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BANKING ON A NET-ZERO FUTURE: EFFECTIVE CLIMATE GOVERNANCE FOR CANADIAN BANKS

By **Dr Janis Sarra**
with contributions from **Norie Campbell**

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ABOUT THE AUTHORS:

Dr Janis Sarra is Professor of Law, University of British Columbia Peter A Allard School of Law, and Principal Co-Investigator of the Canada Climate Law Initiative. She held the position of Presidential Distinguished Professor of the University of British Columbia from 2014 to 2019. Dr Sarra was the founding Director of the National Centre for Business Law, Associate Dean of the Faculty of Law, is the Canadian Expert on UNIDROIT's Working Group on Bank Resolution, a Member of the Canadian Delegation to United Nations Commission on International Trade Law WG5, and a Director of Assuris and the Commonwealth Climate and Law Initiative, UK. She was previously a commercial arbitrator and is a member in good standing of the Law Society of Ontario/Barreau de l'Ontario.

Norie Campbell was a member of the senior executive team of TD Bank Group for more than a decade until 2022, and, during that time, led many global functions including the Legal Department and Sustainability and Corporate Citizenship. She was a member of the Government of Canada's Sustainable Finance Action Council and the Chair of TD Bank's Inclusion and Diversity Leadership Council and is currently a director at Toronto Metropolitan University and the Rideau Hall Foundation.

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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 that they can make informed decisions in the transition to a net-zero economy. Powered by the nation's top expertise, we engage with boards of directors and trustees to ensure businesses, pension funds, and asset managers understand their legal duties with respect to climate change. Our legal research offers important insights in a rapidly transforming policy landscape. CCLI acknowledges that it is situated on the traditional, ancestral, and unceded territory of the xwməθkʷəy̓əm (Musqueam) and is committed to working in partnership with Indigenous Peoples on effective climate governance.

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EXECUTIVE SUMMARY

Canadian banks have a unique and important role in Canadian society, they are the core of the financial sector and their capital allocation decisions deeply influence the economy. There are 81 federally-regulated banks in Canada, of which six hold 90% of all the financial assets. There has been a dramatic shift in expectations of Canadian banks – from managing climate risk as it pertains to their own operations – to managing their financed emissions. Investors are beginning to use a range of engagement tools to press for decarbonization; regulators have reported that climate change poses a prudential risk to the safety and soundness of the financial system; and civil society members are increasingly concerned about the pace and impacts of capital allocation. These changing expectations are creating potential reputational risks.

The physical and financial impacts of climate change are being experienced in every region of Canada, including increasing frequency and intensity of flooding, wildfires, atmospheric rivers, and heat domes. The Intergovernmental Panel on Climate Change (IPCC), representing 195 countries, reports that under all emissions scenarios, global surface temperature will continue to increase until at least 2050, and even adopting scenarios with very low emissions now, it will take 20 years to see discernible differences. The IPCC cautions that unless deep reductions in greenhouse gas emissions occur in the next decade, global warming will create irreversible consequences for the capacity of humans to thrive.

As financial intermediaries, through their lending portfolios, underwritings offerings, and holding investments on balance sheet, banks can accumulate climate-related risks. Banks are increasingly expected to play a proactive role in the transition to net-zero emissions, including scaling up green investments, restricting the financing of high-emitting activities, and actively supporting the transition of carbon-intensive industries to net-zero emissions. Making decisions regarding capital allocation is complex for Canadian banks that operate in a resource-rich economy, and a transforming economy creates risk and opportunities for banks that must be taken into account in establishing the strategy of the bank and managing the risk. This complex exercise requires effective board oversight.

This guide offers assistance to bank boards as they navigate the transition. It provides a comprehensive guide to the current state of the law, the physical and transition risks associated with climate change for the financial sector, best practice guidance developed in Canada and globally, and a snapshot of the kinds of decisions bank boards are making on their pathway to net-zero emissions. The guide offers suggestions for board oversight that will allow directors to keep pace with meeting the bank's commitments to decarbonize and to effectively oversee the activities of their senior executives in transitioning the bank.

Given Canada's commitment to net-zero emissions by 2050, banks need to make timely decisions to ensure that capital is directed appropriately towards ambitious targets for emissions reductions and new sustainable circular economic activity. As a cornerstone of the Canadian economy, banks need to adapt and adjust as governments act, which requires strong governance, risk management, and strategic planning. Canadian governments and banks should be aligned in the goal of making this transition as just and equitable as possible. Banks can provide leadership in facilitating the flow of finance to support businesses in reducing their emissions through the proactive design of products and services that facilitate a just transition for communities suffering the most serious impacts of acute physical events and facing the greatest transition risks.

The *Bank Act* requires directors and officers of a bank to act honestly and in good faith with a view to the best interests of the bank, and to exercise the care, diligence, and skill that a reasonably prudent person would exercise in comparable circumstances. The board's oversight must include being satisfied that senior management is developing and implementing an effective climate transition plan to manage the bank's short-, medium-, and long-term risks, opportunities, and strategies in the transition to a net-zero GHG economy.

Exercising their duties in respect of climate risks and opportunities will be aided by proposed new guidance issued by the Office of the Superintendent of Financial Institutions, securities regulators, and the International Financial Reporting Standards Foundation International Sustainability Standards Board. This guide examines the new regulatory requirements in detail, including questions that banks will need to answer as they comply with new guidance, regulation, and accounting standards. Banks can actively use their 'levers of influence' to move the real economy towards net zero in their lending and investment decisions, advisory services, capital markets activities, and stewardship. Banks have an opportunity to create and capture value by reorienting their strategies to support their clients' transitions toward net-zero emissions and actively supporting progress toward global climate goals in the real economy.

Who is this guide for? It will assist bank boards that are early on their pathway to transition to net zero. However, it also offers insights to banks that have already commenced their journey in that it offers suggestions for enhanced board oversight that will allow directors to keep pace with governance, strategy, risk management, setting targets, and meeting their commitments to decarbonize their financed emissions. The guide is also useful for the myriad stakeholders that have an interest in the role of banks in a just transition to a net-zero emissions economy in that it clarifies what they can expect of directors as fiduciaries of the bank.

GLOSSARY OF TERMS

AMF	l'Autorité des marchés financiers
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
BMO	Bank of Montreal
CAR	Capital Adequacy Requirements
CBA	Canadian Bankers' Association
CCI	Canadian Climate Institute
CDPQ	Caisse de Dépot et placement du Québec
CEO	chief executive officer
CIBC	Canadian Imperial Bank of Commerce
CO2	carbon dioxide
COP26	United Nations Conference of the Parties 26th meeting
CRR	composite risk rating
CSA	Canadian Securities Administrators
D-SIB	domestic systemically important bank
D&O	director and officer
EDC	Export Development Canada
ESG	environmental, social, and governance
EU	European Union
FRFI	federally-regulated financial institutions
FSB	Financial Stability Board
G-SIB	global systemically important bank
GDP	gross domestic product
GFANZ	Glasgow Financial Alliance for Net Zero
GHG	greenhouse gas
ICAAP	Internal Capital Adequacy Assessment Process
IFRS	International Financial Reporting Standards
IOSCO	International Organization of Securities Commissions
IPCC	Intergovernmental Panel on Climate Change
ISSB	International Sustainability Standards Board
LGD	loss given default

NBC	National Bank of Canada
NBFI	non-bank financial intermediation
NGFS	Central Banks and Supervisors' Network for Greening the Financial System
NZBA	Net Zero Banking Alliance
OSFI	Office of the Superintendent of Financial Institutions
PCAF	Partnership for Carbon Accounting Financials
R&D	research and development
RBC	Royal Bank of Canada
SASB	Sustainability Accounting Standards Board
SBTi	Science-based Targets Initiative
SCC	Supreme Court of Canada
SDA	sector decarbonization approach SBTi
SFAC	Sustainable Finance Action Council
SLB	sustainability-linked bonds
SLL	sustainability-linked loans
SMSB	small- and medium-sized deposit-taking institutions (OSFI)
TCFD	Taskforce on Climate-related Financial Disclosures
TD Bank	The Toronto Dominion Bank
TNFD	Taskforce on Nature-related Financial Disclosures
UK	United Kingdom
UNEP FI	United Nations Environment Programme Finance Initiative
US	United States
ZEV	zero-emissions vehicles

I.

INTRODUCTION

Banks have a unique and important role in Canadian society. Banks constitute the core of the financial sector, distinctive because they are permitted to take deposits, that is, to accept ownership of money provided by their customers, use that money to make loans, and leave the depositors with a contractual repayment right.[1] They safeguard savings deposits, offer financial products and services such as investment advice, and provide debt financing for significant events in the lives of customers, such as starting a business, buying a home, or bridge financing during times of economic uncertainty.[2] They contribute significantly to the economy in their management of substantial assets, and their decisions on financed transactions significantly influence the direction of travel for Canada's economy.

While Canadian banks weathered the 2008-2010 global financial crisis intact, there is a new global financial crisis potentially developing – climate change - which poses a significant threat to the global financial system and an existential threat to human civilization and eco-systems.[3] Banks face growing risks to their investment portfolios and are exposed to climate-related risks and opportunities through their lending activities. As financial intermediaries, banks may assume exposure to material climate-related risks through their borrowers, customers, or counterparties.[4] Banks that provide loans or trade the securities of companies with direct exposure to climate-related risks may accumulate climate-related risks via their provision of loans, underwritings offerings, and holdings investments on balance sheet.[5] Mining, transportation, industrial, and other high carbon-emitting sectors face different risks than fossil fuel producers, and banks must discern and manage these differences. Bank's own operations may also be affected where they are delivering in-person services in areas where buildings and infrastructure are affected by acute events.

This guide examines where climate-related risks attach to Canadian banks and the variables that could impact the time horizon. Traditionally, bank boards have had oversight of the management of risks such as credit, market, operational, and liquidity risks. While climate change is not currently a risk to the solvency of Canadian banks, failure to act could create future capital adequacy and liquidity issues. Effective climate governance can significantly mitigate both physical and transition risks.

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[1] R Davis *et al*, *Financial Institutions in Distress: Recovery, Resolution, Recognition* (OUP forthcoming 2023) (hereafter Davis *et al*).
[2] For example, Canadian banks assisted 800,00 Canadian households through bank COVID-19 mortgage relief programs; Canadian Bankers' Association, "Facts About the Canadian Banking System", (CBA, 2022), https://cba.ca/fast-facts-the-canadian-banking-system (hereafter CBA).
[3] *References re Greenhouse Gas Pollution Pricing Act*, 2021 SCC 11.
[4] TCFD, *Task Force on Climate-related Financial Disclosures Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures* (October 2021) at 25, 2021-TCFD-Implementing_Guidance.pdf (bbhub.io) (hereafter TCFD Implementing Guidance 2021).
[5] TCFD Implementing Guidance 2021, note 4 at 25.

This guide examines the relationship between banks' capital, financed transactions, and broader climate-related financial risk. Banks have a key role in an entire economy transition if the effects of global warming are to be mitigated. As risks associated with climate change are expected to increase in the future with some major variables such as physical risk predicted to magnify, they are an important area to monitor. There has been a dramatic shift in expectations of Canadian banks from managing climate risk as it pertains to their own operations to their role in financed emissions. Contemporaneously, global change has led to the expectation of a massive economic transition to a net-zero carbon economy. For banks, anticipating and understanding this impact on the total economy is strategically important, including risk and opportunity that requires board oversight and guidance. Regulatory change will impact businesses, which include the clients of Canadian banks. Banks, with their ability to reorient their business to provide the capital to new sustainable activities, can be instrumental in supporting a whole-economy transition. There are also significant social and economic risks for the Canadian workforce for which banks need to strategically plan. The board has an important role in engaging with different stakeholders, including shareholders, creditors, depositors, Indigenous Peoples, and civil society organizations to discuss their evolving expectations and in communicating the bank's actions transparently. A key constituency is both institutional and retail shareholders who are also working to understand the changing world and developing their expectations of the banks in which they have invested. These risks must be overseen by the board on a dynamic basis and taken into account in many aspects of its oversight and approval processes.

This guide provides a snapshot of efforts by Canadian banks to manage climate-related risks and opportunities, some innovative measures that have been adopted, and some challenges and gaps. Part I gives a brief overview of climate risks within the global financial system, then provides an introduction to the Canadian banking sector and the current state of its climate governance. It offers insights from the recent pilot by the Bank of Canada and the Office of the Superintendent of Financial Institutions (OSFI) using scenario analysis to assess climate transition. Part II examines the climate-related financial risks for banks. It also examines how the internationalization of Canadian banks and the rapidly increasing number of shareholder proposals are influencing governance choices of banks, including opportunities to finance the transition to a net-zero economy. It is important to note at the outset that this guidance focuses on the Canadian legal and regulatory context.

Part III discusses the statutory framework for the safety and soundness of the financial system, including the obligation of banks to report regularly on their capital and liquidity and their risk management strategies. Part IV summarizes the duties of bank directors in the oversight and management of climate-related financial risks, including under the *Bank Act*[6] and financial services and securities law. It explores recent developments

[6] *Bank Act*, SC 1991, c 46, as amended 2022 (hereafter *Bank Act*).

in accounting standards in respect of sustainability. Part V offers examples of effective climate governance in the banking sector, organized by the TCFD pillars of governance, strategy, risk management, and metrics and targets. Part VI offers best practice questions that directors should ask themselves and their senior management team in order to be confident that the board has effective oversight of the bank's climate governance and strategy.

The guide offers suggestions for board oversight that will allow directors to keep pace with meeting the bank's commitments to decarbonize and to effectively oversee the activities of their senior executives in transitioning the bank. The guide is also useful for the myriad stakeholders that have an interest in the soundness of banks and in a just transition to a net-zero emissions economy in that it clarifies what they can expect of directors as fiduciaries of the bank.

1. Climate Change, Green Swans, and the Global Financial System

The Financial Stability Board (FSB) reports that climate-related risks affect how the global financial system responds to shocks, which may give rise to abrupt increases in risk premia across a wide range of assets, altering asset prices; amplifying credit, liquidity, and counterparty risks; and weakening current risk management and financial system resilience.[7] Globally, financial assets tied to the fossil fuel sector are likely to lose significant value as economies decarbonize; and transition-related losses could threaten the safety and soundness of banks, especially when coupled with heavy investment in fossil fuel assets. Microprudential risks refers to varying degrees of credit, market, liquidity, reputational, and operational risks to financial institutions depending on the types of assets they hold and the geographic location of their assets and operations.[8] Macroprudential risks concern the stability of the financial system as a whole; and transition to a net-zero carbon economy could create shocks for carbon-intensive assets that create disruptions for the financial system, which may then be amplified and transmitted, such as leverage, interconnectedness, and short-term funding.[9]

'Green swans' is a term coined by the Bank for International Settlements (BIS).[10] Green swans represent the idea that climate-related risks typically fit fat-tailed distributions, and are characterized by deep uncertainty

[7] Financial Stability Board, *The implications of climate change for financial stability*, (November 2020), https://www.fsb.org/2020/11/the-implications-of-climate-change-for-financial-stability/ (hereafter FSB 2020).
[8] Gregg Gelzinis, "Addressing Climate-Related Financial Risk Through Bank Capital Requirements", *American Progress,* (11 May 2021), https://www.americanprogress.org/article/addressing-climate-related-financial-risk-bank-capital-requirements/ (hereafter Gelzinis).
[9] Gelzinis, note 8.
[10] Patrick Bolton et al, *"The green swan, Central banking and financial stability in the age of climate change"*, Bank for International Settlements, (January 2020), The green swan - Central banking and financial stability in the age of climate change (bis.org) (hereafter BIS, *The green swan*).

and nonlinearity; their chances of occurrence are not reflected in past data; and although the impacts of climate change are highly uncertain, there is a high degree of certainty that a combination of physical and transition risks will materialize in the future, and therefore ambitious action is needed despite prevailing uncertainty regarding the timing and nature of impacts.[11] The BIS reports that climate catastrophes are even more serious than most systemic financial crises as the complex cascade effects associated with both physical and transition risks could generate fundamentally unpredictable environmental, financial, and economic dynamics and lead to irreversible impacts.

The BIS observes that financial institutions can be impacted indirectly through complex cascades of stranded assets; for instance, in addition to the direct risk borne by investors exposed to stranded assets, financial assets can also suffer from negative economic impacts of the transition triggered by a fall in corporate profits in different sectors that rely on stranded assets. The BIS reports that traditional backward-looking risk assessment models that merely extrapolate historical trends prevent full appreciation of the future systemic risk posed by climate change, and cannot anticipate accurately the form that climate-related risks will take, including green swan risks that will be extremely financially disruptive events that could lead to the next systemic financial crisis.

In order to stabilize climate change and have any chance that the Earth will not heat up beyond the capacity of humans to thrive, Canada and the rest of the world need to move from current greenhouse gas (GHG) emissions to net-zero emissions. 'Net-zero emissions' means shifting to technologies and energy systems that do not produce carbon emissions, and balancing any remaining emissions by absorbing an equivalent amount from the atmosphere.[12] A recent scientific study reports that the net-zero emissions needed to stabilize the climate requires both acceleration in the use of non-carbon energy sources and a rapid decline in the global share of fossil fuels in the energy mix.[13] Given the broad scientific consensus that unabated climate change poses an existential threat to human existence, there is considerable urgency that directors and officers of banks act now to contribute to the mitigation and adaption needed, including propelling the capability to make investments in the new non-carbon economy and to aid clients in their transition to a net-zero world. The board of directors needs to ensure that the bank has the expertise and information to manage this transition. As this guide examines, banks need to anticipate the transition risks to the real economy, and understand and manage their role in the transition.

[11] BIS, *The green swan*, note 10.
[12] Janis Sarra, *From Ideas to Action, Governance Paths to Net Zero* (Oxford, 2020, Oxford University Press) at 16 (hereafter Sarra, *Governance Paths to Net Zero*).
[13] Science Advisory Group of the UN Climate Action Summit 2019, United in Science, World Meteorological Organization (22 September 2019), Landmark United in Science report informs Climate Action Summit — IPCC.

Climate change has thus become a prudential risk for Canadian banks and the financial system generally. These risks include credit risks, market risks, operational risks, legal and regulatory compliance risks, and reputational risks.[14] Climate change also creates risks in respect of financial product design and delivery, loan and investment portfolios, and management of assets. While the risks are certain, the complex interactions of risks to various aspects of the Canadian economy make some of the magnitude and timelines of the impacts uncertain. Climate risk is systemic, and the interplay between physical and transition risks can exacerbate risks to the financial system.[15]

Globally, prudential regulators have noted that different transition pathways could affect the macroeconomy, the stability of the wider financial system, and the safety and soundness of the banks they regulate.[16] After the 2008-2010 global financial crisis, prudential supervisors shifted their approach to systemic risk to a macroprudential approach, aimed at protecting the entire economy rather than a particular financial institution.[17] Essentially, an event ('shock') in either the financial or real economy sectors can cause adverse effects and stress across sectors, and systemic risk increases when new vulnerabilities or amplifiers, such as climate change risk, are exacerbated.[18] Mechanisms by which an initial shock translates into systemic harm include asset value contagion, ie, a bubble bursting causes balance sheet constraints on asset-holders to tighten, causing assets to be liquidated, lowering asset prices further, forced sales of assets because of pressures in relation to any or all of leverage, margin, collateral, or capital, or a need to raise additional equity capital.[19] However, since the system is stressed, other institutions are likely to be selling similar assets, creating a downward pressure on prices and making it correspondingly harder for each financial institution to regain capital adequacy.[20]

The Bank of England has observed that it is not sufficient that banks 'green' their own balance sheets, they must facilitate the flow of finance to support businesses and households in reducing their emissions and help smooth

[14] OSFI, "Introduction to the Supervisory Framework Ratings Assessment Criteria", (2022), Introduction to the Supervisory Framework Ratings Assessment Criteria (osfi-bsif.gc.ca).
[15] OSFI, *Navigating Uncertainty in Climate Change, Promoting Preparedness and Resilience to Climate-related Risks* (January 2021), at 10, Navigating Uncertainty in Climate Change - Promoting Preparedness and Resilience to Climate-Related Risks (osfi-bsif.gc.ca) (hereafter OSFI, Navigating).
[16] Sarah Breeden, "Balancing on the net-zero tightrope – speech by Sarah Breeden" (7 April 2022), Balancing on the net-zero tightrope – speech by Sarah Breeden | Bank of England (hereafter Breeden).
[17] Olivier de Bandt and Philipp Hartmann, "Systemic Risk in Banking After The Great Financial Crisis", in Allen N Berger, Philip Molyneux and John OS Wilson (eds), *The Oxford Handbook of Banking* (3rd ed, OUP 2019) at 848.
[18] Davis *et al*, note 1, Chapter 2. See also Stijn Claessens, Giovanni Dell'Ariccia, Deniz Igan and Luc Laeven, *Lessons and Policy Implications from the Global Financial Crisis* (IMF, Working Paper No WP/10/44, 2010) at 11-12; Group of Ten, *Effects of Consolidation on Financial Risk* (Report on Consolidation in the Financial Sector, (January 2001), at 126-27.
[19] Davis *et al*, note 1, Chapter 2.
[20] Davis *et al*, note 1, Chapter 2.

the adjustment in the real economy, noting that "anything one firm does to green its own balance sheet will be undermined where those emissions-intensive activities can continue to be financed by alternative sources that will not steward them toward net-zero".[21] Banks are increasingly making investments in developing effective capabilities to identify the opportunities from the transition, through climate data analytics and setting specific net-zero strategies. In the United States (US), the Federal Deposit Insurance Corporation has reported that weaknesses in how financial institutions measure and control the financial risks associated with a changing climate could adversely affect a financial institution's soundness, as well as the overall financial system.[22] The US Federal Reserve has asked banks to start providing information on the measures they are taking to mitigate climate-related risks to their balance sheets, including testing the geographical exposure of bank assets to physical risks, as well as testing exposures to different sectors.[23]

The FSB's Taskforce on Climate-Related Financial Disclosures (TCFD) and the United Nations Environment Programme Financial Initiative (UNEP FI) report that financial actors face looming physical risks of climate change and the increasing transition risks inherent to a low-carbon transition; and that being able to better price these risks would help promote financial stability, ensure appropriate allocation of capital to support resilience and adaptation, and hasten the transition to a sustainable future.[24] The TCFD reports that while progress has been made, the lack of consistency of strategy disclosures and an insufficient level of analytical granularity create major barriers to accurate assessment of the differences in climate risk profiles across banks.[25] It notes that without agreement on a detailed methodology for capturing carbon-related exposures, it is possible for two financial institutions with similar portfolios and customer profiles to disclose materially different exposures.

> Banks are increasingly expected to play a proactive role in the net-zero transition, including scaling up green investments, restricting the financing of high-emitting activities, and actively supporting the transition of carbon-intensive industries to net-zero emissions.[26] While the risks are significant, there are also significant investment

[21] Breeden, note 16.
[22] Federal Deposit Insurance Corporation, RIN 3064–ZA32 Statement of Principles for Climate-Related Financial Risk Management, Federal Register Federal Register Vol 87, No 64 (4 April 2022), 2022-03-29-notational-fr.pdf (fdic.gov), (hereafter FDIC).
[23] Pete Schroeder, "Fed privately presses big banks on risks from climate change", (13 May 2021), EXCLUSIVE Fed privately presses big banks on risks from climate change | Reuters.
[24] UNEP FI and TCFD, *Comprehensive Good Practice Guide to Climate Stress Testing*, (December 2021), at 20, Good Practice Guide to Climate Stress Testing – United Nations Environment – Finance Initiative (unepfi.org) (hereafter UNEP FI and TCFD, 2021).
[25] Institute of International Finance, EY and UNEP FI, TCFD Report Playbook, (UNEP FI, 2021), at 14, UNEP-FI-IIF-TCFD-Report-Playbook.pdf (unepfi.org) (hereafter TCFD Playbook).
[26] Rocky Mountain Institute Center for Climate-aligned Finance, "What Does Climate Alignment Mean for Financial Institutions?" (2022), Climate

> opportunities for banks, including lending opportunities to develop sustainable and circular economic activity. 'Circular economy' envisions a new approach to economic activity, in which the existing paradigm of produce/use/recycle or trash is replaced with a sustainable framework that seeks to use only renewable energy and natural production components that can be returned to the earth after productive use, and designs the reduction and eventual elimination of waste into the system of production, aimed at net-zero carbon emissions and the use of any production outputs (waste) in new productive activities.[27]

Canadian prudential supervisors have recognized that climate change is a prudential risk, reporting that risks of financial losses due to climate change when they manifest beyond predictable risks estimations can create risks to the safety and soundness of the Canadian financial system.[28] The Bank of Canada observes that climate change "looms as a potentially large structural change affecting the economy and the financial system".[29] Banks should aim to characterize their climate-related risks in the context of traditional banking industry risk categories, such as credit risk, market risk, liquidity risk and operational risk.[30] The Bank of Canada and OSFI report that there will likely be greater shocks to the financial system if we fail to move immediately to identify and more effectively manage the risks.[31] Climate change may result in unexpected re-evaluation of assets held by banks and increased probability of default due to pressures to devalue assets, which could lead to higher capital requirements in order to meet federal liquidity and safety and soundness obligations.[32] OSFI notes that climate-related risks are drivers of other risks for banks, with the potential to affect all asset classes across all portfolios.[33]

The Canadian government has committed to strengthening policy and transitioning the Canadian economy to net-zero GHG emissions by 2050, as have many other countries in which Canadian banks have operations.[34] Canadian banks, as a cornerstone of the Canadian economy, need to be adapting and adjusting as the Canadian

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Alignment | Climate Alignment.

[27] Sarra, *Governance Paths to Net Zero*, note 12 at 16.

[28] OSFI, Navigating, note 15 at 14.

[29] Miguel Milic, "Researching the Economic Impacts of Climate Change, Implications for monetary policy and financial stability", Bank of Canada (19 November 2019), at 1, Researching the Economic Impacts of Climate Change - Bank of Canada (hereafter Bank of Canada, Economic Impacts).

[30] TCFD Playbook, note 25 at 15.

[31] Bank of Canada and OSFI, *Using Scenario Analysis to Assess Climate Transition Risk* (2022) at 1, Using Scenario Analysis to Assess Climate Transition Risk (bankofcanada.ca) (hereafter Bank of Canada and OSFI, 2022).

[32] OSFI, Navigating, note 15 at figure 4.

[33] OSFI, Navigating, note 15 at 14.

[34] Government of Canada, "Net-Zero Emissions by 2050", Net-Zero Emissions by 2050 - Canada.ca.

government acts, which requires strong governance, risk management, and strategic planning. Canadian governments and banks should be aligned in the goal of making this transition as just and equitable as possible.

2. Overview of the Canadian Banking Sector

There are 81 federally-regulated banks in Canada, of which 35 are domestic, 15 are foreign, and 31 are foreign bank branches operating in Canada.[35] Banks contribute over CA$65 billion (3.5%) to Canada's gross domestic product (GDP).[36] Six banks in Canada account for 90% of total assets among Canada's federally regulated deposit-taking institutions - Bank of Montreal (BMO), Bank of Nova Scotia (Scotiabank), Canadian Imperial Bank of Commerce (CIBC), National Bank of Canada (NBC), Royal Bank of Canada (RBC), and the Toronto-Dominion Bank (TD Bank).[37] They have been designated domestic systemically important banks (D-SIB). These six banks comprise more than 90% of the exposures of the Canadian banking system and all of the exposures of the Canadian internationally active banks.[38]

RBC and TD Bank have also been designated a global systemically important bank (G-SIB) by the Basel Committee on Banking Supervision (BCBS), based on 13 indicators that serve as a proxy of the extent to which a group's operations generate externalities, make the bank group critical to systemic risk, and/or render its resolution more challenging, including size, complexity, cross-jurisdictional activity, interconnectedness, assets under the bank's custody, its payments activity, transactions it has underwritten in debt and equity markets, and its trading volume.[39]

Canadian banks offer diverse financial services, such as personal and commercial banking, wealth management, investor services, treasury services, capital markets products and services on a global basis, and insurance.[40] Banks serve nearly three million self-employed and small and medium-sized businesses across Canada, and as of

[35] OSFI, "Who We Regulate", (2022), Who We Regulate (osfi-bsif.gc.ca).
[36] Canadian Bankers' Association, "Banks and the Canadian Economy", (CBA, 2022), Focus: Banks and the Economy (cba.ca) (hereafter CBA, Banks and the Economy).
[37] Department of Finance Canada, "Backgrounder: Regulations to Implement the Bank Recapitalization (Bail-in) Regime" (16 June 2017), Backgrounder: Regulations to Implement the Bank Recapitalization (Bail-in) Regime - Canada.ca
[38] Janis Sarra, "A Bridge Over Troubled Waters —Resolving Bank Financial Distress in Canada", *Annual Review of Insolvency Law*, (Toronto: Carswell) at 256.
[39] Basel Committee on Banking Supervision, "2021 List of Global Systemically Important Banks" (23 November 2021), 2021 List of Global Systemically Important Banks (G-SIBs) - Financial Stability Board (fsb.org). FSB publishes 2021 G-SIB list; BCBS, Global Systemically Important Banks: Revised Assessment Methodology and the Higher Loss Absorbency Requirement (2018). For a detailed explanation, see Davis *et al*, note 1, chapter 2.
[40] See for example, RBC, "Royal Bank of Canada Annual Report 2021", at 138, printmgr file (rbc.com) (hereafter RBC Annual Report 2021).

December 2020, Canada's banks had authorized more than CA$255 billion in credit to small and medium-sized businesses.[41] Banks employ more than 280,000 Canadians, with banks and their subsidiaries paying about CA$30 billion in salaries and benefits in Canada annually.[42] Canada has a very high rate of banking compared with some other jurisdictions, 99% of Canadian adults have an account.[43]

The Canadian *Bank Act* recognizes that a strong and efficient banking sector is essential to economic growth and prosperity, and that banks must be able to compete effectively and be resilient in a rapidly evolving marketplace, taking into account the rights and interests of depositors and other consumers of banking services.[44] In turn, this resilience contributes to stability and public confidence in the financial system and is important to the strength and security of the national economy.[45]

Canadian banks also increasingly operate internationally. For example, RBC operates in 29 countries, including principal subsidiaries in the US, the United Kingdom (UK), Cayman Islands, Barbados, Bahamas, and Luxembourg.[46] The TD Bank has significant subsidiaries in the US, Bermuda, Barbados, the Netherlands, Ireland, Japan, Australia, the UK, and Singapore.[47] Scotiabank operates primarily in Canada, the US, Mexico, Peru, Chile, and Colombia.[48]

Foreign banks have been authorized under the *Bank Act* to establish subsidiaries and/or branches and carry on banking in Canada, some offering full banking services, although generally, these foreign banks may not, in Canada, accept deposits of less than CA$150,000, and some foreign bank branches distinguished as lending branches are prohibited from accepting deposits or otherwise borrowing money except from financial institutions.[49] Typically, the bank holding company of these subsidiaries or branches is in the foreign jurisdiction.

Credit unions and caisses populaires, which also provide chequing and savings accounts, term deposits, and other financial services, are primarily governed by the laws of the provinces and territories where they operate,[50]

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[41] CBA, Banks and the Economy, note 36.
[42] CBA, note 2; the number employed by Canadian banks in other countries in 2019 was more than 116,000.
[43] CBA, note 2.
[44] *Bank Act*, note 6.
[45] *Bank Act*, note 6.
[46] RBC Annual Report 2021, note 40 at 1, 227.
[47] TD Bank, "Building Together, 2021 Annual Report", at 217. Building Together | 2021 Annual Report (td.com).
[48] Scotiabank, "Annual Report 2021", (November 2021), at 17 printmgr file (scotiabank.com).
[49] OSFI, "Foreign Bank Branches", Foreign Bank Branches (osfi-bsif.gc.ca).
[50] CDIC, "Federal Credit Unions", Federal credit unions (FCUs) - cdic.ca.

whereas banking is federally regulated pursuant to the division of powers under the *Constitution Act*.[51] However, in 2012, the federal government created a framework that allowed provincial credit unions and caisses populaires to continue as federal credit unions to enable them to carry on business across Canada.[52] This guide does not cover the credit unions.

Non-bank financial intermediation (NBFI) entities,[53] colloquially referred to as shadow banks, are excluded from OSFI's prudential supervision and capital requirements that apply to traditional deposit-taking banks, although the Bank of Canada monitors them as a potential source of systemic risk where their activities involve a significant amount of maturity, liquidity, and credit transformation.[54] By 2019, Canada's NBFI sector had grown to CA$1.71 trillion;[55] and given that these entities are exempt from supervisory oversight, the Bank of Canada reports that they are more vulnerable to build-up of risks and they may indirectly contribute to systemic risk through their interconnectedness, including with banks, which it considers a structural vulnerability.[56] Thus, while this guide addresses banks subject to prudential oversight, the increasing interconnectedness of banks with the rapidly growing NBFI sector suggests that these changes should be on the 'radar' of banks' oversight of their climate-related financial risks.

3. Current State of Climate Governance in the Canadian Banking Sector

As the oversight authorities for monetary policy and the financial system, and the capital adequacy, liquidity and solvency of banks respectively, the Bank of Canada and OSFI have a comprehensive understanding of the Canadian banking sector. The Bank of Canada and OSFI report that Canadian banks are only at early stages of developing effective climate governance and are at varying levels of maturity in developing their risk appetite and

[51] Sections 91 and 92 (10) of the *Constitution Acts*, 1867 to 1982. See also The constitutional distribution of legislative powers - Canada.ca (hereafter *Constitution Act*).
[52] *Constitution Act*, note 51.
[53] Globally, nearly half of the world's financial assets are held by non-bank financial institutions categorized by the Financial Stability Board as the "monitoring universe of non-bank financial intermediation" (MUNFI). Financial Stability Board, *Global Monitoring Report on Non-Bank Financial Intermediation 2019* (19 January 2020).
[54] R Arora, G Bédard-Pagé, P Besnier, H Ford, and A Walsh, "Non-bank financial intermediation in Canada: a pulse check", Bank of Canada Staff Analytical Note 2021-2 (March 2021), Non-bank financial intermediation in Canada: a pulse check - Bank of Canada (hereafter Bank of Canada Staff Note). In Canada, NBFI are comprised of investment funds, including money market, fixed-income, and alternative-strategy mutual funds, fixed-income and synthetic exchange-traded funds, credit hedge funds, and credit pooled funds; financial corporations engaged in lending; repurchase agreement transactions and/or securities lending transactions with one non-prudentially regulated counterparty; private-label securitization; and non-bank investment dealers. Investment funds are the largest NBFI subsector, with 45% of NBFI assets.
[55] Bank of Canada Staff Note, note 54.
[56] Bank of Canada Staff Note, note 54.

strategy for climate-related risks.[57] OSFI suggests that internal alignment of accountability is key to embedding climate-related risk management in operations, noting that the availability of decision-useful data, analytical tools, and skills are key challenges, and use of climate-related scenario analysis and stress testing are still at early stages for many banks.[58] Some of Canada's largest banks may disagree, as they have made efforts in recent years to identify, assess, and manage climate-related risks. OSFI acknowledges that some banks have developed tools to manage their climate-related exposures that are aligned with the circumstances of their business activities.[59]

OSFI conducted a survey and received 51 responses from small and medium-sized federally-regulated financial institutions (FRFI).[60] Generally, the survey found these institutions are at a low level of maturity in climate-specific expertise and capabilities to date, and their understanding how climate-related risks interact with or differ from more traditional risks.[61] Only a few include climate-related risks in remuneration policy and practices to incentivize behaviour. The survey found that climate risks that are not explicitly captured in risk appetite frameworks are embedded in other risk categories, treated as 'transversal risk factors' driving other traditional risks. Respondents have taken first steps in putting TCFD recommendations into effect; however, they report that the usability of climate-related disclosures is limited by unverifiable data, and inconsistent methodologies, taxonomies, and reporting standards for developing climate-related metrics and targets.[62]

The Bank of Canada and OSFI conducted a climate scenario analysis pilot with two banks, TD Bank Group and RBC, and four insurers, with the objective of building capability in climate transition scenario analysis to help the Canadian financial sector improve its assessment and disclosure of climate-related risks, and improve authorities' understanding of the potential exposure of the financial sector.[63] The pilot focused exclusively on transition risks, identified as a key driver for all six pilot participants. The Bank of Canada and OSFI found that most of the pilot participants are still in the early stage of developing capabilities and incorporating climate-related risks as drivers into their risk management framework, although they have prioritized these efforts given the urgent nature of these risks.[64] They found that, generally, collateral valuation does not take into account

[57] Bank of Canada and OSFI, 2022, note 31.
[58] OSFI, "OSFI Summarizes Responses to Its Climate Risk Discussion Paper" (12 October 2021), OSFI Summarizes Responses to Its Climate Risk Discussion Paper (osfi-bsif.gc.ca) (hereafter OSFI Responses).
[59] OSFI Responses, note 58.
[60] Bank of Canada and OSFI, 2022, note 31 at 49.
[61] Bank of Canada and OSFI, 2022, note 31 at 49.
[62] Bank of Canada and OSFI, 2022, note 31 at 50.
[63] Bank of Canada and OSFI, 2022, note 31 at 4.
[64] Bank of Canada and OSFI, 2022, note 31 at 47.

climate-related risks and loan pricing frameworks do not explicitly reflect credit risk appetite and business strategy with regard to climate-related risks. Most of the pilot participants do not consider climate-related risks directly in their liquidity risk management or buffer calibrations. Most assess the impact of climate-related risks on capital adequacy through the financial condition testing exercise or through capital planning for traditional risk categories such as credit market and operational. However, the pilot revealed that most do not have a holistic approach to data governance for climate-related risks, but some have made adaptations to their data analytics systems and are performing data gap assessments.[65] Some pilot participants have obtained limited assurance on select indicators such as GHG emissions through a third party, while others currently do not plan to acquire third-party verification.

