



CLIMATE CHANGE RISKS: Measures implemented to date by financial institutions

June 2022

This document is published on the website of the Autorité des marchés financiers at autorite.qc.ca

Legal Deposit – Bibliothèque et Archives nationales du Québec, 2022

ISBN 978-2-550-92143-1 (PDF)

Table of contents

Introduction	4
Definitions and concepts	5
Selected approach	9
General findings	12
Detailed findings by area and by question	21
Conclusion and next steps	40

Introduction

Climate change, a growing concern

According to the World Economic Forum,¹ climate change risks have ranked among the top risks for the global economy for several years now. Given their likelihood and potential impact, these risks are considered systemic because they pose a real threat to financial industry stability.

This has given rise to pressures on regulators worldwide that have led many of them to implement measures to protect the financial system from the effects of climate change and the transition to a lower carbon economy.

Like its peers, the *Autorité des marchés financiers* (the "AMF") is focused on strengthening the resilience of the financial system and financial institutions that it regulates. Climate change risks must now be integrated into financial institutions' risk management processes. Moreover, the AMF has committed in its *2021–2025 Strategic Plan* to providing thought and action leadership on such current and emerging issues.

In line with this commitment, the AMF:

- Sent a *Survey of financial institutions on the management of climate change related risks* to financial institutions carrying on business in Québec;²
- Compiled, aggregated, anonymized and analyzed the responses received from June to September 2021 (for the 2020 and 2021 fiscal years) from some 230 financial institutions;
- Prepared this report on the measures that have been implemented to date by financial institutions to manage climate change risks.

The data in this report represent all financial institutions carrying on business in Québec except chartered banks. For purposes of analysis, they have been broken down by sector: damage insurance (P&C insurance), insurance of persons (L&H insurance) and deposit institutions. In addition, where appropriate, certain data are presented by institution charter or size in the market.

About the AMF

The AMF's mission is to regulate Québec's financial markets and assist consumers of financial products and services. Regulated financial institutions include financial service cooperatives, insurers, trust companies and deposit institutions.

¹ World Economic Forum, *The Global Risks Report 2021*, 16th Edition, January 2021.

² The survey was sent on June 21, 2021 to financial institutions doing business in Québec, comprising insurers and deposit institutions, with the exception of banks.

Definitions and concepts



1. Physical risks and transition risks³

- **Physical risks** refer to the direct consequences of increasingly frequent and severe extreme weather events such as floods, forest fires and gradual environmental degradation (for example, biodiversity loss, spread of diseases, or droughts). These could have major impacts on physical capital, generating economic and financial costs (such as the depreciation of buildings and infrastructure), and on financial institutions' operations.
- **Transition risks** are generated by the transition to a lower carbon economy. This transition occurs when decisions and behaviours of stakeholders, including the public, have evolved and alternative technologies have become available. Transition risks may disrupt investment and business performance and lead to fire sales or the stranding of devalued assets. Such shocks could have repercussions for the entire economy.

2. Risks arising from physical and transition risks

Insurance risk

- a) **Product design and pricing risk**
Product design and pricing risk arises from transacting insurance or annuity business where costs and liabilities assumed in respect of a product line exceed expectations in pricing.
- B) **Underwriting and liability risk**
Underwriting and liability risk is the exposure to financial loss resulting from the selection and approval of risks to be insured, the reduction, retention and transfer of risk, the reserving and settlement of claims, and the management of contractual and non contractual product options.

Credit risk

Credit risk is the risk of loss if a borrower or counterparty does not meet its financial or contractual obligations to an institution. This risk arises from uncertainty about the counterparty's or client's capacity or willingness to meet its obligations. Counterparties include issuers, debtors, borrowers, brokers, underwriters, reinsurers, guarantors, and the contracting parties for OTC derivatives.

³ Climate related risk drivers and their transmission channels, Bank for International Settlements, April 2021.

Liquidity risk

Liquidity risk arises from an institution's inability to meet its financial obligations within the time prescribed and at a reasonable price. Financial obligations include:

- Commitments to depositors and policyholders
- Payments due in relation to derivatives contracts
- Settlement of securities borrowing and securities redemption
- Lending and investment commitments
- Any other payment due

Market risk

Market risk is the risk of loss from fluctuations in market prices and rates, the correlation between them and the range of volatility. Exposure to this risk can result from market making, dealing and position taking activities, as well as foreign exchange. The related parameters can include interest and foreign exchange rates and the prices of securities, commodities, and real estate.

Investment risk

Climate change-related investment risk can arise from potential exposure of a financial institution's investment portfolio to sectors or assets that may be at risk from either physical or transition risk-related factors. For example, extreme weather events or policy measures aimed at transitioning toward greener energy sources may result in the devaluation of certain assets. Also, the introduction of a carbon tax could lead to performance losses and a decline in asset values.

Reputational risk

Reputational risk means the risk faced by institutions with respect to their brand image. Risk factors stem primarily from institutions' social and environmental practices, ethics and professional conduct, and integrity. Reputational risk is the current and future impact on the institution's business conduct arising from negative public opinion. Exposure to this risk may cause a significant decline in earnings or capital and may ultimately undermine the institution's viability.

Liability risk

For financial institutions, climate change-related liability risk can arise from, among other things, legal actions over losses resulting from past greenhouse gas emissions and from climate action or inaction by governments and private organizations.

Operational risk

Operational risk is defined as the risk of loss resulting inadequate or failed internal processes, people and systems or from external events. This definition includes legal risks.

Legal risk

Legal risk is the risk of harm to which a financial institution is exposed due to the application of a legal standard or the performance of a contractual commitment in combination with the occurrence of an event (internal/external) that could impact its civil, contractual or penal liability. Such harm may result from the misinterpretation or misapplication of contractual provisions. Legal risk includes, but is not limited to, exposure to fines, penalties, or punitive damages as well as class actions.

Information and communications technology (ICT) risk

ICT risk is the business risk associated with the use, ownership, operation and implementation of ICT within an institution. This risk includes availability, continuity, security (including cybersecurity), change, data integrity and outsourcing risk.

Strategic risk

Strategic risk arises from an institution's inability to implement appropriate business plans, strategies, decision making processes, and resource allocation methods adapted to changes affecting the commercial context and to changes in its business environment.

3. Responsible or sustainable investing⁴

Responsible or sustainable investing generally refers to an investment approach that combines **environmental, social and governance (ESG)** factors with traditional financial research. These factors may vary in line with each investor's values and objectives.

- **Environmental factors** are applied to measure the financial institution's degree of energy efficiency and the direct or indirect impact of its activities on the environment. These factors may include energy use by the institution, waste, pollution, natural resource conservation and the treatment of animals. They can also help in assessing the possible environmental risks a financial institution is exposed to and how those risks are managed by the institution.
- **Social factors** are applied to assess the way financial institutions manage relations with employees, suppliers, clients and the communities they operate in. These factors affect the social acceptability of business decisions by ensuring that those decisions take into account considerations related to health, safety, diversity, gender equity, inclusion and good human capital practices.
- **Governance factors** pertain to an institution's board of directors, senior management, control environment and shareholder rights. For example, potential investors want to be sure that financial institutions avoid conflicts of interest in selecting board members, do not use political contributions to obtain unduly favourable treatment and, of course, do not engage in illegal conduct.

⁴ The definition of ESG criteria is based on those found in the publications of the International Organization of Securities Commissions and the Canadian Institute of Actuaries and has been adapted to the financial institutions sector.

