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**To:** Office of the Superintendent of Financial Institutions

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**Re:** Navigating Uncertainty in Climate Change: Promoting Preparedness and Resilience to Climate-Related Risks. Submission by the Global Risk Institute in Financial Services in response to discussion questions.

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23 March, 2021

Dear Superintendent,

Thank you for the opportunity to comment on the consultation paper regarding Canadian financial sector climate preparedness and resilience.

The Global Risk Institute in Financial Services (GRI) is a member services organization founded by the public and private sectors in Canada. Our members include Canadian pension funds, banks, insurers, financial Crown corporations, and Provincial and Federal governing bodies. We are the premier thought leadership organization in risk management for the financial industry, and have climate risk management expertise. We bring together leaders from industry, academia, and government to draw actionable insights on emerging risks.

We are submitting our responses to OSFI's discussion questions drawing on our climate risk management expertise and knowledge of best practice in Canada and globally.

## SUMMARY

We support the characterization of climate change as a driver of financial and operational risks. Until there are reliable and common ways of measuring and assessing the financial risks of climate change, we are left with a range of vulnerabilities in the financial system. To effectively respond, OSFI should use its existing prudential and supervisory framework to promote the swift integration of climate change into Enterprise Risk Management (ERM) processes to strengthen preparedness and resilience to climate-induced financial impacts in the financial sector.

With climate risk assessment and management still in early stages, OSFI could prioritize the following:

- **Accountability:** set clear expectations about the role of the board, and reporting requirements for climate-related financial risk differentiated for larger and smaller firms.
- **Alignment:** Update the existing supervisory toolkit to better reflect climate in scope of a principles-based, risk-based approach.
- **Advancement:** support climate-related training, risk taxonomy development, datasets, methodologies, research and thought leadership.

OSFI will need to continuously evolve its approach as the understanding of climate risk progresses and risk management methods and tools are refined over time.

## CLIMATE-RELATED RISKS AND THEIR IMPACT ON FRFIs AND FRPPs

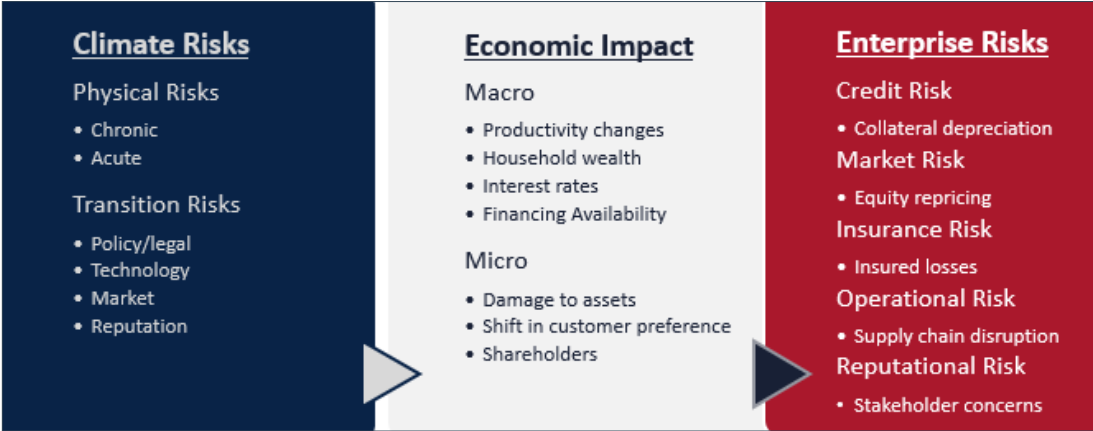
### ***1. What are your views on the characterization of climate-related risks as drivers of other risks? How do climate-related risks affect FRFIs and FRPPs? Do you have other views on the characterization of climate-related risks set out in this paper?***

Climate change has been recognized by the Bank for International Settlements (BIS), the Network for Greening the Financial System (NGFS), Bank of Canada and other leading authorities as having a profound impact on financial stability globally and in Canada. To mitigate the threats as well as capitalize on the opportunities, the Canadian federal government has tabled Bill C-12 *The Canadian Net Zero Emissions Accountability Act* which would put the country on track to cut emissions in half by 2030 and reach net-zero by 2050. Climate change will impact nearly every region, sector and firm worldwide. It will change the economy as a whole through the realization of both physical and low-carbon transition risks, and can therefore be seen as a systemic risk that cannot be hedged.

We agree with OSFI's characterization that climate change and the associated ongoing low-carbon transition are drivers to pre-existing enterprise risks (see Figure 1). These forces already have, and will continue to engender significant costs to lenders, insurers, and pensions – while also posing new forms of upside risk. It is important to recognize that federally regulated financial institutions (FRFIs) and federally regulated private pension plans (FRPPs) are key players and part of the ecosystem that influences climate outcomes. Therefore, actions they take in the short and medium term will impact the magnitude and nature of longer-term climate outcomes.

Some features of climate change that make it a difficult risk to assess and manage from a financial sector perspective include uncertainty about the actual manifestation of physical and transition risk, the nonlinear effect on financial risks and models, timing uncertainty, path dependencies of previous actions by financial institutions, and so many others. Until we have a reliable and common way of measuring and assessing these risks, we are left with a range of vulnerabilities in financial risk assessment including asset valuations, credit assessments, financial leverage, and many other areas. To effectively respond, OSFI should support the swift integration of climate change into Enterprise Risk Management (ERM) processes to strengthen preparedness and resilience to climate-induced financial impacts in the financial sector.

