April 12, 2021

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Subject: ***Navigating Uncertainty in Climate Change: Promoting Preparedness and Resilience to Climate-Related Risks***

The Canadian Institute of Actuaries (CIA) appreciates the opportunity to provide the Office of the Superintendent of Financial Institutions (OSFI) with feedback on its January 2021 consultation document, *Navigating Uncertainty in Climate Change: Promoting Preparedness and Resilience to Climate-Related Risks*. The paper is very well structured and provides the opportunity for the reader to understand OSFI's views on climate-related risks, in addition to getting a sense of the issues of concern for OSFI going forward.

As the CIA issued its own paper, *Time to Act: Facing the Risks of a Changing Climate*, in September 2019, the following feedback provided to OSFI draws on the CIA's paper, as well as addressing the key events that have shifted the thinking regarding climate-related risks since the paper's release.

The CIA congratulates OSFI for the significant thought put into its paper. In addition, the OSFI webcast on February 4, and the summary of the questions asked at that webcast, issued on February 22, provided very good context on OSFI's views on climate-related risks for Federally Regulated Financial Institutions (FRFIs) and Federally Regulated Pension Plans (FRPPs).

OSFI has asked high-quality and comprehensive questions in its consultation document. The CIA has chosen to respond to all questions other than 3, 5, and 7, which are less applicable to our organization, and we have provided additional comments on certain sections.

The CIA believes that actuaries can play a useful and important role in recognizing the risks from climate change, notably in the areas of physical risks, transition risks, and liability risks. Furthermore, actuaries would be well suited to the role of senior climate risk officer given actuaries' backgrounds on quantifying the financial risks of contingent events.

The CIA also believes that actuaries can work well with other professionals on the identification, quantification, and mitigation of climate-related risks.

Given the possible approaches which OSFI may consider for its role in assuring the solvency of FRFIs and FRPPs, the CIA believes that emphasis should be placed on supervisory review processes, including disclosure requirements.

The CIA appreciates the opportunity to provide these comments, and we would welcome further discussions with your team. If you have any questions, please contact Chris Fievoli, CIA Staff Actuary, Communications and Public Affairs, at 613-656-1927 or chris.fievoli@cia-ica.ca.

Sincerely,

[original signature on file]

Michel St-Germain, FCIA
President, Canadian Institute of Actuaries

The Canadian Institute of Actuaries (CIA) is the national, bilingual organization and voice of the actuarial profession in Canada. Our members are dedicated to providing actuarial services and advice of the highest quality. The Institute holds the duty of the profession to the public above the needs of the profession and its members.

Comments from the Canadian Institute of Actuaries

1 – Introduction

In section 1.2, the paper states, "OSFI is interested in… the role [it] can, and should, play to facilitate [FRFIs' and FRPPs'] preparedness and resilience to [climate-related risks]." We believe OSFI should highlight in more detail the financial stability risks that are apparent from physical, transition, and liability risks. Notably on the former, OSFI should reinforce that the increased claims in property may necessitate the re-pricing of property risk in such a way as it becomes unaffordable for Canadian insureds. In addition, there is a real risk that coverage availability may become restricted in certain parts of the country (flood prone areas, wildfire risk areas), creating significant coverage gaps. OSFI should also lean, in the near term, on its existing guidelines to foster the consideration of these risks into sound risk management practices and corporate planning.

Related to this point, as society moves to a low-carbon or carbon-neutral future, there is the real risk of economic and financial dislocation due to the inherent transition risk. Many financial institutions and pension plans who hold equities or bonds of, for example, fossil fuel and extraction companies may find their long-term investments eroding in value over time. If this were to happen, it would put pension plan members and insurance policyholders at risk, as both insurers' and pension plans' solvency may decrease over time. As Canada's federal financial institutions regulator, when considering the risks from climate change, OSFI should promote its prudential role and responsibility with respect to the solvency of FRFIs and FRPPs.

As a transition to net zero emissions will happen over many years, the use of fossil fuels in our economy will not disappear overnight. Moreover, some companies with significant fossil fuel reserves are also engaged in diversifying into growing and productive sources of green energy and distribution. We assert that:

a) Not all companies with fossil fuel revenue are equally exposed to transition risk;
b) As has been cited by OSFI in its other forms of guidance, it is not the role of a regulator to try to remove risk from the market.