The Canadian Bankers' Association (CBA) reports that Canada's banks "recognize the urgency of addressing climate change and understand that the financial sector is central to securing the transition to a low-carbon economy, mitigating the impacts of humans on the environment and ensuring the continued resilience of our country's financial system."[66] The CBA states that firm commitments are required to meet the ambitious goal of a net-zero economy by 2050 and notes that Canadian banks have pledged to implement climate action plans that set specific targets and make financial commitments in support of sustainable finance activities; invest in lower-carbon businesses, and work with existing business customers in higher-carbon sectors to finance their transition efforts; and develop new metrics to link environmental, social, and governance (ESG) factors to bank group performance.[67]

As of October 2022, eight Canadian banks/credit unions have joined the industry-led, United Nations-convened Net Zero Banking Alliance (NZBA), a global initiative of banks committed to aligning their lending and investment portfolios with net-zero emissions by 2050 - BMO Financial Group, CIBC, Coast Capital, NBC, RBC, Scotiabank, TD Bank, and Vancity.[68] The prerequisite for joining is that the chief executive officer (CEO) signs a commitment to:

- Transition the operational and attributable GHG emissions from their lending and investment portfolios to align with pathways to net-zero by 2050 or sooner.

[65] Bank of Canada and OSFI, 2022, note 31 at 48.
[66] Canadian Bankers' Association, "Banks in Canada Committed to a Net-Zero Economy by 2050", Focus: Banks in Canada Committed to a Net-Zero Economy by 2050 | Focus: Banks in Canada Committed to a Net-Zero Economy by 2050 (cba.ca) (hereafter CBA Net Zero).
[67] CBA Net Zero, note 66.
[68] Net Zero Banking Alliance, Net-Zero Banking Alliance – United Nations Environment – Finance Initiative (unepfi.org).

- Within 18 months of joining, set 2030 targets (or sooner) and a 2050 target, with intermediary targets to be set every five years from 2030 onwards.

- Banks' first 2030 targets will focus on priority sectors where the bank can have the most significant impact, ie, the most GHG-intensive sectors within their portfolios, with further sector targets to be set within 36 months.

- Annually publish absolute emissions and emissions intensity in line with best practice and within a year of setting targets, disclose progress against a board-level reviewed transition strategy setting out proposed actions and climate-related sectoral policies.

- Take a robust approach to the role of offsets in transition plans.[69]

These commitments signal important climate governance commitments, although Canadian banks are at the first stages of complying. The next part examines some financial sector risks due to climate change, which sets the stage for the following discussion of effective climate governance strategies.

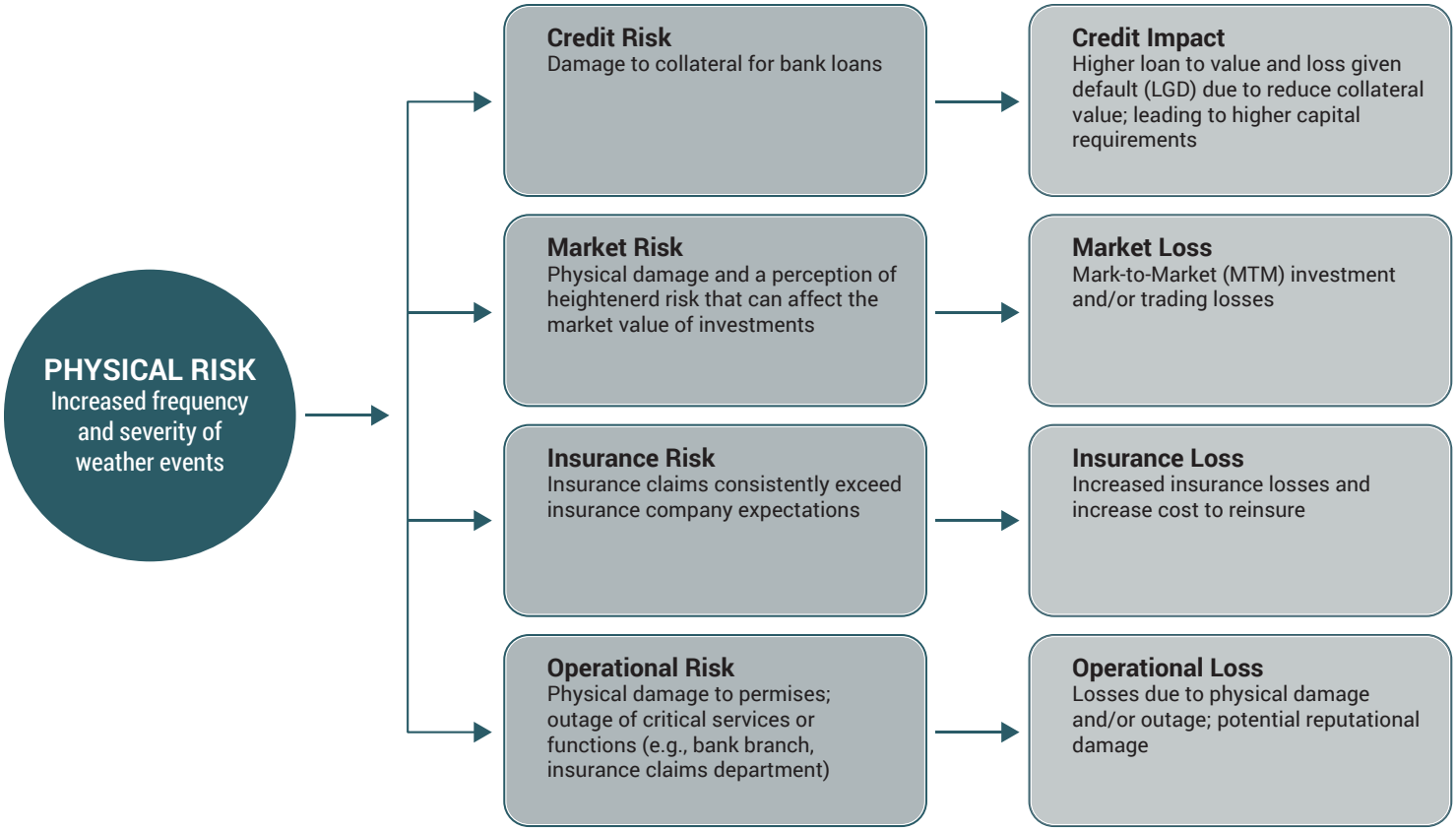
[69] Net Zero Banking Alliance, "Commitment Statement", The Commitment – United Nations Environment – Finance Initiative (unepfi.org).

II.

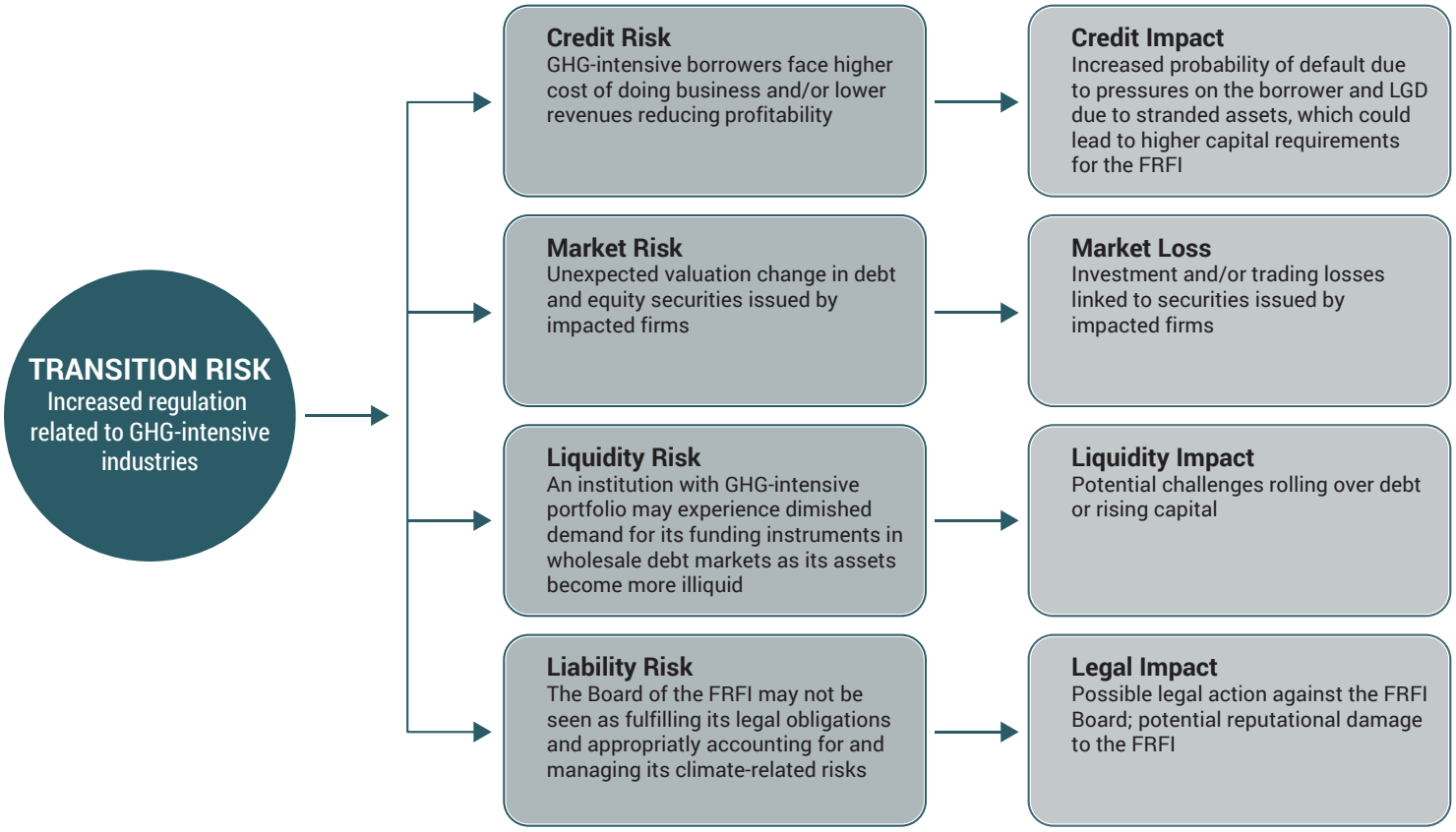
CLIMATE-RELATED FINANCIAL RISKS FOR BANKS

Banks face physical risks and transition risks due to climate change, although the way in which these risks manifest differs from industrial, mining, and other sectors. The TCFD notes that transition risks include changes in policy, technological risk, market risks from changing investor priorities, litigation risk, and reputational and social risks tied to changing customer or community perceptions.[70] Such risks need to be prudently managed.[71]

OSFI has two graphics that illustrate examples of climate-related transmission channels:



[70] TCFD, *Task Force on Climate-related Financial Disclosures Guidance on Metrics, Targets, and Transition Plans*, (October 2021), at 21, https://www.fsb.org/wp-content/uploads/P141021-2.pdf (hereafter TCFD 2021 updated guidance).
[71] OSFI, Navigating, note 15 at 8. The TCFD framework is the most broadly accepted framework in Canada and globally



Source: Annex 1-2 Examples of Climate-Related Transmission Channels, OSFI Draft Guideline B-15 Climate Risk Management

1. Physical Risks of Climate Change

In 2021, the Intergovernmental Panel on Climate Change (IPCC) produced five illustrative emissions scenarios covering the range of possible future developments, and under all emissions scenarios, global surface temperature will continue to increase until at least mid-century.[72] Global warming of 1.5°C and 2°C will be

[72] Intergovernmental Panel on Climate Change (IPCC), *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre- industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate*

exceeded this century unless deep reductions in emissions occur in the coming decade.[73] Even adopting scenarios with very low GHG emissions now, it will take 20 years to see discernible differences in trends of global surface temperature begin to emerge.[74] Many changes are already irreversible for centuries to millennia. The IPCC concludes that human-induced global warming must be limited to at least net-zero CO_2 (carbon dioxide) emissions, along with strong reductions in other GHG emissions.[75]

While physical risks of climate change are significant, they may not yet be material to banks' own assets; however, they are very important from an operational point of view in terms of exposures to portfolios and damage to collateral for loans. Banks also need to deal with reputational perspectives, including clients' expectations that banks will be taking steps to mitigate physical risks if they are going to expect it from their clients.

The amplification of physical risks could result in more severe impacts, and the indirect impact of severe weather on exposure is another variable expected to intensify over time, and directors and officers will have to determine how best to address these risks. For example, TD Bank has developed a heatmapping framework to climate risks in sectors in its portfolios and industries most susceptible to climate change in order to prioritize risk management activities and measurement work. It has developed a Climate Risk Heatmap for retail exposures and exposures by non-retail sector as a risk management tool, assessing low to high impact of specific outstanding loan balances based on physical and transition risks.[76] It assesses loans, debt securities, and deposits with other financial institutions.

The physical impacts of climate change can be event-driven (acute) or longer-term (chronic) shifts in climate patterns. Canada is warming at twice the global rate, with the Canadian Arctic warming at almost three times the rate.[77] Increasing temperature and precipitation extremes are already contributing to the frequency and

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Change, Sustainable Development, and Efforts to Eradicate Poverty (IPCC 2019) at 51, IPCC Special Report on Global Warming of 1.5 °C | UNFCCC (hereafter IPCC, Special Report 2018). The Intergovernmental Panel on Climate Change (IPCC), which represents a consensus of over 800 scientists in 160 countries, reported in 2021 that "it is unequivocal that human influence has warmed the atmosphere, ocean and land", creating widespread and rapid changes in the atmosphere, ocean, cryosphere, and biosphere; IPCC, Working Group I contribution to the Sixth Assessment Report, Climate Change 2021: The Physical Science Basis Summary for Policymakers, (July 2021), at 5, IPCC_AR6_WGI_SPM_final.pdf.

[73] IPCC, Special Report 2018, note 72 at 17.

[74] IPCC, Special Report 2018, note 72 at 30.

[75] IPCC, Special Report 2018, note 72 at 36.

[76] TD Bank, *2021 TD's Climate Action Plan: Report on Progress and Update on TCFD*, (March 2022), at 40, 2021 TD's Climate Action Plan: Report on Progress and Update on TCFD (hereafter TD Bank Climate Action Plan).

[77] IPCC, Special Report 2018, note 72 at 36. Government of Canada, Canada's Changing Climate Report, (CCCR 2019 Report) (hereafter Canada's Changing Climate); Swiss Re, "Insurance in a world of climate extremes: what latest science tells us", (December 2019), Insurance_climate_extremes_expertise_publication.pdf (swissre.com).

intensity of acute events in Canada, such as floods, wildfires, windstorms, heatwaves, and atmospheric rivers.[78] Severe weather damage in Canada caused CA$2.4 billion in insured losses in 2020.[79]

In the two years prior, 2018 and 2019, reported insured catastrophic losses totalled CA$3.1 billion from 23 weather events.[80] The Fort McMurray wildfire of 2016 caused CA$4 billion in damage to homes and businesses and an estimated additional CA$7 billion in indirect costs.[81]

The Canadian Climate Institute (CCI) reports that very few costs of climate impacts on infrastructure are being factored into financial decisions to date, and both public and private infrastructure owners risk big write-downs in the value of their assets from the physical impacts.[82] A few of its examples are:

- Electricity systems – shifts in precipitation, increase in temperatures, more severe storms and wildfires lead to downed and damaged power lines, more frequent power outages, disruption of critical services, heating or cooling outages, and communication outages.

- Roads and railways - shifts in avalanche risk, more erosion and landslides, more floods and higher storm surges, and increasing permafrost thaw result in road or rail blockages, destruction or washout of roads and railways, delays in movement of essential goods like food and fuel, and higher shipping costs.

- Water and wastewater infrastructure - more floods and higher storm surges, increasing permafrost thaw, and more severe weather result in overwhelmed storm and sewer systems, potable water contamination, damage to water treatment facilities, interrupted access to drinking water, and local flooding and sewer backups into homes.[83]

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[78] Canada's Changing Climate, note 77 at 119.
[79] Insurance Bureau of Canada, "Severe Weather Caused $2.4 Billion in Insured Damage in 2020", (18 January 2021), http://www.ibc.ca/on/resources/media-centre/media-releases/severe-weather-caused-$2-4-billion-in-insured-damage-in-2020.
[80] Canadian Climate Institute, Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change, (2020), at 10, Tip of the Iceberg | Canadian Climate Institute (hereafter CCI, Tip of Iceberg)
[81] Canadian Climate Institute, Damage Control, Reducing the costs of climate impacts in Canada (September 2022), at 22, Damage Control: Reducing the costs of climate impacts in Canada. (climateinstitute.ca).
[82] Canadian Climate Institute, Under Water, The Costs of Climate Change for Canada's Infrastructure, (September 2021), at v, Infrastructure-English-FINAL-jan17-2022.pdf (climatechoices.ca) (hereafter CCI, Under Water).
[83] CCI, Under Water, note 82 at 16, 17.

Climate-related acute and chronic events can disrupt critical operations when physical assets owned or leased by banks that house customer services or business processes, such as real estate and infrastructure, are damaged.[84] Banks may face different levels of business risk tolerance for site-specific downtime, including power supply, exposure to flooding, geological stability, and other hazards. In turn, these impacts can disrupt service to depositors and borrowers and damage banks' reputation. Banks rely on multiple third parties in their supply chain that may themselves have exposure to acute climate events that might affect a bank's operations and reputation.

If the current warming rate continues, the world could reach human-induced global warming of 1.5° C as early as eight years from now, resulting in serious consequences for water and food security, the health and well-being of billions of people, and for financial services and economic activity.[85] As sea levels rise and rainfall increases, flood damage to buildings is estimated to increase fivefold in the next few decades, with costs as high as CA$13.6 billion annually; climate-related damage to roads and railways could increase by up to CA$5.4 billion annually by mid-century; and damage to electrical transmission and distribution infrastructure could more than double by mid-century, costing utilities and ratepayers up to CA$4.1 billion annually.[86]

Acute and chronic climate events can create substantial credit risk from reductions in the value of collateral against which loans are secured.[87] Climate events can cause damage to physical assets of banks' counterparties, causing a reduction in the asset value. Damaged assets will lead to a reduction in income, which increases the likelihood of a borrower defaulting, posing credit risk.[88] Higher loss given default (LGD) due to reduced collateral value can also lead to higher capital requirements where regulators are concerned about soundness of the bank.[89]

Acute events can also threaten the market value of investments in commercial real estate. Some sectors will face significant disruption in the transition to net-zero emissions, which is likely to lead to reduced profitability and ability of lending counterparties to repay loans, in turn having direct impacts on the portfolio investments of

[84] OSFI, Navigating, note 15 at 9.
[85] IPCC, Special Report 2018, note 72 at 81; *Canada's Changing Climate*, note 77 at 119.
[86] CCI, Under Water, note 82 at v.
[87] OSFI, Navigating, note 15 at 9. Financial Stability Board, "Stocktake of financial authorities' experience in including physical and transition climate risks as part of their financial stability monitoring", (July 2020) at 7, Stocktake of financial authorities' experience in including physical and transition climate risks as part of their financial stability monitoring - Financial Stability Board (fsb.org) (hereafter FSB Stocktake).
[88] BIS, *The green swan*, note 10.
[89] OSFI, Navigating, note 15 at 11.

banks.[90] There is also risk of stranded assets, assets that suffer premature write-downs, devaluations or conversion to liaiblities.[91]

Rising temperatures are resulting in diseases appearing in regions that have never had exposure to them, including rapidly growing zoonotic diseases (travelling from animals to humans), posing risks to the health and safety of employees of Canadian banks operating in different regions of Canada and internationally.[92] Risks for some vector-borne diseases are projected to increase with warming to 1.5°C, including shifts in their geographic range.[93]

The Canadian Climate Institute reports that health impacts from wildfire smoke in Canada between 2013 and 2018 (excluding the Fort McMurray wildfire) ranged from CA$4.7 billion to CA$20.8 billion per year.[94] As ground-level ozone increases, it estimates health costs will be CA$87 billion per year by mid-century, and, over a ten-year period at the end of the century, ozone-linked respiratory illnesses could be associated with 270,000 hospitalizations and premature deaths.[95] The long-term chronic physical effects of global warming are not yet known, such as the impact on employees and customers of sustained heat waves, growing pollution, and increased exposure to new diseases.

The Central Banks and Supervisors' Network for Greening the Financial System (NGFS) has also recognized that nature-related risks, including those associated with biodiversity loss, could have significant macroeconomic implications, and that failure to account for, mitigate, and adapt to these implications is a source of risks for individual financial institutions.[96]

Not all physical risks can be monetarily quantified. For example, many Indigenous communities report damage

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[90] OSFI, Navigating, note 15 at 9, 10; OSFI draft Guideline B-15 Climate Risk Management, Annex 1-2, (May 2022), Climate Risk Management (osfi-bsif.gc.ca) (hereafter OSFI Guideline B-15 Climate Risk Management).
[91] Ben Caldecott and Jeremy McDaniels, "Stranded generation assets" (2014), Smith School of Enterprise and the Environment, University of Oxford, Microsoft Word - SAP Utilities working paper - FINAL FINAL.docx (ox.ac.uk); OECD, "Divestment and Stranded Assets in the Low-Carbon Transition", (2015), Divestment and Stranded Assets in the Low-carbon Economy 32nd OECD RTSD.pdf.
[92] Sarra, *Governance Paths to Net Zero*, note 12 at 25.
[93] IPCC, O D Hoegh- Guldberg, J M Taylor, M Bindi, S Brown, I Camilloni, A Diedhiou, R Djalante, K L Ebi, F Engelbrecht, J Guiot, Y Hijioka, S Mehrotra, A Payne, S Seneviratne, A Thomas, R Warren, and G Zhou, "Chapter 3: Impacts of 1.5°C of Global Warming on Natural and Human Systems" in IPCC, *Special Report 2018*, note 72 at 180, https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15Chapter3LowRes.pdf (hereafter IPCC, 'Impacts of 1.5°C').
[94] Canadian Climate Institute, *The Health Costs of Climate Change, How Canada can Adapt, Prepare, and Save Lives*, (June 2021), at 26, The health costs of climate change | Canadian Climate Institute (hereafter CCI, Health Costs).
[95] CCI, Health Costs, note 94 at vii.
[96] NGFS, "Statement on Nature-Related Financial Risks", (24 March 2022), statement_on_nature_related_financial_risks_-_final.pdf (ngfs.net).

to ways of life associated with shifting ecosystems, changing wildfire patterns, permafrost thaw, and floods, risks that cannot be given a price tag as they are risks to lands and ecosystems that are integrated into the spiritual lives and identities of Indigenous Peoples.[97] Such costs should be given serious consideration alongside monetary impact.

2. Transition Risks

Banks face numerous transition risks, including policy and regulatory risks, labour and social risks, market risks from changing investor preferences, technological risk, legal and litigation risks, operational risks, and reputational risks. Direct impacts of these risks include that a bank may be viewed in funding markets as a credit risk by its inability to adjust its business strategy to a net-zero emissions economy.[98] To the extent that lending counterparties are impacted by the transition, there are indirect negative impacts on the bank's financial condition.[99] There is risk of financial loss or reputational damage from materialized credit, market, operational or other risks resulting from transition risks to the bank and its clients and communities in which it operates.

A key differentiator, given that it is not their operations that give rise to significant GHG emissions, is that banks are a facilitator of economic activity and have public responsibilities in maintaining the safety and soundness of the financial system when they allocate capital. Globally, a significant recent change has been the growing collective recognition of climate risks and the need to act to mitigate them. A bank board therefore needs to consider what role the bank should play and consider whether transition risk creates new risks for the bank's businesses and credit and market exposures.

Given the size of carbon-intensive assets to total assets for most Canadian banks (a minority of their holdings), as well as the pace of transition vis à vis the duration of these assets, as a general matter, if one focused only on the impact on the bank of material changes in key carbon-intensive sectors, in and of itself such change would not be expected to result in material risk to a bank's exposure. However, transition risk poses a broader risk than lending portfolio exposure, and includes risks associated with investor confidence, and depositors' and investors' perceptions that banks should be playing a role in reallocating capital towards investments that will support Canada's transition to a net-zero circular economy.

[97] CCI, Tip of Iceberg, note 80 at iv.
[98] OSFI, Navigating, note 15 at 10.
[99] OSFI, Navigating, note 15 at 10.

A second major development has been the shifting expectations of banks' stakeholders that the bank will make capital allocation decisions based on GHG emissions. Investors are expressing interest in using the range of their engagement tools to press for decarbonization. Making decisions regarding capital allocation is complicated for Canadian banks that operate in an economy that is resource rich, where Canadian companies provide secure reliable energy globally, and where there are a limited number of banks available. While companies determine what business activities they undertake, banks do have the ability to guide direction through their provision of capital.

For example, if a Canadian bank were to choose to exit a sector, even precipitously, it would not currently create any major solvency or liquidity risk for the bank; however, Canadian banks must consider the broader implications such a decision would have on the economies in which it does business. Banks have been given an important social license and they must tread carefully in determining when to lend or refuse capital to businesses that are a considerable part of the economy of a democratic country. From a board governance perspective, these issues present a major board level risk to oversee. In this situation, there is risk both to management and the bank to acting and/or to not acting and an informed, balanced strategy must be formulated.

At the same time, a bank must manage the major economic transformation that is expected to take place as we move to a net-zero carbon economy of the future. This same stakeholder pressure that banks are feeling is being exerted elsewhere on other businesses and policymakers, leading to a fundamental acceptance that GHG emissions must be reduced, and, to achieve that, the economy must transform. A transforming economy creates risk and opportunities for banks that must be taken into account in establishing the strategy of the bank and managing risks. This complex exercise requires effective board oversight. In essence, the most complicated issue is anticipating and understanding the impact of climate on the total economy.

Thus, the management of transition risk for banks has many permutations—the banks have an agreed role in the transition of the economy perhaps best summed up in the NZBA commitments noted above and now being embedded in the strategy of bank signatories. At the same time, banks face pressure to make specific capital allocation decisions that may not align with their strategy, especially from a pace or timing perspective. Banks face a transitioning economy potentially at a pace and scale as yet unseen and boards need to be confident that they have access to the information and expertise to oversee management of the risks to their business of such a transition. Within the transition, a number of variables such as pace of regulatory change and direction and other actions outside the control of the bank will make risk management more challenging.

For Canadian banks, exposure to large fossil fuel producers or significant users could present risks that merit

disclosure in a bank's financial filings.[100] The TCFD notes that as markets for lower-carbon and energy-efficient alternatives grow, banks may have material exposures in their lending and investment businesses, and investors, lenders, insurance underwriters, and other stakeholders need to be able to distinguish among banks' exposures and risk profiles so that they can make informed financial decisions.[101]

i. Policy Risks

Transitioning to a net-zero carbon economy will entail extensive policy to address the mitigation and adaptation required. 'Climate mitigation' refers to efforts to reduce the sources of GHG emissions and reduce actual emissions, or to enhance the absorption of gases already emitted, thus limiting the magnitude of future warming.[102] 'Adaptation' refers to adjustments in ecological, social, or economic systems in response to climate impacts, including processes to moderate potential damage or to benefit from opportunities associated with climate change.[103]

Financial regulators have responded with multiple initiatives to assess and address risks from physical impacts of climate change and from a disorderly transition to a net-zero carbon economy.[104] The IPCC reports that national economy-wide GHG emissions targets cover 90% of global emissions as of 2020 compared to 49% in 2010, but that many net-zero targets are ambiguously defined and the policies needed to achieve them are not yet in place.[105] It reports that while leadership by legislators remains central, existing policy misalignments such as fossil fuel subsidies undermine the credibility of public commitments, reduce perceived transition risks, and limit financial sector action.[106]

In Canada, OSFI reports that it is building capacity to assess how climate-related risks affect the Canadian financial system, identifying baseline information on data gaps and methodologies to deepen its understanding of climate transition risks against economic portfolios.[107] It notes that it will act to drive mature climate risk

[100] TCFD Implementing Guidance 2021, note 4 at 25.
[101] TCFD Implementing Guidance 2021, note 4 at 25.
[102] Sarra, *Governance Paths to Net Zero*, note 12 at 14-15.
[103] IPCC, "Adaptation to Climate Change in the Context of Sustainable Development and Equity", (2018), at 879, wg2TARchap18.pdf (ipcc.ch).
[104] IPCC, *Climate Change 2022: Mitigation of Climate Change* (4 April 2022), at 15,2, 15,6, IPCC_AR6_WGIII_FinalDraft_FullReport.pdf (hereafter IPCC 2022).
[105] IPCC 2022, note 104 at TS 6.
[106] IPCC 2022, note 104 at 15.2, 15.3.3, 15.6.1, 15.6.2, 15.6.3.
[107] OSFI, "Sustaining Canadian Financial System Resilience Through Uncertainty and Volatility" (2 February 2022), Sustaining Canadian Financial System Resilience Through Uncertainty and Volatility (osfi-bsif.gc.ca); OSFI, *A Blueprint for OSFI's Transformation 2022 – 2025*, (December 2021), A Blueprint for

management and ensure the capital build-up appropriate to sustain financial system resilience in the 2030s. Canadian bank boards will need to manage the expectations of regulators in an evolving space and across different geographies, integrating climate risk management tools within a toolkit that has been built up over many years for other heads of risk managed by the bank.

Policy actions in regard to climate change continue to evolve, including Canada's international commitment to reach net-zero emissions by 2050, carbon-pricing mechanisms to reduce GHG emissions, shifting energy use toward lower emission sources, adopting energy-efficiency solutions, encouraging greater water efficiency measures, and promoting more sustainable land-use practices.[108] As discussed in Parts III and IV, Canadian financial services and securities law regulators have proposed new guidelines and rules to require transparency in the actions of banks and other companies in moving to net-zero emissions. Bank fiduciaries must understand and manage changes to policy requirements.

One policy is carbon pricing. Carbon emissions are a prime driver of rising global temperatures and, as such, are a key focal point of regulatory and policy responses.[109] Effective 2019, every jurisdiction in Canada has placed a price on carbon emissions, with federal minimum standards, allowing provinces and territories to use the federal pricing system or adopt their own pricing system tailored to local needs but meeting national stringency standards.[110] The price on carbon is aimed at internalizing the cost of carbon emissions to businesses, creating incentives for reducing emissions. Carbon-intensive borrowers will face a higher cost of doing business, and where those costs cannot be passed to customers, it will lower revenues and may affect default rates on borrowers' operating loans.

Similarly, bank investments in high carbon-emitting sectors may see the value of assets diminish with regulatory changes, and a bank with a carbon-intensive portfolio may see its creditworthiness in the debt market diminish as its assets become less liquid.[111] There could be significant challenges in rolling over debt or raising capital, particularly for high carbon-emitting sectors.[112] At the same time, high prices for fossil fuel in 2022, likely to

OSFI's Transformation 2022 - 2025 (osfi-bsif.gc.ca).

[108] Taskforce on Climate-related Financial Disclosures, *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, Financial Stability Board, (June 2017), https://www.fsb-tcfd.org/publications/final-recommendations-report, (hereafter TCFD Final Report).

[109] IPCC, 'Impacts of 1.5°C', note 93.

[110] *Canada Greenhouse Gas Pollution Pricing Act*, SC 2018, c 12. See also Government of Canada, "Carbon pollution pricing systems across Canada", (2021), Carbon pollution pricing systems across Canada - Canada.ca.

[111] OSFI, Navigating, note 15 at 12.

[112] OSFI, Navigating, note 15 at 12.

rise even further in the short term given the current geopolitical situation, create incentives to produce more oil, while in the longer term, more volatile energy prices will be a catalyst for global efforts to decarbonize the energy grids. Energy prices alone will not be enough to drive the decarbonization needed.[113]

The Bank of Canada and OSFI report that delayed climate policy action increases the overall risks to financial stability.[114] They note that as other countries implement climate policies, global efforts to combat climate change lead to lower foreign demand for goods and services, adding a drag to Canadian GDP, and global commodity prices decline as a result of lower global demand will affect fossil-fuel-producing sectors and lower the terms of trade of net energy-exporting regions.[115] They report:

> Transition risks are of particular significance for Canada given its endowment of carbon intensive commodities, the current importance of some of these carbon-intensive sectors for the Canadian economy, and the country's unique needs as a vast northern country for heating and transportation. Timely and clear climate policy direction and the correct pricing of risks, supported by climate-related financial disclosures, contribute strongly to mitigating these risks.[116]

In November 2021, Canada became a signatory to the United Nations (UN) Conference of the Parties meeting (COP26) Global Methane Pledge to reduce methane emissions by 30% by 2030.[117] Methane is responsible for approximately 30% of the global rise in temperatures to date and accounts for about 13% of Canada's total GHG emissions.[118] Methane emissions reductions from oil and gas will be a priority, but agriculture and landfills are also large sources of methane emissions. The policies that Canada needs to implement to achieve this target may affect the lending and investment portfolios of banks.

[113] Catherine Clifford, "How higher and more volatile energy prices will affect the move to clean energy", *CNN News*, (17 March 2022), What higher, volatile energy prices mean for clean energy transition (cnbc.com); Courtney Lindwall, "The Real Reasons for High Oil and Gas Prices", NRDC, (March 2022), The Real Reasons for High Oil and Gas Prices | NRDC.
[114] Bank of Canada and OSFI, 2022, note 31 at 2, 22.
[115] Bank of Canada and OSFI, 2022, note 31 at 23.
[116] Bank of Canada and OSFI, 2022, note 31 at 6.
[117] UN Climate Change, "World Leaders Kick Start Accelerated Climate Action at COP26", (2 November 2021), World Leaders Kick Start Accelerated Climate Action at COP26 | UNFCCC; Government of Canada, "Canada confirms its support for the Global Methane Pledge and announces ambitious domestic actions to slash methane emissions", (11 October 2021), Canada confirms its support for the Global Methane Pledge and announces ambitious domestic actions to slash methane emissions - Canada.ca (hereafter Government of Canada).
[118] Government of Canada, note 117.