**Figure 1: Climate Risk Transmission to Enterprise Risks (Non-Exhaustive)**



**2. What steps can FRFIs and FRPPs take to improve their definition, identification and measurement of climate-related risks and the impact of these risks?**

Unlike conventional risk management where historical financial data are readily available for modelling using established methodologies, the uncertain nature of severe weather events and related policy changes demand a set of risk management expertise that is forward-looking and climate science-driven. Given the complex interplay of financial, scientific, and risk knowledge, it is critical for FRFIs and FRPPs to expand their climate risk capacities, and integrate climate risk into the overall ERM. OSFI could expect a firm’s response to the financial risks from climate change to be proportionate to the nature, scale, and complexity of its business. As a firm’s expertise develops, OSFI could expect to see evidence that the approach to managing the financial risks from climate change matures over time. OSFI could embed the measurement and monitoring of these expectations into its existing supervisory framework.

The following steps can be taken by FRFIs and FRPPs to improve their definition, identification and measurement of climate-related risks.

## Step 1 – Establish Financial Materiality of Climate Change

A foundational element of integrating climate change into ERM is to establish if and how climate change is financially material to the business. Although it is widely understood that climate change will impact the planet and our societies, financial firms can struggle to connect climate change specifically to their business or assume the effects of climate change are beyond their planning horizon. In order to build the necessary governance, strategy, risk management and reporting systems, it is necessary for companies to understand what financial risks and opportunities climate change creates for their business.

### **Financial Materiality of Climate Change – Global and Canadian Expectations**

The Sustainability Accounting Standards Board (SASB) has determined that climate change is a material financial risk for the financial sector, including banks, pensions, asset managers, asset owners and insurance companies. The Task Force on Climate-related Financial Disclosures (TCFD) Recommendations state that disclosures related to climate governance and risk management should be provided in annual financial filings because climate-related risk is a non-diversifiable risk that affects nearly all sectors. It is therefore highly unlikely that climate will not be a material risk to a financial firm, but establishing clearly how the business will be impacted is the challenge.

Under Canadian securities regulations, public companies must disclose information if they have deemed it material to investor decision making. The Canadian Securities Administrators (CSA) recognized that many issuers, including those in non-carbon intensive industries, are or will be exposed to climate change-related risk. In GRI's recent review of TCFD-aligned disclosures by 25 financial firms<sup>1</sup>, 72 per cent had disclosed that they undertook a materiality assessment for climate risk in the 2019 reporting cycle, up from 44 per cent two years earlier. This trend indicates that materiality assessment of climate risk has gained momentum among firms in Canada and that there is a growing body of expertise.

## Step 2 – Identify Climate Risk Exposure

To gain a better understanding of climate risk's financial impact, FRFIs and FRPPs can identify their portfolio exposure to both physical and transition climate risk events in the short, medium and long-terms. Climate risk scenario analysis is recommended as a tool to shed light on possible or probable impacts. Firms can then map the impact of climate risk with their risk-taking capacity on existing risk classes, such as credit risk or reputation risk. Firms advanced in this practice today show how climate risk transmits into their traditional risk categories, and how portfolio assets are classified for climate risk based on geography, sectoral exposure, or product segments. OSFI could expect firms to present all material exposures relating to the financial risks from climate change, and an assessment of how firms have determined the material exposure(s) in the context of their business.

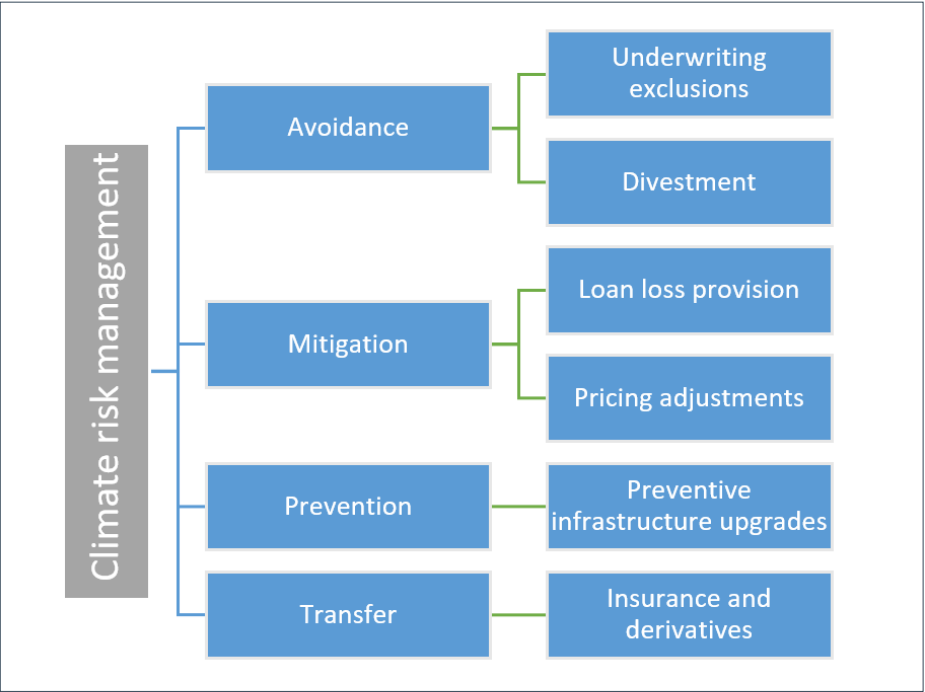
## Step 3 – Build Climate Risk Control and Resilience

