109) requires companies to establish and maintain disclosure controls and procedures to ensure that the information a company is required to disclose is collected and communicated to management in a timely manner.[137] While these are not climate-specific obligations, material climate-related information falls within its purview, and the CSA has issued multiple Staff Notices to clarify a company's climate-related reporting requirements under these existing continuous disclosure obligations.[138]

Under NI 51-102, a company is required to address its material climate-related risks as a part of its continuous disclosure obligations. The CSA provides guidance for companies regarding the determination of materiality in the context of climate-related risks in Staff Notice 51-358 Reporting of Climate Change-related Risks (SN 51-358).[139] There is no bright-line test for whether a piece of climate-related information is material.[140] The determination of materiality will largely be an industry and company-specific assessment of both qualitative and quantitative factors.[141] It is dependent on the wider context in which the climate-related information arises, including the prevailing conditions, trends, demands, commitments, events, and uncertainties at the time of reporting.[142] While an individual fact may not appear to be material in isolation, in light of all of the facts available about the situation or whether a

climate-related impact is expected to grow over time, early disclosure may be required.[143] Overall, it requires a thoughtful and careful assessment of the information regarding a company's exposure to climate-related risks and their potential impacts.[144]

The CSA expressly notes that physical and transition climate-related risks over the short-, medium-, or long-term may have a material effect on a company and therefore would be required to be reported under NI 51-102.[145]

b. Proposed National Instrument 51-107 for Climate-related Disclosures

In addition to the disclosure of climate-related material information under a company's existing continuous disclosure obligations, the CSA has proposed National Instrument 51-107 Disclosure of Climate-related Matters (NI 51-107) requiring specific disclosures regarding a company's climate-related risks and their management of these risks in their MD&A or AIF.[146] Disclosure under the proposed NI 51-107 may be required by non-venture issuers beginning for its first financial year on or after January 1 of the first year after the instrument becomes effective, and for venture issuers, three years after the instruments become effective.[147]

The proposed NI 51-107 is based on the TCFD framework of governance, strategy, risk management, and metrics and targets.[148]

i. Governance

Under the governance pillar, companies are required to describe: (i) the board's oversight of; and (ii) management's role in the assessment and management of both climate-related risks and climate-related opportunities.[149] The required disclosure is not subject to a materiality assessment, and therefore, companies will be required to describe their oversight and management of all climate-related risks and opportunities, including those that may not rise to the threshold of materiality.[150]

ii. Strategy

Under the strategy pillar, companies are required to describe the climate-related risks and opportunities it has identified over the short-, medium-, and long-term, and the impact of these climate-related risks and opportunities on the company's business, strategy, and financial planning.[151] The disclosure required is subject to an assessment of materiality.[152] It incorporates the same definition of material information as required under existing securities regulations, including NI 51-102. [153]

iii. Risk management

Under the risk management pillar, companies are required to describe:

- the processes for identifying and assessing climate-related risks;
- the processes for managing climate-related risks; and
- how the processes of identifying, assessing, and managing climate-related risks are integrated into the company's larger risk management processes.[154]

The required disclosure is not subject to a materiality assessment, and therefore, companies will be required to discuss their processes for identifying, assessing, and managing all climate-related risks, including those that may not rise to the threshold of materiality.[155]

iv. Metrics and targets

Under the metrics and targets pillar, companies are required to describe:

- the metrics the company uses within its strategy and risk management processes to assess climate-related risks and opportunities; and
- the targets the company uses to manage its climate-related risks and opportunities and performance against such targets.[156]

The required disclosure is subject to an assessment of materiality.[157] It incorporates the same definition of material information as required under existing securities regulations, including NI 51-102.[158]

The metrics and target pillar also includes the disclosure of information regarding a company's GHG emissions.[159] It requires a company to disclose:

(i) its Scope 1, 2, and 3 GHG emissions, and its related risks, or discuss the company's reason for not disclosing the emissions information;

(ii) the reporting standard used to calculate and disclose its GHG emissions; and

(iii) if the company does not employ the GHG Protocol as its reporting standard, how the reporting standard used compares to the GHG Protocol.[160]

Scope 1 GHG emissions are a company's direct GHG emissions. It includes the GHG emissions arising from sources that are owned or controlled by the company. For example, emissions from company-owned or operated vehicles and construction equipment are considered Scope 1 GHG emissions.

Scope 2 GHG emissions are emissions that arise from the electricity purchased and consumed by the company.

Scope 3 GHG emissions are all other indirect emissions that arise as a result of the company's activities. For example, emissions arising from material extraction and production processes, transportation of materials, and the use of materials, products, and services by the company are considered Scope 3 GHG emissions.

It is important to note that while progress on the proposed NI 51-107 has been stalled, in December 2024, the CSA announced its plans to circulate a revised proposal that accounts for the feedback submitted by the public during its initial consultation period, the sustainability standards published by the Canadian Sustainability Standards Board (CSSB) (see Section IV.D of this Guide) and the developments in the United States.[161] The CSA intends to circulate the revised proposal for further public comment prior to enactment.

D. Sustainability accounting standards

Standards for climate-related reporting are also emerging. The Canadian Accounting Standard Board (AcSB) requires companies that are defined as "publicly accountable enterprises" to use the International Financial Reporting Standards (IFRS) in the preparation of their interim and annual financial statements.[162] National Instrument 52-107 Acceptable Accounting Principles and Auditing Statements (NI 52-107) also reflects the IFRS as the Canadian generally acceptable accounting principles (Canadian GAAP).[163] The IFRS includes two sustainability disclosure standards:

1. IFRS S1, General requirements for Disclosure of Sustainability-related Financial Information; and
2. IFRS S2, Climate-related Disclosures.[164]

However, disclosure in compliance with these two sustainability standards are not mandatory for Canadian companies.[165]

In December 2024, the CSSB published the Canadian Sustainability Disclosure Standard 1, General Requirements for Disclosure of Sustainability-related Financial Information (CSDS 1), and Canadian Sustainability Disclosure Standard 2, Climate-related Disclosures (CSDS 2).[166] CSDS 1 and 2 are based on IFRS S1 and S2 but modified for the Canadian economy[167] and are effective as of the January 1, 2025 financial reporting year.[168] Companies reporting under these standards are afforded transition relief whereby (i) companies are not required to report on non-climate-related matters for the first two years (i.e. required as of financial reporting year January 1, 2027); and (ii) companies are not required to report its quantitative scenario analysis and Scope 3 GHG emissions for the first three years (i.e. required as of financial reporting year January 1, 2028).[169]

While reporting under CSDS 1 and 2 is not currently mandatory for Canadian companies, Canada's regulators and legislators are reviewing the standards to determine which companies may be required to report in accordance with these two standards.[170] This requirement to report under CSDS 1 and 2 could come in the form of securities regulations, an amendment to the *Canadian Business Corporations Act* or its provincial equivalents, or through other regulations.