2 – Context for Climate Change Risk in Canada

Section 2.4 highlights the potential new opportunities for investment by FRFIs and FRPPs in green technologies as well as development of new insurance products. Similarly, the CIA sees a role for actuaries to assist in the identification, quantification, and mitigation of the opportunities and risks from both physical and transition risks from climate change risk.

While the context is well developed, there is always the risk that there may be too much focus on direct impacts of the acute physical risks of climate change, which might be more easily observed and quantified in the short term.

The CIA believes that the indirect impacts of chronic physical risks, such as the increase in heat-related diseases and deaths as temperatures gradually rise, are also of concern to FRFIs and FRPPs.

Finally, it is understood that the major stock indices in Canada are more exposed to the transition risk of climate-related risk than those in other jurisdictions, due to Canada's high weighting of resource stocks.

3 – Climate-Related Risks and their Impact on FRFIs and FRPPs

Sections 3.2 to 3.5 underscore the importance and consequences of liability risk. The CIA believes that the point on liability risk needs to be further accentuated.

Specifically, FRFIs and FRPPs who have no responsible investment or risk assessment policies have not integrated ESG and climate-related risks into their investment process. They do not a have proper due diligence in place in selecting especially fossil fuel intensive securities, and may face growing scrutiny from depositors, creditors, policyholders, and pension plan members regarding liability risk. For example, the Retail Employees Superannuation Trust (REST), a $41 billion pension fund in Australia, settled a lawsuit in November 2020 brought by one of its members who claimed REST wasn't doing enough to protect his retirement savings against the impact of rising world temperatures.

The CIA believes that actuaries are well equipped to assess the financial impact of such complex risks, working closely with lawyers in this assessment.

Related to the above point, in section 3.3, OSFI rightly points out that the economic uncertainty and economic dislocation from physical, transition, and liability risks may persist for some time.

Figures 3, 4, and 5 are excellent graphical representations of physical, transition, and liability risks and should be included in the final version of OSFI's guidance on climate-related risks. We would suggest that figure 3 seems to focus on acute risks (extreme events) and ignores chronic risks. Specifically, figure 4 on transition risk underscores the systemic risks of liquidity issues caused by transition risk, which sheds light in the impact of transition risk could have on the entire global financial system.

Finally, it is important to recognize the complexity of modelling these 3 risks. For example, in *The Green Swan*, the Bank for International Settlements states that "Climate-related risks typically fit fat-tailed distributions: both physical and transition risks are characterised by deep uncertainty and nonlinearity, their chances of occurrence are not reflected in past data, and the possibility of extreme values cannot be ruled out."

Question 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?

The CIA believes that the characterization of physical, transition, and liability risks underscore the inter-relatedness of risks in the financial sector. Moreover, these risks may play out over a period of time causing systemic risk in economic cycles, capital markets, the real economy, and society. In these circumstances and scenarios, it is likely that various countries in the world will be experiencing similar circumstances. As the global financial and COVID crises have demonstrated, in these types of extreme circumstances, the relationships between economic/financial variables in addition to their values cannot be reasonably estimated in advance. Moreover, the relationship between these circumstances with societal stability and sovereignty depends on various actors as well as the response of wider society in various countries.

As assumers of market and credit risk, FRFIs and FRPPs may expose themselves to the potential of this systemic risk and may not be able to fulfil their obligations to policyholders and pension plan members,

respectively. Moreover, insurers and pension plans are also exposed to insurance risk which exacerbates the impact of climate-related risk for these financial entities.

The CIA suggests that OSFI should also consider the correlation between risks which may also be impacted by extreme climate events. For example, changes in weather patterns are increasing the financial impact of physical risks, leading certain FRFIs in the property & casualty sector to begin restricting capacity in the market for specific perils. Moreover, FRFIs in the property & casualty sector may limit policy coverage for liability insurance coverage.

Question 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?

By being more proactive and forward looking in the implementation of policies that explicitly recognize the financial risks of climate change, FRFIs and FRPPs would help position themselves to recognize and mitigate the risks from climate change. We believe that using available data to conduct scenario analysis on various future physical, transition, and liability scenarios in financial models would enhance the measurement of climate-related risks. We also contend that certain assumptions may be necessary due to the lack of data to develop certain scenarios.