Once climate risk exposure has been identified, the next steps is to develop risk management plans through avoidance, mitigation, prevention, or transfer techniques (See Figure 2 for examples). These may

<sup>1</sup> *Climate-Related Financial Disclosure in the Canadian Financial Sector. A Three-Year Review.* Global Risk Institute. November 2020. <https://globalriskinstitute.org/publications/climate-related-financial-disclosure-in-the-canadian-financial-sector-3/>

include management actions related to underwriting and risk selection, product management, pricing, provisioning and capital management or budgeting. With greater climate risk knowledge, firms have the ability to take actions such as change the terms of contracts, put in new covenants, create additional loan-loss provisions, create additional claims provisions, or adjust capital requirements. OSFI could ask firms to evidence how they will mitigate these financial risks and to have a credible plan or policies in place for managing exposures.

**Figure 2: Climate Risk Management Techniques for FRFIs and FRPPs (Not Exhaustive)**



An effective control system is often tied with clear and actionable metrics and targets. Historically, in relation to climate, financial firms more commonly disclosed operational metrics and targets such as energy efficiency in office buildings. According to GRI’s recent review of TCFD-aligned disclosures from 25 financial firms, 72 per cent of firms disclosed portfolio-related metrics by 2019, up 35 per cent from 2017. Just 40 per cent of firms disclosed portfolio-related targets, but this is a doubling from 2017. As examples, firms are disclosing metrics and targets in relation to:

- Sustainable finance commitments: for example, supporting businesses and projects that cut greenhouse gas emissions or contribute to achieving a low-carbon economy
- Credit portfolio rebalancing: for example, reducing or ending coal financing
- Diversification of portfolios: for example, increasing exposure to green and transition activities as well as alternative assets (such as timber and farmlands)

Credible standards for measuring financed emissions are urgently needed. There is work at the international level with TCFD, the Partnership for Carbon Accounting Financials (PCAF) and others to develop standards to help financial firms measure and disclose the greenhouse gas (GHG) emissions associated with their loans and investments.

## Step 4 – Capitalize on Upside Climate Risks

Climate change and its mitigation pathway introduce new and changing markets that financial institutions can profit from. Financial opportunities include but are not limited to clean tech and transition activities, retrofitting infrastructure, sustainable finance advisory services, renewable energy financing, and responsible investing. According to a recent GARP climate leadership survey on 71 top global financial institutions, all of them have introduced new products in response to climate change. FRFIs should engage with these clients about climate-imposed risks and opportunities during the on-boarding and annual review processes, to secure their competitive position in the long run.

## Step 5 – Enhance Climate Risk Oversight

Climate risk governance needs to be embedded in the long-term stewardship of the FRFIs and FRPPs. For climate risks and opportunities to be effectively governed, it fundamentally requires clear climate accountability, strategic integration, and commitment from the boards and senior executives. To achieve this, boards need to be well-equipped with climate knowledge so that they can understand the scale of uncertainties in climate risk. This will allow boards to set appropriate frameworks, targets, and executive compensation incentives accordingly. Furthermore, boards are expected to maintain regular exchanges and communications with stakeholders and policymakers. Details regarding climate risk governance and the three lines of defense will be addressed in greater detail under questions 4 and 5 of this paper.

### WAYS FRFIs COULD PREPARE FOR AND BUILD RESILIENCE TO CLIMATE-RELATED RISKS

#### ***3. Does your organization have, or plan to develop, a climate-related risk appetite and strategy? How does your organization approach setting its risk appetite and strategy?***

Climate change will undoubtedly transform the economic, market and physical landscape in which all businesses operate. There is a trend among financial firms toward proactively aligning operational and portfolio emissions with the net zero target as per the Canadian government ambition. Through improved risk assessment and deepening understanding of climate risks, firms can align their strategic plans with their risk appetite, and capitalize on new opportunities that will manifest as the world shifts away from carbon dependence. This may be an ongoing and iterative process as uncertainties about physical and transition risk are reduced over time. Firms will need to cope with short-term risks to the business such as regulatory uncertainty and unpredictable changes in market preferences, while medium-term risks such as changing weather patterns, technological developments may impact business outlook. The strategy should address long term risks such as changing market preferences that could impact longer term investment decisions, and legal obligations that could impact business activities.

Climate change is intertwined with many of the other risks' firms face. Integrating climate change into the overall risk appetite should accommodate and reconcile both downside risks and upwards opportunities arising from the low-carbon transition. Risk appetite is overseen at the board level and should align with the organization's overall risk culture and strategy. FRFIs and FRPPs should ensure they are adequately compensated for the climate risk they retain or take on.