Companies may, however, choose to voluntarily report under CSDS 1 and 2.[171] Companies choosing to make voluntary disclosures under CSDS 1 and 2 will be proactive, having the time to develop the knowledge and capacities to be able to make the required disclosures if and when disclosures under CSDS 1 and 2 become mandatory, while also being in a position to better understand and monitor their climate-related risks and opportunities, and to improve their reputation and competitiveness in the market by becoming more transparent.

Under CSDS 1 and 2, companies are to report across governance, strategy, risk management, and metrics and targets on sustainability-related risks and opportunities that are material.[172] These standards take a similar approach to Canadian securities regulators, defining material information as information that, if omitted, misstated, or obscured, could reasonably be expected to influence the decisions that primary users of general-purpose financial reports make relying on those reports.[173] The climate-related disclosures under these standards include the following:

i. Governance

For governance, companies are to report: (i) the governance bodies or individuals responsible for oversight; and (ii) management's role in the governance processes, controls, and procedures used to monitor, manage, and oversee climate-related risks and opportunities.[174] This includes information regarding how these bodies or individuals have climate-related risks and opportunities reflected in their mandates and policies, and determine the appropriate oversight skills and competencies, when and how they are informed, how they account for climate-related risks and opportunities in their decision-making, how they oversee the setting and tracking of targets, and how are controls and procedures integrated support the oversight of climate-related risks and opportunities.[175]

ii. Strategy

For strategy, companies are to report on their:

- climate-related risks and opportunities;
- the current and anticipated effects of climate-related risks and opportunities;

- effects climate-related risks and opportunities have on the company's strategy and decision-making, including details on its climate-related transition plan;
- effects climate-related risks and opportunities have on the company's financial position, financial performance, and cash flow, and their anticipated effects over the short-, medium-, and long-term; and
- climate resilience of the company's strategy and business model.[176]

This includes undertaking climate-related scenario analyses and reporting on its assessment of climate resilience, when it was conducted, the information and assumptions used.[177]

iii. Risk management

For risk management, companies are to report on their:

- processes and policies used to identify, assess, prioritize, and monitor climate-related risks and opportunities; and
- how and to what extent, these processes are integrated into and inform the company's overall risk management process.[178]

This includes information regarding the inputs and parameters the company uses, the use of scenario analysis, how the company assesses the nature, likelihood and magnitude of the effects of climate-related risks, when and how it prioritizes climate-related risks over other risk types, and how the company monitors climate-related risks and opportunities.[179]

iv. Metrics and targets

For metrics, companies are to report on their:

- Scope 1, 2, and 3 GHG emissions in accordance with the GHG Protocol;
- the amount and percentage of the company's assets of business activities vulnerable to climate-related transition risks or physical risks;
- the amount and percentage of the company's assets or business activities aligned with climate related-opportunities;
- the amount of capital expenditure, financing, or investment deployed towards climate-related risks and opportunities;
- whether and how the company is applying a carbon price in its decision-making including the price used; and
- whether and how climate-related matters are factored into executive remuneration.[180]

For targets, companies are required to report on their quantitative and qualitative climate-related targets they have set, including GHG emission reduction targets.[181] This includes information about the specific targets set by the company, the company's approach to setting and reviewing each target and its progress monitoring, and the company's performance towards its targets.[182]

E. Impact of international disclosure requirements on the Canadian construction industry

Companies within the Canadian construction industry may also be impacted by climate-related disclosure requirements abroad. Clients of Canadian construction companies with offices or operations abroad may be subject to additional climate-related disclosure obligations and therefore require additional climate-related information to be disclosed by construction companies regarding their construction projects located in Canada.

The *Corporate Sustainability Reporting Directive* (CSRD)[183] requires companies with listed securities or significant operations within the European Union (EU) to report on climate-related matters, set sustainability targets, and track the company's progress towards its sustainability targets.[184] Disclosure under CSRD is based on a double materiality standard, unlike the single financial materiality standard found in Canada securities regulations.[185] Under a double materiality standard, companies are required to disclose climate-related information that is material to a company's financial performance, but also information regarding a company's climate-related impacts that are material to society and the environment.[186]

The scope of the CSRD applies to both EU and non-EU-listed companies.[187] The transition period for reporting under the CSRD is slated to begin with a company's 2024 financial reporting year, with additional companies falling into the scope of the CSRD in the years that follow.[188] The CSRD is the subject of a proposed EU Omnibus Bill, which proposes changes to the transition period and reduce the reporting requirements for small- and medium-sized companies.[189]

In the United States, the Securities and Exchange Commission (SEC) has adopted climate-related disclosure requirements for publicly-listed companies.[190] It requires companies to disclose climate-related risks that are financially material to the company, including oversight of the directors, the role of management in assessing and managing material climate-related risks, mitigation or adaptation efforts, and the financial impacts of severe weather events, carbon offsets, or renewable energy credits that constitute a material component of the company's plans to achieve its disclosed emission targets.[191] Select larger companies, designated as "accelerated filers" are also required to disclose material Scope 1 and 2 GHG emissions.[192] The SEC has "paused" enforcement of these disclosure requirements pending the decision from the Eighth Circuit Court.[193]

As climate-related reporting obligations like the CSRD and the SEC's climate-related disclosure rules come into effect, and as further reporting obligations develop abroad, to remain competitive Canadian construction companies will need to develop the competency and capacity regarding climate-related matters at the project and company level. Construction companies may be asked to provide specific climate-related disclosures to their clients, such as embodied emissions calculations for a project, operational emissions estimates for a building, climate resiliency planning considerations in the design and construction of a building, or information regarding the material climate-related impacts a project may have on a community or the environment. Construction clients may need this additional climate-related information in order to satisfy their own legal or regulatory requirements, which may arise based on where their head office location or where they have signification operations. If Canadian construction companies are unable to provide the requested climate-related information for construction projects located in Canada, they may lose their competitive advantage when bidding on construction projects for clients subject to these additional reporting obligations abroad. While these climate-related reporting obligations may not directly apply to Canadian construction companies, their operations may be indirectly affected through additional disclosure requirements imposed by their clients.