In March 2022, the federal government released its 2030 Emissions Reduction Plan pursuant to the *Canadian Net-Zero Emissions Accountability Act*.[119] The Plan announces new measures to reach Canada's emissions reduction target of 40% to 45% below 2005 levels by 2030, on a path to achieving net-zero emissions by 2050, including CA$9.1 billion in new investments and economy-wide measures to create jobs for workers and opportunities for businesses.[120] Bank boards will take note of these policies that are expressly aimed at climate action incentive payments, improving air quality, investing in clean fuels, addressing inequities on actions to decarbonize the economy, and developing climate resilience.

Canadian banks operating domestically and/or internationally need to be aware that regulators are seeking to reduce 'greenwashing' through various policies and regulations. The Competition Bureau of Canada describes greenwashing as products that are labelled as 'green', but are false, misleading, or unsupported environmental claims, noting that it is illegal.[121] Morningstar notes that the term greenwashing is used when asset managers are accused of intentionally exaggerating or misrepresenting sustainability characteristics in their products, thus misleading investors.[122]

The European Union (EU) has implemented policies and regulations to reduce greenwashing, including the EU Taxonomy for Sustainable Activities,[123] the EU Guidelines on Reporting Climate-related Information,[124] the EU Sustainable Finance Disclosure Regulation,[125] aimed at discouraging greenwashing in the financial sector,[126]

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[119] *Canadian Net-Zero Emissions Accountability Act*, SC 2021, c 22, s 4.
[120] Government of Canada, "2030 Emissions Reduction Plan – Canada's Next Steps for Clean Air and a Strong Economy", (29 March 2022), 2030 Emissions Reduction Plan – Canada's Next Steps for Clean Air and a Strong Economy - Canada.ca.
[121] Competition Bureau of Canada, "Be on the lookout for greenwashing" (January 2022), Be on the lookout for greenwashing - Canada.ca. The Bureau will take action under the *Competition Act, the Consumer Packaging and Labeling Act* as well as the *Textile Labeling Act*; Competition Bureau of Canada, "Environmental claims and greenwashing", Environmental claims and greenwashing - Competition Bureau Canada.
[122] Antje Schiffler, "DWS and the Global Crackdown on Greenwashing", Morning Star, (19 September, 2022), DWS and the Global Crackdown on Greenwashing | Morningstar (hereafter Morningstar).
[123] EU Taxonomy for Sustainable Activities, into force on 12 July 2020, EU taxonomy for sustainable activities | European Commission (europa.eu).
[124] EU Guidelines on reporting climate-related information under the Non-Financial Reporting Directive, EUR-Lex - 52019XC0620(01) - EN - EUR-Lex (europa.eu) (hereafter EU, Non-Financial Reporting Directive).
[125] EU Sustainable Finance Disclosure Regulation, in force March 2021, requires fund managers to evaluate and disclose the ESG features of their financial products, Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector. European Commission, "EU Sustainable Finance", (21 April 2021), sustainable-finance-communication-factsheet_en.pdf (europa.eu).
[126] The Global Sustainable Investment Alliance erased $2 trillion from the European market for sustainable investments after anti-greenwashing rules were introduced by the EU in March 2021; Tim Quinson, "Pressure is increasing on fund managers to show they're being truthful with customers about what they're selling" and "Regulators Intensify ESG Scrutiny as Greenwashing Explodes", Bloomberg, (1 September 2021), Yellen's FSOC Deems Climate Change Threat to Financial Stability - Bloomberg, (hereafter Quinson).

and the proposal for an EU Corporate Sustainability Reporting Directive.[127] The EU has also introduced 'double materiality' disclosure requirements, asking managers to assess how sustainability issues affect the company's business and how the company's actions impact people and the planet, adding 'impact reporting' to financial reporting.[128]

In November 2021, the European Commission tabled its plan to introduce mandatory due diligence for products sold on the EU market. Companies now need to collect information about the products they have placed on the EU market to confirm they are not linked to deforestation or forest degradation, including taking "adequate and proportionate mitigation measures, such as using satellite monitoring tools, field audits, capacity building of suppliers or isotope testing" to confirm the product's origin.[129]

Given the international activities of the largest Canadian banks, directors require current information on rapidly developing policies in the jurisdictions in which they operate. For example, the UK, the EU, New Zealand, and Singapore have already implemented significant governance and disclosure obligations for banks operating in their jurisdictions.[130] Regulators are implementing policies that require companies to develop transition plans. For example, the UK government has incorporated transition plans into the UK's Sustainability Disclosure Requirements to encourage consistency and increased adoption of plans by 2023.[131]
There are also new corporate duty of vigilance laws in France and Germany that place a due diligence duty on large companies and require annual disclosure of plans to identify and manage climate and other risks resulting directly or indirectly from the operations of the company, its subcontractors, and suppliers.[132] Canadian banks

[127] EU Corporate Sustainability Reporting Directive, amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting, adopted April 2021, EUR-Lex - 52021PC0189 - EN - EUR-Lex (europa.eu).
[128] EU, Non-Financial Reporting Directive, note 124.
[129] Kira Taylor, "Europe proposes mandatory due diligence to stop deforestation in supply chains", Euractiv, (17 November 2021), Europe proposes mandatory due diligence to stop deforestation in supply chains – EURACTIV.com.
[130] See for example, UK Government, HM treasury, "Guidance Fact Sheet: Net Zero-aligned Financial Centre" (November 2021), Fact Sheet: Net Zero-aligned Financial Centre - GOV.UK (www.gov.uk); UK Government, Policy paper Greening Finance: A Roadmap to Sustainable Investing (2020), Greening Finance: A Roadmap to Sustainable Investing - GOV.UK (www.gov.uk); European Banking Authority, 'The Role of Environmental Risks in the Prudential Framework', EBA/DP/2022/02 (2 May 2022).
[131] HM Treasury, "Guidance Fact Sheet: Net Zero-aligned Financial Centre", (2 November 2021), https://www.gov.uk/government/publications/fact-sheet-net-zero-aligned-financial-centre/fact-sheet-net-zero-aligned-financial-centre; HM Treasury, Greening Finance: A Roadmap to Sustainable Investing, (October 2021), Policy paper overview: Greening Finance: A Roadmap to Sustainable Investing - GOV.UK (www.gov.uk).
[132] *La LOI n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre*, LOI n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre (1) - Légifrance (legifrance.gouv.fr). The Law applies to French companies with more than 5,000 employees in the company's direct or indirect French-based subsidiaries and with more than 10,000 employees if including direct and indirect subsidiaries globally, Art L 225-102-4. The law also provides for civil liability- harmed individuals can bring a civil lawsuit to seek monetary damages resulting from a company's failure to comply with its vigilance obligations where compliance would have prevented the harm.

with subsidiaries in such countries will need to understand these requirements and their application to their business and operations.

Similar regulation is being considered in many jurisdictions globally, which will directly affect value chains. Canadian legislators are studying these international developments with a view to how to enhance the regulatory framework for climate mitigation and adaptation in Canada.

ii. Social and Labour Force Risk

The IPCC reports that implicit in a 'just transition' is the notion of well-being, equity, and justice, an acknowledgment that a deliberate effort is required to ensure communities dependent on fossil-fuel based industries do not suffer disproportionately.[133] A just transition entails targeted and proactive measures from governments and non-state actors to ensure that any negative social, environmental, or economic impacts of economy-wide transitions are minimized and benefits are maximized for disproportionally affected communities, including eradication of poverty, regulating prosperity, and creating green jobs.[134]

A critically important transition risk for the Canadian economy is how the labour force will transform in a net-zero carbon and circular economy. Economists at TD Bank estimate that between 50-75% of current oil and gas sector workers (approximately 450,000 jobs) could be displaced in the clean energy transition, primarily in Alberta, Saskatchewan, and Newfoundland & Labrador, which account for 97% of all crude oil production and 66% of all natural gas production in Canada.[135] Clean energy jobs may be more geographically dispersed than these three provinces because the energy generated is not necessarily linked to location of natural deposits of fossil fuels.[136] Smaller communities heavily exposed to carbon-intensive industries will bear far more of the economic impact of the energy transition; and while oil and gas extraction represents only 1.5% of the Canadian

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Germany's *Lieferkettensorgfaltspflichtengesetz (Act on Corporate Due Diligence in Supply Chains)* will come into force January 2023, art. 1, §§ 1, 3. Abiola Okpechi, "German Supply Chain Act: Due Diligence Is a Growing Business Imperative", Assent, (2021), German Supply Chain Act: Due Diligence Is a Growing Business Imperative (assentcompliance.com). The Act initially applies to German-based companies with more than 3,000 employees and foreign-based companies of the same size with registered German branches. In 2024, the size requirement applies to 1,000 employees.

[133] IPCC 2022, note 104, Chapter 4.

[134] IPCC 2022, note 104 at TS-37.

[135] Beata Caranci and Francis Fong, "Canada's Energy Sector Transition and the Potential Impact on Workers", TD Bank, (6 April 2021), at 3-4, Don't Let History Repeat: Canada's Energy Sector Transition and the Potential Impact on Workers (td.com) (hereafter TD Bank, Canada's Energy Sector Transition), applying Princeton University's Net Zero America project mapping a series of possible scenarios for how the US can reach net zero by 2050, forecasting that downstream employment in the oil and gas sector could fall by between 50% and 95%, depending on the chosen path.

[136] TD Bank, Canada's Energy Sector Transition, note 135 at 4,

labour force, in some parts of Alberta it can represent up to 25%.[137] Adverse effects of climate change potentially have a disproportionate impact on the financially vulnerable, including low- to moderate-income and other disadvantaged households and communities.[138]

Similarly, RBC's research has found that 3.1 million Canadian jobs, 15% of the labour force, will be disrupted over the next decade as the country transitions toward a net-zero economy, and eight of ten major economic sectors will be affected as the workforce adapts.[139] Canada's transportation, energy, and manufacturing sectors will undergo the most significant early shifts, as 46% of new jobs in natural resources and agriculture and 40% of new jobs in trades, transport, and equipment require an enhanced skillset.[140] RBC reports that skills must be at the heart of any strategy to achieve Canada's new interim decarbonization targets; yet to date, skills development has not been a priority.[141] In contrast, the UK's green industrial revolution plan incorporates job market planning and skills development by sector into its net-zero strategy.[142]

TD Bank Economists Caranci and Fong observe:

> The elephant in the room for Canada is that any climate change policy must come to terms with the outsized impact from carbon-intensive industries in the energy sector, specifically oil & gas. The extraction and distribution of oil & gas accounts for more than one-quarter of all of Canada's GHG emissions, making it a prime target for reduction efforts.
>
> This will come in two forms. The first is reducing overall dependence on burning fossil fuels for energy. Oil & gas account for nearly two-thirds of Canada's primary energy demand, so reducing the carbon footprint implies a fundamental shift towards electrification, renewable electricity and clean fuels. The second will be in reducing the emissions intensity of the sector through technological

[137] TD Bank, Canada's Energy Sector Transition, note 135 at 7, citing Fort McMurray and Cold Lake, Alberta as examples. In 2019 the federal government launched the Task Force for a Just Transition for Canadian Coal Power Workers and Communities Stakeholders.
[138] FDIC, note 22 at 19509, citing Staff Reports, Federal Reserve Bank of New York, Understanding the Linkages between Climate Change and Inequality in the United States, No 991 (November 2021), https://www.newyorkfed.org/research/staff_reports/sr991.html.
[139] Colin Guldimann et al, RBC, "Green Collar Jobs: The skills revolution Canada needs to reach Net Zero" (16 February 2022), Green Collar Jobs: The skills revolution Canada needs to reach Net Zero (rbc.com) (hereafter RBC, Green Collar jobs).
[140] RBC, Green Collar jobs, note 139.
[141] RBC, Green Collar jobs, note 139.
[142] UK Department for Business, Energy & Industrial Strategy and Prime Minister's Office, "The ten point plan for a green industrial revolution, Building back better, supporting green jobs, and accelerating our path to net zero" (18 November 2020), The Ten Point Plan for a Green Industrial Revolution (publishing.service.gov.uk).

innovation. In net zero scenarios, fossil fuel demand does not disappear entirely, but its ongoing viability will be determined by the industry's ability to sequester emissions in all its forms.[143]

It means that policies aimed at ensuring a just transition are critically important. Part of the challenge is establishing the most efficient way to decarbonize among a wide range of possible pathways, each of which can leverage different levels of electrification, clean fuels, and clean technology, including infrastructure and supply chains,[144] and ensure that labour policies support the transition in a way that allows workers economic security and the skills needed for new economic activity.

Caranci and Fong recommend that a just transition policy framework should include a redesigned retraining and upskilling framework in which government collaborates with stakeholders to identify and provide training for the skills needed in the clean energy sector; focusing clean energy infrastructure and development within the same communities that will bear the brunt of the energy transition; and broad-based income supports that can partially offset income losses due to displacement, including specific supports for older workers, such as pension bridging grants.[145]

iii. Financing Decision Risk

Financing to reduce net emissions and enhance resilience to climate impacts is a critical factor in the net-zero carbon transition. Canadian banks are in a unique position to influence Canada's transition to net-zero emissions through their financing of transactions, projects, and operating loans. One challenge for boards of directors is that they are trying to balance their responsibilities in a transition that is needed both domestically and globally with the need to continue to generate returns that ensure they have sufficient liquidity and capital to meet their responsibilities to depositors and provide returns to shareholders. Banks also feel a responsibility to support their clients in transitioning industries. Given rapidly developing understanding of both climate science and the challenges for financing decarbonization, directors will require robust, decision-useful information and advice on which they can make decisions regarding risk management and oversight of the bank's strategies and financing decisions.

[143] TD Bank, Canada's Energy Sector Transition, note 135 at 4.
[144] TD Bank, Canada's Energy Sector Transition, note 135 at 7.
[145] TD Bank, Canada's Energy Sector Transition, note 135 at 9.

The IPCC reported in 2022 that modelled finance flows for climate mitigation over this decade need to be as much as six times higher than current levels if we are to limit warming to 1.5°C.[146] Globally, annual tracked total financial flows for climate mitigation and adaptation have increased by up to 60% since 2013/14, but these financial flows are uneven across regions and sectors, and public and private finance flows for fossil fuels are still greater than for climate mitigation and adaptation.[147] The IPCC concludes that there is sufficient global capital and liquidity to close global investment gaps, but barriers include regional mismatch between available capital and investment needs, home-bias factors, economic vulnerability, and limited institutional capacities.[148]

Markets for green bonds and sustainable finance products have expanded significantly; however, the IPCC reports that tracked financial flows fall short of the levels needed to achieve mitigation goals across all sectors and regions.[149] They also still primarily capture existing financing to green and sustainable solutions, not new types of financing, for example, preferential financing such as discounted loans for climate solutions. This new type of preferential financing through sustainable finance products is starting to come online in North America, but is still at a much lower level than the current level of sustainable finance products suggests.

The percentage of loan book tied to fossil fuels in 2021 is not significant among Canada's six largest banks. NBC has the largest at 2.5%; Scotiabank is 1.7%; BMO is 1.6%; CIBC is 1.2%; RBC is 0.9%; and TD Bank is 0.6%.[150] While these low percentages may speak to low solvency risk at this moment, the amount of capital invested is in the billions of dollars, and in the transition to net-zero emissions, boards will need to consider how to effectively shift capital to prevent losses.

Another unknown is the extent of risk of stranded assets. What is known is that limiting warming to 1.5°C is expected to result in the stranding of carbon-intensive assets, essentially, assets that "suffer from unanticipated or premature write-offs, downward revaluations or conversion to liabilities" and the attendant loss of wealth from stranded assets that reduce revenue for high-carbon-dependent economies, in turn affecting macro-economic stability.[151] The IPCC reports that delayed climate financing and limited alignment of investment activity with

[146] IPCC 2022, note 104.
[147] IPCC 2022, note 104 at B.5.4.
[148] IPCC 2022, note 104 at E.5.2.
[149] IPCC 2022, note 104 at 5.
[150] BMO Capital Markets, (September 2022), at 3, on file with author (hereafter BMO Capital Markets).
[151] IPCC 2022, note 104 at 6.7, 15.6, Chapter 17. It reports that two types of assets are at risk of being stranded - in-ground fossil resources and human-

the Paris Agreement will result in significant carbon lock-ins, stranded assets, and other costs.[152] It reports that such risks continue to be underestimated by financial institutions and that continuing expansion of fossil fuel infrastructure and insufficient transparency on how these assets are valued raises concerns that systemic risk may be accumulating in the financial sector; and this underestimation limits the capital reallocation needed for the low-carbon transition.

The IPCC observes that innovative financing approaches could help reduce the systemic underpricing of climate risk in markets and foster demand for investment opportunities, including de-risking investments, robust green labelling and disclosure schemes, and address concerns about greenwashing.[153]

iv. Investor Confidence Risk

Another transition risk for banks is investor confidence risk. Increasingly, investors are adopting proxy voting guidelines that set particular expectations in respect of effective climate governance and transparency in terms of GHG emissions reductions. In 2021, the Institutional Investors Group on Climate Change published a call for board oversight of corporate net-zero transition plans, signed by 53 investors collectively representing more than US$14 trillion in assets under management, and calling for corresponding disclosure to enable investors to determine which directors should be "engaged with and potentially (as a last resort) voted against when a plan hasn't been provided or implementation is insufficient."[154] This signalling by coalitions of institutional investors presents a very near-term risk for bank boards to manage.

In Canada, the Caisse de Dépot et placement du Québec (CDPQ) revised its policy governing the exercise of its voting rights in 2020 to strengthen its position on climate issues, setting its intention to support shareholder proposals on climate issues and creating an option to abstain or vote against directors responsible for these issues if no progress is made.[155] Its proxy voting guidance states that CDPQ will generally support proposals that require

made capital assets such as power plants; and that about 30% of oil, 50% of gas, and 80% of coal reserves will remain unburnable if warming is limited to 2°C. "Practically all long-lived technologies and investments that cannot be adapted to low-carbon and zero emission modes could face stranding under climate policy – depending on their current age and expected lifetimes. Scenario evidence suggests that without carbon capture, the worldwide fleet of coal and gas power plants would need to retire about 23 and 17 years earlier than expected lifetimes, respectively, in order to limit global warming to 1.5°C and 2°C", IPCC 2022, note 104 at TS.8.

[152] IPCC 2022, note 104 at 15.6.

[153] IPCC 2022, note 104 at 15.6.

[154] Institutional Investors Group on Climate Change, "Investor Position Statement: A call for Corporate Net Zero Transition Plans," (30 July 2021), $14 trillion investors call for consistency on 'corporate net zero alignment plans' and director accountability on climate targets – IIGCC.

[155] CDPQ, "Policy Governing the Exercise of Voting Rights of Public Companies", (2020), Policy Governing the Exercise of Voting Rights of Public

disclosure of the governance, strategy, and measures adopted by a company in relation to climate change and management of the related risks; the adoption of GHG-reduction targets and accountability on achieving them; the development of climate scenario analyses; TCFD-based disclosure; and disclosure of lobbying activities, especially with regard to climate lobbying carried out by companies and their professional associations. It states that CDPQ may, at its discretion, abstain or vote against the person in charge of the relevant committee or the chair of the board if no progress has been made after a process of engagement concerning the lack of climate change initiatives and measures.[156]

Proxy solicitation firm Georgeson LLC's 2021 Annual Corporate Governance Review reported voting outcomes for S&P1500 companies' 2021 annual meetings.[157] The review found that the 2021 proxy season produced unprecedented results, including record-high proposal submission levels, passage levels, and average support levels. The results indicate that investors' heightened focus on ESG risks and opportunities is having a meaningful impact on voting decisions. The review also noted a sizeable increase in negotiated settlements (withdrawals) of shareholder proposals in 2021, including 51 withdrawals of proposals related to climate measures where the companies agreed to act.[158] Georgeson also reports that as of mid-May 2022, a total of 924 shareholder proposal submissions had been made in the 2022 season.[159]

BlackRock manages US$3.6 trillion of investments in securities, including CA$275 billion under management in Canada.[160] CEO Larry Fink's 2021 letter to its portfolio companies said that there is no company whose business model won't be profoundly affected by the transition to a net zero economy; that companies that are not quickly preparing themselves will see their businesses and valuations suffer; and that BlackRock expects boards to disclose a plan for how their business model and long-term strategy will be compatible with a net-zero economy.[161] BlackRock stated that companies risk votes against directors unless they demonstrate significant

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Companies (hereafter CDPQ, "Policy Governing the Exercise of Voting Rights of Public Companies"). In 2017, CDPQ adopted a climate change strategy that requires the climate factor to be included in all investment decisions. The strategy also proposes targets and mechanisms that allow the organization to concretely and constructively address the transition to a low carbon economy through its contribution as an investor in the face of this global challenge at 11.3.

[156] CDPQ, "Policy Governing the Exercise of Voting Rights of Public Companies", note 155 at 14-15.

[157] Georgeson LLC, "2021 Annual Corporate Governance Review", (21 October 2021), 2021 Annual Corporate Governance Review | Georgeson (ceros.com) (hereafter Georgeson, 2021)

[158] Georgeson, 2021, note 157 at 8.

[159] Georgeson LLC, "An Early Look at the 2022 Proxy Season", (2022), {77363409-2097-454f-9dab-2b8246bf4665}_Georgeson-Early-Proxy-Season-2022.pdf (computershare.com).

[160] BlackRock, "BlackRock in Canada", (2022), BlackRock in Canada | About BlackRock.

[161] BlackRock, "Larry Fink's 2021 letter to CEOs", https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter.

progress on the management and reporting of climate-related risk, including their transition plans to achieve net-zero emissions.

Fink's 2022 letter notes that in two years there has been a tectonic shift of capital towards sustainable investing and decarbonization, and companies that do not adapt will be behind, no matter what sector.[162] He notes that green products often come at a higher cost today and bringing down this green premium is essential for an orderly and just transition. BlackRock is asking companies to set short-, medium-, and long-term targets for emissions reductions. "Divesting from entire sectors – or simply passing carbon-intensive assets from public markets to private markets – will not get the world to net zero", Fink noting that some of its clients are choosing to divest their assets while other clients are not, but that BlackRock is investing by forcefully asking companies how they are preparing for and participating in the net-zero transition. In the period from July 2021 to June 30, 2022, Blackrock had more than 2,000 engagements with investee companies on climate and natural capital; it voted to signal concerns about climate action or disclosure at 234 companies; and did not support the election of 176 directors based on climate-related concerns.[163]

Investors are increasingly considering climate-related financial risks in making decisions regarding their debt and equity investments, recognizing that climate change may result in unexpected re-evaluation of bank assets.[164] The Bank of Canada and OSFI report that alteration of projected earnings and expenses in many sectors driven by climate change could affect the debt repayment capacity and collateral of borrowers and increase credit risk for banks.[165] In turn, sudden revaluation of equity in those sectors could expose banks to market losses, with significant impacts for soundness of financial institutions.[166] Some Canadian banks are undertaking borrower-level assessments using sectoral-level financial impacts based on different scenarios, which have revealed data gaps on the impacts of the climate transition on their portfolios.[167]

Globally, Climate Action 100+, representing 617 investors responsible for US$65 trillion in assets under management across 33 markets, engages with boards, asking them to: implement a strong governance framework that clearly articulates the board's accountability and oversight of climate change risk; take action to reduce GHG

[162] Blackrock, "Larry Fink's 2022 Letter to CEOs: The Power of Capitalism", Larry Fink's Annual 2022 Letter to CEOs | BlackRock (hereafter Fink, 2022).
[163] Blackrock, "2022 voting spotlight summary BlackRock Investment Stewardship A look into the 2021-2022 proxy voting year", (2022), BIS 2022 Voting Spotlight - Summary (blackrock.com).
[164] OSFI, Navigating, note 15 at figure 4.
[165] Bank of Canada and OSFI, 2022, note 31 at 27.
[166] Bank of Canada and OSFI, 2022, note 31 at 27.
[167] Bank of Canada and OSFI, 2022, note 31 at 2.

emissions across the value chain consistent with moving towards net-zero emissions; and provide enhanced TCFD sector-specific disclosure, to enable investors to assess the robustness of companies' business plans and improve investment decision-making.

Climate Action 100+ reports that during the 2021 proxy season, the average approval vote among all climate-related shareholder proposals was 44%; climate-related shareholder proposals won majority votes on 14 proposals; and with another 70 proposals, shareholders were able to get companies to agree to take action in exchange for withdrawing the proposals before the annual meeting votes.168 In the US, a proxy battle at Exxon Mobil resulted in the majority of shareholders voting to replace three directors on the oil giant's board with directors nominated by shareholder Engine No. 1.169

The International Energy Agency (IEA) reports "there is no need for investment in new fossil fuel supply" because "no new oil and gas fields are required beyond those already approved for development", and in order to meet global emissions-reduction goals, countries will need to transition a major percentage of their energy generation to low-emission alternatives such as wind, solar, wave, tidal, hydro, and geothermal.[170] Deutsche Bank and HSBC announced they would no longer offer financial services for new oil sands projects or pipelines.[171] Global reinsurer Swiss Re estimates that Canada could lose 6% to 7% of its GDP annually by 2050 without considerably more climate action.[172] Bloomberg found that in 2021, Canada's banks were among the top funders of fossil fuels in the world.[173] Another report found that since the Paris Agreement was signed, from 2015 to 2020, Canada's five largest banks financed more than half a trillion US dollars' worth of fossil fuel activity around the world, including over US$230 billion in fossil fuel expansion.[174]
These reports illustrate an important issue for banks. Traditional financing of the fossil fuel sector in Canada

[168] M LaManna and R Berridge, *Acting on the Climate Crisis*, Climate Action 100+, (3 August 2021), Acting on the climate crisis | Climate Action 100+ (hereafter Climate Action 100+).
[169] Climate Action 100+, note 168.
[170] IP4C notes that "there is some complexity in defining what new oil and gas production is relative to existing production. Oil and gas reserves are categorized as Proven and Probable, and within Proven reserves there are Developed and Undeveloped reserves. Using these categories, new oil and gas activity can be understood as anything that results in a reserve going from Probable to Proven, or from Undeveloped to Developed." Investors for Paris Compliance, *Best Practices for Canadian Banks' Net Zero Implementation*,(December 2021), at 4, Report Release: Best Practices for Canadian Banks' Net Zero Implementation - Investors for Paris Compliance (hereafter I4PC 2021); International Energy Agency (IEA) World Energy Outlook 2021, https://www.iea.org/reports/world-energy-outlook-2021/executivesummary; World Energy Outlook 2021 – Analysis – IEA.
[171] Dan Healing, "Deutsche Bank says it won't back an new oil sands or coal projects", *BNN Bloomberg* (27 July 2020), Deutsche Bank says it won't back an new oil sands or coal projects - BNN Bloomberg.
[172] Swiss Re Institute, The economics of climate change, (April 2021), swiss-re-institute-expertise-publication-economics-of-climate-change.pdf (swissre.com).
[173] I4PC 2021, note 170 at 4.
[174] Reclaim Finance *et al*, Banking on Climate Chaos, Fossil Fuel Finance Report 2021, at 4, 22, Banking-on-Climate-Chaos-2021.pdf (ran.org) (hereafter Banking on Climate Chaos).

does require a period of transition to have an ambitious but carefully managed transition to net zero. The definition of what is in and what is out of transition financing has been uncertain, but important steps are being taken by the federal government-appointed Sustainable Finance Action Council (SFAC) and are expected to aid transition financing. The coming year will be critically important for Canadian banks to show meaningful progress in shifting finance, and to undertake ambitious actions plans that change investor perceptions that the banks are not moving fast enough on shifting financing away from high-carbon emitting sectors. Also of note is that Canadian banks are attempting to solve a crisis that is global within the specific context of their domestic and foreign portfolio decisions, and one challenge is the extent to which financing decisions in the oil and gas sector may impact jobs and communities in a way in that banks in other countries will not be affected.

Investors with more than US$121 trillion in assets have signed the Principles for Responsible Investment, a commitment to integrate ESG issues into their investment decisions.[175] Research by accounting firm PwC shows that 77% of institutional investors plan to stop purchasing non-ESG products by 2022.[176] At COP26, almost 500 financial institutions with US$130 trillion under management committed to financing the transition to net-zero emissions.[177] They are committing to align their debt and equities portfolios by investing in companies that are taking meaningful steps to decarbonize.

However, there is concern as to what comprises sustainable finance. Sustainability linked bonds (SLB) are a growing market, reaching US$108 billion last year; however, the money raised by SLB can be used for anything, as long as the borrower pledges to meet a self-defined ESG target;[178] and some concern has been expressed that there is risk of greenwashing.[179] As ESG commitments increase, including climate risk management, one survey found that six in ten institutional investors view greenwashing as their top concern with their integration of ESG factors into investment decisions.[180] The lack of reliable and standardized ESG information has made it

[175] Principles for Responsible Investing, "Signatories", (November 2021), Quarterly signatory update | PRI Web Page | PRI (unpri.org).
[176] PwC, "ESG during and post COVID-19 world", (January 2021), ESG during and post COVID-19 world (pwc.com).
[177] UN News, "Finance Day at COP26", (3 November 2021), COP26: 'Not blah blah blah', UN Special Envoy Carney presents watershed private sector commitment for climate finance | | UN News.
[178] Alastair Marsh and Natasha White, "Royal Bank of Canada faces shareholder vote on climate standards", *Financial Post* (17 February 2022), Royal Bank of Canada faces shareholder vote on climate standards | Financial Post (hereafter Marsh and White); LE MOUVEMENT D'ÉDUCATION ET DE DÉFENSE DES ACTIONNAIRES BANQUES RÉPERTOIRE 2022 DES PROPOSITIONS EN CIRCULAIRE, (4 March 2022), 2022_repertoire_banques.pdf (medac.qc.ca).
[179] Marsh and White, note 178.
[180] Schroders Institutional Investor Study, "Optimism surges for investment returns, Institutional investors are expecting an improvement in returns despite the long-lasting challenges created by the Covid-19 pandemic", (5 July 2021), Schroders Institutional Investor Study: optimism surges for investment returns and climate moves to centre stage - Schroders global - Schroders.

difficult to evaluate the quality of ESG-compliant actions.[181] The development of global sustainability accounting standards, discussed in Part IV, will begin to mitigate this risk.

A. **Shareholder Proposals to Canadian Bank Boards are Increasing**

Levels of support for shareholder resolutions on Scope 1, 2, and 3 emissions targets in line with the Paris Agreement are growing.[182] Scope 1 covers direct emissions from owned or controlled sources; Scope 2 covers indirect emissions from the generation of purchased electricity, heating, and cooling the company consumes; and Scope 3 includes all other indirect emissions that occur in a company's value chain.

In accordance with the *Bank Act*, qualifying shareholders may submit a formal proposal to the bank's annual general meeting.[183] The threshold for submitting a proposal (other than to nominate a director) is that the shareholder(s) submitting the proposal must be, for at least six months, registered holder(s) or beneficial owner(s) with voting shares equal to 1% of the total number of the bank's or the bank holding company's outstanding voting shares as of the day on which the proposal is submitted; or whose fair market value, as determined at the close of business on the day that the proposal is submitted is at least CA$2,000.[184]

A bank is not required to include the proposal if it "clearly appears that the primary purpose of the proposal is to redress a personal grievance against the bank or its directors"; it clearly appears that the proposal does not relate in a significant way to the business of the bank; or substantially the same proposal was submitted previously and did not receive the prescribed minimum amount of support at the meeting.[185] A proposal may include nominations for the election of directors if it is signed by one or more registered holders or beneficial owners of

[181] M Lazala and J Blankenbach, "Is ESG a matter of risk for business or for people and planet?", (October 2021), Is ESG a matter of risk for business or for people and planet? - Business & Human Rights Resource Centre (business-humanrights.org).
[182] In-favour votes doubled at Shell (from 14% in 2020 to 30% in 2021) and BP (from 8% to 20%) in European shareholder votes, HIS Markit.
[183] Sections 189, 143 and 779, *Bank Act*, note 6.
[184] Or persons in support of the proposal must have that level of shares. *Bank Act* Regulation SOR/2006-314, Meetings and Proposals (Banks and Bank Holding Companies) Regulations (SOR/2006-314), s 4, Meetings and Proposals (Banks and Bank Holding Companies) Regulations (justice.gc.ca); Sections 143(1.1), 143(4), *Bank Act*, note 6. The proposal and the statement in support of it together are not to exceed 500 words. The bank must include the proposal in the management proxy circular or attach to it the person's statement in support of the proposal, Section 143(3), *Bank Act*, note 6.
[185] Section 143(5), *Bank Act*, note 6, s 9 (1) For the purposes of paragraphs 143(5)(d), 144.1(8)(d) and 732(5)(d) of the Act, the prescribed minimum amount of support for a proposal is (a) if the proposal was introduced at one annual meeting, 3% of the total number of shares voted or 3% of the total number of members that voted if the bank is a federal credit union; (b) if the proposal was introduced at two annual meetings, 6% of the total number of shares voted at its last presentation or 6% of the total number of members that voted at its last presentation if the bank is a federal credit union; and (c) if the proposal was introduced at three or more annual meetings, 10% of the total number of shares voted at its last presentation or 10% of the total number of members that voted at its last presentation if the bank is a federal credit union.

shares representing in aggregate at least 5% of the shares of the bank or 5% of the shares of a class of its shares entitled to vote at the meeting at which the proposal is to be presented.[186]

In the past two years, shareholders have brought a number of proposals to Canadian banks, including:

- asking the bank to produce a report on loans it has made in recent years in support of the circular economy;[187]
- asking the board of directors to commit to tighten definitions and standards for sustainable finance;
- requesting that the bank update its criteria for sustainable finance to preclude fossil fuel activity and projects facing significant opposition from Indigenous Peoples;[188]
- requesting that the bank and its business units not participate in or enable pollution-intensive asset privatization transactions, specifically, by not accepting any new mandates to provide either financing/lending or advisory services to such transactions;[189]
- asking the bank to adopt an annual advisory vote policy regarding its environmental and climate change objectives and action plan;[190] and asking the bank to establish a board-level committee with specific responsibility for overseeing climate change to better understand the risks associated with transitioning to a low-carbon economy, including seeking out climate expertise.[191]

In the 2022 proxy season, there were 27 shareholder proposals to Canada's six largest banks, of which 11 (41%) were directly related to climate governance and the vast majority related to ESG more generally.[192] In all cases, management recommended voting against the proposals.[193] None of the climate-related proposals garnered

[186] Section 143(4), *Bank Act*, note 6.
[187] Mouvement d'éducation et de défense des actionnaires shareholder proposal, "The Toronto-Dominion Bank Notice of annual meeting of common shareholders and management proxy circular Annual meeting April 1, 2021", (March 2021), at 73, tm211468-1_TD Bank English Circular_AODA_v1.
[188] Claudia Campbell and Will Horter, represented by Investors for Paris Compliance, Proposal 1, Royal Bank of Canada, "Royal Bank of Canada Notice of Annual Meeting of Common Shareholders April 7, 2022, Management Proxy Circular", at 95 Notice of Annual Meeting of Common Shareholders (rbc.com) (hereafter RBC 2022 Management Proxy Circular).
[189] RBC 2022 Management Proxy Circular, note 188, at 98; B.C. General Employees' Union proposal to RBC, RBC 2022 Management Proxy Circular, note 188, at 95.
[190] Mouvement d'éducation et de défense des actionnaires (MÉDAC), RBC 2022 Management Proxy Circular, note 188 at 95.
[191] Proposal by Mouvement d'éducation et de défense des actionnaires (MÉDAC), Annual Reports (scotiabank.com).
[192] 2022 BMO Management Proxy Circular printmgr file (bmo.com); TD Bank Financial Group - Investor Relations - Annual Meeting 2022; 2022 CIBC Management Proxy Circular; RBC 2022 Management Proxy Circular, note 188 at 95.
[193] 2022 BMO Management Proxy Circular, note 192

majority support.[194] Of the 33 proposals withdrawn after meeting with management and prior to the shareholder meeting, 16 (49%) were climate-related.