#### **4. What new or adapted governance structures, policies or processes should FRFIs consider to effectively manage a FRFI's climate-related risks?**

The complex and continuously changing risk that climate change poses, and related arising opportunities, compel board directors to be engaged on how these will impact the business as per their accountability to investors and other stakeholders for the long-term stewardship of the company. A recent legal opinion by Hansell LLP found that boards need to put climate on their agenda, be alert to those risks and opportunities, and are reflecting their assessment of that risk in their strategic thinking and risk management practices.

It is recommended that OSFI expect climate be actively and consistently discussed at the board level, to ensure board members are informed with sufficient, relevant, and high-quality climate information from senior management and other relevant experts. OSFI should expect a firm's board to understand and assess the financial risks from climate change that affect the firm, and to be able to address and oversee these risks within the firm's overall business strategy and risk appetite. There should be evidence that boards are integrating climate risk into the general oversight practices such as capital adequacy, risk oversight, and allocation of responsibilities. Risk policies, investment statements, and board risk reports should be regularly updated to reflect material climate risk information.

Where appropriate, OSFI should expect to see evidence of how the firm monitors and manages the financial risks from climate change in line with its risk appetite statement. The risk appetite statement should include the risk exposure limits and thresholds for the financial risks that the firm is willing to bear, and should take into account factors such as long-term financial interests of the firm, path dependencies, how scenario results supported strategy, assumptions about uncertainties, and sensitivity of the balance sheet to changes in key risk drivers and external conditions.

OSFI should expect firms to have clear roles and responsibilities for the board and its relevant sub-committees in managing the financial risks from climate change. From GRI's recent review of TCFD-aligned climate disclosure from 25 financial firms, risk oversight is the governance mechanism most commonly cited across all three reporting years as the main function through which boards engage on climate change, followed by strategy development, and monitoring targets. The board committee most commonly assigned to oversee climate change is the risk committee. The corporate governance committee is the second most commonly cited, followed by the audit committee.

#### **MANAGEMENT ACCOUNTABILITY**

For climate risk to be effectively incorporated into each independently-operated risk function (e.g., credit risk, market risk), it is essential for FRFIs and FRPP boards to clearly designate climate risk ownership at an executive leadership level. This climate risk champion is expected to ensure sustained monitoring of climate risk as it evolves over time, reduce siloed risk communication among line managers, bridge between operational specialists and executive management, and incorporate climate risk into strategic planning. Some firms have incorporated climate risk targets into their incentive structures to drive further progress.

All 25 Canadian financial firms reporting in alignment with TCFD by 2019 disclosed that there was executive level management of climate risk and opportunities in place. The Chief Risk Officer (CRO) was most commonly cited as having oversight of climate risks and opportunities.

## **5. What are the key considerations and challenges related to embedding climate-related risk management in a FRFI's three lines of defense?**

Climate risk can be integrated into the three lines of defense model, with the following considerations:

### **First Line: Risk Taking**

The first line is accountable for establishing climate risk management controls, and ensuring the ongoing effectiveness of those controls. This includes, but is not limited to, updating underwriting policies, risk assessment processes, and pricing financial products to incorporate climate factors. Furthermore, decision-makers must incorporate climate risk management into strategic planning to ensure these activities are consistent with the organization's goals and objectives. In terms of client engagement, the first line should take a proactive approach in helping clients with physical risk hedging and transition risk financing. For instance, lending organizations can apply differentiated loan covenants on clients most impacted by climate change to ensure they build preventive climate resilience. Alternatively, borrowers can get preferential terms for qualifying green/transition projects. These approaches support an integrated firm-wide climate risk system.

For FRFIs investing on behalf of clients, OSFI can encourage updated Know your Client (KYC) statements that incorporate relevant climate attributes into clients' risk profile. Additionally, OSFI can help enrich climate-related financial databases to support a more granular measurement of climate-related financial risks in FRFIs' lending, investing, and insurance portfolios.

### **Second Line: Risk Oversight**

The second line sets the overall risk policies and assessment framework and ensures the organization is protected against undue loss. It should actively update the framework to sufficiently incorporate climate risk factors and align with the overall risk appetite.

As a starting point, risk teams should thoroughly identify their current state of climate maturity, roles, and responsibilities. This will then allow board and senior management to determine the target state of climate risk management and put an action plan in place to achieve it. In addition, the second line should continue to build stress-testing capability that is fit for climate use. Due to the forward-looking nature of climate change, scenario analysis will be an essential tool for building stress-testing capability. More details regarding climate scenario analysis will be discussed under question 7.

The second line can also play a role in the ongoing education, training, and quality assurance of the first line.

### **Third Line: Risk Assurance**

FRFIs rely on the third line to provide independent assurance regarding the effectiveness of control metrics and frameworks set up by the first and second line. OSFI should review FRFI internal audits to ensure that first- and second-line efforts are consistent, and ensure any external models used are calibrated to fit the organization's own business context and stakeholder interest. This line should report findings directly to the board and audit committee to improve climate risk oversight and input into the long-term strategy.



**6. Is the description of the data challenges presented by OSFI in this discussion paper complete or are there other data challenges that need to be considered? What is the relative importance you would assign to each of these challenges?**

We agree with OSFI's observation that existing financial risk models, such as credit risk or actuarial models, are not at present adequately capturing or considering climate risk for a variety of reasons related to data and methodology. The scarcity of historical financial data regarding climate change has challenged the traditional way FRFIs and FRPPs perform financial risk modelling.