In developing scenario testing, the CIA believes that balance is necessary, and that the materiality of the risk should be taken into account. Incorporation of climate risks into existing risk management frameworks and governance structures is important.

4 – FRFIs Building Preparedness and Resilience

Section 4.2: The CIA commends OSFI for making explicit to FRFIs that the risks from climate change are real. Equally, the development of risk appetite statements which include the risks from climate change can help FRFIs prepare for these risks which lie ahead. As FRFIs build their preparedness and resilience through an explicit articulation of their risk appetite, we would recommend that more explicit language be added in this section on the Own Risk Solvency Assessment (ORSA) for insurers and that stress and scenario testing approaches also be added into this discussion. The CIA believes that actuaries are, can, and will be making significant contributions to the development and execution of stress and scenario tests related to the risks from climate change.

Section 4.3: Transition risks from the investment in long-duration financial instruments that are potentially exposed to the risks of a rapid movement to a low- or zero-carbon economy are very real. We would also recommend that a statement be added on the possible exposure to liability risks from such investment activities.

Section 4.4: The opportunities from the physical and transition risks from climate change are also part of the upside for FRFIs. Careful consideration will be necessary to articulate the possible benefits of such opportunities in the FRFI's risk appetite statements as well as in the description and measurement of risk limits for these new investment opportunities.

Section 4.5: Regarding governance structures, policies, and practices, we support the creation of a senior climate (and sustainability) officer's role within the risk management area of FRFIs. Related to this point, the CIA believes that Fellows and Associates of the Canadian Institute of Actuaries with strong risk and climate-related risk backgrounds be considered for these roles. In addition, the articulation of

compensation objectives related to climate change risk should be developed for both senior and middle management roles.

Section 4.6: Underscoring the importance of the three lines of defense on addressing the risks of climate change is a strong point of the paper. The CIA is pleased to see the actuarial function is recognized explicitly in the second line of defence. At the same time, the CIA sees the first line of defence as being important in the identification and the mitigation of climate-related risk.

Section 4.9: In order to identify and quantify climate-related risks for FRFIs, an approach using stress testing may be quite appropriate. Through its Climate Change and Sustainability Committee, the CIA has developed resource documents to be used by CIA members which incorporate stress testing approaches, including suggested parameters. The CIA would be happy to share this work with OSFI at the most appropriate time. Additionally, should OSFI be interested, the CIA would be willing to work with OSFI to develop other stress test tools in the future using the OSFI and Bank of Canada climate scenarios.

As illustrated in Figure 9, there is a need for developing a series of scenarios (possible future states) to assist FRFIs in developing their own stress tests and assess their level of exposure to physical risks, transition risks and liability risks given each set of scenarios.

Section 4.10: OSFI is quite right to highlight that historical loss data may not be useful to understand the increasing volatility in claims data from property loss. Equally, at this time, there is no dedicated measurement capability to assess the greater loss in morbidity and mortality experience from the events arising from climate change, notably wildfires and floods. As was stated in the CIA's *Time to Act* paper, it is recommended that governments begin to create databases on losses to facilitate the input of this data into the development of new dynamic models on the losses arising from climate-risk, including business interruption.

Sections 4.11 and 4.12: As previously mentioned, the CIA supports explicit references to ORSA in this document. In addition, the CIA agrees that more must be done to create risk metrics that would shed more light on the immediate risks from climate change. The CIA would be pleased to work with OSFI in this endeavour.

Question 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?

No CIA response is provided.

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

The CIA believes that the development of governance structures, policies, or processes would help FRFIs manage and mitigate FRFIs' climate-related risks. Specifically, a FRFI's governance needs to consider the implications for these risks in the short, medium and longer term, recognizing that the business and strategic impacts of these risks will vary significantly by geography and product line. Good governance needs to foster the development of robust scenario building techniques for climate-related risk that capture the uncertain nature and timing of transition risk. An important consideration in choosing an appropriate time horizon for decision making is that scenario analysis be able to adequately capture the

many feedback loops, tipping points, etc. involved in climate-related risks. Actuaries can be of assistance in the development of appropriate scenario design and analysis.

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

No CIA response is provided.

Question 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?