Shareholder proposals to RBC are illustrative of the types of proposals being made to Canadian banks. In 2022, two individual shareholders filed a proposal asking RBC to update its criteria for sustainable finance to preclude fossil fuel activity and projects facing significant opposition from Indigenous Peoples.[195] The proposal cited RBC's involvement in CA$1.5 billion financing to pipeline company Enbridge, CA$1.1 billion of which was 'sustainability linked', expressing concerns about greenwashing.[196] The proposal noted that Enbridge has stated that it does not intend to allocate the net proceeds specifically to sustainable projects or business activities. Climate Action 100+, of which RBC Global Asset Management is a signatory, found that Enbridge does not meet criteria in aligning its capital allocations with the Net-Zero Company Benchmark.[197] The proposal stated that RBC's target of providing CA$500 billion in sustainable finance by 2025 fails to take account of global market definitions of transition finance, which creates significant reputational risks for the bank. The proposal only garnered 9% of votes in favour.[198]

The increasing number of proposals signal to bank boards that certain shareholders are becoming increasingly concerned that the banks need to improve their oversight and management of climate-related financial risks. To date, the proposals are not receiving anywhere near majority support, yet the percentage of support is beginning to rise. While successful proposals are not binding on a bank, failure to act on proposals that garner majority support may place directors at risk of not being re-elected, as occurred with the Exxon directors' election. Investors that are tabling shareholder proposals acknowledge that most Canadian banks now have sustainability and other professionals that care about climate change and reducing GHG emissions, but that to date, the dialogic exchange has not resulted in sufficient shifting of financing away from fossil fuels.[199] Some investors are

[194] For example, at the RBC annual meeting, 6.81% voted for avoiding bank participation in pollution-intensive asset privatizations; 9% voted for updating 'sustainable finance' criteria; 21.55% supported an advisory vote on environmental policy; and 18.32% voted for a circular economy proposal; Royal Bank of Canada Annual Meeting of Common Shareholders, "Report of Voting Results", (7 April 2022), voting-results-en.pdf (rbc.com). At TD Bank, the voting results were 6.5% in favour of no new fossil fuel financing; 27% in favour of a vote on environmental policy, TD Bank, Annual meeting, Voting results, ANNUAL MEETING OF COMMON SHAREHOLDERS OF THE TORONTO-DOMINION BANK (td.com).
[195] RBC 2022 Management Proxy Circular, note 188 at 95.
[196] RBC 2022 Management Proxy Circular, note 188 at 95, citing https://www.thestar.com/news/canada/2021/09/27/canadian-banks-are-loaning-enbridge-over-1b-with-questionable-sustainability-requirements.html.
[197] Climate Action 100+, Company Assessment Enbridge, https://www.climateaction100.org/company/enbridge-inc/.
[198] Royal Bank of Canada Annual Meeting of Common Shareholders, (7 April 2022), "Report of Voting Results, voting-results-en.pdf (rbc.com)
[199] Matt Price, "Our Canadian Bank Engagement Experience This Season", (8 February 2022), Our Canadian Bank Engagement Experience This Season – Investors for Paris Compliance (hereafter Price).

starting to become impatient with bank responses that a slow transition is warranted, rather than recognizing that ambitious transition is a priority.[200] Increasingly, banks are being scrutinized with respect to potential greenwashing litigation.[201]

Another issue is that many asset managers perceive that it is necessary to vote with proxy voting advisory firms, meaning those firms now wield considerable influence. For bank issuers, however, what the proxy voting firms will choose to do in relation to shareholder proposals remains difficult to predict, as in many circumstances, their voting guidelines indicate that proposals will be considered on a case by case basis. In many instances, the proxy voting firm will not engage with the bank to discuss shareholder proposals at relevant decision points. Bank boards, therefore, are left in the difficult circumstance of being unsure what shareholder expectations may be on many matters coming forward for votes. The best response for the bank and its board is to have given significant thought to its climate action plan, and to be transparent in decisions taken. Strong disclosure and both board and management engagement with shareholders on ESG matters is now essential.

B. **Say on Climate?**

Taking a deeper dive into the wave of shareholder proposals globally on 'say-on-climate', particularly in 2021 and 2022, of note is that they have received more support than other climate-related shareholder proposals. For example, say-on-climate proposals received 20.66% support at the Scotiabank 2022 annual meeting, 21.55% support at the RBC 2022 annual meeting, and 27% support at the TD Bank 2022 annual meeting.[202] Say-on-climate resolutions are requests for a non-binding vote that aims to consult shareholders on the bank's climate strategy with the objective of ensuring ongoing dialogue on environmental issues.[203] The objectives given are to increase the number of banks that publish an action plan for a net-zero economy and annually disclose their position on the energy transition and reductions of their financed GHG emissions.[204] In some cases, the campaign has persuaded management to propose such resolutions and in others, shareholders are bringing these resolutions.

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[200] Price, note 199.
[201] United Nations Environment Programme and Sabin Center for Climate Change Law, Columbia University, *Global Climate Litigation Report 2020 STATUS REVIEW*, GCLR.pdf (unep.org); Network for Greening the Financial System, "Technical document Climate-related litigation: Raising awareness about a growing source of risk" (November 2021), climate_related_litigation.pdf (ngfs.net).
[202] See voting records cited at notes 185 and 194.
[203] HIS Markit reports that in Europe, 23 companies voted in 2021 on resolutions related to climate, and management from these companies' recommended votes against all of them. Resolutions tended to fare better when management came up with climate proposals and asked shareholders to approve them. Of the 20 companies that submitted their own strategies, the average level of support reached 97.14%, at 16.
[204] UK Children's Investment Fund Foundation gave a grant of over US$100 million to advance these shareholder proposals. UK Children's Investment Fund Foundation, grant, Say on Climate $105,000,000, ciff.org.

There are a range of views on say-on-climate and when it should be supported. Say-on-climate proponents report that such proposals allow for meaningful engagement with executives and directors; they advocate for dialogue first, asking financial institutions to disclose their climate transition action plans, and when they are not responsive, making shareholder proposals calling for such.[205] Jamie Bonham, Director of Corporate Engagement for NEI Investments, observes that say-on-climate is an imperfect solution and his firm does not support these proposals universally, but it is responding to a problem of a lack of disclosure and lack of ambition; it can create a deeper conversation with directors; and it has the effect of giving the board and executive a year to catalyze a lot of work.[206] CDPQ supports the say-on-climate initiative, stating that it considers it an additional tool to use, when necessary, to foster the transition toward a sustainable economy, as shareholders can use their vote at annual general meetings to provide clear feedback on the strategy and measures taken to address climate change.[207]

Another view is a concern that such proposals could undermine the role of the board to oversee and approve strategy on a dynamic basis as part of effective governance, suggesting that shareholders can more effectively exercise their rights to signal their dissatisfaction with the directors' climate actions by voting against their re-election (or divest their holdings if not satisfied). However, given the extent of index investing, it is no longer easy to exit from shareholdings of a single issuer.

Glass Lewis reports that there may be a number of benefits to adopting a say-on-climate to ensure that companies are producing robust TCFD-aligned reports; however, offering a shareholder vote on a climate plan could lead to scenarios where some investors, who may not have the capacity or technical ability to analyze these plans, provide a rubber stamp for climate strategies.[208] It states that it will generally recommend voting against shareholder proposals requesting that companies adopt a policy that provides shareholders with an annual say-on-climate vote on a plan or strategy.[209]

v. Technological Risks

Technological advances can impact borrowing costs and cause a sudden repricing of financial assets, and rapid

[205] Sayonclimate, "Canadian Public Companies - Shareholder Proposals: Background and Process", (8 March 2021), Canadian-Companies-Shareholder-Proposal-Guide-Final.pdf (sayonclimate.org).
[206] Quoted with permission (17 April 2022), on file with author.
[207] CDPQ, "CDPQ supports the Say on Climate initiative – a proposal on managing climate issues and risks", CDPQ supports the Say on Climate initiative – a proposal on managing climate issues and risks | CDPQ.
[208] Glass Lewis, "Say on Climate Votes: Glass Lewis Overview", (2021), Say on Climate Votes: Glass Lewis Overview – Glass Lewis.
[209] Glass Lewis, note 208.

transition could also lead to sudden shifts in prices, resulting in market risks for firms.[210] While a discussion of technological risks is beyond the scope of this guide, of note is that technological innovations that support the transition to a net-zero carbon, energy-efficient economic system will be significantly affected by bank financing and will also have a significant impact on the banking sector. The development and use of emerging technologies such as renewable energy, battery storage, carbon capture and storage, and waste reduction will affect competitiveness, production and distribution costs, and the demand for products and services.[211]

New technologies are being developed and deployed to help lower GHG emissions, providing both risks and opportunities for banks. Banks face some risks if they are not well-positioned for new economic activities and businesses of a net-zero carbon economy. Banks that consider increasing their exposure to new market participants should have appropriate and effective risk models for granting credit or underwriting the new technologies.

iv. Legal and Litigation Risks

The legal risks in transition are complex. First, there is managing the legal risk of choosing to act, including setting targets and designing scenario analysis and the uncertainties associated with shareholders and other stakeholders challenging decisions regarding the pace and extent of decarbonizing portfolios. There are risks associated with decisions regarding how to measure Scope 1, 2, and 3 GHG emissions, choices as to how to secure third-party assurance of the efficacy of methodological choices, and strategic decisions to shift lending and investment portfolios. In the US, three banks - Morgan Stanley, JPMorgan, and Bank of America - are considering exiting the Glasgow Financial Alliance for Net Zero (GFANZ) as they fear being sued over the alliance's decarbonization commitments.[212] Second, where banks have made proactive commitments, there may be legal risks in respect of failing to meet these commitments or failure to disclose material information relating to these activities under securities law or financial services law.

A. Greenwashing

Banks could also become subject to litigation related to their financing activities via parties seeking damages

[210] BIS, *The green swan*, note 10.
[211] TCFD Final Report, note 108 at 6.
[212] Reuters, "Major U.S. banks threaten to leave Mark Carney's climate alliance – FT", (21 September 2022), https://www.reuters.com/business/finance/major-us-banks-threaten-leave-mark-carneys-climate-alliance-ft-2022-09-21/; *Financial Times*, "New York climate week: Carney concedes banks shrinking from green guidelines", Financial Times, (September 2022), https://www.ft.com/content/e4de7a58-1128-42c3-9989-d302d913f2c8.

or other legal recourse.[213] The NGFS in 2021 reported that climate cases against banks are likely to continue to rise, for failing to appropriately disclose and manage climate-related risks, including statements made in annual reports and advertising.[214] It reports that due to regulatory developments, financial institutions may increasingly face lawsuits or other claims relating to disclosures under various taxonomies for green financial products and potentially also breach-of-contract claims relating to such products.

In Europe, regulators have commenced investigating and charging companies for misrepresenting the extent of their sustainability disclosures.[215] For example, in 2021, the German supervisory authority BaFin and federal criminal police raided the offices of Deutsche Bank and its subsidiary DWS Asset Management on suspicion of greenwashing.[216] DWS allegedly misled investors by overstating information on sustainability criteria in investments without making tangible progress on issues such as environmental and climate protection. After an examination, authorities found sufficient factual indications that, contrary to the information in the sales prospectuses of DWS funds, ESG criteria were only taken into account in a minority of investments and were not taken into account in a large number of investments, leading to the allegation of prospectus fraud.[217]

US authorities are also investigating deception towards sustainability-minded investors. In 2022, the Securities and Exchange Commission (SEC) charged BNY Mellon Investment Adviser Inc for misstatements and omissions about ESG considerations in making investment decisions for certain mutual funds that it managed.[218] To settle the charges, BNY Mellon agreed to pay a US$1.5 million penalty.[219] The SEC now has a task force investigating potential misconduct related to companies' sustainability claims and is working on a new disclosure rule to require enhanced climate disclosures by issuers.[220]

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[213] TCFD Implementing Guidance 2021, note 4 at 25.
[214] Network for Greening the Financial System, *Technical document Climate-related litigation: Raising awareness about a growing source of risk*, (November 2021), at 11, climate_related_litigation.pdf (ngfs.net).
[215] For example, the US Securities and Exchange Commission and BaFin, Germany's financial regulator, recently initiated a probe into allegations that Deutsche Bank AG's DWS Group asset-management arm has been misstating the environmental credentials of some of its ESG-labeled investment products; Quinson, note 126.
[216] Morningstar, note 122.
[217] Morningstar, note 122.
[218] SEC, "SEC Charges BNY Mellon Investment Adviser for Misstatements and Omissions Concerning ESG Considerations", SEC Press release (May 2022), SEC.gov | SEC Charges BNY Mellon Investment Adviser for Misstatements and Omissions Concerning ESG Considerations (hereafter SEC press release).
[219] SEC press release, note 218.
[220] SEC, "SEC Announces Enforcement Task Force Focused on Climate and ESG Issues", (4 March 2021), SEC.gov | SEC Announces Enforcement Task Force Focused on Climate and ESG Issues; and SEC, "Spotlight on Enforcement Task Force Focused on Climate and ESG Issues", (2022), SEC.gov |

B. Disclosure

Lawsuits have included applications for greater transparency on carbon-intensive financing by banks. For example, in *Abrahams v Bank of Australia*, shareholders of the Commonwealth Bank of Australia (CBA) sued the bank, alleging that it violated the *Corporations Act* in failing to disclose climate-related business risks, including a possible investment in a coal mine.[221] The shareholders alleged that CBA knew, or ought to have known, that its climate change business risks might have a material impact on its operations and financial position; that CBA ought to have had business strategies to manage its climate change business risks; and that CBA's members (shareholders) reasonably require a summary of CBA's climate-related risks and business strategies, if any, employed to manage those risks.[222] The shareholders subsequently dropped their lawsuit when CBA agreed to start reporting climate risks; undertook not to lend to the coal mine; and the directors acknowledged that climate change posed a significant operational risk and promised to undertake risk scenario analysis.[223]

More recently, two shareholders of CBA became concerned that the bank is financing seven new oil and gas projects, and they filed an application in the Federal Court of Australia seeking access to internal company documents in relation to each project in the context of CBA's 2019 Environmental and Social Policy and framework.[224] The Court was satisfied that the plaintiffs were acting in good faith and that the inspection they sought was made for a proper purpose in accordance with the *Corporations Act*, and ordered the bank to produce certain documents for inspection.[225] The documents delivered were redacted, and the shareholders have filed a further application to remove the redactions and seeking further information; the matter is pending in October 2022.[226]

Spotlight on Enforcement Task Force Focused on Climate and ESG Issues.

[221] *Abrahams v Commonwealth Bank of Australia*, No VID/ 879 (2017).

[222] Notice of Filing, Guy Abrahams v Commonwealth Bank of Australia, Victoria Registry, Federal Court of Australia (8 August 2017), http://envirojustice.org.au/ sites/ default/ files/ files/ 170807%20Concise%20 Statement%20(as%20filed).pdf.

[223] Gareth Hutchens, 'Commonwealth Bank Shareholders Drop Suit over Nondisclosure of Climate Risks', *The Guardian* (21 September 2017), https:// www.theguardian.com/ australia- news/ 2017/ sep/ 21/ commonwealth- bank- shareholders- drop- suit- over- non- disclosure- of- climate- risks, referencing the CBA, 'Annual Report' (2017) at 10– 11, 24, 44– 47, and 151, https:// www.commbank.com.au/ content/ dam/ commbank/ about- us/ shareholders/ pdfs/ annual- reports/ annual_ report_ 2017_ 14_ aug_ 2017.pdf.

[224] Guy Abrahams & Kim Abrahams As Trustee For The Guy & Kim Abrahams Family Trust V Commonwealth Bank Of Australia ACN 123 123 124, 210826-Originating-Process-stamped.pdf (equitygenerationlawyers.com). See also Abrahams v Commonwealth Bank of Australia (2021), Federal Court of Australia | NSD864/2021, Equity Generation Lawyers .. | Abrahams v Commonwealth Bank of Australia (2021) – Equity Generation Lawyers.

[225] Section 247A of the *Australia Corporations Act 2001* (Cth). Order of Justice Cheeseman, Federal Court of Australia, (4 November 2021), No: NSD864/2021, Order_JUSTICECHEESEMAN_DOC4 (comcourts.gov.au). This initial order was ultimately made on consent of the parties.

[226] Order of Justice Cheeseman, Federal Court of Australia, (9 August 2022), No: NSD864/2021, Order_JUSTICECHEESEMAN_DOC13 (equitygenerationlawyers.com).

In the US, there are a growing number of class actions alleging that companies gave materially false or misleading statements to investors regarding their management of investments based on carbon emissions and potential for stranded assets, and while results to date are mixed, a number of cases are now proceeding through the appellate courts.[227] A number of investors and other organizations have developed scoring metrics that grade companies on their emissions reductions performance.[228] While lawsuits have not yet commenced against Canadian banks, these international trends highlight the risks that need to be managed.

C. Claims for Damages

In respect of physical impacts, litigation may be brought against an entity alleged to be indirectly or directly responsible for damage associated with climate-related extreme events or chronic impacts, in the case of banks, more likely indirectly through its financing of activities of the company.[229] Climate-related litigation may have significant financial implications for banks with financial exposures to defendant companies; and if such litigation is successful, the defendant may have to pay damages, fines and/or costs associated with adapting its operations to comply with the court judgment, with a possible impact on the value of the firm, its creditworthiness, and/or financing costs.[230] The NGFS notes that regardless of outcome of such cases, the defendant may face reputational costs, with spill-over effects for banks, and banks need to factor in the possible impact of climate litigation on the companies it is exposed to in assessment of credit risk and market risk.

D. Breach of Fiduciary Duties and Oppression Remedy Claims

Another category of legal risk are cases alleging breaches of fiduciary duties. For instance, if a bank continues to decide to finance high-GHG-emitting projects, the bank and its directors may be sued as 'indirect polluters' for financing such projects.[231] ClientEarth initiated proceedings for injunctive relief against the Banque Nationale de Belgique in Brussels, alleging that by implementing a corporate sector purchase program that purchases carbon-intensive bonds, the bank violates various EU Treaty provisions as well as the Charter of Fundamental

[227] *Ramirez v Exxon Mobil Corp et al*, Civ No 3:16-CV-3111-K (Dist Crt Northern District of Texas).
[228] See, for example, MSCI, *Integrating ESG and Climate into Portfolios*, Chapter-02-MSCI-ESG-Advisor-Guide.pdf.
[229] Network for Greening the Financial System, "Climate-related litigation: Raising awareness about a growing source of risk", Network for Greening the Financial System Technical document (November 2021), at 5, climate_related_litigation.pdf (ngfs.net) (hereafter Network for Greening the Financial System).
[230] Network for Greening the Financial System, note 229 at 7.
[231] Network for Greening the Financial System, note 229.

Rights of the EU.[232] The case was dismissed at first instance, but is currently under appeal, ClientEarth arguing that the program was designed without taking into account climate considerations as required by EU law and is inconsistent with EU climate policy, making it invalid.[233]

Claims may also be brought in tort, as they have been against major carbon emitting companies in the US and Europe, and banks may be exposed to claims in tort for failing to manage risks related to carbon-intensive assets.[234] However, depending on the role and involvement of the banks as financiers of carbon-intense sectors, direct liability may be difficult to establish. That said, directors and other bank fiduciaries may face litigation for failure to comply with financial services and securities regulations, first regulatory compliance claims and then the securities law and tort claims that often follow findings of regulatory violation. As regulatory changes occur, directors will need to be duly diligent in checking that managers are meeting these requirements.

A further avenue for holding directors accountable for failing to address climate adaptation and mitigation is the statutory corporate law oppression remedy, available where directors act in a manner that is oppressive, unfairly prejudicial to, or unfairly disregards the interests of specified stakeholders.[235] The oppression remedy under Canadian corporate law is a potentially powerful tool to press directors and officers to take action on climate change as it focuses on harm to the legal and equitable interests of stakeholders and 'seeks to ensure fairness—what is just and equitable' when directors have acted unfairly prejudicially or oppressively.[236] Remedies are based on the 'reasonable expectations' of the claimant. Given the broad recognition of climate-related risks, there is arguably now a reasonable expectation that directors will act to mitigate these risks. While there are some challenges to bringing such lawsuits, if the court finds that the directors acted in a manner that is oppressive, unfairly prejudicial, or unfairly disregarding, an extraordinarily broad set of remedies is available to complainants bringing such claims.[237]

> The NGFS reports that the potential magnitude of the financial impact of lawsuits on financial entities is very large, "with a consequent risk that defendants might be held liable for substantial awards of damages or required

[232] Network for Greening the Financial System, note 229.
[233] ClientEarth Communications, "Why we're going back to Court against the Belgian National Bank", (31 January 2022), Why we're going back to Court against the Belgian National Bank | ClientEarth.
[234] OSFI, Navigating, note 15 at 10.
[235] Sarra, *Governance Paths to Net Zero*, note 12 at 78-79.
[236] *Wilson v Alharayeri*, 2017 SCC 39 (SCC) at paragraph 23.
[237] For a discussion of the potential and the limitations of the oppression remedy, see Sarra, *Governance Paths to Net Zero*, note 12 at 78-79.

> to undertake significant and costly adaptation measures with possible cliff-effects, for example, potential bankruptcies and ensuing chain effects on the financial system".[238] The impact of climate-related litigation could materialize in a non-linear manner, in that rapidly evolving developments in the field of climate science may better enable litigants to establish causation between emissions and climate impact-induced damages and lead to a wave of potentially successful, and thereby financially devastating, lawsuits against a range of entities.[239]

Unrelated to the bank sector, but certainly important to note is the recent court decision in the Netherlands regarding Royal Dutch Shell, in which the District Court of The Hague recognized that 85% of its emissions were Scope 3 emissions, ordering Royal Dutch Shell to reduce the CO_2 emissions of its entire corporate group of 1,100 companies by 45% by 2030 across Scope 1 to 3 emissions, as compared with 2019 levels.[240] The Court expressly held that the standard of care included the need for companies to take responsibility for reducing Scope 3 emissions, especially where these emissions form the majority of a company's emissions.

vii. Reputational Risks

In addition to the risks discussed above, all of which are quite immediate risks, Canadian bank boards have been grappling with reputational risks more generally. Climate change is increasingly a source of reputational risk tied to changing customer and community perceptions of a bank's contribution to, or detraction from, the transition to a net-zero carbon economy. OSFI has observed that depositors and other stakeholders may view a bank as perpetuating climate change due to continued investments in and lending to high carbon-emitting sectors.[241] Reputational risks can result in a significant decline in the bank's value, liquidity or customer base, or require costly measures to address. A bank's reputation is a valuable business asset that is essential to optimizing shareholder value, and therefore, is continually at risk.

Boards are having to make decisions regarding their public commitments to transition to net-zero emissions and the timeframe for accomplishing transition; decisions regarding joining collaborative organizations; selecting methodologies to set targets for decarbonization of financed transactions and accurate measuring of progress

[238] OSFI, Navigating, note 15 at 9.
[239] OSFI, Navigating, note 15 at 9.
[240] *Vereniging Milieudefensie et al v Royal Dutch Shell Plc*, C/09/571932 / HA ZA 19-379, judgment of the Hague District Court, (26 May 2021), official english translation by the Court, 20210526_8918_judgment-2.pdf (climatecasechart.com).
[241] OSFI, Navigating, note 15 at 10.

in meeting targets and metrics; and managing regulatory change for both the bank and the sectors in which it invests, given pathway uncertainty for different sectors. A misstep can have huge reputational consequences for the bank. A growing number of depositors and broader civil society members want a just transition to net-zero emissions. The board may be committed to a just transition, but the lack of uniform definitions or regulatory parameters means the directors have to make complex forward-looking decisions on how best to align their risk management and strategic decisions with a just transition for the stakeholders hardest hit.

One Canadian investor organization has documented the instances in which Canadian banks have recently financed major fossil fuel expansion projects that are vociferously opposed by Indigenous Peoples, including the Dakota Access Pipeline, Trans Mountain Pipeline, and Line 3 oil sands pipeline expansion project.[242] It suggests that banks need to develop internal expertise and tests of whether informed consent has been met before approving financing, conducting their own due diligence with affected Indigenous Peoples rather than relying on information from the project proponent who is biased towards approval. Financing of the Enbridge Pipeline expansion drew opposition from a number of Indigenous organizations, and although the pipeline is now operational, Indigenous activists continue to resist its impacts.[243]

Canadian banks are also attracting attention from non-governmental organizations that are documenting how Canadian and other banks continue to finance fossil fuels.[244] Judy Wilson, Chief of the Skat'sin te Secwepemc-Neskonlith Indian Band, and other individuals, supported by Stand.Earth and Ecojustice, have asked the Competition Bureau of Canada to investigate RBC for alleged misleading advertising regarding its climate commitments pursuant to the deceptive marketing practices in representations to the public provisions of s 74.01(1)(a) of the *Competition Act*.[245] They submit that RBC's continued investment in fossil fuel companies of over US201 billion since 2016 is in direct opposition with the bank's public commitments to climate change actions that align with the Paris Agreement.[246] The remedy they are seeking is that RBC pay a $10 million fine, credited to the Environmental Damages Fund and to be paid to organizations, preferably Indigenous-

[242] I4PC 2021, note 170 at 15.
[243] Abe Asher, "The fight against Line 3 isn't over yet" (28 February 2022), The Fight Against Line 3 Isn't Over Yet By Abe Usher, The Progressive — Stop Line 3.
[244] See for example, Reclaim Finance *et al*, Banking on Climate Chaos, 2022 Fossil Fuel Report, BOCC_2022_vSPREAD.pdf (bankingonclimatechaos.org).
[245] Rosa Saba, "Group asks competition watchdog to investigate alleged 'greenwashing' by RBC", *Toronto Star* (22 April 2022), Group asks competition watchdog to investigate alleged 'greenwashing' by RBC | The Star. James Bradshaw, Competition Bureau launches inquiry into RBC's green advertising", *The Globe & Mail*, (11 October 2022), Competition Bureau launches inquiry into RBC's green advertising - The Globe and Mail.
[246] Ecojustice, "Application for inquiry regarding the Royal Bank of Canada's apparent false and misleading representations about action on climate change while continuing to finance fossil fuel development" (June 2022), at 3, 2022-06-10-Complaint-to-Competition-Bureau-re_-RBC-climate-representations-

led, for the purposes of climate mitigation and adaptation in Canada.[247] The Competition Bureau has opened an investigation in September 2022.[248] The complaint is drawing considerable media attention to RBC and impairing its reputation in respect of its reports to the public regarding its climate commitments.

> The generations that have increasing purchase power for financial and other services, Millennials and Gen Z, are very concerned about climate change, biodiversity loss, and waste, and are more likely to be skeptical about green marketing claims, seeking information to substantiate claims.[249] A growing segment of the consumer population expects to see banks making efforts to finance decarbonization and circular economy activity and to do so in a manner that is fairer and more equitable for a broader set of stakeholders, embedding diversity, equity, and inclusion in their climate action plans.[250]

The board can also oversee proactive efforts to build a strong reputation through the bank's approach to climate. Artic drilling is an example, the Gwich'in are working to protect the Arctic National Wildlife Refuge, one of the world's last intact ecosystems, home to nearly 200 wildlife species and the breeding grounds of the white polar bear and Porcupine caribou herd; and several major Canadian banks have adopted policies refusing to finance drilling in the refuge.[251]

viii. Operational Risk

In order to develop resilience to climate-related acute events and chronic impacts, banks need to identify operational risks such as damage to their physical assets and disruption to critical operations, which are likely

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Final.pdf (ecojustice.ca) (hereafter application). *Competition Act*, RSC 1985, c C-34, as amended. See also Indigenous Environmental Network et al, *Banking on Climate Change, Fossil Fuel Finance Report 2020*, Banking_on_Climate_Change__2020_vF.pdf (ran.org).

[247] Application, note 246 at 4.

[248] Under section 9 of the *Competition Act*, Competition Bureau of Canada, letter regarding Notice of Inquiry Commencement into Royal Bank of Canada, (29 September 2022), Microsoft Word - 2022-09-22 DRAFT Notice of Inquiry Commencement.docx (ecojustice.ca)

[249] McKinsey & Company, "Meet Generation Z: Shaping the future of shopping", (4 August 2020), Meet Generation Z: Shaping the future of shopping | McKinsey.

[250] N Kachaner *et al*, "The Pandemic Is Heightening Environmental Awareness", Boston Consulting Group, (14 July 2020), The Pandemic Is Heightening Environmental Awareness | BCG.

[251] Eric Bowling, "All major Canadian banks standing behind Gwich'in fight to save Arctic Refuge, *NNSL Media*, (20 December 2020), All major Canadian banks standing behind Gwich'in fight to save Arctic Refuge (nnsl.com); Avery Zingel "RBC joins string of banks that will not directly fund drilling projects in Arctic refuge", CBC News, (5 October 2020), RBC joins string of banks that will not directly fund drilling projects in Arctic refuge | CBC News; NS Energy Staff Writer , "TD Bank to cease financing of oil and gas operations in Arctic", NS Energy (10 November 2020), TD Bank to cease financing of oil and gas operations in Arctic (nsenergybusiness.com).

to grow as extreme weather events increase in frequency and severity. These operational risks include disruption of services from material third parties that the bank relies on. The bank can develop strategies to mitigate the impact of climate-related disasters on their critical operations.

Another operational risk that is garnering serious attention is biodiversity loss. Businesses, banks and other financial organizations are beginning to face important risks because of their biodiversity impacts and dependencies; such risks are mainly operational risks associated with resource dependency, scarcity, and quality.[252] The World Economic Forum reports that biodiversity loss ranks as one of the top three most severe risks over the next decade, and that biodiversity loss, ecosystem collapse, and destruction of natural capital have irreversible consequences for the environment, humankind, and economic activity.[253]

3. Opportunities

The opportunities for Canadian banks in the transition a net-zero economy are significant, and reflected in the discussion on governance in Part V of this report. There are opportunities for banks through financing resource efficiency in distribution and transportation processes, circular economy strategies, adoption of low-emission energy sources, development of new financial products and services, access to new markets, and building resilience along the value chain. The Canadian Climate Institute reports that emerging technologies such as geothermal energy, hydrogen, second-generation biofuels, and a wide range of clean technologies also present opportunities for financing transition.[254] Banks have started to look for climate-related investment opportunities such as renewable energy and to assess opportunities to offer sustainable finance products and services to their clients.[255]

Financial institutions are also shifting their debt portfolios, which may affect companies' access to capital. Global growth of sustainable debt issuances, including green bonds and loans and sustainability-linked bonds (SLB), has grown from less than US$100 billion in 2015 to US$4 trillion in 2022.[256] In Canada, in 2021, the sustainable bond market was US$49 billion, doubling in one year alone, with an issuance of US$20 billion in 2021.[257]

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[252] OECD, "Biodiversity-related risks to businesses" (2022), Biodiversity-related risks to businesses | Biodiversity: Finance and the Economic and Business Case for Action | OECD iLibrary (oecd-ilibrary.org).
[253] World Economic Forum, *2022 Global Risk Report*, (January 2022), at 23, WEF_The_Global_Risks_Report_2022.pdf (weforum.org).
[254] Canadian Institute for Climate Choices (now the Canadian Climate Institute), *Sink or Swim: Transforming Canada's Economy for a Global Low-Carbon Future* (October 2021), Sink or Swim: Transforming Canada's economy for a global low-carbon future (climatechoices.ca).
[255] Bank of Canada and OSFI, 2022, note 31 at 43.
[256] Jameson Berkow, "How sustainable debt is turning corporations into climate leaders", *Bloomberg*, (29 October 2021), How sustainable debt is turning corporations into climate leaders - BNN Bloomberg (hereafter Berkow); Fink, 2022, note 162.
[257] BloombergNEF, "Sustainable Debt Issuance Breezed Past $1.6 Trillion in 2021", (12 January 2022), Sustainable Debt Issuance Breezed Past $1.6

The sustainable debt market includes green bonds, social bonds, sustainability bonds, and green loans, as well as the fastest growing products, SLB and sustainability-linked loans (SLL), and BloombergNEF reports that total sustainable debt issuance through 2021 exceeded US$1.6 trillion.[258] Given that there is no commonly accepted standard of what constitutes sustainable finance, governing bodies are tasked with defining what should and should not be included under these labels, the types of disclosure required, and the ways to track and audit sustainability-related statements.[259]

Green bonds that are 'use-of-proceeds' use the proceeds to finance climate-related or other environmental or social projects. In contrast, SLB and SLL can be used for direct corporate purposes and are meant to incentivize climate governance or other ESG activity by making certain indicia or performance targets tied to management of climate risk, ESG, etc, but the funds themselves do not need to be used for this purpose, and thus, they have garnered criticism from some stakeholders.

SLL are growing in Canada. For example, in 2019, Maple Leaf Foods Inc amended its existing credit facility with BMO Financial to "allow Maple Leaf Foods to reduce the interest rate on the lending facility if it meets targets on electricity use, water use, solid waste, and continues to reduce its carbon emissions in line with its achievement of net carbon neutrality."[260] Another example is that Teck Resources Limited executed a US$4 billion sustainability-linked revolving credit facility in 2021, under which "the price paid by Teck will increase or decrease based on the company's performance in reducing carbon emissions, improving health and safety, and strengthening gender diversity in its workforce".[261] It aligns the credit facility with Teck's goals of reducing carbon intensity by 33% by 2030 and becoming carbon neutral across operations by 2050.[262] Boards of banks may have a role in considering the extent to which banks should offer such products based on their stated goals of transition, their business plan, and the safety and soundness of the bank. It is an example of preferential financing or a 'greenium' for undertaking specific measures.

Trillion in 2021 | BloombergNEF (bnef.com) (hereafter BloombergNEF) .
[258] BloombergNEF, note 257.
[259] BloombergNEF, note 257.
[260] BMO, "Maple Leaf Foods and BMO Capital Markets enter into First Sustainability-Linked Loan in Canada", (11 December 2019), Maple Leaf Foods and BMO Capital Markets enter into First Sustainability-Linked Loan in Canada | BMO Capital Markets.
[261] Teck Resources Limited, "Teck Announces US$4 Billion Sustainable Financing Facility", (19 October 2021), Teck Announces US$4 Billion Sustainable Financing Facility (hereafter Teck Resources Limited).
[262] Teck Resources Limited, note 261.

Another opportunity is the financing of growth, for example, green bonds aimed at mobilizing capital in support of financing of new technologies and other strategies that create new economic growth. The Government of Canada's inaugural 7.5-year, CA$5 billion green bond in 2022 will use proceeds to support green investments, including reducing GHG emissions, enhancing climate resilience, conserving nature, and protecting the environment.[263]

For example, BMO Financial Group and Export Development Canada (EDC) in 2022 announced an agreement to bring sustainable finance solutions to medium- and large-sized Canadian exporting businesses, to help them transition from carbon-intensive operations to eliminate or significantly reduce emissions, including offering EDC's new risk-sharing Sustainable Financing Guarantee.[264] The guarantee encourages Canadian banks to provide companies with loans and financing that support their carbon reduction initiatives, the program providing an initial CA$1 billion in financing over the next three years to support sustainable initiatives, including hydrogen, renewable infrastructure, and grid modernization, across nine carbon-intensive sectors. "EDC will guarantee up to 50 per cent of BMO's term loan – up to a maximum of US$60 million per obligor, for a period of up to seven years – providing more capacity for BMO to support their exporting clients' low carbon transition and export growth."[265]

Another example is that in 2021, BMO Financial Group announced it had pre-purchased permanent removal of 1,000 tonnes of CO_2 from the atmosphere through Direct Air Capture technology via BeZero Carbon, and the carbon removal is planned to be delivered by a large-scale facility utilizing Canadian company Carbon Engineering's Direct Air Capture technology.[266] The purchase creates financing that allows technology currently being deployed on a small scale to scale up for large commercial use, one of the strategies the IEA suggests will be critical to moving past net-zero emissions.[267]

A snapshot of the sustainable financing by the six major banks in 2022 reveals a significant differential in what comes under the umbrella of sustainable finance, with a range of ESG type of factors, including but not limited

[263] Government of Canada, "Canada issues inaugural green bond", (23 March 2022), Canada issues inaugural green bond – Canada.ca; BMO Capital Markets, "BMO proud to support first Government of Canada Green Bond transaction as joint-lead manager", (23 March 2022), BMO proud to support first Government of Canada Green Bond transaction as joint-lead manager | BMO Capital Markets.
[264] EDC, "BMO and EDC Announce Collaboration to Introduce Sustainable Finance Solutions for Canadian Businesses", (2 May 2022), BMO and EDC Collaboration on Sustainable Finance | EDC (hereafter EDC).
[265] EDC, note 264.
[266] BMO Financial Group, "BMO First Bank to Pre-Purchase Direct Air Capture Carbon Removals using Carbon Engineering technology", (25 November 2021), BMO First Bank to Pre-Purchase Direct Air Capture Carbon Removals using Carbon Engineering technology | BMO Capital Markets.
[267] IEA, "Direct Air Capture" (2022), Direct Air Capture – Analysis – IEA.

to, underwriting of sustainable bonds, loans for 'sustainable clients' (not tied to sustainable projects), advisory services, renewable and emission-free energy, energy efficiency, sustainable infrastructure, green buildings, low-carbon lending, funding incubators for sustainability-focused technologies, asset management and internal corporate programs, equity, diversity and inclusion measures. Thus, the amount being directed to decarbonize is difficult to discern in the banks' public disclosures.