#### FRPP AND FRFI CLIMATE DATA READINESS

Firms may not have the data systems nor the baseline data upon which they could build climate risk assessment models. For example, records may not include information about the specific physical location of portfolio assets (or all of the physical assets owned or operated by a client), data about key attributes for assessing climate risk resilience, lack of accurate supply chain mapping, and other fundamental gaps. It could be that information is missing in data sets about issuers or clients that may not previously have been central to business analysis, but are key for climate risk assessment. Some firms have reported that they struggle to use climate-related data purchased from third parties or obtained from public sources because of difficulties matching it up with their internal data structure, naming conventions and legacy infrastructure. Cleaning data sets, expanding existing data, and building out the data needed for climate assessment may require upgrades to systems and expertise.

#### INPUT DATA SOURCES

Although significant progress has been made in scientific climate data, new expertise is needed to 'translate' climate data on physical risk into parameters that can be applied to financial valuations. Established climate data sources were often designed to inform policy rather than financial markets. Another challenge can be that data sets often reflect the optimistic transition pathway that governments want to achieve on climate change, not the most realistic path that economies will take. Climate modeling has a much longer-term time horizon than financial models typically utilize, shorter- and medium-term data is needed. The radical uncertainty about specificity in terms of exactly when and where climate-related extreme events will occur also poses a challenge for financial analysis.

Below is a brief overview of some of the types of data needed to assess and manage exposures to climate-related risks (both physical and transition risks) including via risk diversification and hedging.

- **Macroeconomic** risk data: Macroeconomic risks are system-wide shocks that are applicable across sectors, hence it is critical to have relevant data to understand how climate change will impact on factors such as GDP and interest rates. This data can help institutions diversify and geographically hedge the macroeconomic impacts of climate risk. The data can be used to perform stress-testing in the valuation process or inform allocation strategies so as to reduce the concentration risk amplified by climate factors.
- **Sectoral** risk data: Climate impact and transition policies can hurt the equity prices of sectors exposed to climate risk such as energy, transportation, agriculture, water, utilities, tourism, real estate, and information technology. Financial firms could utilize data relating to the short, medium and long-term scenarios for these sectors in terms of physical risk resilience, carbon intensity and reduction, and other elements that factor into valuation and risk assessment metrics.

- **Firm-specific** data: For financial institutions seeking to perform climate risk analysis at the firm level, they need data from each portfolio company and/or physical asset. It is important to understand the impact climate change is having on cost structure, availability of inputs, access to inputs, and what it will do to demand, pricing power, and other outputs over time. The quality of firm-level data highly depends on the adequacy of voluntary climate-related financial reporting, which is generally insufficient today due to the lack of standardized and mandatory reporting requirements at the firm level. Confidence in these datasets vary due to high levels of modelling approximation and projection, and disjointedness between commercial and public data sources (such as firm self-reported data, government statistics, or industry reports).
- **Market sentiment** data: Data regarding investor and public sentiment on climate issues indicate a broad awareness of the related risk and opportunities. These can be incorporated into sentiment analysis, client relationship management, risk-return assessment, and new product/services identification. Data that could be used to monitor the degree to which private markets absorb and transfer climate-related risks – for example, via the market for climate-related securities, or by ensuring the resilience of bank lending or insurance provision – will also be needed.

The availability of empirical loss data related to adverse weather events is needed to support building relevant climate scenarios and stress-testing. The insurance industry has a critical role to play in not only absorbing climate-induced financial loss for firms, but also leveraging its data and modelling capabilities to reflect climate risk in its product pricing, which can in turn help the wider financial sector price climate risk more accurately in lending and investing.

Some countries, such as the United Kingdom (U.K.) are creating financial climate data hubs by forming partnerships between finance, academic and governments. OSFI could support the overall advancement of climate data for financial analysis by leveraging existing skills and data, taking stock of existing gaps, and working with partners to ensure FRPPs and FRFIs have the data they need to integrate climate change into ERM.

***7. If your organization has started to include climate-related considerations in its risk management approaches and tools, please share your experience, including the usefulness and challenges associated with climate-related scenario analysis and stress testing. If not, please describe other processes and controls you have introduced to determine the materiality of climate-related risks and manage exposures to these material risks.***

Climate scenario analysis is an important tool for understanding the scale of risk, inform strategy, and set corresponding risk metrics and controls. Boards and executive leadership need to ensure that the organization conduct and maintain robust ongoing stress-testing, that scenarios selected are comprehensive, material, and relevant to their business exposure, and that scenario results are linked to risk management actions.

According to GRI's recent research on climate risk management and disclosure among 58 Canadian financial firms, 25 firms reported conducting some form of climate risk scenario analysis, and the absolute number has tripled from just seven firms over the 2017-2019 period. Most firms reported looking at both physical and transition risks. There is use of both quantitative and qualitative scenarios among the firms, but the objectives, scope, and methodology vary widely from firm to firm and across sectors forming no clear trend. Some have used narrative scenarios to help sensitize and educate portfolio leads about climate risks, while others conducted quantitative assessments on asset classes. Scenarios are also used to inform resilience-building plans, and to identify opportunities such as new markets and products.