1

Selected approach

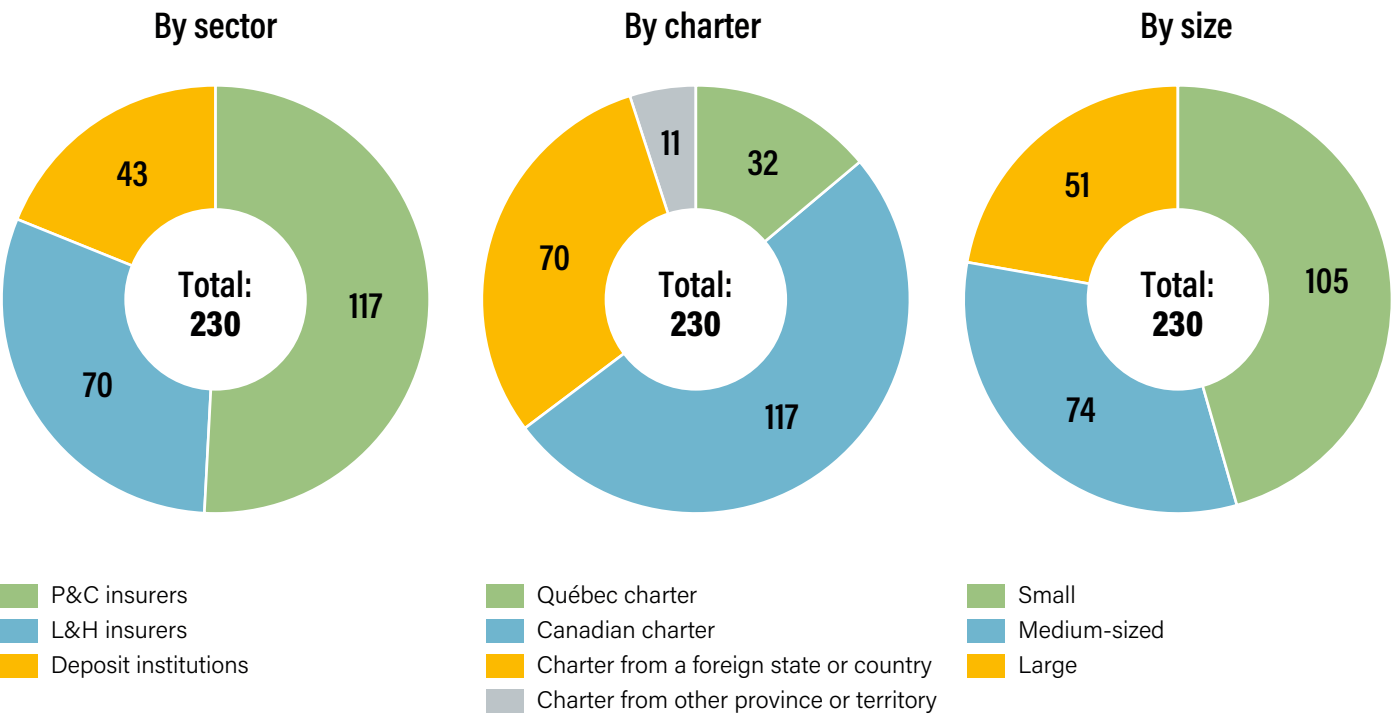


In addition to qualitative and quantitative multiple choice questions, the survey included several open questions so that the financial institutions surveyed could clarify or elaborate on their answers. The comments and answers obtained resulted in a more complete portrait of the situation of financial institutions as regards climate change.

For presentation purposes, respondents were grouped into three broad categories by total assets held.

Sector	Small financial institution	Medium-size financial institution	Large financial institution
P&C insurers	less than \$0.3B	less than \$1.5B	\$1.5B or more
L&H insurers	less than \$1B	less than \$3B	\$3B or more
Deposit institutions	less than \$1B	less than \$10B	\$10B or more

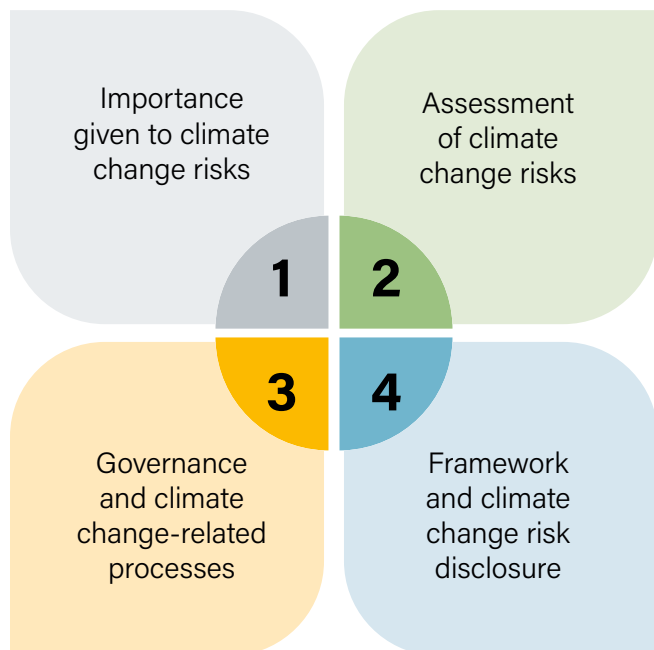
The AMF received 230 completed questionnaires, broken down as follows:



1.1 Four areas of focus

The *Survey on the management of climate change related risks* questionnaire focused on four distinct areas, enabling the AMF to develop a contemporary picture of the importance given to climate change risks in the financial institutions' risk management processes.

4 areas



Area 1: Importance given to climate change risks

The main goal of Area 1 was to position the financial institutions in terms of their level of concern regarding the possible impacts of climate change risks on the institution. Area 1 also enabled the AMF to evaluate the various measures that have been adopted by the financial institutions to properly manage climate change risks.

Area 2: Assessment of climate change risk

The goal of Area 2 was to identify the risks most likely to be generated by or result from climate change and the assets most vulnerable to such risks.

Area 3: Climate change-related governance and business processes

The goal of Area 3 was to determine the extent to which the financial institutions' boards of directors and members of senior management were trained or made aware of climate change risks. It also assessed the way such risks are incorporated into the governance framework and, where applicable, whether any internal processes had been adjusted to consider such risks from an operational perspective.

Area 4: Framework and climate change risk disclosure

The goal of Area 4 was to determine what type of framework the AMF could develop to promote sound and prudent management practices with respect to climate change risks. Area 4 also covered public disclosure of such risks.



Area 1: Importance given to climate change risks

Although the vast majority of financial institutions have begun work to implement various measures intended to mitigate the impacts of climate change risks on their institutions, 76% of those surveyed rated their level of concern about the potential impacts of climate change on their institutions as low or medium.

In all, 44% of the financial institutions surveyed have amended their risk management framework by adjusting their risk appetite and tolerance levels to include climate change risks. Some financial institutions have also simulated various disaster scenarios to assess the potential effects of climate change risks on other risks such as insurance risk or credit risk.

A number of financial institutions said they have revised their business continuity plans so as to be prepared to respond promptly and thereby maintain adequate service should a climate risk materialize.

The measures implemented by financial institutions vary slightly across the different sectors:

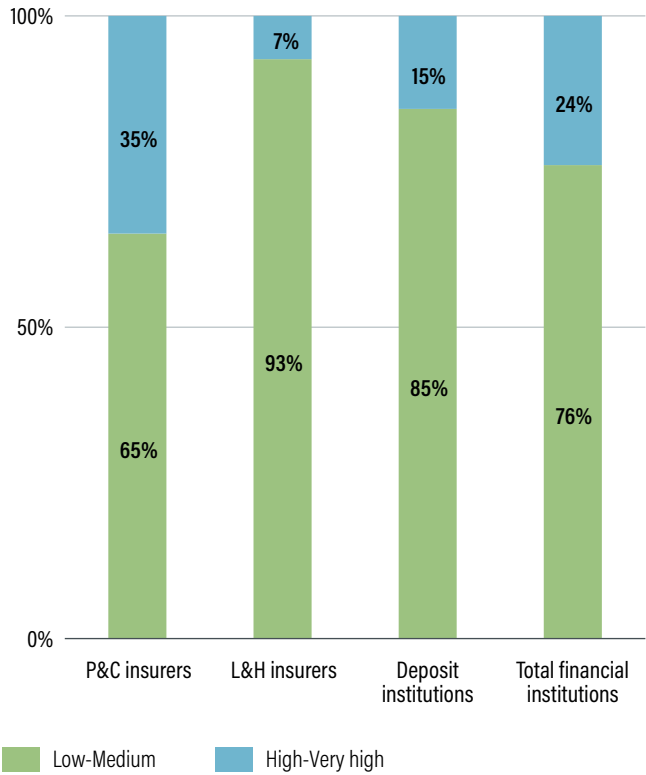
- P&C insurers have exited certain markets, such as coal fired power plants, coal mines and oil sands
- L&H insurers have begun performing quantitative analyses to determine their investment portfolio's exposure to transition risks and set percentage targets for "green" investments
- Deposit institutions are assessing the geographic concentrations of mortgage loan portfolios by degree of vulnerability to physical risks

According to the comments collected regarding climate change risk management, several financial institutions have begun incorporating ESG factors into their organizational practices, including their investment policies, in order to promote a responsible investment strategy. While the goal and efforts made to establish an overarching positioning or cost management strategy are commendable, the mere incorporation of ESG factors is not considered a measure for controlling and managing climate change risks but rather a practice in response to investor demand. In addition, as there is no consensus definition of what is or is not ESG, purchasing such products may expose the institutions to further risk (greenwashing).