With regards to the use of data, it is important to recognize that the recent past is unlikely to be a reliable guide to the future. In addition, more data is becoming available as more professions are investigating the risks from climate change. Consequently, it is important to recognize that data in this field is fluid and can be characterized as expanding with the types of sources and the availability of such data. There is still room/need to improve and increase data available, for example, good flood maps, accumulation risk measurement exposed to wildfire, etc. FRFIs may need to capture more detailed information to monitor/mitigate their exposures to climate-related physical risks.

Increasingly, data sources tend to corroborate and/or confirm the previous findings of the risks from climate change, for example, in the increases in property damage from flood and wildfires. So, rather than have data to confirm that which is already known, the CIA recommends that actions and milestones be developed on the disclosure of the risks from climate change by FRFIs and FRPPs.

More specifically, OSFI should perhaps encourage use of expert judgment and cross-functional approaches to supplement existing data. In addition, the level of adaptation and acclimatization as temperatures rise creates additional uncertainties beyond what the climate itself would show. For example, for FRFIs underwriting life and health risks, one challenge would be adjusting general population data for use in assessing risks in the insured population, which tends to have different demographic characteristics.

The data challenge could be described as a two-step process: (1) developing relevant climate change stress test scenarios that are consistent with the current scientific knowledge; and (2) relating the risk exposure of each FRFI given the stress test scenario. We note that smaller FRFIs may not have the capacity in investing in the first step (i.e., the development of sophisticated climate change scenarios). It may be desirable to design a series of underlying scenarios that could be used by FRFIs in their own assessment.

In addition, with respect to data on the asset side of the balance sheet, at this time, carbon emissions data is commonly available for large corporate financial instruments or companies that are part of public indices. The coverage might be thinner for smaller or private companies, although this is improving.

Finally, in terms of credit risk, there needs to be a focus on counterparty credit risk throughout the financial system on both the asset and liability sides of the balance sheet.

Question 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.

No CIA response is provided.

5 – FRPPs Building Preparedness and Resilience

In section 5.2, the requirement for climate-related risks to be addressed in the Statement of Investment Policy & Procedures (SIPP) for FRPPs is step in the right direction. The recent statement in December 2020 by the "Big 8" public pension plans regarding taking ESG factors in the management of their pension plan points to an evolution in thinking when considering the risks of climate change for pension plan management. Specifically, the statement was very much aligned with the CIA's recommendation in in its *Time to Act* paper for all investors and business leaders to include ESG factors in their decision-making.

Question 8: What are the key considerations for incorporating climate-related risks into the FRPP's Statement of Investment Policies and Procedures?

The CIA recommends that the following seven issues be addressed:

1) Goals and risk tolerance
   - There is a section of the SIPP that describes the goals and the risk tolerance associated with the Plan. This section should be expanded to outline how climate-related risks will be identified and integrated in the valuation of assets and liabilities and the interaction between the two. Also as discussed in other answers, both downward risk and upside opportunities associated with climate risk should be considered.
2) Party that executes the SIPP
   - Typically, large pension plan (above $5B) will have a team of professionals who will manage at least a portion of the pension plan's assets. These teams have more direct control over the analysis and the extent to which the selected securities are exposed to climate-related risks. Large pension plan investment decisions are more or less within their control.
   - It is not always the case for smaller plans where the discretion for security selection is delegated to third-party investment managers.
3) Engagement
   - In the recent past, investors and investment activist groups like Climate 100 Action 100+ have engaged with management of companies they are part owner of to improve risk adjusted returns of their investments. Whether these actions involve Environmental, Social or Governance (ESG) factors in addition to climate-related risks, large pension investors or large investment management firms have added this to their arsenal of tools to achieve superior risk-adjusted returns. A SIPP or a responsible investment policy should address engagement.
4) Micro vs macro considerations
   - A SIPP or a responsible investment policy should address how climate-related risks can affect a portfolio either at a micro or macro level, or both.
   - At a micro level, specific companies in a portfolio are subject to transition (e.g., energy companies in an equity portfolio) and physical risks (e.g., a real estate portfolio).

- At a macro level, the long-term assumptions used to discount going concern liabilities of pension plans may be affected by the impact of various climate change scenarios on macro-economic factors like GDP, asset class returns, interest rates, and inflation. For an explanation of the impact of climate on macro-economic metrics, see *Climate scenario analysis for pension schemes: A UK case study* by the Institute and Faculty of Actuaries (June 2020, pages 34-38).