Common data inputs for scenarios were the International Energy Agency (IEA) World Energy Outlook, which demonstrates how the energy mix may change if the world is to meet or miss its climate goals, and the Intergovernmental Panel on Climate Change (IPCC's) various Representative Concentration Pathways (RCP), which show the possibilities for temperature change based on different emissions levels the world may experience. The average time horizon utilized among disclosing firms is 15 years, with the longest being 20 years. Other key overlays or stages for scenarios are macroeconomic models (such as trade flows, GDP) stochastic financial models (inflation, funding ratio) and systemic climate risk-aware scenarios sets (asset classes, sectors, regions).

According to GRI's research on scenario analysis<sup>2</sup>, the top three challenges cited by financial firms when conducting climate risk scenarios and integrating results into decision making are:

- **Materiality:** climate scenario construction starts with a materiality assessment of climate-related financial risks. With climate risk being a relatively new practice, guidance is needed to help institutions properly understand the many facets of financial materiality.
- **Data:** the most frequently reported hindrance in constructing climate scenarios is the lack of quality data for financial analysis. Scenario adopters are constantly seeking access to verifiable, comparable, timely, and decision-useful data to feed in their inputs.
- **Methodology:** with climate-related risk assessment still relative nascent, companies need guidance navigating and applying the most effective methodologies bespoke to their risk profiles. The misuse of models and methodologies can pose incremental risk to financial decision making.

The OSFI/Bank of Canada climate scenarios pilot program running in 2021 will help advance this field and boost capability across the sector, as will the U.K.'s Prudential Regulation Authority (PRA)'s biennial exploratory scenarios program which is also focused on climate risk this year. At this early stage in climate risk assessment, there is great value for firms in these exercises as it helps develop better understanding of the key changes to our economy, sectors and regions that the scenarios are trying to capture and convey. There is an opportunity for OSFI to continue to align with and shape emerging global standards in this area to ensure scenarios and climate stress tests do not become burdensome compliance-oriented exercises, but rather yield the strategic insights for long-term competitiveness.

## WAYS FRPPs COULD PREPARE FOR AND BUILD RESILIENCE TO CLIMATE-RELATED RISKS

*Please see responses to questions 8, 9, and 10 on last page of this document.*

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<sup>2</sup> *Climate Risk Scenario Analysis: An Executive Primer*. GRI. February 2021. <https://globalriskinstitute.org/publications/climate-risk-scenario-analysis-an-executive-primer/>

### **11. How does your organization currently disclose climate-related risk information? What are the drivers for any voluntary disclosure?**

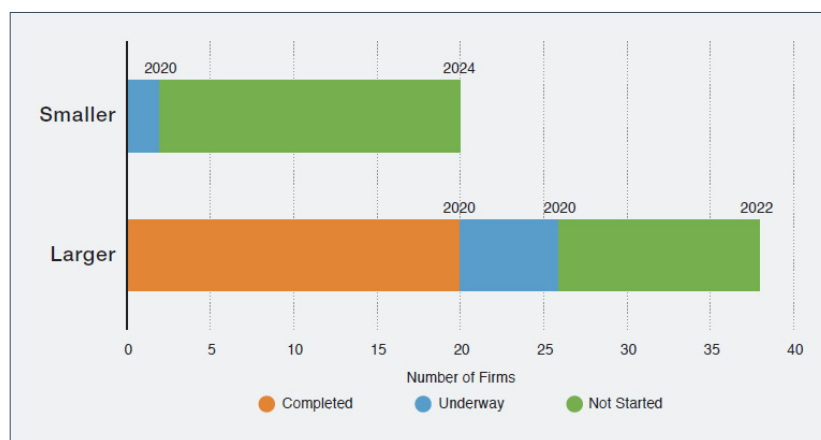
One of the foundational building blocks of effective climate risk management is good disclosure. Markets and regulators need adequate information from financial actors and portfolio companies alike, as inputs for risk identification, analysis, control, and management. The regulatory system should promote standardized disclosure in support of market efficiency and financial stability. In light of it being early stages in climate-related financial disclosure practice, we suggest regulators utilize a ‘safe haven’ approach, and clear timeline for uptake in order to speed widespread practice.

The GRI recently examined trends in climate-related financial disclosure among 58 financial firms in Canada over the 2017, 2018, and 2019 reporting cycles. Within three years’ time, there has been a 40 per cent increase in the number of firms disclosing, to a total of 25 firms publicly disclosing in alignment with the TCFD in 2019. There has been a 32 per cent increase in the number of firms that include TCFD information in annual financial filings, but the majority of information is reported through voluntary channels such as sustainability reports. Below are key highlights from GRI’s study regarding the four ‘core elements’ of TCFD:

- **Governance:** every disclosing firm indicated that the board oversees climate risk, with the risk committee most commonly cited as the lead and CRO as executive responsible for climate risk.
- **Strategy:** nearly 80 per cent disclosing firms in Canada reported that they were assessing risk over the short, medium, and long terms.
- **Risk Management:** 72 per cent of disclosing firms reported that they undertook a materiality assessment for climate risk, up from 44 per cent in 2017.
- **Metrics and Targets:** in 2019, 72 per cent of disclosing firms reported metrics related to portfolios and sustainable finance, a 35 per cent increase from 2017.