F. Global trends in climate-related regulation of the construction industry

Across the globe, there is an ongoing shift towards tracking, disclosing, and reducing embodied emissions in construction projects and zero emission buildings.

a. Embodied emissions

A focus on embodied emissions is occurring across the global construction industry.[194] The Netherlands, for example, has been regulating embodied emissions since 2013.[195] The national Building Code Decree introduced LCAs for new office buildings, and in applications for building permits, the global warming potential of a project must be reported.[196] The Netherlands has also established an assessment methodology for LCAs and a database providing product information to prepare EPDs and locate alternative construction materials.[197]

In Norway, the Oslo City Council has introduced new procurement criteria aimed at fostering more sustainable and transparent building practices. One of the city's criteria encourages municipal construction projects to use emission-free construction equipment and transportation for construction materials.[198] Another criterion limits subcontracting chains to a single vertical level with the goal of improving oversight.[199]

In the United Kingdom, the British Standards Institute has published several standards targeting embodied emissions, including a methodology for assessing a building's performance, specification of the assessment of life cycle GHG emissions, and carbon management in buildings and infrastructure.[200] A database has also been established focusing on carbon estimating and benchmarking for buildings and infrastructure.[201]

As part of New Zealand's Building for Climate Programme, a Whole-of-Life Embodied Carbon Emissions Framework has been established to mitigate emissions from the production of building materials to the end-of-life phases of a building, including a Whole-of-Life Embodied Carbon Assessment methodology.[202] The framework works to maximize efficiencies in new construction and retrofits and includes voluntary emission reporting and the introduction of whole-life carbon caps for construction projects.[203]

Canadian embodied emission regulations have started to emerge[204] and are expected to be included in the 2030 national model code.[205] The Canadian construction industry should anticipate embodied emission regulations to continue to evolve in line with global trends.

b. Zero emissions buildings

Zero emission buildings are also becoming mandatory. Since 2020, all new buildings in the EU have been required to be nearly-zero emission buildings.[206] Nearly-zero emission buildings mean that all new buildings are required to have high energy performance and nearly zero or low energy needs covered significantly by onsite or nearby renewable energy sources.[207] As of January 1, 2028 for all publicly-owned buildings and January 1, 2030 for all other buildings, new buildings in the EU will be required to be zero emission, a higher standard than nearly-zero emission.[208] Zero emission buildings have:

- very high energy performance;
- zero or very low energy needs;
- produce zero onsite carbon emissions from fossil fuels; and
- zero or very low amount of operational GHG emissions.[209]

While Canada is currently working towards net-zero energy ready standards by 2030 in the development of its national model energy code,[210] following global trends, the Canadian construction industry should anticipate building requirements to move towards addressing emissions in a more comprehensive and stringent manner.

As additional regulations and policies aimed at making the construction and buildings sectors more sustainable continue to develop in other countries, companies within Canada's construction industry should plan for similar shifts to arise. The trend across the globe is for more sustainable and resilient construction and buildings sectors.

V. Steps for effective climate governance

As a result of their management and oversight responsibilities, directors have a critical role in ensuring their company is equipped with effective governance practices to be able to identify, assess, manage, and communicate its climate-related risks and opportunities, and create a more sustainable and resilient company for the long term.

Effective climate governance requires directors to ask themselves the right questions and carefully consider how climate-related risks and opportunities should be integrated throughout their company. It involves undertaking scenario analyses to assess their business strategies considering the potential climate situations they may face. Effective climate governance also involves setting science-based targets and being able to adequately track and communicate a company's climate-related information and its progress towards net-zero and climate resilience.

A. Guiding questions to help directors understand their current position and future directions

This section of the Guide presents key questions for directors to consider in order to help their company meet market expectations and regulatory requirements and to support directors in fulfilling their responsibilities around managing climate change impacts and the transition to net-zero emissions.

These questions have been adapted for the Canadian construction industry from existing frameworks, including CSDS 1 and 2,[211] the guiding principles published by the World Economic Forum,[212] the TCFD Implementation Guide,[213] and other CCLI publications.[214] However, these questions are broad by design. Directors should consider these questions in light of their company's governance structure, operations, position within the construction value chain, and current level of integration of climate-related governance, strategies, risk management, targets, metrics, and disclosures. Directors should utilize these questions to move their company towards more effective climate governance.

a. Governance

- How should we integrate climate-related risks and opportunities into our board governance structure?
- Do we have the appropriate knowledge, skills, and expertise needed to be able to oversee a comprehensive identification, assessment, management, and communication of the climate-related risks and opportunities affecting our company? How do we upskill and maintain an appropriate level of knowledge, skills, and expertise about climate-related risks and opportunities affecting

companies operating in our industry, market, sector, or region? How do we pass down the required knowledge, skills, and expertise about climate-related risks and opportunities throughout our company?