On a global basis, GFANZ members, representing 40% of the world's financial assets, have agreed to finance the transition to net-zero emissions over the next 30 years.[268] GFANZ announced that access to capital will require companies to use science-based guidelines to reach a 50% reduction by 2030 and net-zero emissions by 2050.[269] It means adjusting business models, developing credible plans for the transition, and then implementing them. Over 110 countries representing 85% of the planet's forests signed the COP26 Glasgow Leaders' Declaration on Forests and Land Use, committing to halt and reverse deforestation by 2030.[270] Financial institutions covering over US$8.7 trillion of global assets under management have committed to move away from portfolios that invest in high deforestation-risk agricultural commodity supply chains and towards sustainable production, accelerate actions that incentivize greater transparency and sustainability in the supply chain, support smallholder farmers to participate in markets, and drive new technology and innovation.[271]

In 2022, the Taskforce on Nature-related Financial Disclosures (TNFD) published its draft Nature-Related Risk and Opportunity Management and Disclosure Framework with three core components: an outline of fundamental concepts and definitions for understanding nature that TNFD recommends market participants use when assessing and disclosing their nature-related risks and opportunities; guidance for financial institutions to incorporate nature-related risk and opportunity assessment into their enterprise strategy and risk management processes to inform a range of capital allocation decisions; and draft disclosure recommendations for nature-related risks and opportunities.[272]

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[268] UN News, "Finance Day at COP26", (3 November 2021), COP26: 'Not blah blah blah', UN Special Envoy Carney presents watershed private sector commitment for climate finance | | UN News (hereafter UN News, "Finance Day at COP26").
[269]UN News, "Finance Day at COP26", note 268.
[270] UN News, "World leaders, corporations at COP26, take major step to restore and protect forests", (2 November 2021), World leaders, corporations at COP26, take major step to restore and protect forests | | UN News (hereafter UN News).Glasgow Leaders' Declaration on Forests and Land Use, UN COP26 (12 November 2021), Glasgow Leaders' Declaration on Forests and Land Use - UN Climate Change Conference (COP26) at the SEC – Glasgow 2021 (ukcop26.org).
[271] UN news, note 270.
[272] Taskforce on Nature-Related Financial Disclosures, The TNFD Nature-Related Risk and Opportunity Management and Disclosure Framework Beta v0.2 Summary, (June 2022), TNFD-Framework-Summary-Executive-Summary-Beta-v0-2.pdf (hereafter TNFD).

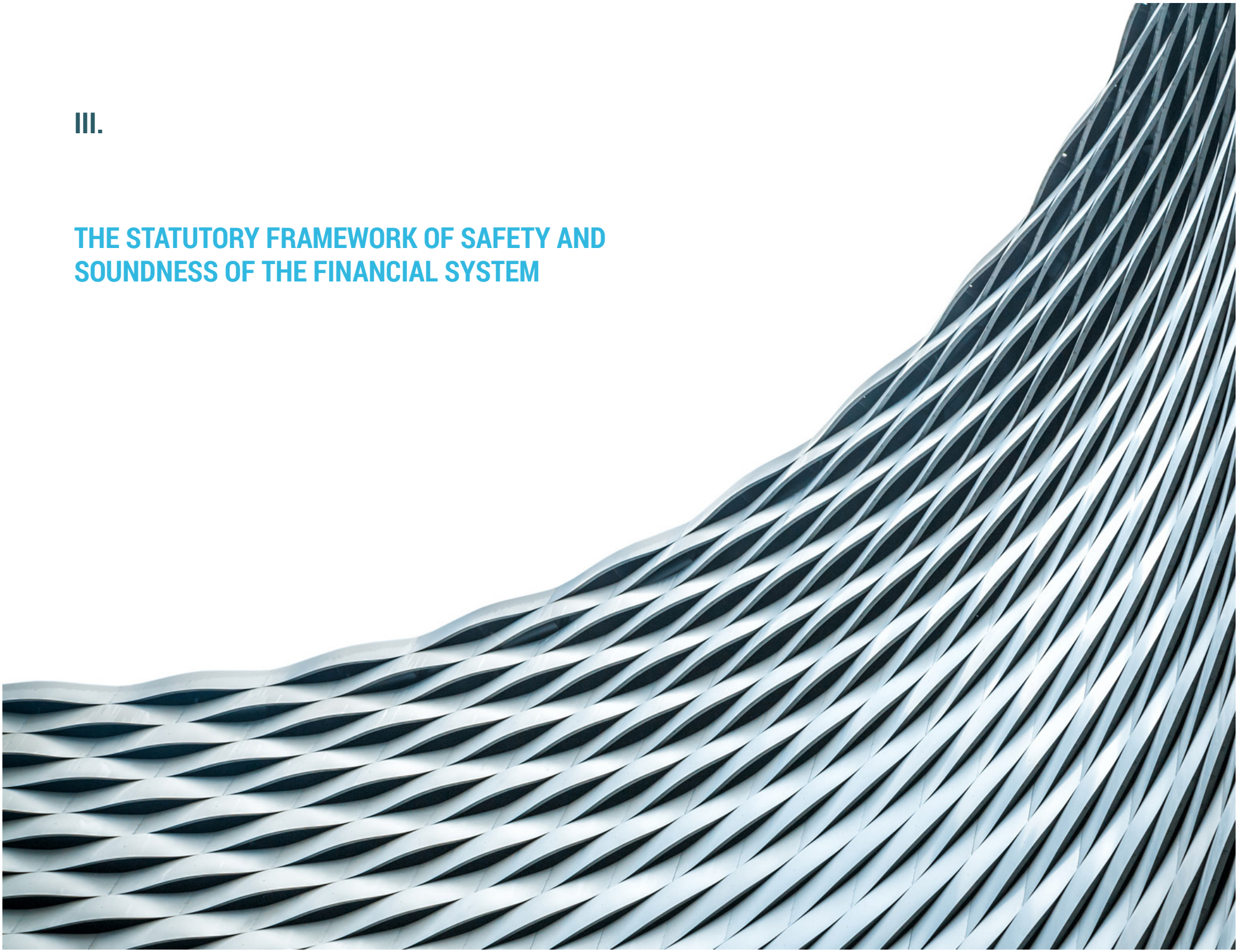
The TNFD framework sets out questions to help financial institutions prioritize and focus efforts as they assess their financial portfolios, with clear recognition that as providers of capital, financial institutions will have different entry points into the assessment of nature-related risks, including based on the level of aggregation and scale of their capital portfolios.[273] Banks that stay current in these developments will be better positioned to assess how they may access new opportunities in the low-carbon transition through their financing activities.

The NGFS supports developing a strategy to maintain financial and price stability; building capacity to assess the degree of, and address, biodiversity-related financial risks; and is exploring options for supervisory expectations for financial institutions' governance, risk management, and strategy in relation to biodiversity-related financial risks and opportunities.[274]

[273] TNFD, note 272.
[274] NGFS, "Statement on Nature-Related Financial Risks", (24 March 2022), statement_on_nature_related_financial_risks_-_final.pdf (ngfs.net).

III.

THE STATUTORY FRAMEWORK OF SAFETY AND SOUNDNESS OF THE FINANCIAL SYSTEM



Globally, financial services regulators are recognizing climate-related risks as part of their financial stability monitoring.[275] Climate-related risks are being integrated into microprudential supervision of banks, including requirements for stress testing and disclosure.[276] In Canada, banks are accountable to multiple regulatory bodies, including OSFI as the prudential oversight supervisor and securities regulators where they are publicly-traded or offer products to capital markets; plus, the Bank of Canada, Canada Deposit Insurance Corporation, and the Department of Finance each have complementary responsibilities for financial stability.

OSFI is an independent government agency, funded by levies on the institutions that it regulates, reporting to Parliament through the Minister of Finance and responsible for banking regulation and supervision.[277] OSFI's mandate is to foster sound risk management and governance practices and advance a regulatory framework designed to control and manage risk.[278] OSFI supervises banks to determine whether they are meeting regulatory and supervisory requirements, advises where there are material deficiencies, and requires corrective measures to expeditiously address governance, capital adequacy, and other issues.[279] It also monitors and evaluates sectoral developments that may have a negative impact on the financial condition of banks, aimed at protecting the rights and interests of depositors, creditors, and other stakeholders, and enhancing public confidence in the Canadian financial system while having due regard for the need to allow banks to compete effectively and take reasonable risks. As noted in part I, OSFI regulates 81 banks.

Key to OSFI's supervision of banks is its composite risk rating (CRR), its assessment of a bank's overall risk profile to assess the safety and soundness of a bank with respect to its depositors.[280] OSFI's assessment criteria provide rating categories for assessing the CRR, including overall net risk, earnings, capital, and liquidity. Overall net risk is a weighted aggregation of the net risks in the institution's significant activities.[281] Earnings are also monitored to assess the quality, quantity, and volatility/sustainability of a bank's earnings and how they contribute to capital. Capital is a cushion to absorb unexpected losses and to provide a safety net for the institution. OSFI assesses capital adequacy and the effectiveness of capital management policies and processes;

[275] FSB Stocktake, note 87.
[276] FSB Stocktake, note 87.
[277] Basel Committee on Banking Supervision, *Regulatory Consistency Assessment Programme (RCAP) Assessment of Basel large exposures regulations – Canada* (2019), at 5, Regulatory Consistency Assessment Programme (RCAP) Assessment of Basel large exposures regulations – Canada (bis.org).
[278] OSFI, "Mandate of the Office of the Superintendent of Financial Institutions", Mandate (osfi-bsif.gc.ca) (hereafter OSFI Mandate).
[279] OSFI Mandate, note 278.
[280] OSFI, "Introduction to the Supervisory Framework Ratings Assessment Criteria", (2022), Introduction to the Supervisory Framework Ratings Assessment Criteria (osfi-bsif.gc.ca) (hereafter OSFI, Introduction to the Supervisory Framework).
[281] OSFI, Introduction to the Supervisory Framework, note 280.

and assesses liquidity by considering the levels of the institution's liquidity risk and the quality of its liquidity management.[282]

OSFI Superintendent Peter Routledge recently observed that the pathway to net zero the world takes is outside Canada's control and OSFI's task is to ensure that Canada's financial system remains resilient regardless of pathway; and OSFI will act to drive mature climate risk management and ensure the capital build-up appropriate to sustain financial system resilience in the 2030s.[283] He noted that "Climate risk management surveillance will reward better, more mature climate risk management and ultimately punish poor or inadequate climate risk management practices."[284] OSFI expects banks to build up their capital buffers in the 2020s to be able to weather an accelerated and volatile transition pathway in the 2030s, should that scenario come to pass; thus, climate risk is a 'right now' challenge.[285]

1. OSFI Draft Guideline B-15 Climate Risk Management

In 2022, OSFI issued draft Guideline B-15 Climate Risk Management, and as of the date this guide is published (October 2022), OSFI has completed its public consultations and is expected to release the final guideline in early 2023.[286] The proposed Guideline is important recognition that climate-related risks can significantly affect the safety and soundness of FRFI, including banks, in turn affecting the integrity of the Canadian financial system. OSFI has observed that building financial resilience in respect of intensifying climate-related risks requires banks to address vulnerabilities in their business model and requires "forward-looking approaches that are holistic, integrated, and built on reliable empirical data and sound analyses".[287] OSFI has noted that few of the 400 FRFI over which OSFI has supervisory authority are on a pathway to net-zero GHG emissions. Since OSFI's mandate is to protect depositors and the safety and soundness of the financial system, its guideline will be critically important to meeting that mandate.

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[282] OSFI, Introduction to the Supervisory Framework, note 280.
[283] Peter Routledge, Superintendent of OSFI, "Summary of discussion with the Superintendent" (28 January 2022), Summary of discussion with the Superintendent (osfi-bsif.gc.ca); Peter Routledge, "Remarks to RBC Capital Markets Canadian Bank CEO Conference" (10 January 2022), RBC Capital Markets Canadian Bank CEO Conference (osfi-bsif.gc.ca) (hereafter Routledge, Remarks to RBC).
[284] Routledge, Remarks to RBC, note 283.
[285] Routledge, Remarks to RBC, note 283.
[286] OSFI Guideline B-15 Climate Risk Management, note 90, Part A.
[287] Office of the Superintendent of Financial Institutions (OSFI), "OSFI consults on expectations to advance climate risk management", OSFI News Release, (26 May 2022), OSFI consults on expectations to advance climate risk management (osfi-bsif.gc.ca); OSFI Guideline B-15 Climate Risk Management, note 90, Part A.

> OSFI has three expected outcomes for banks to achieve pursuant to proposed Guideline B-15: that the bank understands and mitigates against potential impacts of climate-related risks to its business model and strategy; it has appropriate governance and risk management practices to manage identified climate-related risks; and it remains financially resilient through severe, yet plausible, climate risk scenarios, and operationally resilient through disruption due to climate-related disasters.[288]

OSFI's guideline is closely aligned with the TCFD framework[289] and the International Financial Reporting Standards (IFRS) Foundation's International Sustainability Standards Board (ISSB) S2 Exposure Draft on Climate-related Disclosures.[290] The embedding of oversight and management of climate risks and opportunities in governance, strategic planning, risk management, targets, and metrics will reduce risks of bank failure from the growing frequency and intensity of acute events and the longer term risks of chronic impacts.

i. Governance

Proposed Guideline B-15 contains two principles in respect of climate governance: the bank should incorporate the implications of climate change and the transition to a low-GHG-emissions economy in its business model and strategy; and the bank should have the appropriate governance, policies, and practices in place to manage climate-related risks. The bank should identify and understand the impact of climate-related risks on its short-term and long-term strategic, capital, and financial plans, recognizing that climate-related risks can affect the bank through micro- and macro-economic transmission channels.[291]

> A bank will be required to develop and implement a Climate Transition Plan, in line with its business plan and strategy, which will guide the bank's management of increasing climate-related risks, aligned with the TCFD's guidance on transition plans.[292] The proposed Guideline specifies that in developing the transition plan, the bank should assess the achievability of its plan under different climate-related scenarios, and how it will measure and assess its progress, including tracking internal metrics and targets such as GHG emissions.[293]

[288] OSFI Guideline B-15 Climate Risk Management, note 90, Part A3.
[289] Financial Stability Board's Task Force on Climate-Related Financial Disclosure (TCFD) Framework.
[290] March 2022 Exposure Draft IFRS® Sustainability Disclosure Standard International Sustainability Standards Board [Draft] *IFRS S2 Climate-related Disclosures*, Exposure Draft IFRS S2 Climate-related Disclosures (hereafter IFRS S2).
[291] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1.
[292] TCFD, *Guidance on Metrics, Targets, and Transition Plans*, Guidance on Metrics, Targets, and Transition Plans.
[293] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1.

OSFI has stated that it expects banks to integrate climate-related risks into their Risk Appetite Framework and Internal Control Framework, and should reflect climate-related risks in their Enterprise Risk Management framework, policies, and practices.[294] It also requires the bank to articulate the roles and responsibilities of different business lines and oversight functions in managing climate-related risks, and to recognize that senior management has overall accountability for managing climate-related risks, and thus, executive compensation should take into account effective management of climate-related risks.

OSFI's existing Corporate Governance Guideline[295] sets out OSFI's expectations with respect to bank governance, including that the board of directors has effective oversight of the bank's short-term and long-term business plan and strategy and the board is satisfied that the decisions and actions of senior management are consistent with the board-approved business plan and strategy. Draft Guideline B-15 clarifies these governance expectations in respect of climate-related risks and opportunities.

ii. Risk Management

OSFI's proposed Guideline B-15 has a four-prong approach to risk management, specifically, risk identification, measurement, and management; risk monitoring and reporting; operational preparedness and resilience for climate-related disasters; and awareness and capabilities building. OSFI states that the bank should have processes in place to adequately price climate risk-sensitive assets and liabilities and manage these exposures in accordance with the bank's risk appetite framework.[296] The board should be satisfied that the decisions and actions of senior management are consistent with the board-approved risk appetite and that the corresponding internal controls are sound.[297]

OSFI's guideline requires banks to have appropriate processes and controls to identify and measure the potential impact of climate-related risks on their portfolio of exposures, including credit, market, operational, insurance, and liquidity, over appropriate time horizons.[298] A bank should implement relevant tools and models to assess its climate-related risks, and where it uses third-party tools to support its assessment, the board should sufficiently understand the embedded data, methodology, and assumptions.[299]

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[294] OSFI, Corporate Governance Guideline (2018), Corporate Governance (osfi-bsif.gc.ca) (hereafter OSFI Corporate Governance Guideline).
[295] OSFI Corporate Governance Guideline, note 294.
[296] OSFI Guideline B-15 Climate Risk Management, note 90, Principle 3.
[297] OSFI Corporate Governance Guideline, note 294.
[298] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1, part II.
[299] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1, part II.

Draft Guideline B-15 specifies that the bank should incorporate climate-related risks into its internal monitoring of risk management effectiveness, including monitoring and reporting on relevant internal metrics, limits, and indicators to assess the effectiveness of its climate risk management; and internal targets to assess its progress in managing its physical and transition risks.[300] The bank should develop capabilities to identify climate risk concentrations by sector, product, counterparty, geophysical location of exposures or region, and ensure that internal reporting systems can produce timely, accurate, independent, and objective reporting on these risks to support data on emissions and risk management.

OSFI's guideline specifies that a bank should mitigate the impact of climate-related disasters on its critical operations and use climate scenario analysis to assess the impact of climate-related risk drivers on its risk profile, business strategy, and business model.[301] The bank's climate scenario analysis should be part of its Stress Testing Framework[302] and its decision-making regarding operations, business continuity, and disaster recovery planning processes, and scenarios where a material third party could fail to continue providing service, over short-, medium- and long-term time horizons. Such analysis will inform capital and financial planning processes. OSFI has stated that it will develop standardized climate scenario analysis exercises to assess aggregate exposures to physical and transition risks, requiring banks to report their results to OSFI.

iii. Capital and Liquidity Adequacy

Draft Guideline B-15 specifies that a bank should maintain sufficient capital and liquidity buffers for its climate-related risks. It is critically important that the bank incorporate climate-related risks into its Internal Capital Adequacy Assessment Process (ICAAP). Key is that the bank considers its capital requirements under severe, yet plausible, climate-related risk scenarios that could materialize beyond its standard capital planning horizon.[303] The bank should incorporate the impact of climate-related drivers on its liquidity risk profile and integrate a range of bank-specific and market-wide severe, yet plausible, climate-related stress events when assessing the adequacy of its liquidity buffers.[304]

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[300] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1, part II.B.
[301] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1, principle 4
[302] Aligned with Guideline E-18: Stress Testing, which sets out OSFI's expectations on the use of stress testing for senior management to use in making business strategy, risk management and capital management decisions (hereafter OSFI Guideline E-18: Stress Testing).
[303] OSFI Guideline E-19: Own Risk and Solvency Assessment (ORSA), (2017),which sets out OSFI's expectations of an insurer's own assessment of its risks, capital needs and solvency position, and for setting Internal Targets, based on an insurer's ORSA. Guideline E-19: Internal Capital Adequacy Process for Deposit-Taking Institutions (ICAAP), which sets out OSFI's expectations of federally regulated deposit-taking institutions' own assessment of the adequacy of their capital.
[304] See OSFI Guideline E-18: Stress Testing, note 302.

iv. Climate-related Financial Disclosures

OSFI is directing banks to provide complete, reliable, and verifiable information specific to the potential impact of climate-related risks and opportunities on their markets, businesses, corporate and investment strategy, financial statements, and future cash flows; a statement explaining why a particular risk or issue is not significant, where appropriate; and information from the perspective of the potential impact of climate-related issues on value creation, considering and addressing the different time frames and types of impacts; disclose exposure to potential nature and size of climate-related impacts; the bank's governance, strategy, processes for managing climate-related risks; and performance with respect to managing climate-related risks and opportunities.[305] Banks are to disclose future-oriented information on possible future financial implications, including an explanation of the definition, assumptions, and scope applied to arrive at quantitative information. The bank is to explain any data limitations it faces and the impact of those data limitations on disclosure.[306]

> Any scenario analyses should be based on data used by the bank for investment decision-making and risk management. Proposed Guideline B-15 states that the bank should disclose clear, balanced, understandable, reliable, objective, and verifiable information; the disclosures should communicate financial information that serves the needs of a range of users, with appropriate balance between qualitative and quantitative information; fair and balanced narrative explanations that provide insight into the meaning of quantitative disclosures, including the changes over time; and straightforward explanations of issues in its disclosures.[307]

The bank should disclose information appropriate for its size, nature, and complexity;[308] and disclose information consistently over time to enable users to understand the evolution of the impact of climate-related issues on the bank's business and allow for inter-period comparisons.[309] The proposed Guideline specifies that, to the extent possible, the bank should base its disclosures on objective data and use best-in-class measurement methodologies. Use of the GHG Protocol[310] is recommended, and regarding calculation and disclosure of the portion of Scope 3 GHG emissions associated with the bank's loans and investments, the bank is expected to use the Partnership

[305] OSFI Guideline B-15 Climate Risk Management, note 90, chapter 2.
[306] OSFI Guideline B-15 Climate Risk Management, note 90, Principle 3, chapter 2.
[307] OSFI Guideline B-15 Climate Risk Management, note 90, Principle 3, paragraphs 15 and 16 and Principle 4, chapter 2.
[308] OSFI Guideline B-15 Climate Risk Management, note 90, Principle 5, chapter 2.
[309] OSFI Guideline B-15 Climate Risk Management, note 90, Principle 6, paragraph 23.
[310] Greenhouse Gas Protocol, GHG Protocol.

for Carbon Accounting Financials (PCAF) Global GHG Accounting and Reporting Standard for the Financial Industry.[311]

OSFI will require all categories of banks to disclose their governance, including the board of directors' oversight of climate-related risks and opportunities; management's role in assessing and managing climate-related risks and opportunities; their strategies over the short, medium, and long term; and describe their impact on the bank's businesses, strategy, and financial planning; their risk management processes for identifying, assessing, and managing climate-related risks and opportunities and how they are integrated into the bank's overall risk management.

OSFI's guideline will require all banks to disclose their Scope 1 and Scope 2 GHG emissions and the related risks.[312] D-SIB[313] and Category 1 SMSB (small- and medium-sized deposit-taking institutions)[314] will be required to disclose their Scope 3 GHG emissions and related risks; the reporting standard used to calculate and disclose the Scope 1, 2, and 3 emissions; and if the reporting standard referred is not the GHG Protocol, disclose how the reporting standard used is comparable with the GHG Protocol.[315] By 2027, Category 2 and 3 SMSB banks will be required to disclose Scope 3 GHG emissions and physical and transition risk scenario analysis. Depending on the type of bank, it is required to disclose the targets and metrics used to assess climate-related risks and opportunities in line with its strategy and risk management process and performance against these targets.

D-SIB and Category 1 SMSB will be required to disclose ISSB Cross-Industry Metrics,[316] including the amount and percentage of assets or business activities vulnerable to each of physical and transition risks; and the proportion of revenue, assets or other business activities aligned with climate-related opportunities, expressed as an amount or as a percentage.[317] By 2025, all banks will be required to disclose incremental ISSB Cross-Industry Metrics, specifically:

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[311] Partnership for Carbon Accounting Financials (PCAF), "The Global GHG Accounting and Reporting Standard for the Financial Industry", Global GHG Accounting and Reporting Standard for the Financial Industry (the PCAF Standard).
[312] OSFI Guideline B-15 Climate Risk Management, note 90, Annex 2-2.
[313] OSFI identifies D-SIB as Bank of Montreal, Bank of Nova Scotia, Canadian Imperial Bank of Commerce, National Bank of Canada, Royal Bank of Canada, and Toronto-Dominion Bank. OSFI Guideline B-15 Climate Risk Management, note 90, Annex 2-2.
[314] SMSB Category (ie, Category 1, 2 or 3) as defined in OSFI's SMSB Capital and Liquidity Requirements Guideline.
[315] OSFI Guideline B-15 Climate Risk Management, note 90, Annex 2-2.
[316] International Sustainability Standards Board (ISSB) Exposure Draft on Climate Related Disclosures.
[317] OSFI Guideline B-15 Climate Risk Management, note 90, Annex 2-2.

- capital deployment: the amount of capital expenditure, financing or investment deployed toward climate-related risks and opportunities;[318]

- internal carbon prices: the price per metric tonne of GHG emissions used internally by an entity, including how the entity is applying the carbon price in decision-making (for example, investment decisions, transfer pricing, and scenario analysis), expressed in the CAD per metric tonne of CO_2 equivalent; and

- remuneration: the proportion of executive management remuneration affected by climate-related considerations in the current period, expressed in a percentage, weighting, description, or amount in CAD.[319]

By 2026, banks will be required to disclose ISSB Industry-Specific Metrics (Banks) limited to climate-related risks; specifically, commercial, industrial, and residential credit exposure to climate risks, by industry, and a description of approach to incorporation of climate risk factors in credit analysis.[320]

[318] All amounts in the roadmap expressed in Canadian dollars (CAD)
[319] OSFI Guideline B-15 Climate Risk Management, note 90, Annex 2-3 Conceptual Roadmap to Full Complement of OSFI Climate-Related Financial Risk Disclosure Expectations.
[320] OSFI Guideline B-15 Climate Risk Management, note 90, Annex 2-3.

IV.

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

1. Directors' Duties under the *Bank Act*

i. Duty of Care and Prudence

The *Bank Act* specifies that directors and officers of banks have a duty of care, a duty to manage, and a duty to comply. The duty of care is set out in section 158(1):

> 158 (1) Every director and officer of a bank in exercising any of the powers of a director or an officer and discharging any of the duties of a director or an officer shall
> (a) act honestly and in good faith with a view to the best interests of the bank; and
> (b) exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances.[321]

The duty to manage or supervise the management of the business and affairs of the bank includes establishing an audit committee, establishing a conduct review committee, establishing procedures to resolve conflicts of interest and for restricting the use of confidential information, with a designated a committee of the board of directors to monitor the procedures.[322] The duty to comply requires directors and officers to comply with the *Bank Act* and regulations, the bank's incorporating instrument, and the by-laws of the bank.[323]

Directors must establish, and the bank must adhere to, investment and lending policies, standards, and procedures that a reasonable and prudent person would apply in respect of a portfolio of investments and loans to avoid undue risk of loss and obtain a reasonable return.[324] Directors and officers must also establish procedures to provide disclosure of information to bank customers that is required to be disclosed by the *Bank Act* and for dealing with complaints; and must designate a committee of the board of directors to monitor the procedures and satisfy itself that they are being adhered to by the bank.[325]

The statutory duties of directors are reinforced by the common law. Directors have both a duty of care and a duty of loyalty, often referred to collectively as their fiduciary obligations, to act in the best interests of the

[321] Section 158(1), *Bank Act*, note 6.
[322] Section 157(1), *Bank Act*, note 6.
[323] Section 158(2), *Bank Act*, note 6.
[324] Sections 157(2) and 465, *Bank Act*, note 6.
[325] Section 157(2), *Bank Act*, note 6.

company.[326] The Supreme Court of Canada (SCC) has been clear that where cases alleging breach of directors' duties come before it, the court will assess the decisions and conduct of directors against an objective standard of what a reasonably prudent person would do in comparable circumstances.[327] This objective standard means that a director's personal views on climate change are irrelevant.

The SCC has held that, from an economic perspective, best interests of the corporation means the maximization of the value of the corporation.[328] Directors can take into consideration the prevailing socio-economic conditions, and the "establishment of good corporate governance rules should be a shield that protects directors from allegations that they have breached their duty of care."[329] In *BCE Inc v 1976 Debentureholders*, the SCC held that it will assess whether directors acted in the best interests of the corporation, having regard to all relevant considerations, and that where conflict arises between the interests of various stakeholders of the company, it falls to the directors to resolve them in accordance with their fiduciary duty to act in the best interests of the corporation, viewed as a 'good corporate citizen'.[330] In each case, the question is whether, in all the circumstances, the directors acted in the best interests of the company, including, but not confined to, considering the need to treat affected stakeholders in a fair manner, commensurate with the corporation's duties as a responsible corporate citizen.[331]

The SCC findings relate directly to exercising a duty of care in respect of climate-related risks. Given that climate-related risks are widely recognized by the scientific and financial communities, directors and officers of banks, as stewards of governance, have a duty to be proactive, and to critically evaluate and address the material financial risks and opportunities associated with climate change.[332] Boards must ensure their executive team are giving them the most effective information on these risks and opportunities, to allow them to approve the overall strategic plan for the bank and effectively oversee management's short-, medium-, and long-term strategies for the business.[333] Balancing these different time horizons, risk factors, and different stakeholders is a key

[326] R Yalden *et al*, *Business Organizations: Practice, Theory and Emerging Challenges*, (Toronto: Emond, 2017).
[327] *Peoples Department Stores Inc (Trustee of) v Wise,* [2004] 3 SCR 461 (SCC) at 491 (hereafter *Peoples Department Stores Inc (Trustee of) v Wise*); *BCE Inc v 1976 Debentureholders*, [2008] 3 SCR 560 (SCC) at paras 36–8 (hereafter *BCE*).
[328] *Peoples Department Stores Inc (Trustee of) v Wise,* note 327 at para 42.
[329] *Peoples Department Stores Inc (Trustee of) v Wise*, note 327 at para 64.
[330] *BCE*, note 327 at para 81.
[331] *BCE*, note 327 at para 82.
[332] Janis Sarra, 'Duty to Protect: Corporate Directors and Climate-Related Financial Risk', CD Howe Institute E-brief, (Toronto: CD Howe Institute, 2020) at 3-4, citing a number of studies (hereafter Sarra, CD Howe).
[333] Sarra, CD Howe, note 332.

> responsibility of directors, and as information on climate risk continues to become available, these decisions can be complex.[334]

In a leading Canadian legal opinion, Carol Hansell writes that directors need to be proactive:

> Since there can be little doubt that directors are aware of climate change risk, they must inform themselves of the risk that climate change poses to the corporation and how that risk is being managed. If this information is not already included in management reports to the board, the board should direct management to deliver the necessary information to them…
> Making room in the board agenda for regular reports from management on climate change risk is an important part of the board's oversight of risk, but also sends a clear message to management that climate change risk is a priority.[335]

This legal opinion mirrors legal opinions in Australia, the US, Singapore, Japan, India, and Hong Kong, meaning that directors globally are recognizing these duties.[336] Failure to act on material risks and opportunities from climate change leaves banks and their fiduciaries vulnerable to charges that they have breached their duties.[337]

[334] Sarra, CD Howe, note 332.
[335] Hansell LLP legal opinion, 'Putting Climate Change Risk on the Boardroom Table", (June 2020), at 22-24, Hansell-Climate-Change-Opinion-1.pdf (ubc.ca) (hereafter Hansell), updated 2022, In an updated legal opinion, Hansell reaffirms the role of the boards of directors in addressing climate risk - Canada Climate Law Initiative (ubc.ca).
[336] See for example, Noel Hutley SC and Sebastian Hartford Davis, "Climate Change and Directors' Duties, Supplementary memorandum of Opinion", (26 March 2019), Australia Centre for Policy Development; "Climate Change and Directors' Duties", Further Supplementary Memorandum of Opinion", Minter Ellison, (23 April 2021), Microsoft Word – Further Supplementary Opinion.docx (cpd.org.au); Noel Hutley SC and Sebastian Hartford Davis, "Climate Change and Directors Duties, Memorandum of Opinion", (7 October 2016), commissioned by the Future Business Council and the Centre for Policy Development, https://cpd.org.au/wp-content/uploads/2016/10/Legal- Opinion-on-Climate-Change-and-Directors-Duties.pdf; "Legal Opinion on Directors' Responsibilities and Climate Change under Singapore Law", (April 2021), Legal-Opinion-on-Directors-Responsibilities-and-Climate-Change-under-Singapore-Law.pdf (ubc.ca); Yoshihiro Yamada, Janis Sarra and Masafumi Nakahigashi, "Directors' Duties Regarding Climate Change in Japan", (February 2021), Directors-Duties-Regarding-Climate-Change-in-Japan.pdf (ubc.ca); S Divan, S Yadav and R Singh Sawhney, "Legal Opinion: Directors' obligations to consider climate change-related risk in India", (7 September 2021), https://ccli.ubc.ca/wp-content/uploads/2021/09/CCLI_Legal_Opinion_India_Directors_Duties.pdf; Alex Stock, SC and Jennifer Fan, "Legal Opinion on Directors' duties and Disclosure Obligations under Hong Kong Law in the Context of Climate Change Risks and Considerations", (19 October 2021), https://ccli.ubc.ca/wp-content/uploads/2021/10/Hong-Kong-Directors-obligations-and-climate-change.pdf.
[337] *Ibid.*

ii. Disclosure Duties under the *Bank Act*

Directors and officers have a duty to disclose information to bank customers and investors pursuant to the *Bank Act*, which includes a highly codified set of disclosures that address a range of situations and transactions.[338] Regulations under the *Act* require disclosure of a balance sheet as at the end of the financial year; a statement of income and a statement of cash flows for the financial year; a statement of changes in shareholders' equity for the financial year; and a statement of comprehensive income for the financial year.[339] These disclosures are made annually to the public and investors in the form of the annual financial statements, including the management proxy circulars. To date, the *Bank Act* and its regulations do not expressly require climate-related financial disclosure; however, the materiality of climate risks arguably now requires this disclosure. Canada's largest banks have recognized the importance of disclosing climate-related information.

Directors are also responsible for ensuring that the bank periodically and annually discloses its capital adequacy to regulators. OSFI sets out expectations with respect to an institution's internal capital adequacy assessment process as described in Part 3 of the Basel II Framework, which applies to banks, bank holding companies, and to federally-regulated trust and loan companies.

OSFI's Capital Adequacy Requirements (CAR) guideline establishes minimum standards for calculating minimum or target regulatory capital requirements.[340] Capital requirements in the CAR guideline are regulatory minimums that assume a bank has a portfolio of risk exposures that is highly granular and widely diversified.[341] Directors of each federally-regulated deposit-taking institution are responsible for oversight of managers developing and implementing the bank's ICAAP for the purpose of setting internal capital targets and developing strategies for achieving those internal targets that are consistent with the bank's business plans, risk profile, and operating environment.[342]

[338] Section 157(2), *Bank Act*, note 6.
[339] Sections 308(2) and 840(2), *Bank Act*, note 6; and Annual Statement (Banks and Bank Holding Companies) Regulations (SOR/2010-230), Annual Statement (Banks and Bank Holding Companies) Regulations (justice.gc.ca).
[340] OSFI, Internal Capital Adequacy Assessment Process (ICAAP) for Deposit-Taking Institutions, Internal Capital Adequacy Assessment Process (ICAAP) for Deposit-Taking Institutions (osfi-bsif.gc.ca).
[341] OSFI, Statement of Regulatory Principles, Internal Capital Adequacy Assessment Process (ICAAP) for Deposit-Taking Institutions (osfi-bsif.gc.ca) (hereafter OSFI, Statement of Regulatory Principles).
[342] OSFI, Statement of Regulatory Principles, note 341.