Relative to P&C insurers, which are more exposed to physical risks and indicated the highest level of concern (35%), L&H insurers (7%) and deposit institutions (15%) expressed less concern about the potential operational impacts of climate change risks on their activities.

Chart 1

How would you rate your level of concern about the potential impact of climate change on your institution?



While P&C insurers believe that the impact could be very significant owing to higher payouts on insured losses resulting from more frequent natural disasters and extreme weather events, they feel that this exposure can be mitigated using a variety of measures. In fact, 65% of P&C insurers expressed a low to medium level of concern about the potential impact of climate change on the institution. According to P&C insurers, the insurance risk arising from climate change exposures can also be minimized by tightening the underwriting rules, including removing certain hazard-prone areas, adjusting pricing, modifying the coverage offered and adapting reinsurance programs to climate change.

Area 2: Assessment of climate change risks

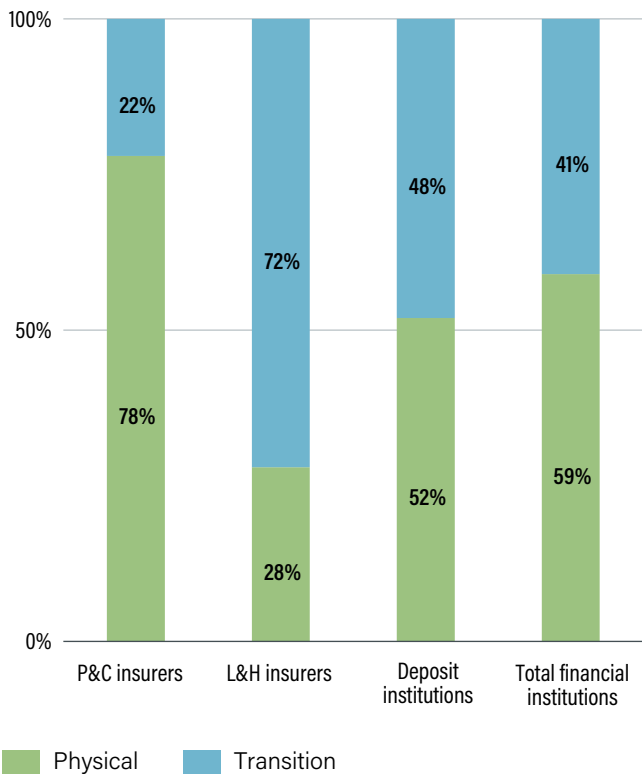
Climate change risks are typically divided into two types: physical risks and transition risks.

Overall, financial institutions carrying on business in Québec give more or less the same importance to the two types of risk, with physical risks being slightly more predominant.

In fact, 59% of those surveyed identified physical risks as being most significant for their institution, compared with 41% for transition risks.

Chart 2

Which of the two types of risks caused by climate change is more significant for your institution?



Physical risks

P&C insurers consider physical risks to be more significant than transition risks. The reason for this is because their activities are by nature more exposed to the direct impacts of financial losses resulting from, in particular, insurance transactions attributable to natural disasters or extreme weather events. Most P&C insurers mitigate physical risks by including them in their climate risk scenario modelling.

For L&H insurers, physical risks could generate an increase in death benefit claims related to health issues. Accordingly, these risks could have an impact on certain insurance risks, such as mortality and morbidity risk, particularly for the most vulnerable groups in society (e.g. heat waves, air quality, and zoonotic and vector borne diseases).

For deposit institutions, because of their lending activities, particularly mortgage lending, physical risks pose a direct threat to the value of underlying secured assets. In addition, physical risks could generate insurability issues in some geographic areas, further reducing the value of the assets underlying loans.

Institutions that own properties likely to be damaged by extreme weather events may also sustain a loss in the value of such assets.

Transition risks

For all financial institutions, though mainly for L&H insurers, transition risks expose their investment portfolios to heightened asset value volatility owing to disruptions and overall changes in markets associated with a transition toward a lower carbon economy. A significant percentage of financial institutions' investment portfolios has traditionally been invested in municipal bonds or sovereign debt, which, up to now, have been considered safe and stable. However, these assets are increasingly vulnerable to climate change risks, which may partly explain why these institutions see transition risk as more significant than physical risk.

For H&L insurers and deposit institutions, transition risks expose clients to the potential impacts of changes in social and government policy. For example, tax changes or additional compliance costs related to new regulations or government climate requirements could affect clients' risk ratings and their probability of default. Efforts to comply with the new regulations could therefore impact credit risk. In addition, non compliance with such regulations could result in fines or impact their clients' activities, which could increase credit risk and the risk premium demanded by financial institutions.

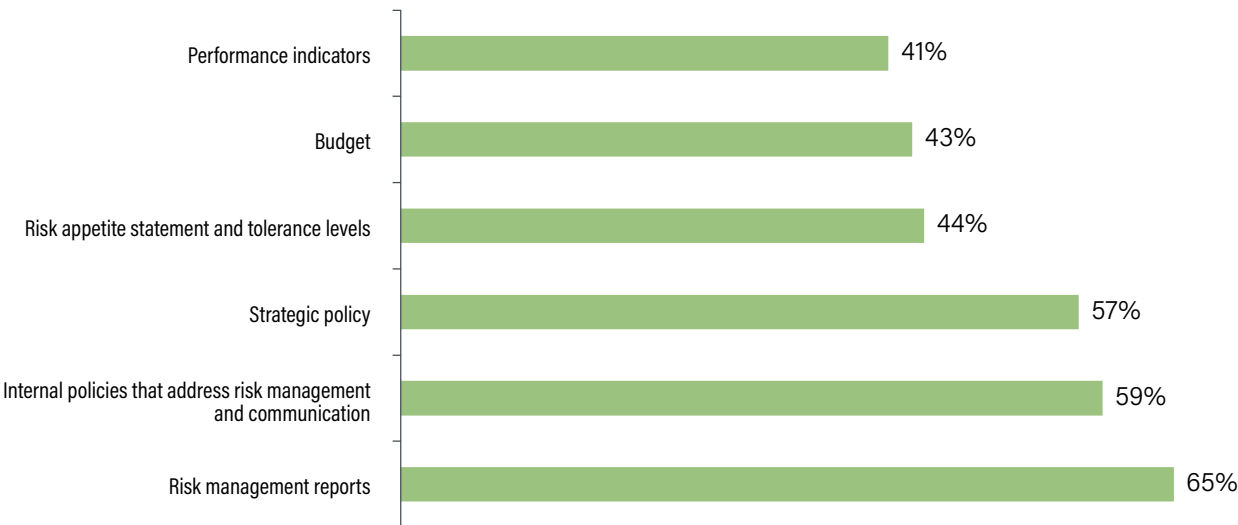
Area 3: Governance and climate change-related business processes

Governance

With respect to governance, the results show that risk management reporting to the board is the means most widely used by financial institutions (65%) to incorporate the various elements relating to climate change risks. Based on clarifications obtained, most institutions keep the board of directors apprised of key developments in the integration of ESG factors and climate change-related regulatory changes through periodic updates to their risk management reports.

Chart 3

Key governance components used by financial institutions to integrate climate change risks



The results reveal that board members of financial institutions are updated on progress in respect of climate change risks primarily through risk management reporting (**Chart 3**), which means they are more aware of emerging risks, the institution's exposure to natural disasters and investments in areas exposed to climate-change risks. The resulting increase in literacy among board members in some way corroborates the findings presented in **Chart 1**, i.e. the low-to-medium level concern financial institution generally express about the potential impacts of climate change risks.

Again with respect to governance, most financial institutions provide board members and members of senior management with opportunities to deepen their knowledge of climate change risks.

Based on clarifications obtained, while comprehensive, detailed training may not always be provided on physical risk and transition risk concepts and the risks associated with the composition of the investment portfolio, some financial institutions have opted to implement awareness programs for their officers.

Awareness is imparted through such means as seminars, forums, conferences or webinars organized, for example, by external audit firms, regulators or reinsurers.