- While management and oversight of climate-related risks and opportunities are the responsibilities of all directors, do we need to allocate responsibility for its oversight and management across our existing board committees or establish a dedicated climate-related committee?
- Do we have a climate management plan? Are we able to communicate our climate management plan to our company's managers, employees, investors, and clients?
- Who is responsible for the day-to-day management of climate-related risks and opportunities and the execution of our climate management plan within the company (e.g. legal, procurement, design, finance)? What does this allocation of responsibility say about how we, as a company, approach our climate-related risks and opportunities? Do the individuals or departments responsible for the day-to-day management of climate-related risks and opportunities and execution of our climate management plan have the necessary resources (e.g. authority, funding) to carry out their responsibilities effectively?
- Which individuals or departments need to come together to identify, assess, manage, and communicate climate-related risks and opportunities effectively?
- How are our climate-related policies and management plans operationalized within our company? Do our policies and management plans reach every manager or employee within our company?
- Is executive remuneration connected to our company's performance towards climate-related risks and emission reduction targets? If yes, how? If no, why not?

b. Strategy

- How are climate-related risks and opportunities considered and integrated into our company's strategic planning processes? How do our company's strategic planning processes account for and leverage the construction value chain?
- How are our company's clients and competitors, and other actors within the construction value chain factoring climate-related risks and opportunities into their own decision-making processes?
- How does our strategic plan align with the federal government's target to reduce emissions by 40 per cent by 2030 and have a net-zero emissions and climate resilient buildings sector by 2050?[215]
- How do we, as a company, ensure that management is considering all available, new, and emerging technologies, products, services, and incentives to reduce emissions, enhance climate resiliency, upskill our workforce, and deliver the products and services our clients want and need to address climate change, and the net-zero transition?
- How does our company view its role in the overall construction value chain regarding climate change and the net-zero transition? How can the company engage and communicate with other actors throughout the construction value chain to advance our climate management plan, emission reduction targets, net-zero transition, and climate resiliency strategies?
- Are we satisfied that our company has the correct leadership in place to lead our company in the strategic direction that we want to take in terms of climate change and the net-zero transition?

c. Risk management

- How does our company assess whether climate-related risks or opportunities have a material impact on our financial position, performance, and prospects? How do we, as a company, determine our risk appetite regarding climate-related risks and opportunities? What factors are considered to determine how short-, medium-, or long-term climate-related risks and opportunities are to be prioritized against our companies' other priorities? How do our company's existing risk assessment and management frameworks need to be adapted to better account for climate-related risks?
- What processes does our company have in place to ensure foreseeable and emerging climate-related risks are identified, assessed, confirmed, and communicated to directors in an accurate and timely manner?
- Does our climate-related risk assessment and management framework encompass the full scope of the potential impacts that climate-related risks and opportunities have on our company, communities, employees, investors, clients, and other actors along the construction value chain?
- Are our internal knowledge, skills, and capabilities sufficient to adequately identify, assess, and manage climate-related risks and opportunities? When and how do we retain and apply external expertise in our assessment and management of climate-related risks and opportunities?
- How have we assessed our risk exposure from our standard form contract clauses (i.e. force majeure, relief events, supervening events clauses) that may no longer offer protection regarding climate-related risks? How are we approaching contract negotiations with our clients and other actors across the construction value chain to address climate-related risks previously encompassed in our standard form contract clauses?
- What is our company's management plan for mitigating disruptions to worksites from acute or chronic climate-related events?

d. Metrics and targets

- Have we set science-based emission reduction targets for our company?
- What resources have we directed to collect complete and accurate data required for setting science-based reduction targets for our company?
- How have we integrated our climate management plan and science-based emission reduction targets throughout our company and our construction projects? How does our company set appropriate metrics to assess its progress towards its emission reduction targets? What resources has our company allocated to accurately measure and report its progress towards its emission reduction targets?
- Should our company's emission reduction targets, or ongoing measurement and reporting of progress towards our emission reduction targets, be subject to third party assurance?
- How is our company negotiating project requirements with other actors across the construction value chain to ensure terms of our supply and service agreements are aligned with our company's emission reduction targets and climate management plan?

Science-based emission reduction targets provide personalized and defined path for companies to reduce their GHG emissions. A strong emissions reduction target is one that is:

(i) **comprehensive** – focuses on all, or a majority, of the company's emissions. Directors should consider what scopes of emissions and company activities the target encompasses.

(ii) **ambitious** – science-based and aligns with net-zero emissions by 2050 target. Directors should consider the scale of the reduction in remissions that it envisions, the timeline for the end target and any interim targets, and the reference year it chooses as its baseline to measure the company's progress against.

(iii) **feasible** – the company and its stakeholders have confidence that the targets can be achieved. Directors should carefully consider and develop a strategy to achieve its target. Directors should also consider the company's track record in achieving any interim targets and re-assess its strategy for achieving its overall target if the company starts missing its interim targets.

B. Scenario analysis

Climate scenarios provide an important analytical tool for companies to develop their climate management strategies and are a core component of CSDS 2 and recommendation of the TCFD framework.[216] A "scenario analysis is a process for identifying and assessing the potential implications of a range of plausible future climate states under conditions of uncertainty."[217] While not currently mandatory for most companies, climate scenario analyses provide companies with the opportunity to run their organization through a range of potential future climate states to evaluate the resiliency of their company and its strategic plans.[218]

The TCFD recommends that companies analyze at least three climate scenarios that are plausible and have distinct time horizons and impacts.[219] It recommends that one of these scenarios is for 2°C above pre-industrial levels.[220]

The scenario analysis provides a structure for directors to widen their perspectives regarding the potential climate-related risks and opportunities their company may face and the sufficiency of their company's strategic approach to these matters.[221] It can help challenge the company's "business-as-usual" model and the foundational assumptions its business operates on.[222] Construction companies can

utilize climate scenarios to assess the sufficiency of their climate adaptation strategies implemented for their own operations. They can also be used to help construction companies evaluate the potential products and services aimed at climate resiliency that they should put on offer to their clients.

By running climate scenarios, directors of construction companies are able to undertake a comprehensive evaluation of their company's business, strategies, management plans, and financial performance under multiple climate states that may arise and affect the company in the future.

C. Disclosure and communication of climate-related information

Directors of Canadian construction companies are responsible for ensuring their company complies with reporting obligations, including reporting on climate-related information. Directors need to stay up-to-date and monitor the developments in climate-related reporting requirements as they continue to develop, as outlined in Sections IV.B, C, and D of this Guide.