5) Ability to measure climate-related risks
   - This is also linked to the size of the plan. Typically, large pension plan (above $5B) will have a large team of portfolio risk professionals who will have the means and the resources to develop models to project assets and liabilities across various climate change scenarios. They will also have the means and the ability to interpret results.
   - For smaller pension plans, such capabilities may be out of reach. The CIA would be willing to assist OSFI to develop risk tools to assist smaller pension plans in measuring and acting on climate-related risks.
6) Level of reporting
   - This is related to goals and risk tolerance above. Having chosen goals and risk tolerance, a procedure must be in place to report back to the investment committee of the pension plans on the ongoing level of exposure to risk, the engagement activities, and the level of goal achievement.
7) Exposure of plan sponsor to climate-related risks
   - The plan sponsor may itself be exposed to climate-related risks (e.g., a transportation company), which may reduce its ability to fund the pension plan in the long run. Regulators like OSFI may choose to institute a risk-based monitoring system to request TCFD-compliant reporting from certain companies in at-risk sectors. Investment policy may need to change to reflect a shorter time horizon..

Question 9: a) 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? b) If so, how useful are they? c) What are some other risk measurement tools that FRPP administrators should consider?

a) For FRPPs where the administrator directly invests in assets, scenario analysis and stress testing are used by some of the larger pension plans to measure their exposure to climate-related risks.

   In the UK, there is an increasing expectation that pension schemes and other financial institutions use scenario analysis to understand their potential exposure to climate-related impacts. Climate scenario analysis will be a required action under proposed regulations pursuant to changes made by the Pension Schemes Bill 2021 in the UK. But even for schemes not in scope of that legislation (it will only be required for plans with assets greater than £5B in 2021, and for plans with assets greater than £1B in assets in 2022), it will still be a valuable step in trustees meeting their broader fiduciary responsibilities to manage climate-related risks. The CIA would welcome the opportunity to meet with OSFI to discuss the pros and cons of a mandatory approach to climate scenario analysis.

   The UK Institute and Faculty of Actuaries (IFoA) conducted a case study of a climate scenario analysis for a pension scheme in June 2020. It projected funded ratios for a period until 2040 under three climate scenarios:

   - Paris orderly transition below 2°C by 2100 (75% probability of achieving result)
   - Paris disorderly transition below 2°C by 2100 (75% probability of achieving result)
   - Failed transition about 4°C by 2100

The study showed that the progression of the funding position is worse under all three pathways, implying that it is quite likely that pension schemes in UK are systematically underestimating the funding risks they face.

b) How useful are these exercises?

It needs to be acknowledged that this is likely to be a rudimentary first approximation since the relationships between countries, parts of the economy and society are extremely difficult to project.

- Investment: it could lead the sponsor to make changes to investment strategies and consider the gradual implementation to reflect medium-term views.
- Sponsor resilience: the plan sponsor could use the climate scenarios to understand how resilient it is to climate change and which scenarios it is most exposed to.
- Risk management: factor risks into funding policy and SIPP and plan in advance how to react should they start to materialize.

This type of analysis is in its infancy in Canada but is more common in Europe. Even large pension plans in Canada are still at the stage of quantifying risk and monitoring various metrics. They have not instigated long-term asset mix or funding policies changes based on climate-related risk analysis.

c) What are some other risk measurement tools that FRPP administrators should consider?

- The approach used by the IFoA was a top-down model to explore the financial impacts of three plausible climate pathways on the funding position of an example UK defined benefit pension scheme.
- Another model could use a bottom-up approach whereby forward-looking transition and property risk measures could be calculated for each security in a portfolio and then aggregated.
- Such risk measure could be, for example, an Earnings at Risk measure for companies that are valued using a discounted cash flow model. The price of carbon is modelled along different climate scenarios and the difference between what a company pays for emitting carbon today and what it may pay in the future is expressed as a % of revenue.

Question 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?