Most financial institutions periodically update their risk management reports to inform their boards about climate change risks, as reflected in **Chart 3**. However, **Chart 4** shows a large percentage of financial institutions whose decision-making bodies have not taken part in training (66%) or awareness sessions (37%) on climate issues.

Chart 4

Have any members of senior management or the board of directors taken part in climate change risk management training or awareness sessions?

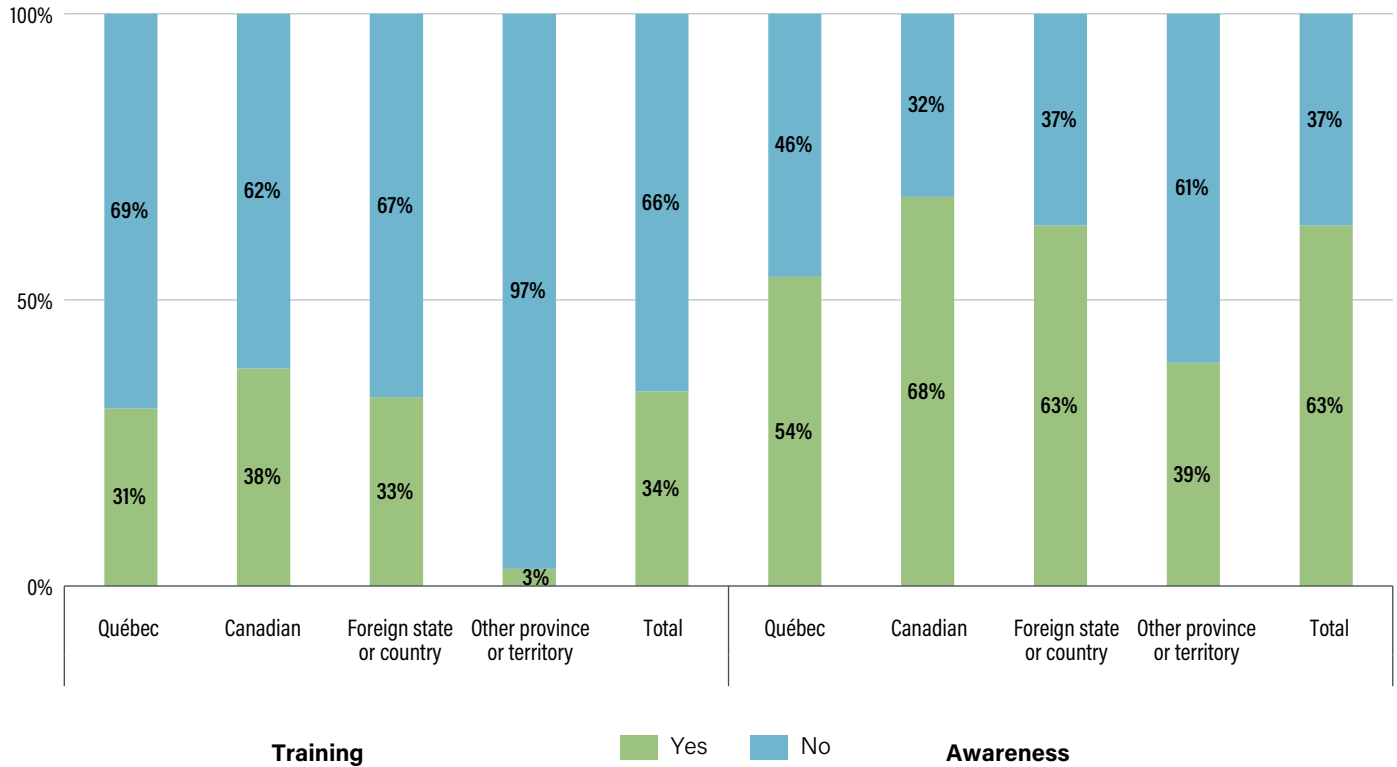
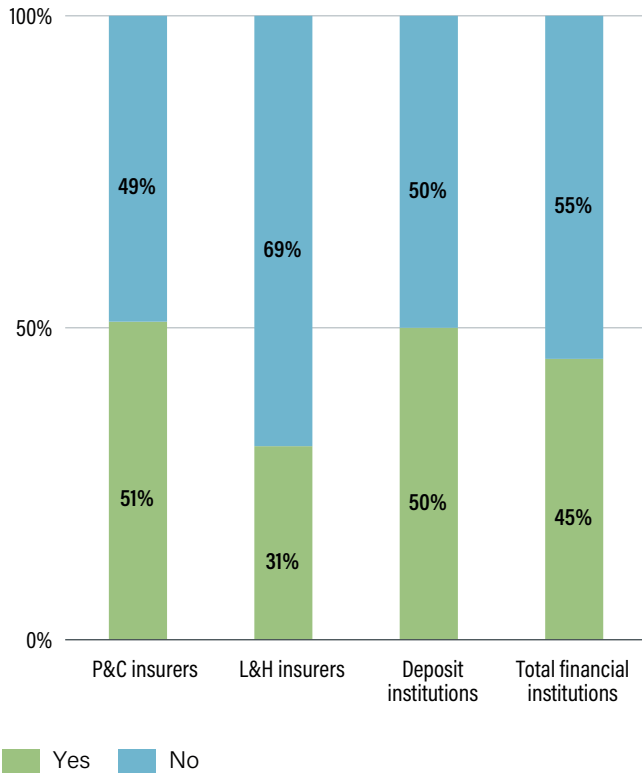


Chart 5 presents the answers regarding the appointment of a senior executive in charge of climate change risk management. All sectors combined, the appointment of a senior executive in charge of climate change risk management is not prioritized in the culture of a substantial percentage of financial institutions carrying on business in Québec. In fact, 55% of respondents indicated that they have not specifically identified such a role in their organization.

Chart 5
Has your institution appointed a senior executive in charge of climate change risk management?



Business processes

With respect to innovative measures, climate change has accelerated innovation in several areas of finance, as reflected in actions such as developing new insurance products and offering sustainability-linked loans. These actions are focused on concrete steps to achieve sustainability objectives (e.g. ESG factors).

Extra financial disclosure⁵ is also refining company assessments by going beyond traditional sources of economic or financial performance data. Lastly, according to the most recent report of the Intergovernmental Panel on Climate Change, the latest innovations in risk modelling propose using an approach based on climate policy scenarios, as opposed to the standard approach of using historical values of prices.⁶

For P&C insurance, the results reveal that some insurers now offer flood risk coverage, albeit not to all property owners. Others agree to pay an additional amount when settling a claim so that repairs are carried out with energy efficient materials. Most insurers also offer premium discounts to owners of hybrid or electric vehicles, and some offer premium discounts to owners of homes that include energy efficient components. Some deposit institutions, meanwhile, have developed credit products designed to help clients reduce their greenhouse gas emissions (“GHGs”).

Several entities, primarily in the P&C insurance sector, said that climate change risks are now being integrated into insureds’ risk profiles during the underwriting process. Risks located in geographic areas that are prone to natural disasters (floods, forest fires, severe storms, etc.) undergo further risk analysis, which frequently results in the insurance premium being adjusted upward, coverage limits being added or higher deductibles being imposed. Other insurers have either stopped insuring companies that derive a certain percentage of their income from coal fired power plant or oil sand operations or have exited those markets altogether.

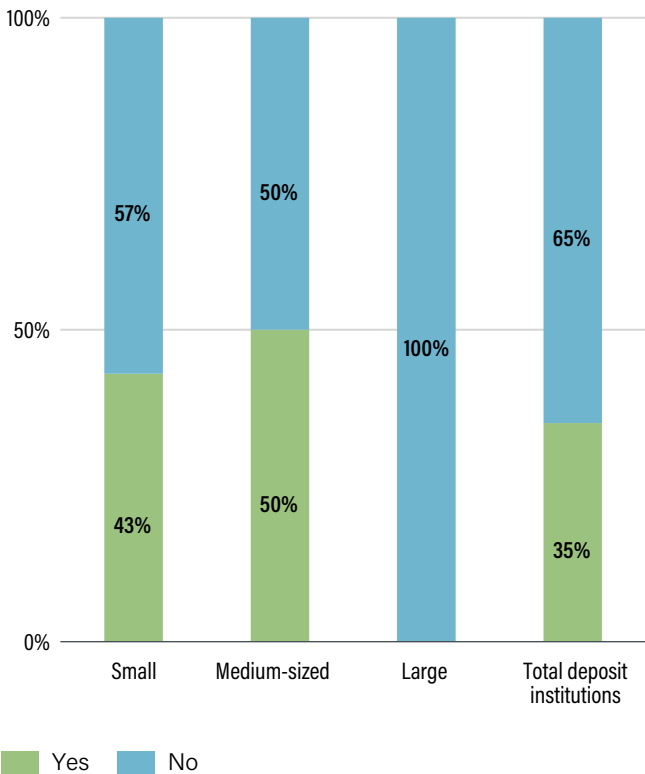
5 Extra financial rating focuses on criteria other than economic or financial criteria to assess organization’s environmental or social conduct. For instance, this involves disclosing the social, environmental and societal implications of their operations and their impact on the way they are governed. It is a key foundation of corporate social responsibility policy toward stakeholders, citizens and the government.