While Canadian construction companies may not yet be subject to specific climate-related reporting obligations, directors may decide to voluntarily begin reporting on their climate-related information and targets. Companies voluntarily reporting in line with CSDS 1 and 2 can be ahead of the curve, establishing reporting measures and practices before they become mandatory. Voluntary reporting can also help to enhance trust and transparency throughout the construction value chain, and between construction companies, their clients, and their stakeholders.

Notwithstanding a company's regulatory reporting requirements, directors also need to consider how and when they choose to report climate-related information to their clients and other actors across the construction value chain whether on a company-wide or project-specific basis. Some reporting requirements may be specified in a client's RFP or construction contracts; however, directors will need to confirm they have allocated adequate resources to measure, verify, and report on the required climate-related information to clients. Directors also need to consider how they will work together with other actors across the construction value chain to ensure they obtain the relevant climate-related information the company needs to be able to make accurate and timely disclosures on a construction project. Directors should also consider how client-specific disclosures complement and are consistent with any wider climate-related reporting made by the company.

Recommendations of the TCFD outline seven principles to help guide companies towards making effective climate-related disclosures.[223] The principles include that the information presented should be: (1) relevant; (2) specific and complete; (3) clear, balanced, and understandable; (4) consistent over time; (5) comparable among organizations across a sector, industry, or portfolio; (6) reliable, verifiable, and objective; and (7) timely.[224]

Questions for directors to consider when deciding whether to report on climate-related matters:

- What assessments has our company undertaken to ensure material climate-related information is disclosed in our company's MD&A or AIF, as required?
- How confident is the board, on the advice of the audit committee, that the financial statements and other continuous disclosure forms integrate climate-related assumptions and disclose management's assessment of material climate-related risks and opportunities for our company as currently required under Canadian securities law, corporate law, accounting standards, and stock exchange listing requirements, as applicable?

- How does the board hold management accountable for executing accurate, comprehensive, and timely climate-related disclosures and for maintaining adequate supervision of regulatory developments?
- How has our company ensured adequate resources and systems are in place throughout our company to make sure climate-related information reported is comprehensive, accurate, and verified?
- If climate-related disclosures are not mandatory for our company, how could our company benefit from voluntarily reporting climate-related information in accordance with CSDS 1 and 2, or other relevant reporting standards?
- How does the board develop and encourage a collective dialogue, methodology, and information sharing across the construction value chain? How is our company negotiating climate-related reporting requirements with other actors across the construction value chain to ensure that we will receive the climate-related information we require about a project? How does our company ensure that the disclosures received from other actors across the construction value chain meet the TCFD's principles for effective disclosure?

VI. Conclusion

The Canadian construction industry is in a critical position to have a long-lasting impact, helping to build sustainable businesses and communities. By prioritizing and strengthening their own climate governance and collaborating with companies throughout the construction value chain, construction companies have the ability to work to mitigate the negative impacts of climate change and adapt our physical communities to be more resilient. With every step towards building greener and more effective climate governance, the Canadian construction sector can have a tangible impact on creating a more sustainable and resilient future.

Canadian construction companies face substantial physical and transition risks arising from climate change that require careful consideration. While this Guide has highlighted a number of these, it also outlined some of the significant climate-related opportunities available for companies in Canada's construction industry to leverage.

By clarifying the legal landscape of climate change and the net-zero transition for companies in Canada's construction industry, this Guide equipped readers with a practical framework for implementing effective climate governance across companies of all types and sizes. It provided recommendations and practical tools for directors, management, and other professionals in the industry to employ within their companies to ensure they continue to meet market expectations, regulatory requirements, remain competitive, and fulfill their duties in managing and overseeing the impacts of climate change and the transition to a net-zero economy.

Appendix I – Climate-related risks for the Canadian construction industry

A. Physical risks

Climate change creates risks to the worksite, construction timeline, construction practices, supply chains, project feasibility, and building longevity. With climate change's extreme heat, frequency and intensity of precipitation, and wind events, the impacts to worksites will worsen.[225] During precipitation events, workers divert time and attention away from construction and onto the protection of materials and work areas, and subsequently clearing the aftermath.[226]

Light rain has been found to decrease worker productivity by 40 per cent.[227] Productivity on the worksite also slows as temperatures rise. Every one degree the temperature rises above 28°C has been found to decrease worker productivity by 57 per cent, while also increasing the risk of heat-related injuries for workers.[228]

Construction materials can also be affected by temperatures, precipitation, and wind speeds.[229] For example, precipitation and temperatures can affect setting times for concrete and masonry works. Windspeeds can prevent steel from being lifted and placed. Precipitation can affect methods for joining steel, and extreme cold can make steel brittle. The use of construction equipment may also be impacted by getting stuck in mud as a result of heavy precipitation, unable to start because of the temperature, or unable to be safely operated because of high winds.[230] Weather alone has been found to cause an increase in construction project timelines by 10 per cent.[231] As delays arise and compound, projects may extend beyond the construction season bringing additional weather challenges and costs with it.[232]

An increase in severe weather events will also likely disrupt supply chains for construction projects.[233] Severe weather events can impact the transportation of goods to a worksite and the availability of certain construction materials.[234] For example, wildfires in Western Canada have the potential to impact forestry productivity, and therefore, the availability of wood products for construction projects.[235]

Climate change may also impact the feasibility of certain construction projects. Wildfires, flood-plains inundation, coastal flooding and erosion, and thawing permafrost may displace communities.[236] As at-risk communities begin to move away from areas facing severe physical risks or additional building restrictions because of climate change, the demand for or financial viability of certain construction projects may be impacted. Construction companies may be left with holes in their construction calendar as construction projects are cancelled and it may leave others with stranded investments in partially completed projects.[237]

Even after construction is completed, climate change poses physical risks to a building giving rise to indirect risks for the companies involved in their construction. A building's survival may be at risk depending on its ability to withstand an extreme weather event or natural disaster, like a tornado or hurricane.[238] The increase in the frequency and duration of precipitation events, peak wind loads, extreme wind events, and temperature fluctuations are expected to impact the exteriors of buildings, and result in premature degradation of building elements like roofs, walls, and fenestration systems.[239] Construction companies may experience repercussions of this premature degradation through claims under warranties or negative impacts to their reputations from clients perceiving the same as insufficient climate resilience planning for a project.