Even if individual investment decisions are delegated to an investment manager, we believe considerations should be given to climate-related risk management when plan administrators select investment managers the same way other ESG factors should be integrated in the investment process. One important principle underlying fiduciary duty is that the administrator must exercise their duty with the care, skill and diligence a prudent person would exercise when dealing with investments of others. The data on ESG factors (including climate change risks) have grown over the years to the point that now most large asset managers or plan sponsors would agree that ESG factors can have a material positive or negative impact on asset returns and should therefore be integrated in the investment process.

ESG is a fast-growing regulatory concern and the data on financial risks of climate change and other ESG factors continues to improve. We believe it is part of an administrator's fiduciary duty to consider the financial implications of climate change risks. The requirement is not necessarily out of a duty to maximize returns but out of a requirement to act prudently.

See more details on the response to question 10 in Appendix A.

6 – Climate-Related Financial Disclosure

Sections 6.1 to 6.4: The outline of the recent requirements for financial disclosure from various entities is a very good first step. Respectfully, we would also add that the September 2019 CIA paper *Time to Act* also recommended for immediate voluntary disclosure and mandatory disclosure of financial risks in 2021 according to a recognized framework, such as the Financial Stability Board's Task Force on Climate-related Financial Disclosure (TCFD).

Question 11: What are the key considerations in disclosure for climate-related risks? In addition, what are the drivers of voluntary disclosure?

The CIA believes that the key consideration in disclosure is transparency. To that end, the CIA supports the creation of disclosure on climate-related risks which also emphasizes the timeliness of the disclosure. Finally, there are currently no impediments to voluntary disclosure, so OSFI should emphasize this point to FRFIs and FRPPs as part of its supervisory processes.

As noted in the CIA's *Time to Act* paper, the CIA recommended immediate voluntary disclosure and a move to mandatory disclosure beginning in 2021.

Finally, a few drivers for voluntary disclosure need to be considered:

1) Reputational considerations for FRFIs and FRPPs, as ESG appears more and more in the public sphere. Those pursuing voluntary disclosure would be able to establish a leadership position in this space to help with public perception and perhaps have access to ESG-related funding.
2) Voluntary disclosure also gives companies a way to proactively shape disclosure requirements should disclosure become mandatory in the future.

7 – OSFI's Ongoing Work on Climate-Related Risks

Section 7.2: OSFI's explicit recognition of the significant transition risk that would impact the lending activities of deposit-taking institutions (DTIs) is a positive step. In the past, most concerns of all stakeholders regarding climate-related risk focused exclusively on the physical risks impacting property & casualty insurers only. It is important to recognize that climate-related risks in Canada would impact all FRFIs and FRPPs, as well as other provincially regulated pension plans.

Section 7.3: The CIA applauds OSFI for its participation in the Network of Central Banks and Supervisors for Greening the Financial System – their papers are valuable in assisting FRFIs and FRPPs deal with climate-related risks, as there has been some convergence in climate-related risk taxonomy.

Section 7.5: As OSFI has taken the important step of releasing this paper, it would be equally important for OSFI to continue its consultation process when it considers what other guidance it should prepare. As has been done in the past, the CIA is interested to work with OSFI such that future guidance draws on the significant and ongoing efforts the CIA has placed on recognizing climate-related risks.

Section: 7.6: For FRFIs, it is understood that OSFI is looking at the three main areas of how it ensures financial stability in Canada: capital requirements, supervisory review processes, and market discipline. As OSFI explores each of these areas, the CIA would look forward to assisting OSFI in its work.

Section 7.7: For FRPPs, OSFI is also considering approaches to use to enhance its prudential mandate. Again, the CIA stands prepared to assist OSFI in this endeavour.

Question 12: What are the key considerations for a common taxonomy for climate-related risks?

We encourage OSFI to tackle the lack of common taxonomy as soon as possible to avoid costly harmonization efforts later in the process. We acknowledge that this approach is bound to be an iterative process given how quickly things are evolving in the climate-related risk space. The CIA suggests expanding tables 3, 4, and 5 so that they are more comprehensive, and including sub-risk categories would help ensure Canadian FRFIs and FRPPs are better coordinated.

As referenced in the Expert Panel on Sustainable Finance's recommendations in June 2019, we would propose that OSFI's approach be consistent with other internationally recognized standards, e.g., the EU Green Finance Taxonomy.

Question 13: What other work should OSFI consider for climate-related risks?