6 Global Reporting Initiative – *The value of extra financial disclosure: What investors and analysts said*, September 2012.

L&H insurers indicated that they do not have sufficient data to conclude that climate change is affecting their activities. They feel that the impact on mortality risk and morbidity risk is not significant enough to materially affect their underwriting decisions.

As for deposit institutions, 65% stated that they do not adjust mortgage borrowers' risk profiles to include climate change risks when granting mortgage loans. The remaining 35%, most of whom are small and medium sized entities, said that they consider the potential impacts of climate change risks when assessing borrowers' ability to repay their mortgage loan. They also include the geographic location of the property in the borrower's risk profile and may even go so far as to deny an application for financing if the property concerned is located in a flood-prone area, for example.

Chart 6
Do deposit institutions adjust the mortgage borrower's risk profile to incorporate climate change risks?



Area 4: Framework and climate change risk disclosure

Framework

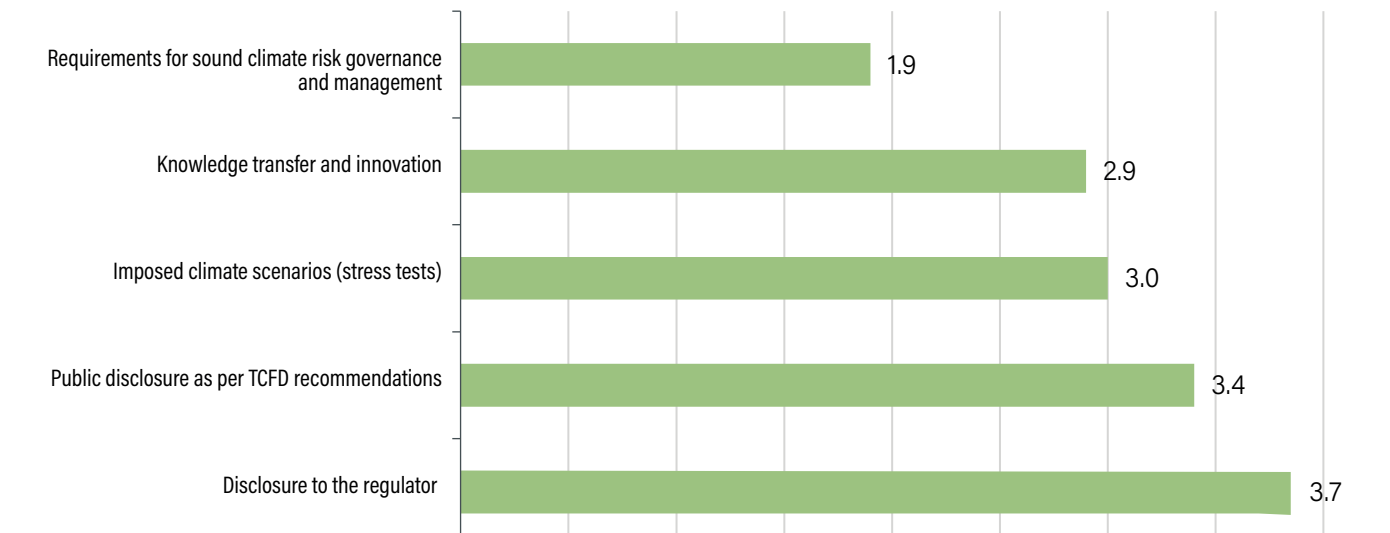
Risk management measures contemplated by the regulators, in the order of preference expressed across survey respondents, include enhanced disclosure to the regulator, public risk disclosure by the institution, sound climate change risk governance and management, innovation aimed at mitigating risk, and climate stress testing or climate scenario analysis.

Of all the possible climate change risk mitigation measures, a disclosure to the regulator that specifically includes climate risk was rated by the financial institutions as the most relevant measure for ensuring adequate monitoring of such risks by the regulator (3.7 on a scale of 5). Most financial institutions rated public risk disclosure as per Task Force for Climate related Financial Disclosures ("TCFD") recommendations as relevant, as well, though slightly less so.⁷

⁷ The TCFD is an organization established in December 2015 by the Financial Stability Board with the goal of developing a set of voluntary climate-related risk disclosures. The disclosure recommendations are structured around four thematic areas that represent core elements of how organizations operate: governance, strategy, risk management, and metrics and targets. The TCFD's recommendations were published in June 2017.

Chart 7

Financial institution preferences regarding certain climate change risk mitigation measures (scale of 0 to 5)



These were followed, in order, by stress testing using regulator-imposed climate scenarios, measures to promote knowledge transfer and innovation, and additional regulator requirements for sound climate risk governance and management .

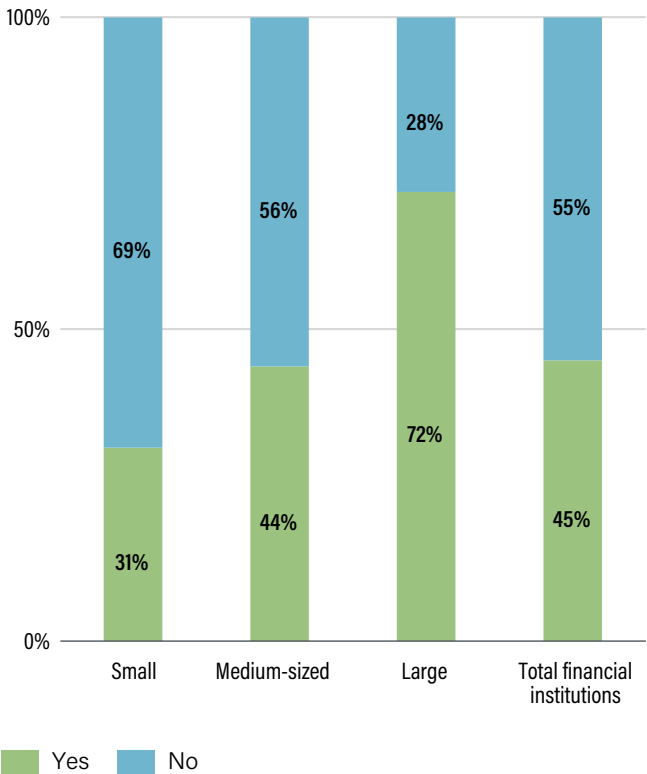
Disclosure

Nearly half (45%) of the financial institutions carrying on business in Québec said that they publicly disclose climate change risks, in most cases in a dedicated section of the annual report and in accordance with the principles for disclosure recommended by the TFCF .

From the results, it can also ne concluded that climate change risks are publicly disclosed predominantly by largest institutions (72% versus 31% and 44%, respectively, for small and medium-sized institutions).