B. Transition risks

Policies and regulation changes may be aimed at climate change mitigation, attempting to curb or constrain actions that contribute to the adverse effects of climate change, or at climate change adaptation efforts.[240] The buildings and construction sectors are not currently on track to meet Canada's 2030 or 2050 emission reduction targets within the current policy framework.[241] Physical infrastructure sits in the top six major climate-related risks facing Canada between now and 2040.[242] Therefore, further policies and regulations encompassing the Canadian construction industry and aimed at deepening emission reductions, accelerating the net-zero transition, and building climate resiliency are likely on the horizon, and companies will be expected to adapt.

Construction companies will need to be able to operate within the regional legal and regulatory frameworks where their offices are based or where a project is located. Despite regional differentiation, there has been an overall shift towards building greater climate resiliency, reducing emissions, and increasing climate-related disclosures through regulations at the provincial and municipal levels.[243] These shifts impact how companies approach the design, planning, and execution of construction projects.

Updates to the **national model energy code** are expected to create a net-zero energy ready code, require the measurement and reporting of operational and embodied emissions from a building's design and construction, and add considerations regarding climate resiliency.[244] Requirements to measure, reduce, and report emissions are being added to **municipal building permit applications**[245] and **bylaws surrounding building operations**.[246]

Carbon pricing policies, both in Canada and globally, are also impacting the Canadian construction industry. Carbon pricing recognizes the cost of pollution and adds a charge to fuel distributors and other registered persons.[247] With building materials, such as steel, that use a significant amount of fossil fuels in their manufacturing process, construction companies may see these costs passed along the value chain, impacting the cost and profitability of a construction project.[248]

Legal risks are another category of risks companies may be facing because of climate change.[249] Although climate change litigation in Canada is still in its infancy, there has been an increase in climate-related litigation claims, here and abroad, for issues such as the failure to mitigate the impacts of climate change, failure to adapt to climate change, and the insufficiency of climate-related risk disclosures.[250] In Switzerland, for example, climate litigation has been commenced against a Swiss-based building materials company for its contribution to climate-related damages experienced by Pari Island, Indonesia.[251] As climate change damages and losses continue to grow, the legal risk to companies is also likely to increase.

There is also an increased focus on false or misleading statements regarding a company's climate-related information. Bill C-59[252] amended section 74.01 the *Competition Act*[253] opening the door to companies facing potential sanctions and litigation for greenwashing. Canadian construction companies need to exercise care when making climate-related claims to reduce their legal risk around greenwashing, but the risk should not prevent construction companies from making fair and accurate climate-related disclosures.[254]

Boilerplate construction contract clauses, such as a force majeure, relief events, or supervening events clause, may also expose construction companies to additional legal liabilities in the face of climate change. An unforeseeable and unpreventable event is often required to trigger the protection of these types of clauses.[255] However, climate change means that many chronic or acute climate-related events may no longer be considered unforeseeable or unpreventable for delays to be protected under these boilerplate clauses.[256] Construction companies will need to consider how they mitigate and proactively adapt to climate-related risks to protect the enforceability of these clauses for truly unprecedented and unforeseeable climate-related events,[257] and negotiate climate-specific contract clauses to account for climate-related construction delays.[258]

Technology risks are risks associated with new and emerging technologies aimed at mitigating emissions or adapting to the effects of climate change.[259] Lower emission building materials, such as lower embodied carbon concrete, steel, and insulation,[260] and construction methods to reduce emissions and adapt to the worsening weather events on worksites, such as offsite and modular construction, and an expanded use of mass timber, are emerging onto the market.[261] Construction companies will need to learn about, upskill, and adapt to working with these new lower emissions materials and methods as they emerge into the market and the demand for buildings with lower embodied carbon emissions grow.

Companies in the construction industry may also face **reputational risks** as a result of climate change and the net-zero transition. Reputational risks arise from changing customer or community perceptions about a company's contribution to climate change or derogation of the net-zero transition.[262] Depending on a company's environmental credentials, sustainability disclosures, and efforts towards climate change mitigation and adaption and the net-zero transition, a company that is unable to keep up with the times and changing perceptions may end up with a negative public image impacting its bottom line.[263]

Market risks pose some of the greatest risks for companies within the Canadian construction industry. Market risks are the ways in which a market may shift as a result of climate change.[264] Demand for certain building materials, products, and services will shift as clients and actors across the construction value chain consider their climate-related risks and opportunities further.[265] Traditional building materials and construction methods may no longer be the norm as the market moves towards more green certified buildings and standards, such as the Leadership in Energy and Environmental Design (LEED®),[266] and the Canada Green Building Council's (CAGBC) Zero Cabon BuildingTM (ZCB) design and performance standards.[267]

The market is increasingly requiring construction companies to share greater climate-related information. Clients and other companies involved in a construction project need climate-related information from across the construction value chain to satisfy their own climate-related obligations. More boards of directors, executives, investors, and financiers require climate-related disclosures regarding a company's emissions and climate-related risks. Regulations domestically and globally are beginning to require companies to make climate-related disclosures. While not all climate-related reporting regulations will be directed at everyone across the construction value chain, many will be indirectly affected. Therefore, to remain competitive in the Canadian market, companies will need to have the knowledge, skills, and capacity to track and disclose climate-related information. Disclosure obligations and their impacts on Canadian construction companies are discussed in Section IV of this Guide.

Even to get a foot in the door to bid on construction projects, the market is moving to require construction companies to address their climate impacts and actively engage in the net-zero transition. Request for Proposals (RFPs) and prequalification processes for construction projects are starting to require climate-related information and ask companies to demonstrate their competitiveness from a climate perspective. These requirements are emerging within both the public and private sectors,[268] and by 2030, 80 per cent of public and municipal organizations are expected to have climate change adaptation considerations incorporated into their decision-making processes.[269] Terms and conditions may range from requesting specific climate-related disclosures regarding a project, setting green building materials and recycling and landfill diversion requirements, setting embodied carbon standards, or for a company to have and disclose their sustainability management plan. Details of the federal procurement requirements are discussed in Section IV.B of this Guide.