The Canadian Expert Panel on Sustainable Finance recommended a two-phased approach for firms to begin and progress with disclosure in alignment with the TCFD Recommendations. In the first phase, firms should disclose relatively general qualitative descriptions for governance, strategy, and risk management, as well as scope 1 and 2 carbon emissions. By phase 2, firms should include more specific qualitative and quantitative information in relation to strategy, risk management, and metrics and targets. According to Expert Panel Recommendations, larger firms are expected to enter and complete phase 1 by the end of 2022, while smaller firms would have until the end of 2024. See the table below for progress by firms against these recommended timeframes. Some larger firms are progressing well, but just under half from the research sample may not be on track to reach phase 1 milestones by 2022. Smaller firms have more time, but have generally not started with TCFD reporting and will need further support and guidance.

Figure 3: Progress Made by Financial Firms Against the Expert Panel TCFD Completion Timetable (Phase 1)



Source: GRI. *Climate-related financial disclosure in the Canadian financial sector: A three-year progress report. 2020.*

In Canada, small- and medium-sized and private firms play an important role in ensuring financial services of all types are available from coast to coast to coast, and are essential to the fabric of our economy. With most of these firm portfolios being geographically or operationally concentrated, their climate-related loss can be disproportionately amplified. Therefore, it is crucial for small entities to enhance climate-related risk management and disclosure in a proportionate way. In addition, foreign-owned FRFI subsidiaries make up a considerable portion of the Canadian market, particularly in the insurance sector. These institutions can leverage their access to parent company resources to refine their disclosure and ensure information disclosed is relevant and specific to their Canadian-level operations.

OSFI could plainly articulate a roadmap for the adoption of the TCFD Recommendations by Canadian firms, outlining what is expected and by when, for large and small firms. It would be important to clarify what is mandatory and what is voluntary for both large companies and smaller ones.

#### OSFI’S ONGOING WORK ON CLIMATE-RELATED RISKS

**12. A challenge OSFI has identified is lack of universal climate-related risk taxonomy. Please describe the climate-related risk taxonomy, if any, your organization has developed or adopted?**

In light of the relatively early stages of maturity of the field of climate risk management, a climate-related risk taxonomy would be a welcomed tool to help organizations strengthen and better integrate climate into ERM. Such a taxonomy would provide a common set of risk categories, and a stable set of risk categories that would facilitate comparative analysis of a firm’s risks over time.

The right expertise spanning environmental, risk, and financial competency will be needed to develop the climate risk taxonomy. The taxonomy could consist of an overarching framework defining the severity, likelihood, and other risk metrics, followed by specific taxonomies for each industry sector. There could be an opportunity to leverage work done in related fields such as the European Union Sustainable Finance Taxonomy and the CSA Transition Finance Principles and Taxonomy (pending publication).

**13. Given OSFI's role as the prudential regulator and supervisor of FRFIs and FRPPs, what other work do you think OSFI should consider in relation to climate-related risks?**

We support the characterization of climate change as a driver of financial and operational risks. Until there are reliable and common ways of measuring and assessing the financial risks of climate change, we are left with a range of vulnerabilities in the financial system. To effectively respond, OSFI should use its existing prudential and supervisory framework to promote the swift integration of climate change into Enterprise Risk Management (ERM) processes to strengthen preparedness and resilience to climate-induced financial impacts in the financial sector.

With climate risk assessment and management still in early stages, OSFI could prioritize the following:

- **Accountability:** set clear expectations about the role of the board, and reporting requirements for climate-related financial risk differentiated for larger and smaller firms.
- **Alignment:** Update the existing supervisory toolkit to better reflect climate in scope of a principles-based, risk-based approach.
- **Advancement:** support climate-related training, risk taxonomy development, datasets, methodologies, research and thought leadership.

OSFI will need to continuously evolve its approach as the understanding of climate risk progresses and risk management methods and tools are refined over time.

**14. What are your views on the relative importance of using (1) OSFI's capital framework, (2) supervisory review process, and (3) market discipline to promote FRFI preparedness and resilience to climate-related risks? What factors should OSFI consider when making changes to the design and approach to each of these areas?**

OSFI has established a world class prudential and supervisory framework in support of its objective to build confidence and stability into the Canadian financial system. The principles- and risk-based structure of this framework has proven to be well-suited to dealing with systemic risks such as the economic stresses arising from the COVID-19 pandemic and the 2008-09 global financial crisis. While climate change presents a unique set of challenges and opportunities to the Canadian financial system, we believe that the prevailing OSFI approach remains fundamentally fit-for-purpose. However, this will require developing a sound understanding of how climate change ultimately transmits through the financial system and, by extension, the existing regulatory regime.

Therefore, rather than implementing fundamental changes to the overall regulatory design and approach, the primary focus should be on how to best leverage and apply the comprehensive suite of regulatory and risk management practices that are already in place. This approach would help mitigate the risk of introducing any potential gaps or overlaps in OSFI's overall response to climate change. While the direct linkages to many of these applications may be quite clear (e.g., E-18 Stress Testing, Corporate Governance Guideline, ORSA/ICAAP, and Financial Condition Testing), requisite linkages to other impacted guidelines and practices, such as capital requirements, may be more difficult to initially establish particularly given the prolonged and far-reaching nature of climate change. In any case, these linkages must be informed by sound climate risk measurement and assessment capabilities, hence an initial focus on developing climate change scenario analysis in the pilot program with Bank of Canada and six financial institutions is well founded.