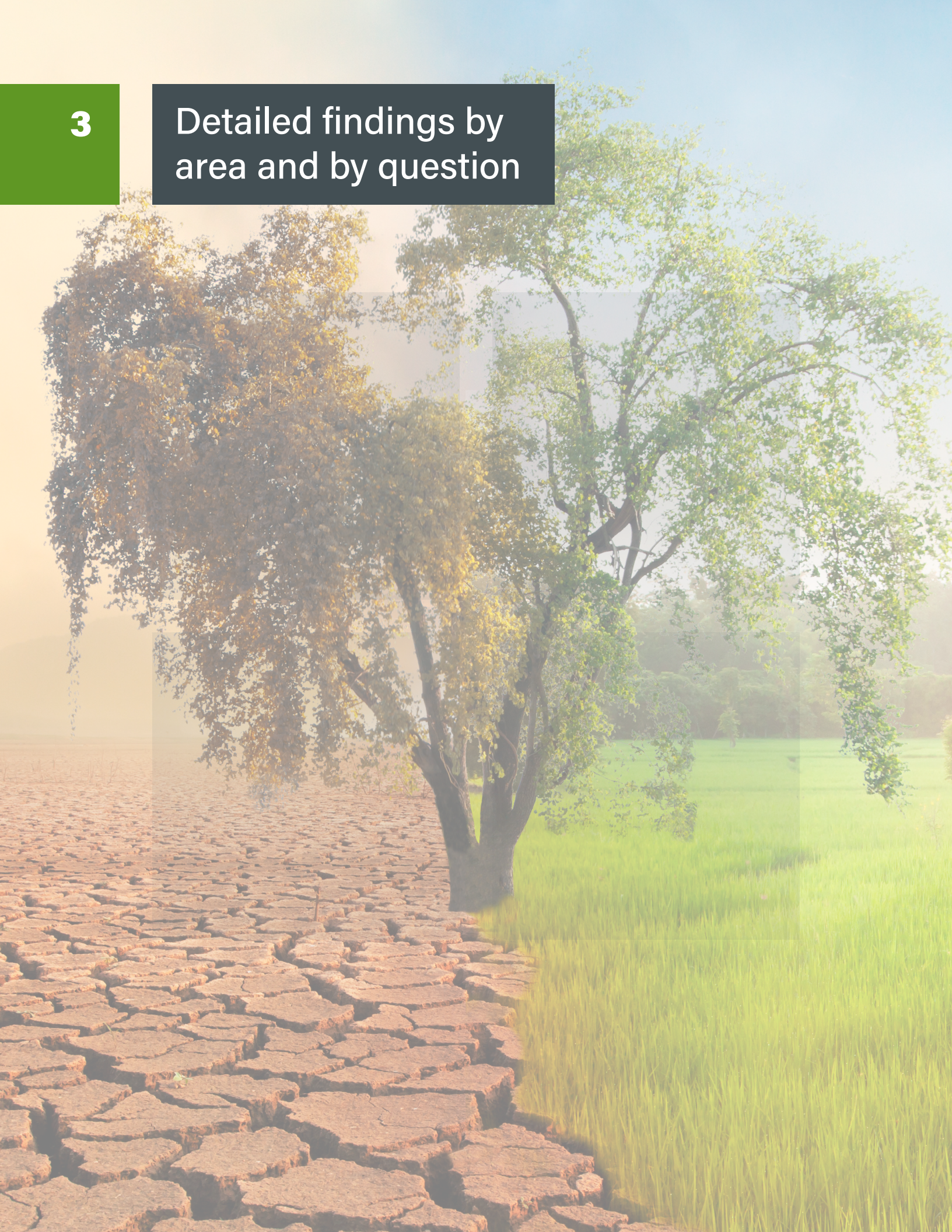
Chart 8

Do the financial institutions publicly disclose climate change risks?



3

Detailed findings by area and by question



This section summarizes the survey results for each question. The questions have been grouped according to the four areas addressed.

Area 1: Importance given to climate change risks

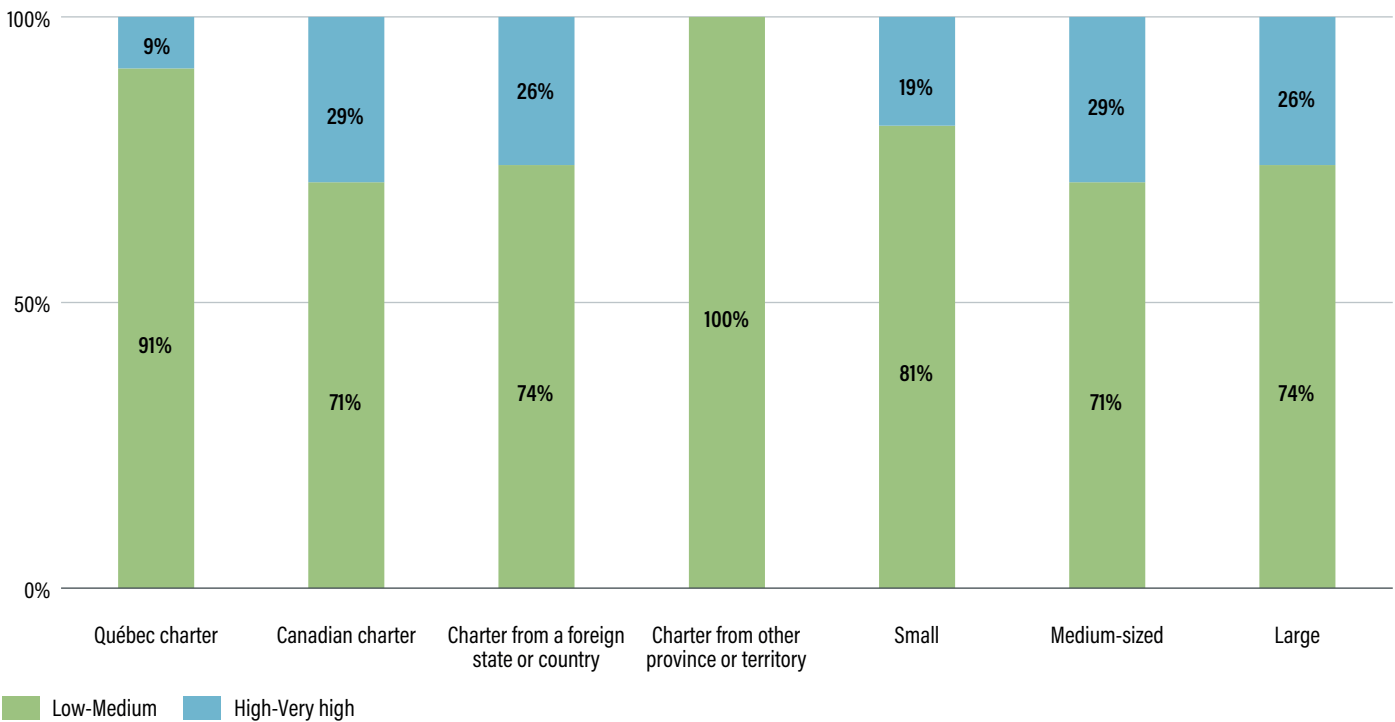
Question No. 2:

How would you rate your level of concern about the potential impact of climate change on your institution?

Chart 9

How would you rate your level of concern about the potential impact of climate change on your institution? – by charter and by size

As noted previously, the financial institutions, taken together, expressed a very low level of concern about the potential impacts of climate change risks on the them. The lowest level of concern was expressed by insurers with a charter from another province or territory, Québec-chartered insurers and small institutions.



Area 2: Assessment of climate change risks

Question No. 3:

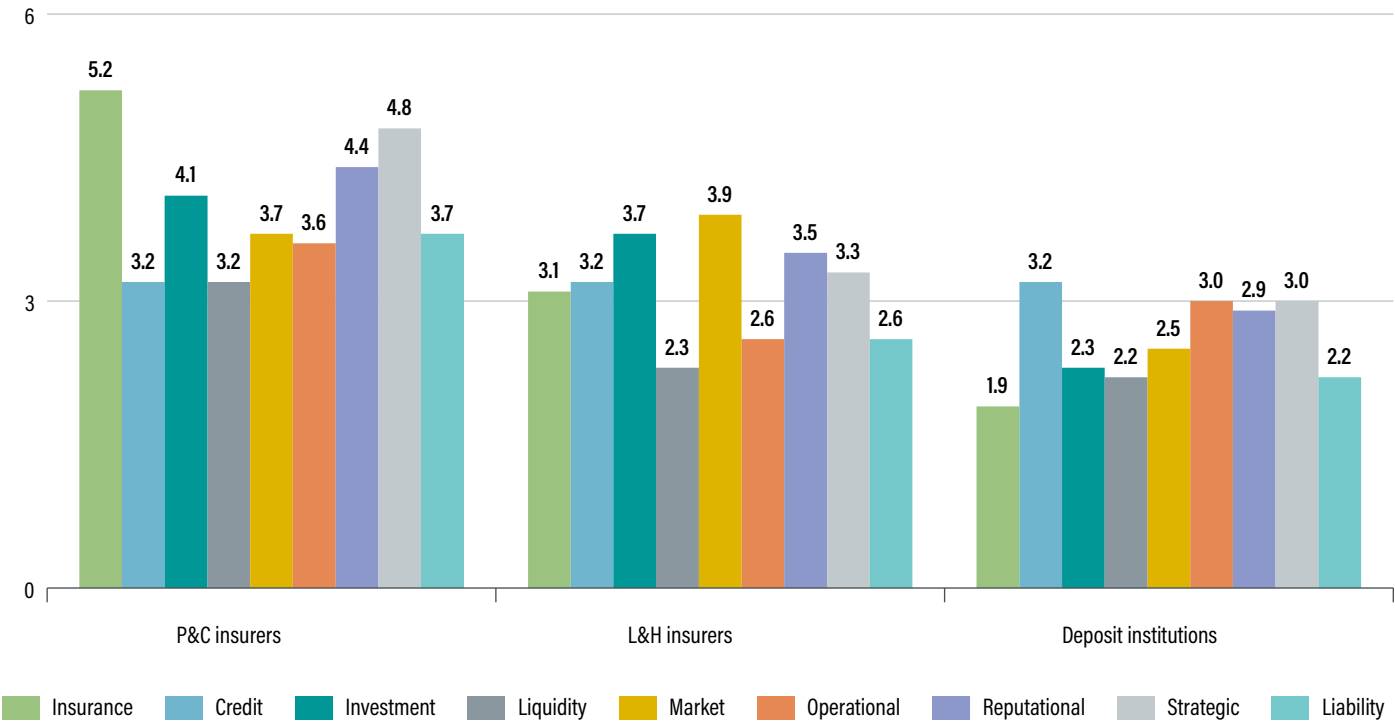
On a scale of 0 to 10, to what extent do you believe that climate risks may pose the following risks for your institution?