Other jurisdictions around the world are more advanced when it comes to tackling the financial risks posed by climate change, notably in the EU and the UK. For example, the Bank of England Prudential Regulatory Authority (PRA) released *A framework for assessing financial impacts of physical climate change: a practitioners' aide for the general insurance sector* in 2019. In addition, the PRA released its supervisory statement as well as the exploratory stress tests carried out in 2019 and again this year.

The recommendations in the *IOPS Supervisory Guidelines on the Integration of ESG Factors in the Investment and Risk Management of Pension Funds* could provide direction on the integration of climate-related risk.

The CIA is curious to know if OSFI has plans to roll out the joint OSFI/Bank of Canada pilot to other FRFIs, even on a smaller scale, starting with specific scenarios or specific risks. If so, the CIA would be willing to help OSFI in its creation of these specific scenarios.

Question 14: What approaches should be considered by OSFI for FRFIs on capital requirements, supervisory review processes, and market discipline? What factors should be considered in each of these areas?

Given the difficulty in this time to appropriately calibrate the risks from climate change, the CIA would not propose a lengthy consultation process on establishing capital standards for these risks. Rather, it would be more useful to focus attention on supervisory review processes and market discipline issues, as needed.

Question 15: What circumstances should be considered when factoring in other elements in the capital framework for FRFIs on climate-related risks?

If OSFI were to consider changes to its capital framework for FRFIs on climate-related risks, the CIA recommends that OSFI proceeds with caution in this endeavour, notably because of the concern of model risk in such an initiative. Instead, the CIA recommends that specific attention should be devoted in the supervisory review process to how FRFIs address climate change risk in their ORSA.

Question 16: What factors should be considered by OSFI for FRPPs on guidance, supervisory review processes, and reporting requirements?

If OSFI were to consider changes to its guidance, supervisory review processes, and reporting requirement for FRPPs on climate-related risks, specific attention should be paid for guidance, supervisory review processes, and reporting requirements that are harmonized across all Canadian pension supervisory authorities. In addition, attention should focus on the issues on ESG factors and disclosure requirements as noted in the responses to questions 8, 9, and 10 above.

When implementing such disclosure requirements, as noted in the answer to question 9, we would recommend a staggered approach based on plan size by assets as noted in the example from the UK.

Appendix A – Detailed response to question 10

The following are sample questions a plan sponsor could ask of potential investment managers:

1. STYLE/DECISION-MAKING PROCESS

Discuss how climate change risks are integrated in your security decision-making process

- How do you manage and rank climate change risks vs other risks?
- How are climate transition risks and physical risks considered in decision making to acquire, hold, and sell positions?
- How are climate opportunities (resource efficiency, energy source, products/services, markets, and resilience) considered in decision-making to acquire, hold, and sell positions?
- How do these climate-related considerations affect your ability to maintain and/or improve returns and manage volatility?

Discuss your approach to managing the carbon content of your fund

- Do you measure and apply constraints on carbon content for your fund?
- Do you have goals of curtailing carbon content in the future and/or limiting specific fossil fuel holdings (e.g., CU200)?
- Do you require companies with fossil fuel revenues to have sustainable reporting policies and objectives aligned to the Paris Agreement?
    a. How do you differentiate between a buy vs a sell opportunity in this sector?
    b. Do you monitor carbon reduction objectives of these companies and other considerations, such as investments in green or renewable energy by the same holding?

2. ENGAGEMENT

- What does active engagement on climate change risks look like with companies held during a given year and what are recent examples of engagement?

- Discuss other initiatives in which you are involved, in relation to progressing UNPRI, ESG/SDG reporting and TCFD adoption and reporting.
- Describe actions recently taken with a company that had ESG issues:
  - How were the issues identified (proactively and/or reactively) and addressed within the fund?
  - Discuss how these issues would be reported to the investment committee and/or the plan sponsor (including timeliness).
- Describe your procedures for the voting of proxies and the type of reporting you can provide to the plan sponsor.
  - What is your policy with respect to voting on ESG matters?

3. TCFD COMPLIANCE

The TCFD structured its recommendations around four thematic areas that represent core elements of how organizations operate: governance, strategy, risk management, and metrics and targets. Investment managers should be asked about how the information they provide to plan sponsors will help understand how they assess climate-related risks and opportunities.