2. Disclosure Duties under Securities Law

Many of the companies that banks lend to or invest in are regulated by Canadian securities law and a number of banks are themselves publicly traded or issue products in the capital markets, including Canada's largest banks; and thus, they must comply with both financial services legislation and securities regulation. While financial disclosure requirements by OSFI are aimed at helping "OSFI to meet its mandate of protecting depositors, creditors, and policyholders, and contributing to public confidence in the Canadian financial system",[343] securities law disclosure is more narrowly focused on providing capital markets participants material information. "Information is likely material if a reasonable investor's decision whether to buy, sell or hold securities in an issuer would likely be influenced or changed if the information in question was omitted or misstated."[344] It is important to be aware of recent proposed changes to securities law.

The Canadian Securities Administrators (CSA) have stated that climate change is a mainstream business issue and issuers must disclose material climate risks and how they are managing them.[345] They caution that boilerplate disclosure is no longer acceptable; directors should be asking their managers for financial metrics that allow them to measure and disclose material risks and opportunities.[346] Even if the company is only beginning to develop a capacity to measure carbon emissions, it must disclose material risks identified and its efforts to measure and manage them.[347] Some major Canadian banks have been measuring their Scope 1 emissions for a number of years. For example, TD bank became the first Canadian bank to become operationally carbon neutral.[348] The shift now is for banks to understand how financed emissions contribute to or mitigate global warming as part of the public accountability underpinning their license to operate in Canada.

The continuous disclosure obligations of publicly-listed companies, set by National Instrument 51-102 Continuous Disclosure Obligations, are aimed at improving the quality, reliability, and transparency of public disclosures.[349] CSA Staff Notice 51-358 Reporting of Climate Change-related Risks states that omitting or

[343] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 2.
[344] CSA, Proposed National Instrument 51-107 Disclosure of Climate-related Matters, (18 October 2021), at 10, 51-107 - Consultation Climate-related Disclosure Update and CSA Notice and Request for Comment Proposed National Instrument 51-107 Disclosure of Climate-related Matters | OSC (hereafter Proposed NI 51-107).
[345] OSFI, Statement of Regulatory Principles, note 341.
[346] CSA Staff Notice 51-358 Reporting of Climate Change-Related Risks, (2019), CSA Staff Notice 51-358 Reporting of Climate Change-related Risks - (gov.on.ca) (hereafter CSA SN 51-358).
[347] CSA SN 51-358, note 346.
[348] TD Bank Climate Action Plan, note 76 at 6.
[349] NI 51-102 Continuous Disclosure Obligations, (6 June 2018), 51-102 Continuous Disclosure Obligations | BCSC; Janis Sarra, Roopa Davé, Meghan

misstating material information in required continuous disclosure documents can lead to the board, management, and the company itself facing potential risks, including litigation, enforcement, or other regulatory actions such as an order to refile continuous disclosure documents.[350] Directors must be satisfied that adequate procedures are in place for review of the company's public disclosure of financial information derived from its financial statements, and must periodically assess the adequacy of its procedures.[351] Directors should be aware that their decisions about disclosure under securities law are regulatory requirements not protected by the business judgment rule.[352]

i. Proposed National Instrument 51-107 Disclosure of Climate-related Matters

In October 2021, the CSA issued Proposed National Instrument 51-107 Disclosure of Climate-related Matters (NI 51-107), aimed at enhancing transparency in capital markets regarding GHG emissions, including the need for serious reductions and the scaling up of sustainable finance.[353] Canadian investors have long asked securities regulators to require more consistent and comparable information to help them make informed investment decisions.[354] The proposed Instrument is aimed at creating greater fairness among issuers, allowing investors to compare company to company and year over year in making decisions to invest, continue to invest, or shift their investments to more sustainable finance.

The proposed Instrument will require companies to disclose aligned with the four core elements of the TCFD framework.[355] The current draft creates a 'comply-or-explain' framework; issuers will be required to disclose their short-, medium-, and long-term strategies to manage material physical and transition risks and opportunities and the impact on their business, strategy, and financial planning. It does not currently require disclosure of climate scenarios that allow companies to assess the resilience of their strategies within different climate-related scenarios. Issuers will be required to disclose how the company identifies, assesses, and manages climate-related

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Harris-Ngae, and Ravipal Bains, *Audit Committees and Effective Climate Governance, A Guide for Boards of Directors*, (December 2020), Canada Climate Law Initiative, at 10, https://law-ccli-2019.sites.olt.ubc.ca/files/2020/12/CCLI-Guide-for-Audit-Committees-on-Effective-Climate-Governance.pdf (hereafter Audit Committees).

[350] CSA SN 51-358, note 346 at 7.

[351] *Audit Committees*, note 349 at 11.

[352] Hansell, note 335.

[353] Proposed NI 51-107, note 344.

[354] See for example, Canada, Expert Panel on Sustainable Finance, Final Report, (2019), Expert panel sustainable finance - Canada.ca.

[355] More than 1,500 organizations have expressed their support for the TCFD recommendations.
TCFD, "Task Force on Climate-related Financial Disclosures Forward-Looking Financial Sector Metrics", (2020), https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Consultation-Forward-Looking-Financial-Sector-Metrics.pdf (hereafter TCFD, Forward-Looking Financial Sector Metrics).

risks and how these processes are integrated into their overall risk management. Thus, while banks will be required to engage in scenario analysis, their portfolio companies may not be required to.

Pursuant to proposed NI 51-107, companies will have to disclose their metrics and targets regarding climate-related risks and opportunities where the information is material. The CSA is consulting on whether issuers should be required to disclose their Scope 1, 2, and 3 GHG emissions and the related risks or only Scope 1.[356] To date, the CSA's disclosure requirements do not keep pace with the TCFD's latest recommendations, which suggest that there should be targets and measurement metrics for all Scope 1 and 2 emissions irrespective of materiality.[357]

Proposed NI 51-107 contemplates a phased-in transition of the disclosure requirements, with companies subject to a one-year transition and venture companies subject to a three-year transition phase, the CSA suggesting originally that if NI 51-107 comes into force by December 2022, these disclosures would be included in annual filings due in 2024 and 2026.[358] However, as of October 2022, there is no proposed date for finalization of NI 51-107.

3. International Financial Reporting Standards and Climate Change

All Canadian publicly-traded companies must comply with IFRS accounting standards in their financial reporting.[359] Canadian banks have adopted IFRS as federally-regulated financial institutions. The IFRS Foundation has made clear that the standards require disclosure of material climate-related risks when the effect of those matters is material in the context of the financial statements taken as a whole, advising that "information about how management has considered climate-related matters in preparing a company's financial statements may be material with respect to the most significant judgments and estimates that management has made."[360] The IFRS Foundation published guidance in 2020 on climate disclosure across 11 accounting standards.[361] Internal accounting and audit functions need to identify and account for material climate-related

[356] TCFD, Forward-Looking Financial Sector Metrics, note 355.
[357] TCFD 2021 updated guidance, note 70.
[358] Proposed NI 51-107, note 344.
[359] Government of Canada, "International Financial Reporting Standards (IFRS)", (2020), https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/international-financial-reporting-standards-ifrs.html; IFRS Foundation, "Canada", (2020), https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-byjurisdiction/canada.
[360] IFRS, Effects of climate-related matters on financial statements, https://cdn.ifrs.org/-/media/feature/supporting-implementation/documents/effects-of-climate-related-matters-on-financial-statements.pdf?la=en (hereafter IFRS 2020).
[361] IFRS 2020, note 360 at 2-6, International Accounting Standard, (IAS): IAS 1 Presentation of Financial Statements, IAS 36 Impairment of Assets, IAS 2 Inventories, IAS 12 Income Taxes, IAS 16 Property, Plant and Equipment, IAS 38 Intangible Assets, IAS 37 Provisions, Contingent Liabilities and Contingent Assets, IFRS 7 Financial Instruments: Disclosures, IFRS 9 Financial Instruments, IFRS 13 Fair Value Measurement, and IFRS 17 Insurance Contracts.

risk, and it is only a matter of time before external auditors will raise climate issues as a 'key audit matter'.
In 2021, the IFRS Foundation announced the establishment of a new International Sustainability Standards Board (ISSB) to develop a comprehensive global baseline of high-quality sustainability disclosure standards to meet investors' information needs, working closely with the International Organization of Securities Commissions (IOSCO).[362] This positive development should eliminate the need for companies to select among the current 'alphabet soup' of sustainable reporting standards. The ISSB has merged the Climate Disclosure Standards Board and the Value Reporting Foundation, which issues the Sustainability Accounting Standards Board (SASB) and supports the merger with other standards to move to a consistent set of international standards.[363] Also of note is the new Canadian Sustainability Standards Board, which is in early stages of development and aims to be operational by April 2023.[364]

The IFRS and ISSB have issued two exposure drafts: Exposure Draft IFRS Sustainability Disclosure Standard, International Sustainability Standards Board [Draft] IFRS S2 Climate-related Disclosures, ED/2022/2[365] (IFRS S2) and IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information. This part discusses only IFRS 2. The consultation period for both exposure drafts ended in 2022 and the requirements are expected to be finalized in early 2023.

i. Draft IFRS S2 Climate-related Disclosures

Draft IFRS S2 highlights the connectivity between climate- and sustainability-related disclosures and information in the financial statements, including the recommendation to disclose sustainability-related financial information as part of general purpose financial reporting, to explain the connections between sustainability-related risks and opportunities and information in the financial statements, and to link information in the financial statements to specific metrics and targets. IFRS S2, when finalized, will considerably enhance climate-related disclosure in general financial reporting. The overall framework of IFRS S2 aligns with the TCFD.

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[362] IFRS Foundation, IFRS Foundation announces International Sustainability Standards Board, consolidation with Climate Disclosure Standards Board and VRF, and publication of prototype disclosure requirements, (3 November 2021), IFRS – IFRS Foundation announces International Sustainability Standards Board, consolidation with CDSB and VRF, and publication of prototype disclosure requirements (hereafter IFRS Foundation).
[363] IFRS Foundation, note 362.
[364] Financial Reporting & Assurance Standards Canada, "Canadian Sustainability Standards Board", (2022), Canadian Sustainability Standards Board (frascanada.ca).
[365] IFRS S2, note 290. See also Basis for Conclusions on [Draft] IFRS S2 *Climate-related Disclosures*, Basis for Conclusions on Exposure Draft IFRS S2 Climate-related Disclosures/.

IFRS S2 will require a bank to disclose information about its exposure to climate-related risks and opportunities, enabling users of its general purpose financial reporting to assess the effects of significant climate-related risks and opportunities on enterprise value; to understand how the bank's use of resources and corresponding inputs, activities, outputs, and outcomes support its strategy for managing its significant climate-related risks and opportunities; and to evaluate the entity's ability to adapt its planning, business model, and operations to significant climate-related risks and opportunities. The objectives align with the purposes of IFRS standards generally, which is to standardize and create completeness, certainty, and comparability. Of note is that IFRS S2 uses the term 'significant' numerous times, without definition and without an explanation as to how it differs from material information, if at all. A significant number of the more than 600 submissions on the draft standard made note of this issue and it is likely to be clarified in the final standard.

A. Governance

IFRS S2 will require banks to disclose governance processes, including:

- controls and procedures used to monitor and manage climate-related risks and opportunities;
- the processes and frequency by which the board and/or its committees engage in oversight of climate-related risks and opportunities and how responsibilities are reflected in the entity's terms of reference, board mandates, and other related policies;
- how the board ensures that the appropriate skills and competencies are available to oversee strategies designed to respond to climate-related risks and opportunities;
- how and how often the board or its audit, risk or other committees are informed about climate-related risks and opportunities and how they are considering climate-related risks and opportunities when overseeing strategy, decisions on major transactions, and risk management policies, including any assessment of trade-offs and analysis of sensitivity to uncertainty that may be required;
- how the board oversees the setting of targets related to significant climate-related risks and opportunities, and how progress towards them is monitored, including whether and how related performance metrics are included in remuneration policies;[366]

[366] IFRS S2, note 290 at paragraphs 23–24.

- a description of management's role in identifying, assessing, and managing climate related risks and opportunities, including whether that role is delegated to a specific management-level position or committee and how oversight is exercised over that position or committee;

- information about whether dedicated controls and procedures are applied to management of climate-related risks and opportunities and, if so, how they are integrated with other internal functions;[367] and

- whether and how related performance metrics are included in remuneration policies, particularly at the executive level.[368]

The requirement to disclose information about both board oversight and actual management assists users in understanding the delineation of responsibilities between directors and managers, each of which have important roles in ensuring climate change is appropriately dealt with. IFRS S2 will require banks to identify and describe significant climate-related risks and opportunities; the time horizon over which each risk and/or opportunity could reasonably be expected to affect their business model, strategy, cash flows, financial planning, access to finance, and cost of capital, over the short, medium, and long term.

Importantly, IFRS/ISSB will also require banks to report on climate-related risks and opportunities in its value chain, including external relationships with customers, suppliers, society, and nature/biodiversity, as the value chain has an impact on the entity's ability to generate enterprise value over the short, medium, and long term.[369] A bank must describe where in its value chain significant climate-related risks and opportunities are concentrated.[370] A bank must disclose upstream and downstream emissions in its measure of Scope 3 emissions to enable users of general purpose financial reporting to understand which Scope 3 emissions have been included in, or excluded from, emissions reported;[371] and to identify the most significant GHG reduction opportunities across an entity's entire value chain.[372]

[367] IFRS S2, note 290 at paragraph 5.
[368] IFRS S2, note 290 at paragraph 21(g).
[369] IFRS S2, note 290 at paragraph 12.
[370] IFRS S2, note 290 at paragraph 12.
[371] IFRS S2, note 290 at paragraph 42. When the entity's measure of Scope 3 emissions includes information provided by entities in its value chain, it shall explain the basis for that measurement.
[372] IFRS S2, note 290 at paragraphs 12, 22.

B. Transition Plans

Transition plans are critically important because they give substance to principled statements on getting to net-zero emissions. Disclosing an entity's transition plan towards net-zero emissions is important for enabling users of general purpose financial reporting to assess the bank's current and planned responses to the decarbonization-related risks and opportunities that can reasonably be expected to affect its enterprise value.[373]

A transition plan should disclose a time horizon over which the entity can be reasonably expected to adjust its business model, strategy, and cash flows, its access to finance and its cost of capital, over the short, medium, and long term, linking these timeframes to the entity's strategic planning horizons and capital allocation plans. An entity should disclose the resources that are being directed to transition, such as research and development investment, capex, and use of revenues to undertake mitigation activities.

IFRS S2 will also require disclosure of information regarding climate-related targets for transition plans, including processes in place for review of the targets and the amount of the bank's emission targets to be achieved through emission reductions within the entity's value chain.[374]

> Banks are to assess and disclose the climate resilience of their strategy in respect of significant physical and transition risks, with granular information on how the bank is working with customers and suppliers to set and meet emission reduction targets as part of its strategy and business plan.

C. Carbon Credits

Draft IFRS S2 specifies that information on the use of carbon credits needs to be clearly separated from other information reporting targets and strategies to advance GHG reduction goals, an approach that would align IFRS S2 with current standards such as the GHG Protocol[375] and the Science-based targets Initiative (SBTi) Net-zero Standard.[376] The SBTi Net-zero Standard states that the use of carbon credits must not be counted as

[373] IFRS S2, note 290 at Table 1–Volumes B1–B68: Industry-based requirements, Appendix C.
[374] IFRS S2, note 290 at paragraph 13(b).
[375] Greenhouse Gas Protocol, "GHG Protocol Corporate Accounting and Reporting Standard", Corporate Standard | Greenhouse Gas Protocol (ghgprotocol.org) and "The Corporate Value Chain (Scope 3) Accounting and Reporting Standard", Corporate Value Chain (Scope 3) Standard | Greenhouse Gas Protocol (ghgprotocol.org).
[376] Science-based targets Initiative, SBTi Net-Zero Standard The Net-Zero Standard - Science Based Targets (hereafter SBTi Net-Zero Standard).

emission reductions toward the progress of companies' near-term or long-term science-based targets; they may only be considered to be an option for neutralizing residual emissions or to finance additional climate mitigation beyond their science-based emission reduction targets.[377]

D. Risk Management

Transparency regarding bank risk management processes assist users of financial statement in assessing how the entity prioritizes climate-related risks relative to other types of risks. IFRS S2 will require a bank or other entity to disclose the processes it uses to identify climate-related risks and opportunities and to manage them; how it assesses the likelihood and effects associated with such risks (such as the qualitative factors, quantitative thresholds, and other criteria used; and how it prioritizes climate-related risks relative to other types of risks.[378] The bank is to disclose:

- its use of risk-assessment tools such as science-based risk-assessment tools;
- the input parameters it uses, such as data sources and scope of operations covered;
- whether it has changed the processes used compared to the prior reporting period; the processes it uses to identify, assess, prioritize, monitor, and manage the climate-related risks and opportunities; and
- the extent to which and how the climate-related risk identification, assessment, and management processes are integrated into the bank's overall risk management process.[379]

E. Targets and Metrics to Decarbonize

Draft IFRS S2 proposes that an entity must disclose information about its emission-reduction targets, including sector or science-based initiatives, and information about how the entity's targets compare with those prescribed in the "latest international agreement on climate change".[380] It is important that the IFRS/ISSB be very clear

[377] SBTi Net-Zero Standard, note 376, at 42.
[378] IFRS S2, note 290 at paragraph 17.
[379] IFRS S2, note 290 at paragraph 17.
[380] IFRS S2, note 290 at paragraph 23. The draft specifies that 'latest international agreement on climate change' is defined as the latest agreement between

on what the latest international agreement on climate change is at any given time as the draft refers to the 2015 Paris Agreement, but there have been significant subsequent developments and agreements at COP26 in 2021 and in IPCC reports in the past seven years that represent the consensus of 195 member countries.[381]

Such disclosure will enable users of the bank's financial reporting to understand how the bank measures, monitors, and manages its significant climate-related risks and opportunities. The standard should clarify climate-related targets, which can comprise GHG mitigation targets, renewable energy production or consumption targets, climate adaptation targets, etc, from emission-reduction targets, rather than conflate them.

Almost all the financed emissions targets that have been announced to date by Canada's six largest banks are intensity-based, the sole exception being BMO's absolute target for its upstream oil and gas lending portfolio.[382] Intensity targets provide flexibility for issuers, but they do not necessarily result in absolute GHG reductions, as a portfolio of energy companies could significantly reduce their emissions intensity (emissions per unit of production), but total emissions could be growing, which means targets to decrease emissions are not being met.[383]

F. Financed Emissions

The IFRS/ISSB is developing disclosure requirements and associated metrics for commercial banks, investment banks, insurance companies, and asset managers, particularly in respect of their lending, underwriting, and/or investment activities that finance or facilitate emissions.[384]

> Financed emissions can reveal a financial institution's exposure to significant climate-related risks, and how it may need to adapt its lending or financing activities, and there is an urgent need for consistency in identifying and reporting such emissions and plans to transition. It is important to distinguish between bank portfolios that include financing that locks the financial institution and/or the economy into a path of high-emissions intensity and portfolios that advance transition to net-zero carbon emissions.

members of the United Nations Framework Convention on Climate Change (UNFCCC).
[381] IPCC, About — IPCC.
[382] BMO Capital Markets, note 150.
[383] BMO Capital Markets, note 150.
[384] IFRS S2, note 290 at paragraphs BC 160 to BC 172.

Expanding from financed emissions to facilitating emissions will assist in capturing off-balance-sheet activities performed by financial institutions, such as underwriting, securitization, and advisory services, critically important in creating a transition pathway. It should increase the comparability, coverage, transparency, and reliability of Scope 3 GHG emissions data. Draft IFRS S2 sets out how entities should disclose their gross exposure to carbon-related industries, including as a percentage of total gross exposure; percentage of total gross exposure for which financed emissions are calculated; and total absolute financed GHG emissions by industry and asset class.[385]

The IFRS/ISSB notes that verifiability is critically important to climate- and sustainability-related financial information.[386] Verifiability gives stakeholders confidence that information is complete, neutral, and accurate. An entity will not be required to disclose comparative information in the first period of application; however, the first disclosure should set a clear baseline against which emissions reductions and other targets and metrics can be measured annually.

Within the context of these developing regulatory standards, the next part considers some best practices for climate governance. It also offers some examples of what Canadian bank boards are doing at various points on the pathway to net-zero transition.

385 IFRS S2, note 290 at paragraphs BC 160 to BC 172.
386 International Sustainability Standards Board, [draft] IFRS S1 *General Requirements for Disclosure of Sustainability-related Financial Information* at paragraphs C21–24.

V.

EFFECTIVE CLIMATE GOVERNANCE

Canada and the rest of the world need to move swiftly from current carbon emissions to net-zero emissions. Given the reliance of the Canadian economy on carbon-intensive sectors, the interrelationship of Canadian banks and the Canadian economy, and the significant investment in these industries in the banks' portfolios, effective climate governance becomes critically important.

'Climate alignment' means banks actively using their 'levers of influence' to move the real economy toward net-zero emissions in their lending and investment decisions, advisory services, capital markets activities, and their stewardship and advocacy.[387] Banks have an opportunity to create and capture value from an expanding pool of low-carbon investment opportunities through new alignment-linked products and services. By reorienting their strategies to reduce their carbon footprints and support their clients' transitions toward net-zero emissions, banks will minimize transition and reputation risk, actively support progress toward global climate goals in the real economy, and create a competitive edge.[388]

1. Governance

Governance is a foundational building block of effective climate risk and opportunity management.[389] What is a good board to do? Perhaps more importantly, what should it do first, as many activities will be required over the years to come as this transforming economy unfolds. Most of the board's key accountabilities come into play here—approval of strategy, effective risk management, and having the right talent.

As a first step, does the board have the right governance structure to meet these accountabilities? Management must assist the board to identify the areas of highest risk on the most urgent trajectory. At this stage, some of the immediate risks to significant sectors of the Canadian economy are not immediately relevant risks to Canadian banks; however, preparing for the future through a climate action plan is crucial, and managing climate-related risks such as brand, reputation, investor, and regulatory risk is an immediate priority. While there is risk to acting, a strong climate action plan will be the most effective in mitigating both the immediate reputational and stakeholder considerations and the traditional heads of risk that could arise in the future.

[387] Rocky Mountain Institute, "How Does Climate Alignment Benefit Financial Institutions?", Climate Alignment | Climate Alignment (hereafter RMI).
[388] RMI, note 387.
[389] World Economic Forum, How to Set Up Effective Climate Governance on Corporate Boards Guiding principles and questions, (2021), WEF_Creating_effective_climate_governance_on_corporate_boards.pdf (weforum.org).

> The board needs to satisfy itself that the right organizational structure is being formed to build and manage its transition. It must satisfy itself that its risk management team has assessed any near term material risks, and that it is working on the tools it will need to assess and manage the physical and transition risk of the future.

The board needs to satisfy itself that all material information related to climate is being reported. Voluntary disclosure is an important area of board consideration—choosing to voluntarily disclose more than currently required by regulation creates risk; however, not acting or not disclosing can also create risk. The board needs to satisfy itself that an adequate process exists around disclosure and for signing on to external commitments. When draft Guideline B-15 and IFRS S2 come into force, boards will have very clear guidance as to what is needed. The board needs to be informed on regulatory, investor, and other stakeholder expectations regarding their governance. The board needs to satisfy itself as to the feasibility of commitments or targets made, the adequacy of controls around those targets, their alignment with the bank's capital and liquidity considerations, and the transparency and reliability of reporting.

As a general matter, understanding climate change and associated risks will be a new area for boards of banks that otherwise have focused more on market, liquidity, credit, interest rate, and operational risk. The board needs sufficient understanding of the exposure of their business, the global implications of climate change, and the evolving role of financial institutions. Directors also need a working understanding of the emerging acute reputational risk issues and to be sure they are hearing voices on multiple sides of an issue. For example, while many stakeholders favour banks entering commitments like NZBA, there are some counter perspectives, for example, those voices driving laws like the fair access laws in several US states that seek to prohibit banks from choosing not to lend to fossil fuel companies. The board's knowledge and understanding of how the business and governance is affected is generally always the most important part of their oversight. Key tools such as climate scenario planning are underway and require oversight and preparation for good usage, as well as methods to act on what they say, especially considering the potential for key variables such as extreme physical risk and regulatory/policy to change quickly.

The board must also be thinking forward. In some ways, climate risk management has been simplified because the world has coalesced around a singular metric—reduction of GHG. However, a forward-thinking board will see signs on the horizon of that changing—clearly environmental issues handled poorly today are our social issues of tomorrow. For example, biodiversity is an emerging concern. Another major area for the board to think through is balancing the conflicting interests of different constituencies, including developing processes to

undertake this analysis and decision-making, and how this balancing of interests is evidenced and documented.

Disclosure of the governance of climate-related matters is a window into what Canadian banks are seeing as the greatest opportunities, risks, and challenges. As part of their governance, directors should have effective oversight of the company's management of climate-related risks and opportunities, ensuring that executives are reporting to the board on a regular basis. OSFI has observed that banks should be adapting their governance structures to ensure climate-related risks and opportunities are being effectively managed, which may include appointing a senior officer to be responsible, and linking senior management compensation to achieving specified climate-risk management objectives of the bank.[390]

Most of Canada's large banks have allocated oversight of climate risk across several committees of the board of directors – audit, governance, and risk committees being the board committees most frequently assigned some responsibility. It signals that boards are increasing their attention to risks and opportunities associated with climate change, but it can also pose challenges for governance in that careful coordination is needed so that significant issues do not fall between the cracks.

The board as a whole is responsible for the decisions of the bank on governance, strategy, and risk management. The banks are also merging climate governance into diversity, equity, inclusion, and other ESG reports, and while this integrated approach recognizes the importance of ESG, it may be harder for investors and regulators to discern the effectiveness of a bank's transition activities to net-zero emissions. While a holistic view is that integration of ESG is a necessary maturation in the process to just transition, it is important to make clear how climate-related targets are being met annually.

The best guidance for banks is OSFI's draft Guideline B-15. It aligns with the TCFD recommendations regarding the board's oversight of climate-related issues and the processes and frequency by which the board and/or board committees review and guide strategy, major plans of action, risk management policies, annual budgets, and business plans, as well as setting the bank's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures.[391]

In summary, the board must understand the current and time-sensitive risks and satisfy itself that they are

[390] OSFI, Navigating, note 15 at 17.
[391] TCFD Implementing Guidance 2021, note 4 at 25.

being managed. It must have a sufficient understanding of climate change and changing expectations to oversee strategy setting and climate action plans. It must be focused on the longer-term outcomes for both opportunities and challenges of a transitioning economy.

i. Example of Climate Governance Structure - TD Bank

Most Canadian banks are complex organizations where decisions to be made centrally require good information flow and, once taken, require operating controls and reporting to be built and maintained. It is therefore key to embed climate considerations operationally. For example, TD Bank has two major initiatives - the ESG Centre of Expertise and the ESG Target Operating Model—the later, in particular, is building the infrastructure across the bank to support its objectives in TD Bank's Climate Action Plan, including significant data work. The build out of both initiatives is requiring significant investment, including in talent.

TD Bank discloses the role of the board of directors and its committees in respect of oversight of climate-related risks and opportunities. As part of its mandate, the board oversees risks and controls related to climate change issues affecting the bank and its stakeholders and the delivery of a strategy that manages climate-related risks and opportunities, including TD's efforts to help accelerate the transition to a low-carbon economy.[392] The board approves TD Bank's strategy and business objectives and oversees their implementation.[393] The directors review the bank's climate risk profile and performance, and the board satisfies itself as to the effective management of those risks in accordance with TD's Risk Appetite Statement and Enterprise Risk Framework. The board has developed a climate risk inventory to help identify the impacts climate change may have on the bank's and clients' assets.[394] The board's risk, audit, and governance committees are each assigned different aspects of oversight of ESG, including climate change.[395] The TD Bank directors regularly receive climate-related reports and education sessions on such matters as Scope 3 financed emissions.[396] The board has approved the bank's Climate Action Plan, and delivering on the objectives of the Plan is now incorporated into the compensation for TD's senior executive team.[397]

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[392] TD Bank Climate Action Plan, note 76 at 23.
[393] TD Bank, "The Toronto-Dominion Bank Notice of 2022 annual meeting of common shareholders and management proxy circular Annual meeting April 14, 2022", (March 2022), at 25, WEBSITE_TD BANK_ENG Circular (hereafter TD Bank 2022 Management Proxy Circular).
[394] TD Bank 2022 Management Proxy Circular, note 393 at 26.
[395] TD Bank 2022 Management Proxy Circular, note 393 at 28.
[396] TD Bank Climate Action Plan, note 76 at 23.
[397] TD Bank Climate Action Plan, note 76 at 23; TD Bank 2022 Management Proxy Circular, note 393 at 26.

The board has overseen the development of a Climate Target Operating Model - a framework that outlines how functions, capabilities, governance, and supporting infrastructure will be managed to achieve the strategic objectives of the Climate Action Plan.[398] The Climate Target Operating Model roadmap identifies and sequences the actions necessary to reach TD Bank's 'target state' and outlines the roles and responsibilities of the various teams involved in the implementation, aimed at making the bank's processes efficient and scalable.[399]

The TD Bank board has set and publicly announced a target to achieve an absolute reduction in Scope 1 and 2 GHG emissions from operations by 25% by 2025 relative to a 2019 baseline, and oversaw the development of a customized methodology for setting Scope 3 financed emissions targets, and approved Scope 3 targets for the energy and power sectors for 2030.[400] The framework further embeds enterprise climate-related risk management practices into the bank's business activities, aimed at capitalizing on climate-related opportunities.[401] The bank is identifying opportunities to support clients in their transition to net-zero GHG emissions and the board is overseeing development of sustainable financial products, services, and programs.[402] In 2022, the bank is working to achieve the Climate Target Operating Model within TD Securities.[403]

TD Bank also established an ESG Credit Risk team responsible for identifying, assessing, and mitigating the impact of ESG and climate change related risks on TD's credit portfolio. The board approved a heat mapping framework to support physical and transition climate risk identification and assessment, for example, portfolios and industries most susceptible to climate change, as part of the development of its risk management approach.[404] The bank achieved CA$86 billion of its commitment to CA$100 billion target by 2030, through low-carbon-lending, financing, asset management, and internal corporate programs in the last four years.[405] TD Bank is also engaged in policy work through SFAC and the NZBA, and it is working with RMI's Center for Climate-Aligned Finance to help align its financial decision-making with the decarbonization of the real economy.[406]

[398] TD Bank Climate Action Plan, note 76 at 15.
[399] TD Bank Climate Action Plan, note 76 at 15.
[400] TD Bank 2022 Management Proxy Circular, note 393 at 25.
[401] TD Bank Climate Action Plan, note 76 at 15.
[402] TD Bank 2022 Management Proxy Circular, note 393 at 25.
[403] TD Bank Climate Action Plan, note 76 at 15.
[404] TD Bank 2022 Management Proxy Circular, note 393 at 26.
[405] TD Bank 2022 Management Proxy Circular, note 393 at 25.
[406] TD Bank 2022 Management Proxy Circular, note 393 at 25.

2. Strategy

Effective climate strategy requires that the bank acquire a deep understanding and oversee development of strategies to tackle the actual and potential impacts of climate-related risks and opportunities on the bank's business plan and financial planning over different time horizons, including short term.[407] The TCFD notes that "fundamentally, the financial impacts of climate-related issues on an organization are driven by the specific climate-related risks and opportunities to which the organization is exposed and its strategic and risk management decisions on seizing those opportunities and managing those risks".[408] Thus, once a bank assesses its exposure, it needs to make strategic and financial planning decisions around the operating and capital expenditures and financing it plans to undertake in response, including research and development (R&D) expenditures that may be necessary.[409]

An important part of strategy is to develop a plan to transition to meet net-zero commitments. Given Canada's commitment to net-zero emissions by 2050, banks need pace themselves ahead of other sectors, in order to ensure that capital is directed appropriately towards ambitious targets for emissions reductions and new sustainable circular economic activity. The TCFD recommends that banks develop the following information to underpin strategic planning:

- Banks should describe what they consider to be the relevant short-, medium-, and long-term time horizons, taking into consideration the useful life of the bank's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer term.

- Banks should describe specific climate-related issues potentially arising in each time horizon that could have a material financial impact on the bank and the processes used to determine these risks and opportunities, and consider providing a description by sector and/or geography.[410]

- Banks should determine their climate-related physical and transition risks in their lending and other financial intermediary business activities, describing significant concentrations of credit exposure to carbon-related assets.

[407] TCFD Final Report, note 108 at 14-18.
[408] TCFD Implementing Guidance 2021, note 4 at 9.
[409] TCFD Implementing Guidance 2021, note 4 at 11.
[410] TCFD Implementing Guidance 2021, note 4 at 26, referencing Tables A1.1 and A1.2, at 75–76.

- Banks should consider how strategies need to change by assessing potential impact of climate-related issues on financial performance (revenues and expenses) and financial position (balance sheet assets and liaiblities) and associated time horizons as they conduct forward-looking analysis.