OSFI will face the challenge of balancing its response with best practice principles arising globally, yet create a fit-for-purpose framework for Canadian conditions. To position Canada and our financial sector competitively in the net zero global economy, we encourage OSFI to continue to align the classification of climate risks, risk management, and reporting requirements with well-adopted global recommendations such as those emanating from the NGFS and the TCFD, and the regulatory agencies of other leading economies. This will allow for global consistency in standards and definitions, alleviate risk assessment and reporting burden for firms operating internationally across different jurisdictions, and speed the development of knowledge and capacity for all firms. Yet, it is recognized that Canada has its unique attributes, and a balance will need to be sought between alignment with international standards and principles and customizations that reflects the reality that Canada is a carbon intensive economy and the financial sector has a key role to play in ensuring we make the transition smoothly and inclusively.

***15. Are there circumstances where it would be appropriate to factor climate-related considerations in the capital framework beyond what is already reflected in existing inputs in the absence of empirical evidence? What are the pros and cons of such an approach?***

If we accept that climate risk is a driver for other existing risk categories, ideally, its financial impact should be appropriately reflected in the existing capital framework. In this case, there would be no need to have a standalone capital requirement for climate-related loss. The reality today is that climate risk management, analysis and valuation is in nascent stages. This combined with uncertain policy pathways and physical risk manifestation, exacerbates the likelihood that climate is not adequately factored into capital requirements today.

One solution could be to overlay additional capital requirements on sectors and assets that have been identified as being particularly at-risk from climate change. But the aforementioned uncertainties, lack of a clear and formal path to net zero for Canada, lack of the necessary data and taxonomies, and early stages of climate-related financial risk assessment would render this task somewhat arbitrary today, and appears premature in application.

To address this, OSFI could conduct research to better understand the dynamics of capital requirements related to climate. For example, it could be explored as to whether OSFI's existing capital framework already generates inherent increased capital requirements for credit risk as climate risk factors drive adverse credit risk ratings for high emissions industries. It could also be explored as to whether there is a positive feedback loop that tilts the framework toward high emissions industries due to historic trends, and many other lines of inquiry. This program of research could support better planning for if, when and how capital requirements may need to be adjusted over time and what information would be needed to make such an assessment.

To ensure climate change is swiftly and appropriately integrated into the capital framework it is important that the climate-related financial risk assessment system be developed and matured. OSFI has a diversity of supervisory powers they can use to accelerate climate risk assessment in firms – including, but not limited to, asking for annual assessments to be presented to boards for high-risk sectors, industry-wide stress tests that can be defined through E-18, and onsite supervision where the level of maturity of climate risk could be reviewed and reported in annual supervisory letters with recommendations or requirements that firms would have to address. Since firms adjust the capital requirement annually, and the term structure of financial firm liabilities are also relatively short term (in the context of climate risk), this would enable dynamic adjustments and repricing as capability and knowledge grows about climate risk year-on-year.

OSFI should support the rapid development of capacity, methodology and standardization of these activities to help ensure capital requirements reflect climate risk.

## WAYS FRPPs COULD PREPARE FOR AND BUILD RESILIENCE TO CLIMATE-RELATED RISKS

### ***8. What are the key considerations for incorporating climate-related risks into the FRPP's Statement of Investment Policies and Procedures (SIP&P)?***

While it is currently not mandatory for FRPPs to incorporate climate disclosure into the SIP&P, pension administrators need to recognize that further disclosure can be investor-driven as plan members increasingly demand climate issues to be addressed and incorporated in the pension investment process. Furthermore, FRPPs also need to consider how their fiduciary duty surrounding climate issues may evolve in the near future. Consequently, we recommend OSFI guide these pensions in taking preventive measures to maintain sustainable funding status. This may involve early and mandatory communication with pension contributors on their climate risk management philosophy.

### ***9. For FRPPs where the administrator directly invests in assets, are scenario analysis and stress testing used to assess the pension plan's exposure to climate-related risks?***

We strongly recommend FRPPs to set sights on scenario analysis and stress-testing when assessing climate exposures in a manner coherent with what we have suggested under question 7. OSFI could consider supporting through a scenarios pilot program, the provision of data and methodology, and other ways to encourage the use of scenario analysis and the development of the expertise needed.

### ***10. For FRPPs where individual investment decisions are delegated to an investment manager, should consideration be given to climate-related risk management when plan administrators select investment managers? If so, what are the key climate-related criteria for selecting investment managers? If not, why not?***

We think consideration of climate risk management should be given in the process of selecting or guiding investment managers. Key risk management criteria should align with the suggestions we made under question 2 above.

### ***16. What factors should OSFI consider in designing its guidance, supervision process and reporting requirements to promote FRPP preparedness and resilience to climate-related risks?***

If the company is underway with climate risk assessment and management, as many banks are today in Canada for example, OSFI can expect that this activity be extended to include the pension portfolio.