P&C insurers are generally more concerned than L&H insurers and deposit institutions about the potential impacts of the various physical and transition risks.

P&C insurers believe that, considering the financial impacts potentially resulting from losses related to extreme weather events, climate risks mainly affect insurance risk and strategic risk (5.2 and 4.8, respectively, on a scale of 10).

Chart 10

Which of the following risks are most likely to be generated by climate risks? (scale of 0 to 10)



To minimize the impacts of these risks, most P&C insurers have incorporated climate change risks into their underwriting policies (tightening of rules) and pricing policies (increases in geographic areas that are more exposed to climate change) and have implemented reinsurance programs adapted to climate change risks. Conversely they consider credit risk, liquidity risk and market risk as less significant for them because they feel these risks can be easily mitigated through a “green” investment strategy that integrates ESG factors into decision making.

L&H insurers see climate change as having a greater impact on market and investment risks (3.9 and 3.7, respectively, on a scale of 10). Accordingly, the main potential impact from climate change risks for L&H insurers lies in the composition of the investment portfolio, as the values of certain portfolio assets could be affected by investor preferences and exposure to carbon intensive issuers. In addition, changing the investment strategy to encourage environmentally responsible investing would reduce the number of investment opportunities and therefore potentially lead to performance losses. For this sector, liquidity risk is considered the risk least likely to be impacted by climate change risks.

For deposit institutions, credit risk, operational risk and strategic risk are the risks most likely to be impacted by climate change risks. Climate change risks could lead to increased credit losses if, for example, some property owners were unable to repay their mortgages while trying to recover from the consequences of an extreme weather event or did not hold adequate insurance on their property owing to insurability issues resulting from the property being located in a geographic areas deemed to be more hazard-prone. Over the long term, the assets securing the loan could become impaired.

In the context of a natural disaster, deposit institutions are also concerned about operational risk, particularly as regards their ability to continue to deliver quality service to their clients. However, they feel that climate change risks are unlikely to result in insurance risks for them.

Composition of the investment portfolio

Question No. 12:

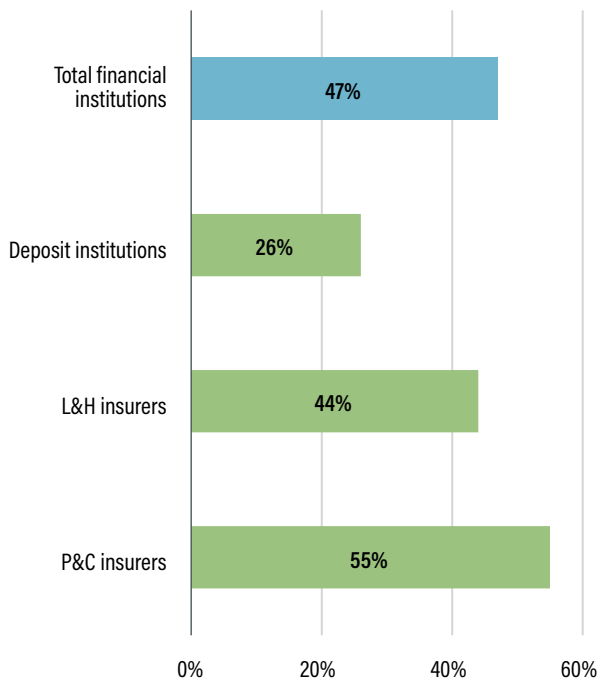
Has your institution made any changes to its asset portfolios that were aimed at reducing climate change risks?

In line with the objective of reducing climate risk exposure, in addition to building ESG factors into decision making, several financial institutions have modified their investment strategies in order to consider climate risk scorecards in their investment decisions with a view to reducing asset portfolio vulnerability to climate change risks.

For example, 47% of financial institutions carrying on business in Québec have made changes to the composition of their investment portfolios. However, the results show that only 26% of deposit institutions have made such changes, compared with 44% of L&H insurers and 55% of P&C insurers.

Chart 11

Has your institution made any changes to its asset portfolios to reduce climate change risks? – by sector



Several institutions that said they have made changes to their investment policy indicated that they no longer invest in shares or bonds of companies that earn, for example, more than 30% of their income from coal mining operations or more than 10% of their income from oil sands extraction. Others said they are gradually reducing their fossil fuel investments to focus on renewable energy and less-polluting sectors.

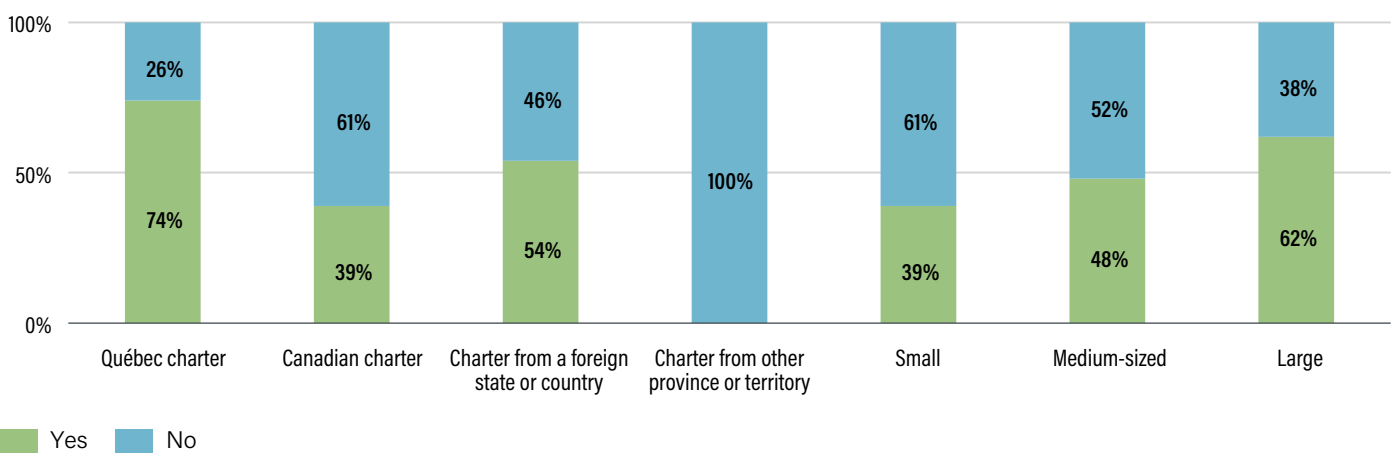
Certaines autres affirment procéder à une diminution graduelle de leurs placements en énergie fossile afin de mettre l’accent sur l’énergie renouvelable et les secteurs moins polluants.

Of the 53% of financial institutions that indicated that they have not made any changes to the composition of their investment portfolios, most pointed out that a significant portion of the portfolio is invested in government bonds or in assets less exposed to climate change impacts. In addition, institutions with a charter from a foreign country or state said they have not specifically made any changes to their investment policies, stating that the parent company makes such decisions for the whole of the financial group. Lastly, some financial institutions indicated that they are currently conducting analyses with a view to better integrating climate change risk impacts into their asset portfolios.