Appendix II – Climate-related opportunities for the Canadian construction industry

A. Competitive in the local and global market

By building a better understanding of climate change in the context of the Canadian construction industry, companies can strategically position themselves in the changing market. Construction companies will place themselves in a competitive position to win bids, if, for example, they understand the physical effects of climate change on a project or the steps to make a project more climate resilient or they have the capabilities to track and disclose a project's embodied and operational emissions.

Federal, provincial, and municipal governments, and an increasing number of building owners are being asked to be more transparent and disclose material information regarding their environmental impacts and ability to withstand the impacts of climate change.[270] Companies will need to be able to detail climate-related information about their construction projects as a result of emerging reporting obligations, both domestically and globally, and through voluntary reporting efforts of companies. Companies who can reach across and engage with actors from across the construction value chain to receive and provide accurate climate-related information about a project will help companies differentiate themselves within the competitive construction industry.

Construction companies that are strategically building their knowledge, skills, and capacities around climate change and the net-zero transition will give companies a key advantage in local and global markets.

B. New products and services

Companies within the Canadian construction industry have the opportunity to develop their knowledge and skills to introduce and deliver new products and services to their clients that can work to further climate mitigation and adaptation efforts. Building green from the start provides the best means for achieving net-zero emissions and developing the greatest climate resiliency.[271] Canada has billions of square feet of commercial, institutional, and industrial building space, and less than one percent is considered to be net-zero energy ready.[272] This existing building stock will need to be retrofitted to reduce its operational emissions and strengthen its climate resiliency.[273] Construction companies are therefore poised to be able to leverage the shift to net-zero emissions by offering clients more sustainable building solutions.

a. Building green

Client preferences are continuing to shift, pressuring the construction industry to adopt greener and more sustainable processes, products, and services.[274] Between 60 and 77 per cent of Canadians support net-zero energy ready building codes.[275] The business case for building green from the start is clear for clients as it offers lower operating costs, higher returns, enhanced productivity, and saving the additional costs and disruptions of future retrofits to reduce operational emissions; retrofits that are likely required before the usual re-investment timeline for buildings.[276]

With the Government of Canada's goal of net-zero emissions by 2050 for the buildings sector, all new buildings in Canada need to be at least net-zero energy ready by no later than 2030.[277] Therefore, the green building sector is expected to continue to grow.

By working with actors across the construction value chain, companies have the opportunity to offer lower embodied carbon construction with Canadian-sourced materials. Low embodied carbon solutions can be achieved through different approaches. A whole-building design approach looks at the fundamental design of a building to meet the design and operational requirements of a project while reducing the embodied carbon required to complete the project.[278] This can include redevelopment of an existing building, opting for more efficient structural components, using alternative building techniques, using prefabricated systems or components, or designing the project to minimize material waste.[279] For example, mass timber has expanded as a sustainable building material for low-rise buildings, and five- to 12-storey commercial buildings.[280] The manufacturing process of mass timber is not as energy-intensive compared to cement or steel and, through sustainable forestry practices, it can also offer carbon-sequestering benefits.[281] Another approach to offering lower embodied carbon solutions is through one-for-one material substitution.[282] Reduced carbon concrete, such as concrete that utilizes Portland limestone cement (PLC), and reduced carbon steel, such as steel manufactured in an electric arc furnace or that has a higher recycled steel content, are just two of the potential material substitutes offering significant reductions in embodied carbon in key structural materials.[283] Many of these lower embodied carbon building materials can be sourced within Canada, which can also reduce embodied emissions in the transportation of these building materials.[284]

Canadian construction companies have the opportunity to obtain green building certifications and standards for their construction projects. The CAGBC's Zero Carbon BuildingTM (ZCB) standards is a "made-in-Canada" framework offering the world's first zero carbon building standards.[285] The ZCB standard focuses on a building demonstrating zero carbon balance over the course of one year, a design that prioritizes reducing energy demand and meeting energy needs efficiently, the use of onsite renewable energy, and an evaluation of embodied carbon in the structural and envelope materials.[286] There are also Leadership in Energy and Environmental Design (LEED®) certifications,[287] the Green Building Initiative's Green Globes® certification,[288] the Investor Ready Energy EfficiencyTM (IREE) certification,[289] the BOMA BEST Sustainable certification,[290] and the Natural Resource Canada's ENERGY STAR® certification.[291] Green building certification programs are continuing to evolve. They are becoming increasingly stringent and broadening their scope, addressing both operational and embodied emissions and other green building practices. They continue to shape the ways buildings are being designed, constructed, maintained, and operated in Canada.[292]

Notwithstanding the shifting preferences of clients, government targets, and the opportunities arising from building green, a large percentage of buildings are still being constructed without green practices or certifications.[293] Adopting greener practices and offering the knowledge and skills surrounding green building certifications and standards presents a prime opportunity for companies in the Canadian construction industry to leverage the transition to net-zero emissions.

b. Climate resilient buildings

Climate resilience and green buildings go hand-in-hand. With the intensifying effects of climate change, a climate resilient building is better at withstanding floods, wildfires, hurricanes, changing temperatures, and increased precipitation, which means building resiliency considerations are becoming a higher priority.[294] Climate resilient buildings are buildings designed and constructed to withstand and recover from disasters and disruptions caused by climate change such as extreme weather events.[295] Canadian construction companies have the opportunity to leverage emerging technologies and know-how to construct buildings that allow businesses and communities to "bounce back" more quickly following an extreme weather event.[296] An assessment undertaken by the Council for Canadian Academies found that adaptations targeted towards the physical risks of climate change to buildings and other infrastructure could result in costs savings of up to 75 per cent of the costs and disruptions caused by climate change weather events over a 20-year period.[297]

Building climate resilience requires location, planning, design, management, adaptation, operation, and maintenance decisions to account for current and projected impacts of climate change.[298] It may include upgraded ventilation systems, thermally reflective materials on roof and building facades, backwater valves, not building in high-risk flood zones, selecting concrete mixtures that are better at withstanding freeze-thaw cycles, installing protective structures, reinforced roofs, and impact-resistant glass.[299] The Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol provides models to help companies and communities understand the potential effects of climate change on commercial, institutional, and industrial buildings in Canada and identify potential adaptation measures that increase a building's climate resiliency.[300]