- Banks should disclose to key stakeholders and regulators how resilient their strategies are to climate-related risks and opportunities in the transition to a net-zero carbon economy.[411]

Another key area of strategy is careful consideration of how banks identify climate-related issues that affect the bank's businesses, strategy, and financial planning, including actual financial impacts. Banks should consider impacts in respect of products and services, supply chain and value chain, adaptation and mitigation activities, investment in R&D, operations, and acquisitions or divestments.[412] Critically, banks should understand and be able to disclose how climate-related issues serve as an input to their financial planning process, the time periods used, and how risks and opportunities are prioritized.[413] They need a holistic picture of the interdependencies among the factors that affect their ability to create value over time and affect financial performance and financial position.[414]

The Principles for Responsible Banking were established by UNEP FI in 2019 to provide the banking sector with a single framework that embeds sustainability at the strategic, portfolio, and transactional levels and across all business areas.[415] Signatories are required to adhere to six principles, including that banks will align their business strategy to be consistent with and contribute to society's goals and individuals' needs, as expressed in the UN Sustainable Development Goals, the Paris Climate Agreement, and relevant national and regional frameworks.[416]

Another strategic consideration is the reskilling and upskilling needed to meet the labour force needs of a circular economy. RBC has identified large-scale mobilization of human capital as a much needed strategy to accompany mobilization of financial capital.[417] The bank suggests that a highly-skilled net-zero workforce could

[411] TCFD Implementing Guidance 2021, note 4 at 26, 27.
[412] TCFD Implementing Guidance 2021, note 4 at 26.
[413] TCFD Implementing Guidance 2021, note 4 at 26.
[414] TCFD Implementing Guidance 2021, note 4 at 26.
[415] UNEP FI, "Principles for Responsible Banking", (2019), Principles for Responsible Banking – United Nations Environment – Finance Initiative (unepfi.org).
[416] UNEP FI, *Charting a New Climate: State-of-the-art tools and data for banks to assess credit risks and opportunities from physical climate change impacts*, (September 2020) at 92, Charting-a-New-Climate-UNEP-FI-TCFD-Banking-Physical-Risk.pdf (unepfi.org)
[417] RBC, Green Collar jobs, note 139.

establish Canada as a top destination for green investment, combined with large deposits of natural resources critical to clean technology.[418] RBC notes that new models of collaboration among businesses, government, and post-secondary institutions are needed to tap into underutilized pools of talent such as women, immigrants, and Indigenous youth.[419] Thus, skills training needs to be central to a net-zero strategy, allocating funding to create a proactive strategy for retraining workers, creating new and accessible pathways for green skills training through work-integrated learning and upskilling, and breaking down interprovincial mobility barriers for workers to facilitate smooth work transitions.[420]

i. Example of Climate Strategy - National Bank of Canada

The NBC reports in its 2021 TCFD report that its strategy is to identify and develop sustainable business opportunities while identifying, managing, and mitigating climate-related risks, including opportunities related to renewable energy, sustainable investment, and energy efficiency.[421] Its strategic priorities are: to consider the fight against climate change in its economic and community actions; support and actively advise its clients in their transition towards a lower-carbon economy, increase its capacity to assess and manage climate risks, to reduce the carbon footprint of it operations, and support the energy transition ecosystem through incubators, accelerators, and other initiatives.[422]

NBC's climate strategy involves regular board engagement with senior executives regarding strategic initiatives, including business strategies and growth opportunities.[423] NBC reports that the board ensures that climate issues are incorporated into the bank's long-term strategic objectives and monitors changes that might require adjustment of strategies. The board's Conduct Review and Corporate Governance Committee is responsible for the climate and ESG strategy and is responsible for periodically reviewing and improving the bank's ESG principles and for ensuring that practices are sound and comply with best practices and legislation.[424] It reviews all publications on the bank's climate strategy and oversees the implementation of measures designed to promote

[418] RBC, Green Collar jobs, note 139.
[419] RBC, Green Collar jobs, note 139.
[420] RBC, Green Collar jobs, note 139.
[421] NBC, "Report on the Task Force on Climate-related Financial Disclosures Advances 2021",at 7, nbc-2021-tcfd-report.pdf (hereafter NBC 2021 TCFD Report).
[422] NBC 2021 TCFD Report, note 421 at 10.
[423] National Bank of Canada, "Notice of Annual Meeting of the Holders of Common Shares of National Bank of Canada Management Proxy Circular" (March 2022), at 78, NA: 2022 Management Proxy Circular (nbc.ca), (hereafter NBC 2022 Management Proxy Circular).
[424] NBC 2022 Management Proxy Circular, note 423 at 136.

communication with the bank's stakeholders.[425] An internal ESG Working Group, led by senior executives, is developing strategies using the UN Principles for Responsible Banking.[426] It has oversight responsibility for the bank meeting its climate change commitments, including reaching net-zero by 2050.[427] Its TCFD-aligned disclosure is in a separate report, not part of the financial statements.[428]

NBC's framework for issuing sustainability bonds is based on the Green Bond Principles and Social Bond Principles.[429] As at 31 December 2021, its bond issues have generated more than CA$3.1 billion, used by the bank to finance numerous projects that it believes will make a tangible contribution to protecting the environment or seeking positive socio-economic outcomes for target populations.[430] To date, 50% of total allocation of capital has been to renewable energy, including 21 wind farms, 82 solar farms, and six small-scale hydro projects, with total installed capacity of 1,083 MW1 and GHG emissions reduced or avoided of 1,139,374 tonnes of carbon dioxide equivalent.[431]

3. Risk Management

Key to effective risk management is having in place effective processes to make decisions to prioritize and then mitigate, transfer, accept, or control climate-related risks and having a clear understanding as to how these processes and management are integrated into the bank's overall risk management.[432] Directors should have effective oversight of the bank's processes for identifying, assessing, and managing climate-related risks. The directors and officers need a clear plan for the resilience of the bank and should be familiarizing themselves with the scenario-analysis process, including the analytical choices they may face.[433] They should ensure that these processes are integrated into the company's overall risk management, strategic, and business plans. Risks should be assessed in the context of traditional banking industry risk categories such as credit risk, market risk, liquidity risk, and operational risk.[434]

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[425] NBC 2022 Management Proxy Circular, note 423 at 78, 126, 136.
[426] NBC 2022 Management Proxy Circular, note 423 at 136.
[427] NBC 2022 Management Proxy Circular, note 423 at 56.
[428] National Bank of Canada, "Report on the Task Force on Climate-related Financial Disclosures Advances, 2020", (November 2020), 2020-tcfd-report.pdf (nbc.ca).
[429] NBC, "Sustainability Bond Report 2021", NA: Sustainability Bond Report 2021 (nbc.ca) (hereafter NBC, "Sustainability Bond Report 2021")
[430] NBC 2021 TCFD Report, note 421 at 11.
[431] NBC, "Sustainability Bond Report 2021", note 429 at 7.
[432] TCFD Implementing Guidance 2021, note 4 at 28.
[433] TCFD Implementing Guidance 2021, note 4.
[434] TCFD Implementing Guidance 2021, note 4 at 27.

OSFI reports that building climate resilience requires banks to develop a climate-related risk appetite that aligns to the bank's objectives, understanding the magnitude of their climate-related risk exposure, developing a risk management strategy that is commensurate with the nature, size, and complexity of the bank, and continuously recalibrating based on evolving information.[435]

OSFI's Guideline B-15 offers clear guidance on risk management best practice, specifying that the bank should have processes in place to:

- adequately price climate risk-sensitive assets and liabilities and manage these exposures in accordance with the bank's Risk Appetite Framework;
- identify and measure the potential impact of climate-related risks on its portfolio of exposures (eg, credit, market, operational, insurance, and liquidity) over appropriate time horizons;
- collect and use reliable, timely, and accurate climate risk data (eg, GHG emissions data, geophysical location of exposures) relevant to its business activities to inform risk management decisions;
- tools/models for climate scenario analysis, to measure and assess its climate-related risks, and where the bank uses tools/models developed by external third parties to support its assessment, it should sufficiently understand the embedded data, methodology, assumptions, and their limitations;
- monitor and report on relevant internal metrics, limits, and indicators to assess the effectiveness of its climate risk management;
- develop capabilities to aggregate its climate risk data to identify and internally report on climate-related exposures, including risk concentrations, and have internal reporting systems that can produce timely, accurate, independent, and objective reporting on these risks to support strategic planning and risk management.[436]

The Bank of Canada and OSFI pilot identified a "three lines of defence" approach to risk management. First,

[435] OSFI, Navigating, note 15 at 17.
[436] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1.

management should be responsible for the climate-related risks arising from business activities. It found that not all pilot participants have established clear roles and responsibilities for the first line of defence, nor have they formally documented them.[437] Second, climate-related risks should be incorporated into the oversight responsibilities of their risk management functions, including identifying, assessing, measuring, monitoring, and reporting climate-related risks, with appropriate dedicated resources. The third line of defence is still underdeveloped, specifically, ensuring that internal audit has incorporated review of climate-related risks in the audit plan, to provide an independent review of risk management controls, processes, and systems and of the effectiveness of the line-of-defence functions.[438]

Banks should disclose their risk management processes for identifying how they determine the relative significance of climate-related risks in relation to other risks, the potential magnitude and scope of the risks, definitions of risk terminology used or references to existing risk classification frameworks, and how existing and emerging regulatory requirements related to climate change are factored into that assessment.[439]

The TCFD suggests that banks should consider the FSB's Enhanced Disclosure Task Force's framework for defining "top and emerging risks".[440] The Task Force was established to make recommendations on financial risk disclosures for banks; it defines a top risk as "a current, emerged risk which has, across a risk category, business area or geographical area, the potential to have a material impact on the financial results, reputation or sustainability or the business and which may crystallize within a short, perhaps one year, time horizon".[441] An emerging risk is defined as one that has large uncertain outcomes that may become certain in the longer term, which could have a material effect on the business strategy if it were to occur.[442] The TCFD observes that banks may find it more difficult to quantify exposure to climate-related risks because of challenges related to portfolio aggregation and data availability, but that both qualitative and quantitative information data should be used where methodologies allow.[443]

[437] Bank of Canada and OSFI, 2022, note 31 at 45.
[438] Bank of Canada and OSFI, 2022, note 31 at 47.
[439] TCFD Implementing Guidance 2021, note 4 at 27.
[440] TCFD Implementing Guidance 2021, note 4 at 28.
[441] TCFD Implementing Guidance 2021, note 4 at 28.
[442] TCFD Implementing Guidance 2021, note 4 at 28.
[443] TCFD Implementing Guidance 2021, note 4 at 28.

i. Example of Climate Risk Management - Scotiabank

Scotiabank reports that it has "developed and implemented a framework that outlines the mechanisms and tools in place to identify, assess, and manage risks, risk mitigation channels, environmental risk appetite statements, metrics, reporting, and communication and training requirements."[444] The bank's Enterprise Risk Appetite Framework aids in identification of significant financial and non-financial risks and the board reviews and approves significant risk management frameworks and policies and ensures the implementation of appropriate processes by management to manage those risks.[445] The directors report that the bank expanded its credit policy manual to explicitly address climate risk in the policies and procedures of lending activities, and to enhance integration of climate risk assessments in its lending activities.[446] The board's Risk Committee has oversight responsibilities for review of the bank's risk appetite and identifying and monitoring key financial and non-financial climate risks. The board's Audit and Conduct Review Committee oversees its climate-change related disclosure as part of the bank's financial reporting of ESG matters.

In 2022, the bank released its Net Zero Pathways Report, which states that Scotiabank is on track to achieve net-zero operations by 2030, including securing 100% non-emitting electricity in Canada by 2025 and globally by 2030. However, the Pathway Report notes that a bigger challenge lies in setting credible net-zero targets against emissions associated with its portfolio of clients.[447] It has set targets to reduce the emissions intensity of its oil and gas portfolio by 30% and its power and utilities portfolio by 55-60% by 2030.[448]

As of November 2021, Scotiabank had mobilized CA$58 billion to address climate change through lending, investing, financing, and advisory services, as well as investments in the bank's own operations.[449] It has increased its climate-related financing target from the original CA$100 billion by 2025 to CA$350 billion by 2030.[450] Scotiabank issued an inaugural US$1 billion 3-year sustainability bond, with proceeds used to fund the financing or refinancing of eligible green and social assets.[451] It has joined the NZBA and PCAF, committed to

[444] Scotiabank 2022 Management Proxy Circular, at 35, Annual Reports (scotiabank.com) (hereafter Scotiabank 2022 Management Proxy Circular).
[445] Scotiabank 2022 Management Proxy Circular, note 444 at 45.
[446] Scotiabank 2022 Management Proxy Circular, note 444 at 48.
[447] Scotiabank, Net Zero Pathways Report, (2022), _ (hereafter Scotiabank, Net Zero Pathways Report).
[448] Scotiabank, Net Zero Pathways Report, note 447 at 3.
[449] Scotiabank 2022 Management Proxy Circular, note 444 at 48.
[450] Scotiabank, Net Zero Pathways Report, note 447 at 5.
[451] Scotiabank 2022 Management Proxy Circular, note 444 at 48.

harmonizing measures and disclosure of financed emissions associated with loans and investments.[452]

ii. Stress Testing and Climate Scenario Analysis

The TCFD and UNEP FI's Comprehensive Good Practice Guide to Climate Stress Testing is a detailed user guide for financial institutions looking to understand climate stress testing and develop plans for effectively executing them.[453] A climate stress test is a forward-looking exercise designed to measure a bank's exposure to climate risks, using scenario analysis to assess the potential impact of climate change on the bank's business model, leveraging significant elements of traditional capital stress testing, but adding other considerations.[454]

The Practice Guide suggests that climate scenario analysis is at the core of climate stress testing and includes four main steps— scenario selection, variable selection, modelling for risk quantification, and using the outputs for risk assessment, often required to produce credible outputs for diverse geographies, sectors, and asset types. It recommends climate scenarios include physical and transition risk variables that are then combined with macroeconomic and financial variables to quantify the impact of climate risks in a specific scenario, with climate risk variables commonly including physical hazards, carbon price, energy price, energy consumption, and GHG emissions. UNEP FI and TCFD stress a number of important considerations in stress testing:

- Financial institutions will need to make substantial changes to their organization, including the development of an institution-wide climate risk team with executive sponsorship and authority to oversee, coordinate, and manage the climate stress test.

- Firms should devote appropriate resources (financial and human) to integrating climate stress testing into the firm's organizational structure and processes with robust governance and oversight, with a specific focus on the activities of data collection and analysis, model development, and strategic planning.

- A large body of knowledge and skills will need to be developed in-house to reach a satisfactory level of proficiency in running climate stress tests, and climate-related training and knowledge development programs need to be geared towards a diverse set of teams across the firm, rather than just client-facing employees.[455]

[452] Scotiabank 2022 Management Proxy Circular, note 444 at 48.
[453] UNEP FI and TCFD, 2021, note 24.
[454] UNEP FI and TCFD, 2021, note 24 at 10.
[455] UNEP FI and TCFD, 2021, note 24 at 11.

It offers guidance on collecting client data for counterparty analysis, including effective communication with clients on the required data and updating current client engagement processes by integrating data requirements for climate stress testing.[456]

The TCFD has observed that climate transition scenarios are not meant to be forecasts; rather, they explore different plausible but intentionally adverse transition pathways consistent with achieving specific climate targets.[457] Scenario analysis is an important tool for banks to use in their strategic planning processes as forward-looking analyses are especially important, but challenging, as climate mitigation and adaption are without historical precedent, and many aspects about the timing and magnitude of climate change in specific contexts are uncertain.[458] At least 31 central banks and regulators around the world have adopted scenario analysis to better understand the macroeconomic and financial impacts of climate change.[459]

As discussed above, OSFI's proposed Guideline B-15 specifies that climate scenario analysis should be part of banks' stress testing and should be conducted on a regular basis to inform strategic planning and enterprise risk management.[460] OSFI will be developing a standardized climate scenario analysis exercise to assess aggregate exposures to physical and transition risks and compare approaches to climate scenario analysis, and banks will be required to apply these scenarios and report their results to OSFI.[461]

iii. Insights from Bank of Canada and OSFI on Using Scenario Analysis to Assess Climate Transition Risk

The Bank of Canada and OSFI report that scenario analysis is a useful tool for identifying potential risks in an environment of considerable uncertainty.[462] The Bank of Canada developed global climate transition scenarios to capture a range of risk outcomes that could be stressful to the Canadian economy and the financial system,

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[456] UNEP FI and TCFD, 2021, note 24 at 15.
[457] TCFD 2021 updated guidance, note 70.
[458] TCFD Implementing Guidance 2021, note 4 at 12. See also Network for Greening of the Financial System, *Scenarios in Action: A Progress Report on Global Supervisory and Central Bank Climate Scenario Exercises*, Network for Greening the Financial System Technical Document (October 2021), scenarios-in-action-a-progress-report-on-global-supervisory-and-central-bank-climate-scenario-exercises.pdf (ngfs.net) (hereafter NGFS 2021 report). NGFS, *Guide to Climate Scenario Analysis for Central Banks and Supervisors*, Network for Greening the Financial System Technical Document (June 2020), ngfs_guide_scenario_analysis_final.pdf.
[459] NGFS 2021 report, note 458.
[460] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1, Part III.
[461] OSFI Guideline B-15 Climate Risk Management, note 90, Chapter 1, Part III.
[462] Bank of Canada and OSFI, 2022, note 31 at1.

consistent with global commitments and relying conservatively on negative emissions technologies.[463]

Four chosen climate scenarios reflect the Bank of Canada's choice to explore different plausible, but intentionally adverse, transition pathways consistent with achieving specific climate targets, in order to help better understand how climate factors could drive changes and stresses in the economy and financial system along different possible futures.[464] Their pilot covered the ten most emissions-intensive sectors in the Canadian economy: forestry, livestock, crops, coal, crude oil, gas, refined oil, electricity, energy-intensive industries, and commercial transportation, which together account for approximately 68% of Canada's GHG emissions.[465] The oil and gas sector alone accounts for 29.9% of the exposure.[466] Significantly, the total credit exposure across all six pilot participants within the scope of the exercise was CA$239.3 billion, with the two banks in the pilot accounting for 54.8% of that exposure, representing 5% of the banks' combined total balance sheet assets.[467]

The pilot project used financial data from the scenarios and a discounted dividend model to estimate the impacts on equity valuation at the sectoral and regional levels along alternative climate transition paths.[468] It incorporated non-carbon price policies that contribute to reducing emissions and then calculated a "shadow price of carbon" that captures the remaining implicit government climate policy required to come up with the rest of the mitigation.[469] The pilot mapped selected outputs from the scenarios into risk factor pathways, "reflecting drivers of net income and financial risk at the sectoral level" and "changes in direct emissions costs, indirect costs, capital expenditures and revenues along the transition path relative to the baseline scenario".[470] The banks analyzed credit risks to their wholesale loans portfolio.[471]

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[463] Bank of Canada and OSFI, 2022, note 31 at 1.
[464] Bank of Canada and OSFI, 2022, note 31 at 7, 10. Footnotes omitted. The climate scenario data was also published at: Climate transition scenario data, (January 2022), Climate transition scenario data - Bank of Canada. See also Y-H Henry Chen *et al*, *Transition Scenarios for Analyzing Climate-Related Financial Risk Bank of Canada*, Staff Discussion Paper 2022-1, Transition Scenarios for Analyzing Climate-Related Financial Risk - Bank of Canada (hereafter Bank of Canada Staff Discussion Paper No 2022-1); Hossein Hosseini *et al*, *Assessing Climate-Related Financial Risk: Guide to Implementation of Methods* (2022), Bank of Canada Technical Report No 120, Assessing Climate-Related Financial Risk: Guide to Implementation of Methods - Bank of Canada.
[465] Bank of Canada and OSFI, 2022, note 31 at 8.
[466] Bank of Canada and OSFI, 2022, note 31 at 8. "The largest exposures are to the oil and gas (29.9%) and electricity (29.2%) sectors, followed by the commercial transportation (16%) and energy-intensive industries (13.1%) sectors. Combined, these four sectors account for close to 90% of the total credit exposures within the scope of the exercise", at 8.
[467] Bank of Canada and OSFI, 2022, note 31 at 8.
[468] Bank of Canada and OSFI, 2022, note 31 at 3.
[469] Bank of Canada and OSFI, 2022, note 31 at 12.
[470] Bank of Canada and OSFI, 2022, note 31 at 19. See also *Extending Our Horizons: Assessing Credit Risk and Opportunity in a Changing Climate: Outputs of a Working Group of 16 Banks Piloting the TCFD Recommendations* (April 2018), Extending our Horizons: Assessing Credit Risk and Opportunity in a Changing Climate – United Nations Environment – Finance Initiative (unepfi.org) (hereafter UNEP FI *et al*).
[471] Bank of Canada and OSFI, 2022, note 31 at 8. "For tractability, OSFI and BoC assumed the financial institutions' balance sheets were static of the end

The final report on the pilot highlighted a number of important issues for banks to consider:

- If action is delayed, emissions must fall rapidly to make up for lost time, implying a sharper transition through mid-century.[472] The transition to a lower-carbon economy is likely to be more costly for commodity exporters like Canada relative to other economies, but the benefits of avoided physical risks to the global economy have typically been shown to exceed the costs associated with the low-carbon transition.

- The net-zero 2050 (1.5˚C) scenario with the below 2˚C immediate scenario shows a front-loading of impacts in order to be consistent with the more ambitious target of limiting warming to 1.5˚C, and the impacts on credit risk occur earlier in response to the more front-loaded nature of the increased price of carbon, although not all sectors respond in the same way to each scenario because they face different challenges to decarbonize along the transition.

- To achieve the most ambitious target of net-zero 2050, the scenario relies on negative emissions produced through nature-based solutions in forestry, as well as on advanced technologies in the electricity-generating sector.[473]

The Bank of Canada and OSFI report that the credit risk methodology in the pilot proved valuable in building scenarios and helped identify data gaps, explore new methodologies, and develop a deeper understanding of the impacts of the climate transition on portfolios.[474] However, scenario testing was found to require considerable time and resources to ensure the representativeness of the borrowers in the sample and conduct the borrower-level assessment, and in some instances there was a lack of sufficient emissions data, particularly outside of developed markets and public asset classes.[475]

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of 2019". The pilot built upon a methodology first proposed by the United Nations Environment Programme Finance Initiative (UNEP FI), Mercer and Oliver Wyman: Oliver Wyman, Mercer and UNEP FI in their own transition risk pilot assessment: see UNEP FI *et al*, note 473. See also D Carlin and R Fischer, *Beyond the Horizon: New Tools and Frameworks for Transition Risk Assessments from UNEP FI's TCFD Banking Programme* (UNEP Finance Initiative, September 2020), Beyond the Horizon: New Tools and Frameworks for Transition Risk Assessments from UNEP FI's TCFD Banking Programme – United Nations Environment – Finance Initiative.

[472] Bank of Canada and OSFI, 2022, note 31 at 15.

[473] Bank of Canada and OSFI, 2022, note 31 at 15, 17, 25, 31, 32.

[474] Bank of Canada and OSFI, 2022, note 31 at 34.

[475] Bank of Canada and OSFI, 2022, note 31 at 34.

Of note is that the pilot found a high degree of variability of results across the financial institutions in the pilot, which raises questions of consistency and comparability across financial institutions' assessments, despite guidance given on mapping borrowers to sectors, the selection criteria for representative borrowers, the use of the scenario data versus expert judgment and several assumptions required for the analysis.[476] The Bank of Canada and OSFI observe that it can be explained by pilot participants differently classifying companies that have multiple business lines, the long time horizon of the analysis, and the need for additional financial assumptions such as the extent to which borrowers will use free cash flow to repay debt along the transition.[477]

Overall, the financial risk assessment component of the pilot project increased authorities' and financial institutions' understanding of the financial sector's potential exposure to risks associated with a transition to a low-carbon economy and helped build capabilities in climate risk assessment that incorporate long time horizons and increase understanding of financial implications of the climate transition for their portfolios, albeit at early stages of expertise.[478] The pilot showed that delayed climate policy action increases the overall economic impacts and the risks to financial stability of a sudden repricing of assets. There are uncertainties associated with lengthy time horizons, speed of technological change, the recycling of revenues from carbon pricing schemes back into the economy, and the level and nature of climate policies adopted at the global level.[479]

4. Targets and Metrics

Targets and metrics underpin the effectiveness of strategy and risk management processes. For banks, such metrics need to capture operational risks and the impact of physical and transition climate-related risks on their lending and other financial intermediary business activities in the short, medium, and long term.[480] Metrics may relate to exposure from lending portfolios, underwriting, investments, and/or trading positions.

i. Aligning Targets and Metrics with Global Standards

The Net Zero Banking Alliance's UNEP FI *Guidelines for Climate Target Setting for Banks* outlines principles for target-setting:

[476] Bank of Canada and OSFI, 2022, note 31 at 36.
[477] Bank of Canada and OSFI, 2022, note 31 at 36-37.
[478] Bank of Canada and OSFI, 2022, note 31 at 52.
[479] Bank of Canada and OSFI, 2022, note 31 at 51.
[480] TCFD Implementing Guidance 2021, note 4 at 29.

- Banks shall set and publicly disclose long-term and intermediate targets to support the transition towards a net-zero economy by 2050 using widely accepted science-based decarbonization scenarios, and will regularly review targets to ensure consistency with current climate science.

- Banks shall establish an emissions baseline and annually measure and report the emissions profile of their lending portfolios and investment activities.

- Banks' targets shall include their clients' Scope 1, Scope 2, and Scope 3 emissions, where significant, and where data allow, and scope coverage is expected to increase between each review period.

- Banks shall set, at a minimum, a 2030 or sooner and 2050 target; and further intermediary targets shall be set every five years after the initial interim target.[481]

The *TCFD Report Playbook* has identified climate disclosure metrics relevant for banks, specifically: exposure to carbon-related assets, exposure to climate-sensitive assets, total expected losses under climate scenarios, climate-adjusted loan-to-value ratios, forward-looking return based valuation assessment to measure climate-related risks (climate VaR), correlation between asset values and extreme events, carbon footprint, carbon intensity, weighted average carbon intensity, which is the exposure of a portfolio to carbon intensive companies, total carbon emissions, portfolio scenario alignment metrics (multiple), and the sectoral decarbonization trajectory necessary to achieve climate goals; and portfolio-implied temperature, which is an estimate of the level of future warming with which a portfolio is currently aligned, on the basis of forecasting emissions intensities to a specific date (eg, 2030) and then extrapolating future temperature outcomes.[482]

The PCAF Global GHG Accounting and Reporting Standard for the Financial Industry[483] helps financial

[481] UNEP FI, *Guidelines for Climate Target Setting for Banks*, (April 2021), UNEP-FI-Guidelines-for-Climate-Change-Target-Setting.pdf (unepfi.org). Signatories to the Net-Zero Banking Alliance, and banks signing after 21 April 2021, will apply these Guidelines, including setting their first round of targets within 18 months, and within a further 18 months, set targets for all or a substantial majority of the carbon-intensive sectors; existing signatories prior to April 2021 have three years from the time of joining to apply these Guidelines, including setting their first round of targets, and then a further 18 months to set the targets for all or a substantial majority of the carbon-intensive sectors (hereafter UNEP FI, *Guidelines for Climate Target Setting for Banks*).
[482] TCFD Playbook, note 25 at 28.
[483] Partnership for Carbon Accounting Financials, PCAF: Enabling financial institutions to assess greenhouse gas emissions | PCAF (carbonaccountingfinancials.com); Partnership for Carbon Accounting Financials, "The Global GHG Accounting and Reporting Standard for the Financial Industry", (2020), The Global GHG Accounting and Reporting Standard for the Financial Industry | PCAF (carbonaccountingfinancials.com) (hereafter PCAF).

institutions assess and disclose the GHG emissions from their loans and investments.[484] It builds on the GHG Protocol.[485] It currently does not yet provide explicit guidance on calculating GHG emissions for certain financial products, although it is working on further guidance for such products.[486] In September 2022, PCAF published Guidance on financing the European building transition to net zero for banks with mortgages and commercial real estate portfolios.[487]

The COP26 Private Finance Hub Portfolio Alignment Team's *Measuring Portfolio Alignment* outlines potential approaches for portfolio alignment tools, including approaches to measuring portfolio alignment regarding percentage of portfolio with net-zero targets, deviation of portfolio from a target or benchmark, or a degree warming metric.[488] It observes that judgments upfront can lead to different capital allocation, facilitating different types of transition to net zero.[489]

The TCFD recommends that organizations should provide their Scope 1 and Scope 2 GHG emissions independent of a materiality assessment.[490] It recommends that banks provide information by industry, geographic region, and credit quality, for example, investment grade or non-investment grade, under their internal rating system, with disclosure of the amount and percentage of carbon-related assets relative to total assets as well as the amount of lending and other financing connected with climate-related opportunities.[491]

The TCFD recommends that banks consider including metrics on climate-related risks associated with water, energy, land use, and waste management where relevant. Banks should describe the extent to which their lending and other financial intermediary business activities, where relevant, are aligned with transition, including forward-looking metrics, GHG emissions targets and progress against them, reducing emissions in their operations and value chains, and working with customers to support transition. The TCFD acknowledges

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[484] PCAF, note 483.
[485] The GHG Protocol is the most widely recognized and used international standard for calculating GHG emissions. Greenhouse Gas Protocol, Greenhouse Gas Protocol | (ghgprotocol.org). See also and the GHG Protocol's *The Corporate Value Chain (Scope 3) Accounting and Reporting Standard*.; and the discussion of 40% threshold in the Science Based Targets initiative's (SBTi's) paper *SBTi Criteria and Recommendations,* Version 4.2, April 2021, Section V, at 10.
[486] TCFD Implementing Guidance 2021, note 4 at 29.
[487] PCAF, "Guidance on financing the European building transition to net zero", (September 2022), Financing towards net-zero buildings | PCAF (carbonaccountingfinancials.com).
[488] Portfolio Alignment Team, *Measuring Portfolio Alignment Assessing the position of companies and portfolios on the path to net zero*, Portfolio Alignment Team, COP 26 Private Finance Hub (October 2021), PAT-Report-20201109-Final.pdf (tcfdhub.org) (hereafter Portfolio Alignment Team).
[489] Portfolio Alignment Team, note 488 at 6.
[490] TCFD Implementing Guidance 2021, note 4 at 30.
[491] TCFD Implementing Guidance 2021, note 4 at 29.

challenges to implementing portfolio alignment methodologies, including resources involved, but suggests a mix of qualitative and quantitative information given existing data and methodologies.[492]

ii. Example of Targets and Metrics - BMO

In 2021, BMO commenced quantifying and disclosing financed emissions data using the PCAF's Global GHG Accounting and Reporting Standard for the Financial Industry. It has set a target of net-zero financed emissions in its lending by 2050 and is committed to establishing intermediate (2030) targets for financed emissions reductions, reporting annually.[493] It reports metrics and targets using the GHG Protocol and has targets for, and is quantifying and disclosing Scope 1, 2, and 3 emissions. Scope 3 emissions related to its value chain include financed emissions and it tracks and reports on its operational GHG emissions (waste generation and business travel), financed emissions, and carbon-related assets. Operationally, it achieved 100% renewable electricity each year since 2020. In 2021, BMO achieved its goal to reduce operational emissions by 15% from a 2016 baseline and set a new target, utilizing science-based approaches, with the goal of reducing its GHG emissions 30% by 2030 compared to its 2019 baseline.[494]

Guided by the PCAF Standard, BMO's process for financed emissions quantification and decarbonization pathway modelling is sector-specific, uses widely-accepted metrics, is grounded in science, and is adaptable as data availability improves and decarbonization pathways evolve.[495] Its initial analysis focused on four sectors where BMO has significant lending exposure.[496] BMO is quantifying and disclosing its financed emissions (BMO's Scope 3 emissions, category 15 - investments) for lending related to upstream oil and gas, lending related to power generation in Canada, lending for the purchase of personal vehicles in Canada, and residential mortgage lending in Canada.

BMO sets out the scope of its financed emission baseline and characteristics of the decarbonization pathway modelling and target setting. For example, in its oil and gas investments, it has targeted a 33% reduction in portfolio emissions intensity by 2030 in its oil and gas Scope 1 and 2 emissions and targeted a 24% reduction in absolute Scope 3 emissions by 2030.[497] It has targeted 100% of new loans for new light-duty cars and passenger

[492] TCFD Implementing Guidance 2021, note 4 at 29.
[493] BMO Financial Group 2021 Climate Report, at 46, BMO Financial Group 2021 Climate Report (hereafter BMO 2021 Climate Report).
[494] BMO 2021 Climate Report, note 493 at 28.
[495] BMO 2021 Climate Report, note 493 at 29.
[496] BMO 2021 Climate Report, note 493 at 29.
[497] BMO 2021 Climate Report, note 493 at 30.

trucks in Canada to be zero-emissions vehicles (ZEV) by 2035.[498] BMO's selection of metrics was informed by the SBTi sectoral decarbonization approach (SDA), which plots a physical carbon intensity pathway that converges with the 2050 sectoral carbon intensity. It measures carbon dioxide equivalents where emissions other than CO_2 are material to the sector, such as methane emissions from oil and gas operations, in order to align its baselines with the metrics from the SDA.[499]

BMO has committed to mobilizing CA$300 billion in capital to clients pursuing sustainable outcomes through green, social, and sustainable lending, underwriting, advisory services, and investment; and to providing CA$700 billion in assets under advice/management aligned with sustainable objectives and responsible strategies.[500] It is also seeding its impact investing fund CA$250 million in capital. The BMO Climate Institute will bring together science, analytics, expertise, and partners to understand and manage financial risks and opportunities related to climate change and transition for both clients and the bank, including through use of a new climate analytics platform and scientific modelling.

5. Beyond Climate Mitigation – Sustainable Finance

Banks are increasingly making investments in developing effective capabilities to identify the opportunities from the transition to net-zero emissions, through climate data analytics and setting specific net-zero strategies. The Bank of England has observed that it is not sufficient that banks 'green' their own balance sheets, they must facilitate the flow of finance to support businesses and households in reducing their emissions and help smooth the adjustment in the real economy. Banks can improve their risk management and returns by developing more sustainable financial and investment products, enabling banks to mobilize and reallocate capital away from unsustainable economic activity to more sustainable sectors of the economy.

According to International Energy Agency, since the energy sector is the source of three-quarters of GHG emissions today, transition requires a "total transformation of the energy systems that underpin our economies."[501] It reports that emissions reductions from the energy sector are not limited to CO_2 and that methane emissions

[498] BMO 2021 Climate Report, note 493 at 31.
[499] BMO 2021 Climate Report, note 493 at 31.
[500] BMO Financial Group 2021 Sustainability Report and Public Accountability Statement, BMO Financial Group 2021 Sustainability Report and Public Accountability Statement.
[501] International Energy Agency, *Net Zero by 2050, A Roadmap for the Global Energy Sector*, (May 2021), at 3, Net Zero by 2050 – Analysis - IEA (hereafter IEA, Net Zero).

from fossil fuel supply need to fall by 75% over the next ten years as a result of a global, concerted effort to deploy all available abatement measures and technologies. It reports that achieving net-zero emissions by 2050 will require an estimated US$4 trillion in annual clean energy investment by 2030, bringing significant economic benefits. [502]

The UN 2030 Agenda for Sustainable Development recognizes the urgency of redirecting financial flows towards decarbonized economic activities.[503] The Paris Agreement recognizes the importance of shifting financial flows to climate resilient development, yet to date, only marginal shifts in activity have occurred globally. The IPCC reported in 2019 report that current financial resources directed to green activities necessary to limit global warming to 1.5˚C are insufficient and that investments in carbon assets are not being decreased, but rather, are growing, and pose a threat to achieving a more sustainable economy.[504] These issues are very important for Canadian banks, given growing market and customer expectations that bank will measure, manage, and disclose financed transactions that reduce emissions and contribute meaningfully to climate mitigation and protection of biodiversity.

Sustainable financial investment has grown substantially in recent years, but is still nowhere near what is required. For example, the European Commission estimates that more than €520 of investment in the EU is needed to achieve a net-zero GHG economy by 2050.[505] The EU has incorporated the importance of a sustainable economic transition into its economic and financial policy, adopting a taxonomy for environmentally sustainable economic activities.[506] The IPCC reports that underpinning the growth in green bond markets and markets for sustainable finance product in recent years is investors' preference for scalable and identifiable low-carbon investment opportunities.[507] However, it notes that challenges remain, in particular, concerns about greenwashing and the limited application of these markets to developing countries.

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[502] IEA, Net Zero, note 501 at 83.
[503] The Sustainable Development Agenda - United Nations Sustainable Development.
[504] IPCC, 'Global Warming of 1.5˚C': An IPCC Special Report on the impacts of global warming of 1.5˚C above preindustrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (2018) at 45, https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Full_Report_HR.pdf.
[505] European Commission, 'A Clean Planet for all. A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy' COM (2018) 773.
[506] European Commission, 'The European Green Deal', (Communication) COM (2019); The EU Taxonomy Regulation, EUR-Lex - 32020R0852 - EN - EUR-Lex (europa.eu) is a classification system, establishing a list of environmentally sustainable economic activities with six environmental objectives: (1) Climate change mitigation (2) Climate change adaptation (3) The sustainable use and protection of water and marine resources (4) The transition to a circular economy (5) Pollution prevention and control (6) the protection and restoration of biodiversity and ecosystems.
[507] IPCC 2022, note 104 at 15-5.

Canadian banks have commenced sustainable financing initiatives; however, as a percentage of their financing, they have yet to meaningfully direct flows of capital towards a net-zero circular economy. The amount of sustainable financing varies. As of fiscal year-end 2021, RBC CA$83.8 billion in sustainable financing; CIBC CA$34.9 billion; BMO had CA$71.1 billion; TD Bank CA$30 billion; NBC CA$3.1 billion; and Scotiabank CA$26.1 billion.[508] Measured by sustainable revenue ratio (as a percentage of total revenues), the numbers are RBC 1.17%; CIBC 0.03%; BMO 3.58%; TD Bank 0.28%; NBC 0.93%; and Scotiabank not even 0.0%.[509]

While there is now broad acceptance of the need to finance transition, ideas of green finance and brown finance continue to be highly contested. Taxonomies, such as developed by the EU, are helpful in defining what constitutes sustainable finance, but to date, the development of taxonomies globally is fragmented in terms of what constitutes green or sustainable finance, and in some countries, definitions are non-existent.

Canada's banks have pledged billions of dollars for sustainable finance; however, to date, there has been no consensus among banks and other financial markets participants on a definition of sustainable finance, including aligning use of that terminology with the transition plans to net-zero emissions as a condition of financing. There is reputational risk to the banks associated with the concept of sustainable finance when they grant finance to controversial or high-carbon emitting companies or projects under the label of sustainable finance.[510] While some Canadian banks use voluntary standards to define products, to date, the decision to define activities as sustainable is made by the individual banks, with no accountability check by Canadian regulators. The voluntary standards, to date, do not require consistency with credible net-zero pathways, nor do they preclude obvious red flags such as the financing of the fossil fuel sector.[511] This lacuna should change with the finalization of OSFI Guideline B-15 and IFRS S2.