Climate resiliency for commercial, institutional, and industrial buildings in Canada, coupled with green building practices and certifications present a significant opportunity for companies within the Canadian construction industry to capitalize on.

c. Retrofits

While building green from the start presents an immense opportunity for companies in the Canadian construction industry, Canada's existing building stock consists of over 564,000 commercial and institutional buildings, and 34,000 buildings owned and managed by the federal government.[301] Transitioning the existing building stock into lower emission and climate resilient buildings presents another vast opportunity for construction companies to capitalize on. Existing buildings were designed on historical climate conditions.[302] The designers, architects, and engineers of these buildings did not anticipate or account for the current and future climate conditions facing Canadians because of climate change.[303] With net-zero emissions by 2050 fast approaching and the physical effects of climate change becoming more severe, buildings which are already built will require significant retrofits.

Deep carbon retrofits are the process of improving multiple systems and pieces of equipment in a building with the goal of reducing GHG emissions.[304] For example, deep carbon retrofits may include replacing roofs, adding, upgrading, or rearranging windows, increasing insulation, or replacing space and water heating systems that rely on fossil fuels with systems that rely on electricity. Typically, deep carbon retrofits result in 70 per cent energy savings and reduce GHG emissions between 80 to 1,000 per cent.[305] It is estimated that retrofitting large buildings alone could result in a reduction of the buildings sector's operational emissions by up to 51 per cent.[306] A study conducted by the CAGBC found that all types of buildings are able to achieve deep reductions in GHG emissions or be positioned for clean energy grids of the future, and most buildings could achieve net-zero today.[307]

Currently, there is approximately one per cent of Canada's building stock being retrofitted to address climate change per year.[308] At this rate, it would take 71 years to retrofit all of Canada's existing commercial and institutional buildings, long past Canada's 2050 net-zero target.[309] To meet Canada's climate goals, retrofitting of the existing building stock needs to accelerate to between three and five percent per year by 2025.[310] Thus, deep carbon retrofitting is poised to become an expanding sector within the Canadian construction industry.

In contrast to deep carbon retrofits, green retrofitting aims to improve a building's resilience towards the physical effects of climate change.[311] For example, waterproofing, improving drainage, upgrading a building's envelope, using appropriate materials in wildfire-prone communities, and installing impact-resistant windows and doors can increase a building's ability to withstand the physical effects of climate change.[312] Green retrofits can improve the comfort and safety of people utilizing a building, maintain business continuity, and also increasing the value of a building.[313]

Deep carbon and green retrofitting of Canada's existing commercial, institutional, and industrial building stock, therefore, presents an opportunity for companies in the construction industry to build out their knowledge, skills, and capacities, and join what is projected to become a growing segment of the industry.

d. Engineering, procurement, and construction contacts

Engineering, procurement, and construction (EPC) contracts for climate projects are also an opportunity for construction companies to build out their capabilities and leverage the net-zero transition. EPC contracts are contracts where all elements of a project, including its design, procurement, construction, project management, and commissioning, are the responsibility of a single contractor (either a single company or a consortium).[314] Many climate projects are seen as being too small for many established EPC companies, with about 60 per cent of demonstration and commercial climate projects having an estimated cost of less than $100 million.[315] Climate EPC contracts present an opportunity for new companies to enter the EPC market and build out their knowledge, skills, networks, and capabilities, as climate projects continue to proliferate the construction industry.

C. Green incentives

As of 2024, climate resiliency is factored into all new federal infrastructure funding programs.[316] The Government of Canada has created several programs targeted at commercial and institutional buildings to strengthen green building, retrofits, and the development of the skilled workforce needs for a green construction industry.[317] The Canada Infrastructure Bank has also introduced a Commercial Building Retrofits Initiative leveraging $2 billion in funding for deep carbon retrofits of privately-owned commercial and industrial buildings certified through the IREE.[318]

Green bonds and sustainability-linked loans are also available to finance the net-zero transition. Green bonds are a financial debt instrument designed to borrow or raise funds to invest in "green" projects, including green buildings.[319] Sustainability-linked loans are debt facilities that have their terms tied to a borrower's sustainability performance targets.[320]

Construction companies can help their clients and themselves take advantage of these sustainability-focused financing mechanisms, while enhancing their knowledge, skills, capabilities, and track record around deep carbon retrofits and green construction.

Construction companies can also obtain cost-savings by addressing their climate-related risks. Insurance companies have started providing financial benefits to policyholders who address climate-related matters affecting the policyholder's assets and operations.[321] By identifying and addressing a company's climate-related risks, construction companies may be eligible to receive a reduction in their insurance premiums.

About the Canadian Construction Association

The Canadian Construction Association (CCA) is a national, non-profit association that represents the interests of the institutional, commercial, industrial, civil and multi-residential construction industry in Canada. Backed by 18,000 member firms drawn from 57 local and provincial integrated partner associations, CCA plays a pivotal role in shaping policies and practices that impact the construction industry.

Canada's construction industry is an economic powerhouse, driving job creation, strengthening supply chains, supporting investment, and feeding the growth of other economic sectors. The sector employs over 1.6 million people in Canada and pumps more than $162 billion into the economy annually, accounting for 7.5 per cent of Canada's gross domestic product (GDP).

CCA's primary mission is to inspire a progressive, innovative, and sustainable construction industry that consistently acts with integrity. It works diligently to provide resources, education, and support to its members, enabling them to navigate the evolving landscape of the industry.

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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 towards a net-zero economy. Powered by the nation's top expertise, they engage with boards of directors and trustees to ensure businesses understand their legal duties with respect to climate change. CCLI's legal research allows them to stay one step ahead in a rapidly transforming policy landscape.

CCLI is supported financially by family foundations and is led by its Principal Co-Investigators who include professors at the University of British Columbia Peter A. Allard School of Law and Osgoode Hall Law School, York University.

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