A taxonomy can promote the integrity of Canada's net-zero transition by helping to mobilize capital in alignment with Canada's transition pathways and climate objectives, and in this respect, the regulatory gap is still significant. The Canadian Standards Association, a private organization that participates in accreditation, attempted a process to design a transition taxonomy for finance in Canada.[512] Its design was ill-fated as its consensus-based

[508] BMO Capital Markets, note 150.
[509] The Banker and Corporate Knights, Sustainable Banking Revenues Ranking,(September 2022), Sustainable Banking Revenues Ranking 2022| Corporate Knights (hereafter Sustainable Banking Revenues). Vancity has no outstanding sustainable loan book.
[510] I4PC 2021, note 170 at 12.
[511] I4PC 2021, note 170 at 13, citing the Sustainability Linked Loan Principles, Sustainability Bond Guidelines and other guidelines.
[512] CSA Group, "Defining Transition Finance in Canada", Defining Transition Finance in Canada - CSA Group.

model involving more than 50 actors failed to agree on terms, primarily because of disagreement on the scope of financing that can be labeled transition.

A Canadian taxonomy needs to be aligned with credible, science-based transition pathways; further develop Canada's sustainable finance market, and help mitigate greenwashing risks. A standardized tool to benchmark climate and transition activities is required to ensure transition for high-emitting sectors and workers in these sectors.[513] As of October 2022, the SFAC has recommended to the federal government a two-phase implementation of a green and transition taxonomy. Phase 1 will be to publish a short-form taxonomy covering priority sectors and activities by mid-2023, as well as laying the groundwork for the implementation of the taxonomy for the long term, including governance, funding, and strategic planning. Phase 2 will be to fully implement the Taxonomy initiative and publish a substantially more complete and detailed taxonomy by end-2025 at the latest.[514]

SFAC's express objective is to introduce standards and performance metrics that directly, clearly and credibly align with Canada's net-zero transition (for both mitigation and adaptation and resilience) to generate confidence and encourage capital flows in domestic and international financial markets; illustrate Canada's leadership in the transition of a resource-based economy, aligned with international expectations; establish a single, standardized, and market-informed taxonomy for Canada with common principles defining green and transition investment in a form that is easy to use and promotes confidence; assist investors with clearly disclosing their progress towards meeting their net-zero targets; and improve capital flows to green and transition projects.[515]

Under the proposed SFAC roadmap, to be taxonomy eligible, issuing companies must meet three categories of requirements to issue green and/or transition financial instruments: company-level net-zero target setting, transition planning, and effective climate disclosure; evaluation of project against framework criteria to determine whether it is 'green' or 'transition'; and meet a "do no significant harm" requirement, specifically, criteria to ensure the project is not detrimental to other ESG objectives, including meeting minimum standards for respecting Indigenous rights and supporting workers and communities in relation to just transition.[516] Ineligible will be all projects related to solid fossil fuels and any that create carbon lock-in and path dependency; are at a high risk

[513] Sustainable Finance Action Council, *Proposed Taxonomy Roadmap Report Mobilizing Finance for Sustainable Growth by Defining Green and Transition Investments* (September 2022) at 22 (hereafter SFAC Taxonomy Roadmap).
[514] SFAC Taxonomy Roadmap, note 513 at 57.
[515] SFAC Taxonomy Roadmap, note 513 at 9.
[516] SFAC Taxonomy Roadmap, note 513 at 46.

of becoming stranded in net-zero pathways due to high scope 3 emissions and declining global demand; have Scope 1 and 2 emissions that are inconsistent with net-zero pathways; and/or those that are unable to scale in transition.[517] The current proposal is that the taxonomy's criteria must be rigorous, objective, and anchored in climate science to build and maintain international credibility; and the criteria must be reviewed and updated regularly and support interoperability with other major science-based taxonomies.[518]

While investments in high carbon-emitting sectors will continue in the short term, they should be recognized as traditional investments, and banks need to align their disclosure to distinguish debt and equity financing choices, in order to protect investors. The direction of travel for capital is that transition finance does not include financing for pathways that do not clearly contribute to transition to net-zero emissions. In this respect, Canada could learn from other jurisdictions such as Singapore, the EU, and the UK, which are adopting clear definitions of transition finance, including avoiding lock-in of carbon assets, requiring promotion of resource resilience, doing no significant harm to any other ESG objective, directing alignment of financed activities with net-zero commitments, and not financing projects where Indigenous Peoples object based on harms to biodiversity and other concerns.[519]

A September 2022 global survey of 60 banks found that Vancity came first in a sustainable revenue ratio of 34.13%, with total sustainable revenue of US$171.3 million.[520] That ratio is almost 50% higher than that of the runner-up, Norway's SpareBank 1 Østlandet.[521] BMO came 9th in ranking, with a sustainable revenue ratio of 3.58%, total sustainable revenue of US$877.7 million and an outstanding sustainable loan book of US$2,2781.4 million.[522] No other Canadian bank came in the top twenty, and all the banks after the top 20 had a sustainable revenue ratio of less than 1.26%.[523] Moreover, the world's biggest banks have been criticized for offering US$742 billion in financing to carbon-intensive energy businesses in 2021.[524]

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[517] SFAC Taxonomy Roadmap, note 513 at 5.
[518] SFAC Taxonomy Roadmap, note 513 at 8.
[519] Singapore Green Finance Industry Taskforce proposed taxonomy for Singapore-based financial institutions (12 May 2022), second-gfit-taxonomy-consultation-paper (abs.org.sg); UK Green Technical Advisory Group (GTAG), advice to Government on implementing a UK Green Taxonomy, 03-06-21_-Green_Technical_Advisory_Group_TOR.pdf (publishing.service.gov.uk); EU taxonomy for sustainable activities, Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (Text with EEA relevance), EUR-Lex - 32020R0852 - EN - EUR-Lex (europa.eu).
[520] Sustainable Banking Revenues, note 509.
[521] Sustainable Banking Revenues, note 509.
[522] Sustainable Banking Revenues, note 509.
[523] Sustainable Banking Revenues, note 509.
[524] Patrick Temple-West, "Banks face grilling over carbon emissions", *Financial Times*, (10 May 2022), https://www.ft.com/content/ac3f3ace-0d6e-49a2-93f6-fce29b6cde5f.

6. Just Transition

As noted throughout this guide, a commitment to just transition should underpin climate governance moving forward. The World Benchmarking Alliance defines just transition as "the transition of economies, sectors and companies to low carbon, socially just and environmentally sustainable activities", reporting that decarbonization of the global economy will only succeed if companies transition away from oil and gas with just solutions for workers and communities.[525]

The Paris Agreement acknowledges that it is imperative that climate mitigation and adaptation includes a just transition for all peoples, particularly vulnerable peoples, including workers in both the formal and informal economy, Indigenous Peoples, and youth; and the creation of decent work and quality jobs in accordance with nationally-defined development priorities.[526] Since then, globally, 161 investors managing US$10.2 trillion signed a statement committing to a just transition on climate change, expressly acknowledging that the "just transition is aligned with the fiduciary duty to capture the social and environmental drivers of value creation and serve beneficiary interests".[527] Climate Action 100+ is working to develop just transition-related indicators, which will be introduced in the next assessment cycle of the Climate Action 100+ Net-Zero Company Benchmark.[528]

There are many models Canadian banks can consider in thinking about just transition. In the UK, the "Banking on a Just Transition Research Project" involves research and collaborative dialogue between banks, other financial institutions, and stakeholders, with the objective of identifying how banking can support a just transition across the UK. It is led by the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and the Sustainability Research Institute at the University of Leeds.[529] In France, banks are active members of the Investors for a Just Transition, which brings together asset managers representing €3.6 trillion in capital.[530]

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[525] World Benchmarking Alliance, "Just Transition" Just transition | World Benchmarking Alliance; World Benchmarking Alliance, "Climate and Energy Benchmark", Climate and Energy Benchmark | World Benchmarking Alliance.
[526] UNFCC, "Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs", UNFCC Technical Paper, (April 2020), at paras 59, 95, 196, https://unfccc.int/sites/default/files/resource/Just%20transition.pdf.
[527] UN Principles for Responsible Banking, *Statement of Investor Commitment to Support a Just Transition on Climate Change*, at 1, https://www.unpri.org/download?ac=10382; see also UN Principles for Responsible Banking, *Climate change and the just transition: a guide for investor action* (December 2018), Climate change and the just transition: a guide for investor action | Academic research | PRI (unpri.org).
[528] Climate Action 100+, "Background and Future Development, Climate Action 100+ Net-Zero Company Benchmark", (2022), Background and Future Development | Climate Action 100+.
[529] Grantham Research Institute, "Banking on a Just Transition", Banking on a just transition - Grantham Research Institute on climate change and the environment (lse.ac.uk).
[530] Environment Analyst, "French investors launch coalition to support just transition", (6 July 2021), French investors launch coalition to support just

Canadian banks could provide leadership in the proactive design of products and services that facilitate a just transition for communities suffering the most serious impacts of acute events and facing the greatest transition risks, including Indigenous and northern communities, and communities experiencing heat domes, flooding, and wildfires. Such leadership should be undertaken in partnership with Indigenous Peoples, given Canada's recent enactment of the *United Nations Declaration on the Rights of Indigenous Peoples Act*.[531] While Canada's major banks have made statements declaring their recognition of the concerns of Indigenous Peoples, these declarations now must develop into governance frameworks that take into account the UN Declaration, national efforts in truth and reconciliation, and advance meaningful dialogue and partnership with Indigenous communities. Annual reporting on implementation of these frameworks is important for accountability.

i. Example of Just Transition – Vancity Community Investment Bank

Vancity Community Investment Bank (VCIB) is federally chartered Schedule 1 bank under the *Bank Act*, regulated by OSFI.[532] It is a is a wholly owned subsidiary of Vancity Credit Union (Vancity), Canada's largest community credit union, which is regulated provincially.[533] VCIB is strategically aligned, and shares a values framework, with Vancity and its other wholly owned subsidiaries. Financial statements and emissions disclosure for VCIB and Vancity's other wholly owned subsidiaries are consolidated into Vancity's annual reports and emissions disclosures, so the activities of VCIB as a federally-regulated bank are not separated out.

Vancity and VCIB offer an example of the relationship between finance and a just transition. As with other Canadian financial institutions, Vancity's and VCIB's most significant climate-related impacts are their financed emissions.[534] Vancity's lending portfolio is comprised primarily of residential mortgages, commercial mortgages, and business loans. Vancity's commercial mortgages primarily serve non-profit and community affordable housing providers, while its business loans primarily serve small- and medium-sized businesses; both segments often have fewer resources to dedicate to taking climate action.[535] VCIB's lending is more project-specific, with a primary focus on projects that advance the net-zero transition and housing affordability.[536]

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transition | Environment Analyst Global (environment-analyst.com).

[531] Canadian Parliament, *United Nations Declaration on the Rights of Indigenous Peoples Act*, SC 2021, c 14.

[532] Online Banking: VCIB (vancitycommunityinvestmentbank.ca).

[533] Vancity, Annual Report 2021, Changemakers, Vancity 2021 Annual Report – Changemakers (hereafter Vancity Annual Report).

[534] Vancity Annual Report, note 533 at 17.

[535] Vancity Annual Report, note 533 at 39, 48.

[536] Online Banking: VCIB (vancitycommunityinvestmentbank.ca).

Vancity commenced disclosing financed emissions using the PCAF Global GHG Accounting and Reporting Standard in its 2020 Annual Report; and as of 2021 year-end, it is reporting emissions for 82% of all lending (including VCIB), 53% of treasury investments and 63% of managed client investments in terms of the dollars loaned or invested.[537] In line with the PCAF Standard, it discloses loans for specific projects/purposes that are on its balance sheet, including VCIB's financing for power generation (clean energy projects) as well as energy efficiency and energy storage projects.

In 2021, Vancity announced its enhanced climate commitments: financing an equitable climate transition and achieving net-zero across its lending portfolio by 2040; committing to measure and openly report its financed emissions in addition to its operational emissions (Vancity has been operationally carbon neutral since 2008);, providing banking and other solutions to help people transition to cleaner and more sustainable living; developing a strategy for how it will meet its targets;[538] and tracking progress, monitoring the science, and regularly adjusting its strategy and targets as needed, improving data quality over time.[539] As a signatory to the Principles for Responsible Banking, Vancity is also committed to setting near-term targets for financial health and inclusion and aligning these commitments and its enhanced climate commitments.[540]

Under these commitments, Vancity and VCIB have placed particular emphasis on developing and providing banking solutions that have a just-transition focus, especially with a goal of making climate action more affordable for people and organizations. For example, in 2022 VCIB supported the City of Ottawa in creating a low-interest loan program for Ottawa homeowners to finance home energy improvement projects, with loans repayable through a surcharge attached to their property bills.[541] VCIB also offers specialized lending for energy efficiency retrofit projects and renewable energy solutions for large-scale buildings as part of its Social Purpose Real Estate lending program.[542]

Climate risk – both physical and transition – is one of nine key risk dimensions that Vancity monitors quarterly

[537] Vancity Annual Report, note 533 at 16. Client investment management services are provided by another subsidiary wholly owned by Vancity, Vancity Investment Management (VCIM).
[538] Vancity Annual Report, note 533 at 16.
[539] Vancity, Financed emissions approach and methodology 2021, at 4, 2021-Vancity-Financed-Emissions-Approach-and-Methodology.pdf (hereafter Vancity, Financed emissions approach and methodology).
[540] Vancity Annual Report, note 533 at 16.
[541] VCIB and City of Ottawa partner to help homeowners reduce emissions: VCIB (https://vancitycommunityinvestmentbank.ca/ottawa-homeowners-reduce-emissions/).
[542] Social Purpose Real Estate Financing: VCIB (https://vancitycommunityinvestmentbank.ca/real-estate-financing/).

at both Board and executive leadership levels.[543] It enables Vancity to assess climate risk in conjunction with other risks that climate risk may interact with. Vancity sets its risk appetite at medium, reflecting that there is risk both in how it affects the climate and how the climate affects it, which also encourages Vancity to apply risk-mitigation and impact lenses in tandem when considering actions and solutions. Vancity's investment management subsidiary, Vancity Investment Management (VCIM), also conducts positive impact revenue analysis to identify opportunities to invest in companies contributing to the climate-related UN Sustainable Development Goals.[544] In recent years Vancity has also prioritized improving the modeling and data that inform its climate risk analysis.[545]

As a signatory to the Principles of Responsible Banking, Vancity aligns it business strategy to the UN's Sustainable Development Goals, the Paris Climate Agreement and relevant national and regional frameworks.[546] For example, with regard to Reconciliation, Vancity reports:

> Our strategy is guided by our values, one of which is Reconciliation. We work to ensure equitable access to opportunities and build meaningful relationships with Indigenous partners by adopting the principles, norms and standards of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP). In 2021, we began to develop an Indigenous banking strategy, influenced by the Canadian Council for Aboriginal Business's Progressive Aboriginal Relations framework. Based on our overall business plans and impact analyses, we designed our 2021–2025 community investment strategy to achieve three key outcomes: increased financial resilience, reduced carbon emissions, and Reconciliation and increased racial justice.
>
> …
>
> Our work to build increased financial resilience in the face of climate-related shocks, particularly amongst our more vulnerable members and communities, is key to ensuring a just transition to a low-carbon economy.[547]

Based on its disclosures for fiscal year 2021, Vancity is early in its pathway to reducing emissions – its total on-balance sheet loans and investments had 3% fewer emissions than the year prior,[548] although business loans for

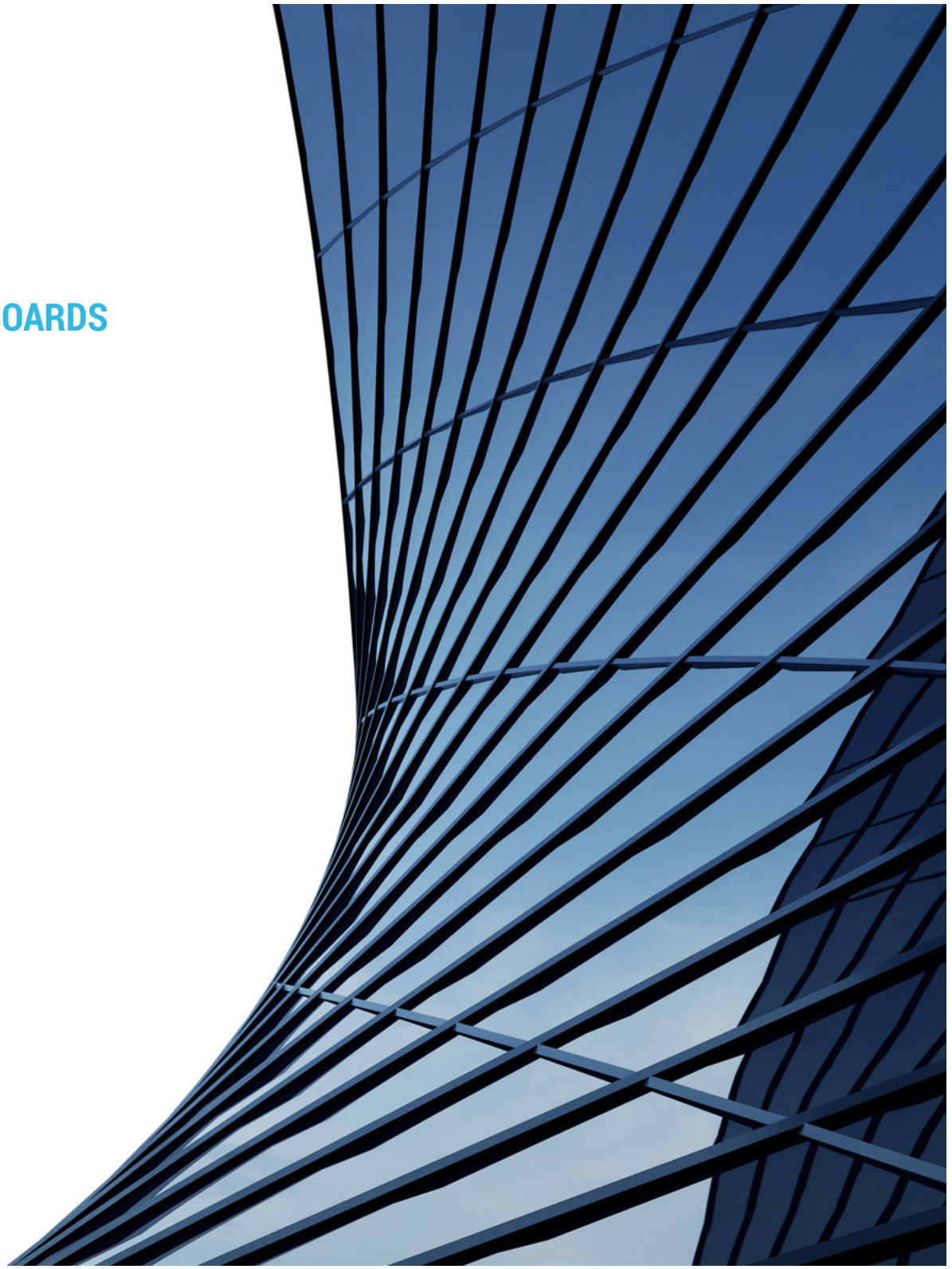
[543] Vancity Annual Report, note 533 at 37.
[544] Vancity Annual Report, note 533 at 37.
[545] Vancity Annual Report, note 533 at 37.
[546] Vancity Annual Report, note 533 at 42, 45.
[547] Vancity Annual Report, note 533 at 42, 45.
[548] It cautions that it considers the financed emissions data presented in the table to be highly estimated due to limitations in data availability, Vancity,

operational purposes have 15% fewer absolute Scope 1 and 2 emissions over 2020.[549] VCIB has to date financed 29 clean energy loans, 2,315 units of new or preserved affordable housing, and 733,525 square feet of non-profit, co-working, cultural and community spaces.[550] VCIM is in the process of establishing near-term climate targets towards net-zero emissions in its managed client investments, which are off-balance sheet, in-line with its commitments as a member of the Net-Zero Asset Managers Initiative.[551]

Financed emissions approach and methodology 2021, 2021-Vancity-Financed-Emissions-Approach-and-Methodology.pdf.
[549] Vancity Annual Report, note 533 at 17.
[550] VCIB, Building Better Communities Through Social Finance | VCIB (vancitycommunityinvestmentbank.ca).
[551] Vancity, Financed emissions approach and methodology, note 540 at 36.

VI.

QUESTIONS THE DIRECTORS OF BANK BOARDS SHOULD BE ASKING



The following questions are based on OSFI's draft Guideline B-15, the draft IFRS guidance on climate-related disclosure, the TCFD 2021 guidance on implementation, and publications of the Canada Climate Law Initiative on effective climate governance.[552] While these functions can be assigned to different committees of the board, the board as a whole remains responsible for exercising its duties of care and prudence in oversight and management of climate-related risks and opportunities. Selecting the right questions from below will depend on the business model and maturity of climate governance, risk management, and strategic planning of the bank.

1. Governance

- Does the board of directors have the appropriate governance, policies, and practices in place for effective oversight and management of climate-related risks?

- Has the board worked with senior management to develop and implement a climate transition plan, in line with its business plan and strategy, to guide management of increasing physical risks from climate change and the transition towards a net-zero GHG economy?
    - Is the bank assessing the achievability of its transition plan under different climate-related scenarios?
    - How does the bank measure and assess its progress in achieving the goals of the transition plan, including internal metrics and targets such as GHG emissions?

- What board committee has been assigned to oversee climate governance, and how frequently does it report to the full board on progress to net-zero emissions in the bank's operations, financed transactions, and financial advice to clients? Frequency of reporting may depend on the maturity of the bank's transition towards net-zero emissions.

- Has the board of directors integrated climate-related risks into its Risk Appetite Framework, its Internal Control Framework, and Enterprise Risk Management framework, relevant policies and practices, and is it overseeing management's efforts across different business lines?

- Has the board assigned clearly-defined responsibilities and direct accountability by executives to the board of directors in respect of management of risk appetite and the parameters of managing climate-related risks and opportunities?

[552] Bank of Canada and OSFI, 2022, note 31 at 45-50 and CCLI publications.

- Are climate-related risks taken into account in senior management compensation in terms of effective management of climate-related risks and opportunities and meeting interim and longer term targets to decarbonize?

- Is the board satisfied that the bank has in-house capabilities to analyze physical and transition risks and opportunities, and where necessary, has sought the appropriate expertise externally?

- Does the bank have a strategy to provide financing to transitioning or new net-zero GHG economy businesses, including the necessary new products and services?

- Is the governance process reviewed regularly to ensure that climate-related risks and opportunities are properly captured and oversight is adjusted as climate-related risk management practices mature?

- Is the bank engaging with prudential and other regulators to strengthen climate governance and net-zero planning?

2. Strategy

- Has the bank incorporated the implications of climate change and the transition to a net-zero GHG economy in its business strategy and presented this strategy to the board?

- Is the bank's strategy for managing climate-related risks and opportunities part of the bank's overall strategy, and is it being evaluated for clarity and viability, including assessment of the measurement and milestones necessary to gauge meaningful progress towards net-zero emissions?

- Has the bank identified, and does the board understand, the impact of climate-related risks on the bank's short-term, medium-term, and long-term strategic, capital, and financial plans?
  - Is the board overseeing how management is identifying specific climate-related issues potentially arising in each time horizon that could have a material financial impact on the bank and is the board confident that processes used are effectively determining material financial impact on the bank?
  - Is the board considering key issues or other success factors that may not be financially material but that are key to employee retention, reputation, and/or the bank's social license to operate?

- Is the board confident that management has a sound strategy to decarbonize across the bank's value chain?
    - Is the board confident that management has a sound strategy for managing risks and taking up climate-related opportunities by business lines, sector, and/or geography?
    - Does the bank require clear metrics for clients to meet in contracts for financing and is it satisfied that sufficient controls and procedures are in place to meet commitments?

- Is the board confident that management's disclosure is appropriate, given regulatory and other legal issues, including reporting to regulators and key stakeholders on the resilience of the bank's strategies to manage climate-related risks and opportunities in the transition to a net-zero carbon economy over different time horizons?

- Does the bank continually assess whether strategies need to adjust by assessing potential impact of climate-related issues on financial performance (revenues and expense) and financial position (balance sheet assets and liaiblities) and associated time horizons as it conducts forward-looking analysis?
    - Do managers keep the board apprised of this analysis and adjustment, and is the board exercising oversight approval of adjusted strategies?

3. Risk Management

- Has the board exercised oversight of the incorporation of climate-related risks into its risk appetite framework as a stand-alone risk or as integrated elements of climate-related risks in other risk categories such as credit or market risk?

- Has the bank put in place processes to identify, to measure, and to adequately price climate risk-sensitive assets and liabilities and the potential impact of climate-related risks on its portfolio of exposures (for example, credit, market, operational, insurance, and liquidity) over appropriate time horizons and to manage these exposures in accordance with the bank's Risk Appetite Framework?
    - Has the board approved any recalibrated risk appetite for climate solutions and the bank's Risk Appetite Framework?

- Is the board confident in the bank's determination and disclosure of significant concentrations of credit exposure to carbon-related assets in the bank's lending and other financial intermediary business activities?

- Is the board asking management the following questions:
  - Are climate-related risks captured in the bank's operational risk framework, market risk frameworks, and business continuity and resilience plans?
  - Is the bank identifying, collecting, and using reliable, timely, and accurate climate risk data relevant to its business activities to inform risk management and decision-making?
  - If data gaps exist, does management have a strategy to use alternative data sources or reasonable proxies to bridge the gap and a strategy to fill data gaps in the future?

- Is the board confident that the bank is developing capabilities to aggregate its climate risk data to identify and internally report on climate-related exposures, including risk concentrations in different geographies, sectors, products, or counterparties; and does the bank have internal reporting systems that can produce timely, accurate, and objective reporting on these risks to support risk management?

- Is the board overseeing the bank's incorporation of climate-related risks into its internal monitoring and reporting of business performance and risk management effectiveness?
  - Is the bank monitoring and reporting on relevant internal metrics, limits, and indicators to assess the effectiveness of its climate risk management?
  - Is the bank monitoring and reporting on internal targets to assess the bank's progress in managing its physical risk exposures and transition towards a net-zero GHG economy, consistent with its climate transition plan?
  - Has the bank identified risks arising from climate change for key sectors, geographic areas, and related products and services for markets where they are active or moving into?

- Is the board confident that senior management is mitigating the impact of climate-related disasters on the bank's critical operations? Do the board's business continuity and disaster recovery planning processes address severe, yet plausible, climate-related disaster scenarios where material third parties could fail to continue providing service?

- Is the bank undertaking greater scrutiny of transactions in certain high-emitting sectors, and developing restrictions for lending or investment activities in these sectors?

- Has the bank incorporated quantitative climate-related risk indicators and measures in the board's assessment and management of risk?

- Has the board identified reputational risk that may arise if the bank violates environmental regulations, engages with counterparties that violate environmental regulations, or is viewed as failing to implement best practices?

- Is the board confident that the bank is monitoring developments in climate-related risk quantification and incorporating them into the bank's governance and risk management practices, as appropriate?

i. Climate scenario analysis

- How is the bank using climate scenario analysis to assess the impact of climate-related risk drivers on its risk profile, business strategy, and resiliency of its business model, assessing the impact of climate-related risks on a bank's operations over an appropriate time horizon?
    - Is the bank using scenarios that encompass both physical and transition risks, and the potential interplay between these two types of risks?
    - Is the board confident that management are using appropriate tools and methodologies for climate scenario analysis, including understanding data and methodological limitations and assumptions; and where the bank is using tools and models developed by external third parties to support its assessment, is the board confident that senior management understand the embedded data, methodology, assumptions, and their limitations?
    - Is the bank using climate scenario analyses that consider a range of plausible and relevant scenarios, over short-, medium- and long-term time horizons?
    - How does the bank's inclusion of climate scenario analysis as a part of its Stress Testing Framework inform the bank's risk management?

- Is climate scenario analysis being used on a regular basis to inform the bank's strategic planning and enterprise risk management, capital and financial planning processes, where appropriate?

ii. Capital and Liquidity Adequacy

- Is the board confident that management is incorporating climate-related risks into the bank's Internal Capital Adequacy Assessment Process, and considering its capital requirements under severe, yet plausible, climate-related scenarios, ensuring that the bank is maintaining sufficient capital and liquidity buffers for its climate-related risks that could materialize beyond the bank's standard capital planning horizon?

- Is the bank considering the impact of increased drawdowns of deposit balances and credit/liquidity lines for counterparties sensitive to climate-related risks?

iii. Disclosure of Information on Risk Management

- Is the board satisfied that the bank is providing appropriate information specific to the potential impact of climate-related risks and opportunities on its markets, businesses, corporate or investment strategy, financial statements, and future cash flows, including the potential impact on value creation?

- Is the board confident, taking into account current gaps in areas such as data and methodology, that climate-related disclosure is in sufficient detail to enable users of the bank's disclosed information to assess its exposure and approach to addressing climate-related issues as the bank's climate governance matures?

- Does the disclosure include information on the potential nature and size of climate-related impacts and the bank's governance, strategy, processes for managing climate-related risks, and performance with respect to managing climate-related risks and opportunities?

- Is the board confident that the bank is disclosing consistently over time to enable users of the bank's disclosed information to understand the development and/or evolution of the impact of climate-related issues on the bank's business and allow for inter-period comparisons?

- Is the board confident that the information reported has been verified with respect to how it is defined, collected, recorded, and analyzed in such a way that the information reported is high quality and issues such as assumptions related to future-oriented information are traceable to their sources?
    - Are the disclosures subject to internal governance processes at the same rigour of those used for financial reporting?

- Is the board satisfied that the disclosure is clear, balanced, and understandable information, with explanations that provide insight into the meaning of quantitative disclosures, including the changes or developments they portray over time; terms used in the disclosures explained or defined for a proper understanding by the users; and information is reliable, verifiable, objective, and accurate?
    - Does the bank provide an explanation of the definition and scope of quantitative data consistent

with what is used in its investment decision-making and risk management and any data limitations it faces?

- Is the board confident that the bank is adequately explaining future-oriented disclosures that involve the bank's judgment and ensuring such disclosures are reasonable and supported by objective data and use best-in-class measurement methodologies?

4. Metrics and Targets

- Does the board have the information it requires to oversee or approve the setting of targets to manage climate-related risks and opportunities associated with the transition to net-zero emissions and to measure performance against these targets?
    - Is the board confident that the executive team has the expertise or has access to expertise to provide it with appropriate options to set targets?

- Is the bank setting clear science-based targets to reduce emissions in its own operations, its financed emissions, and emissions in its value chain, with an action plan to establish targets across all lines of busi ness, or, where not, is the board confident in the executive team's rationale for not doing so and actions taken to address the inability to set targets, such as lack of reliable data?
    - Is the board reviewing significant targets and overseeing the process of determining methodology assumptions and reporting?

- Are the metrics in achieving targets being verified by third party assurance and are they reporting in the financial statements?

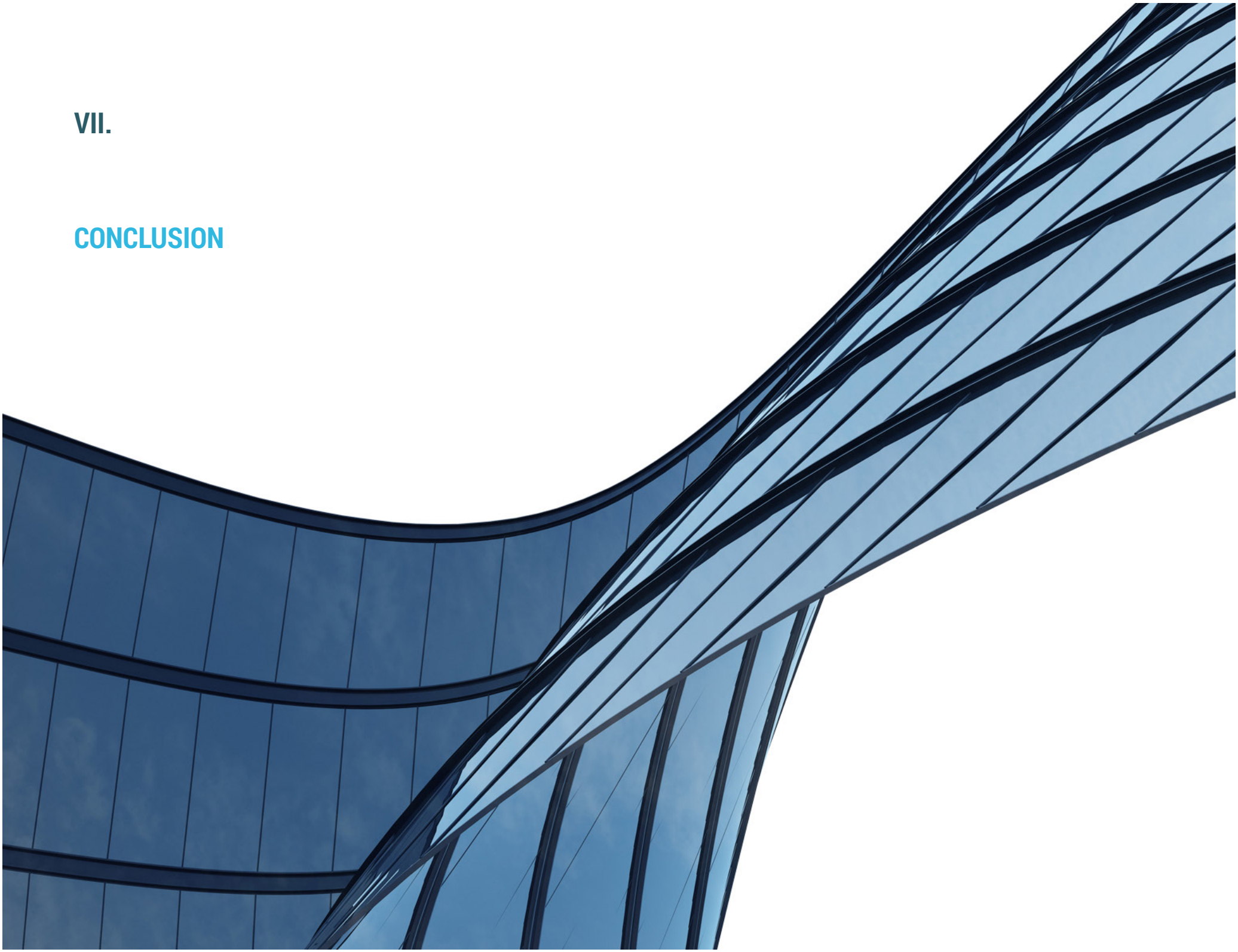
- Is the board reviewing the bank's disclosure of Scope 1 and 2 GHG emissions and material Scope 3 GHG emissions and related risks?
    - Is the bank disclosing its use of the PCAF Standard, the GHG Protocol, and/or other reporting standard it is using to calculate and disclose the GHG emissions year over year?

Does the bank have measures and metrics around climate-related opportunities and are these measures tracked by the board and considered in disclosure?

- Is the bank disclosing the proportion of revenue, assets or other business activities aligned with climate-related opportunities, expressed as an amount or as a percentage?

VII.

CONCLUSION



Banks have a vitally important role in transitioning the Canadian economy to net-zero emissions; however, that transition must be an entire economy transition, which includes all public and private sector entities taking concrete action to mitigate the effects of climate change and move Canada to net-zero emissions. Aligning bank portfolios to net-zero pathways depends, in part, on changes to public policy and in transitions occurring in each sector's value chain. Regulatory developments both domestically and internationally are supporting bank directors and officers by providing clear guidance on governance, strategy, risk management, and establishing and reaching meaningful targets for decarbonization and measuring them accurately. As methodologies are enhanced and information on climate-related risks and opportunities across the entire value chain are better understood and managed, bank boards that keep pace will be better positioned to proactively align the bank with appropriate best practices and regulatory compliance.