For further information, **Chart 12** provides a breakdown by charter and by size of the financial institutions that have made changes to their asset portfolios to reduce climate change risks. Québec-chartered institutions are the most likely to have made changes to the composition of their investment portfolios, followed by large financial institutions.

Chart 12

Has your institution made any changes to its asset portfolios to reduce climate change risks? – by charter and by size



Natural disasters

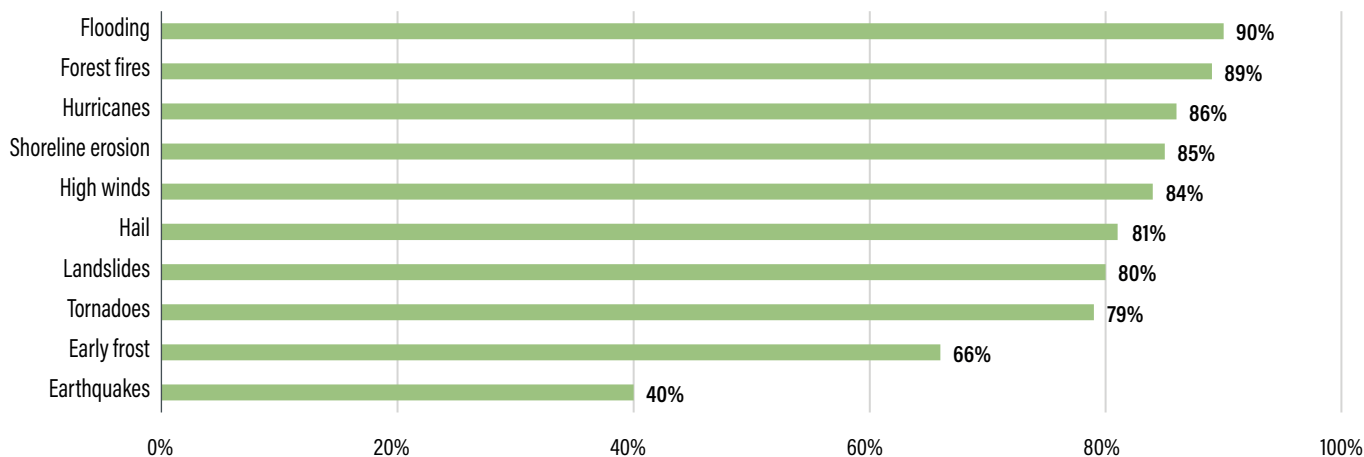
Question No. 16:

In your opinion, does climate change increase the annual damage costs of the following natural disasters?

Chart 13 shows the financial institutions' assessment of the increase in annual damage costs of natural disasters that may be caused by climate change.

Chart 13

For which of the following natural disasters are annual costs likely to increase as a result of climate change?



Except with respect to earthquakes and early frost, the financial institutions' answers converge: the annual damage costs of the various types of natural disasters (shown in **Chart 13**) are likely to increase over the coming years as a result of climate change.

Vulnerability of certain assets to climate risks

Some assets, including real estate assets in certain geographic areas, municipal bonds, sovereign debt and coal or oil industry assets, are more vulnerable to the transition to a lower carbon economy or climate change-related natural disasters.

Question No. 17:

Do you believe that the following assets may be vulnerable to climate change-related natural disasters?

Chart 14

Do you believe that the following assets may be vulnerable to natural disasters related to climate change?

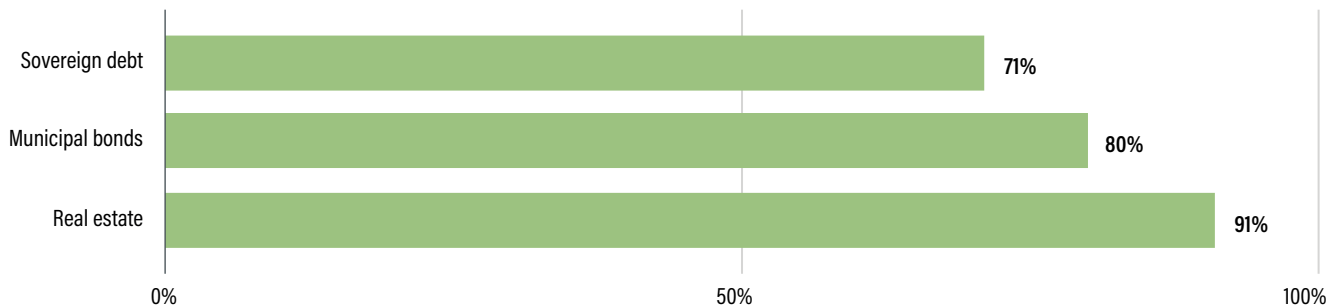


Chart 14 shows the financial institutions' assessment of the vulnerability of certain assets to climate change-related natural disasters.

Overall, the financial institutions were unanimous in the view that sovereign debt, municipal bonds and real estate are all vulnerable to climate change-related natural disasters and could have a significant impact on their institutions.

Similarly, public disclosure about an asset enables investors to assess the associated risk. Investor demand for the asset, and with it the selling price, adjusts to reflect that assessment. When disclosed and shared, the risk of investing in the asset is factored into the price. In the absence of sufficient disclosure, the price of an asset cannot factor in the risk of low returns due to climate change and the transition to a lower-carbon economy.

Chart 15

Do the current prices of the following assets adequately reflect the risk of underperformance due to the transition to a lower carbon economy?



Question No. 18:

Do you think that the current prices of the following assets adequately reflect the risk of underperformance due to the transition to a lower-carbon economy?

Chart 15 shows that financial institutions carrying on business in Québec share the view that the current prices of the assets presented in the chart do not reflect the risk of their underperforming due to a transition to a lower carbon economy.

Area 3: Climate change-related governance and processes

Governance tools

Question No. 7:

Do you incorporate your institution's climate risks into the following governance items?

With respect to governance tools available to properly manage climate change risks, the answers received revealed that P&C insurers and L&H insurers tend to focus on three tools to better integrate climate change risks into governance discussions (**Chart 16**), namely risk management reporting to the board, internal policies that address risk management and communication, and strategic policy updates.

Chart 16

Key governance tools used by financial institutions to integrate climate change risks – by sector

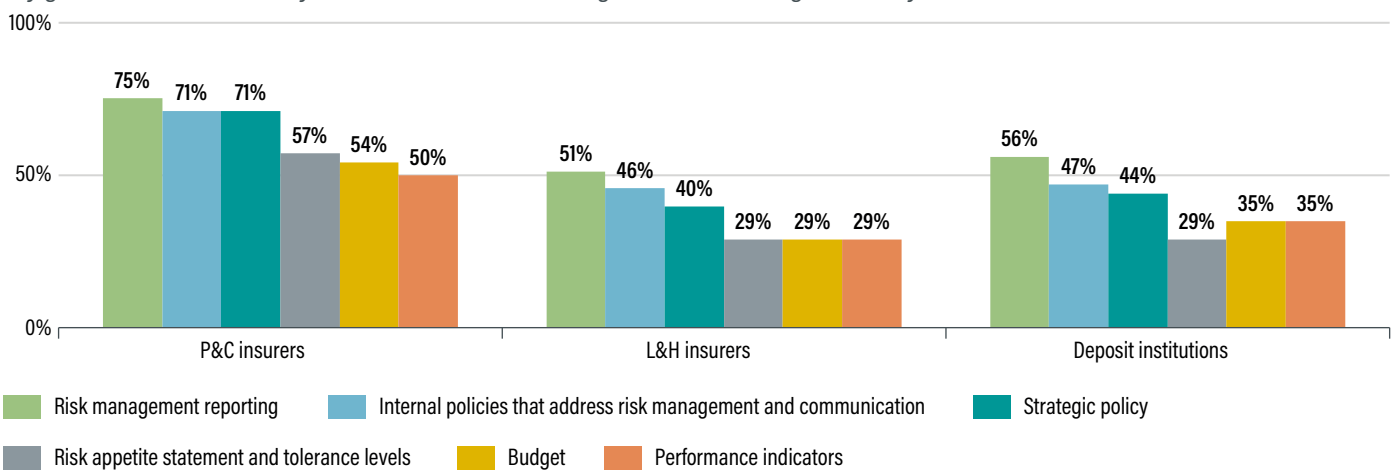
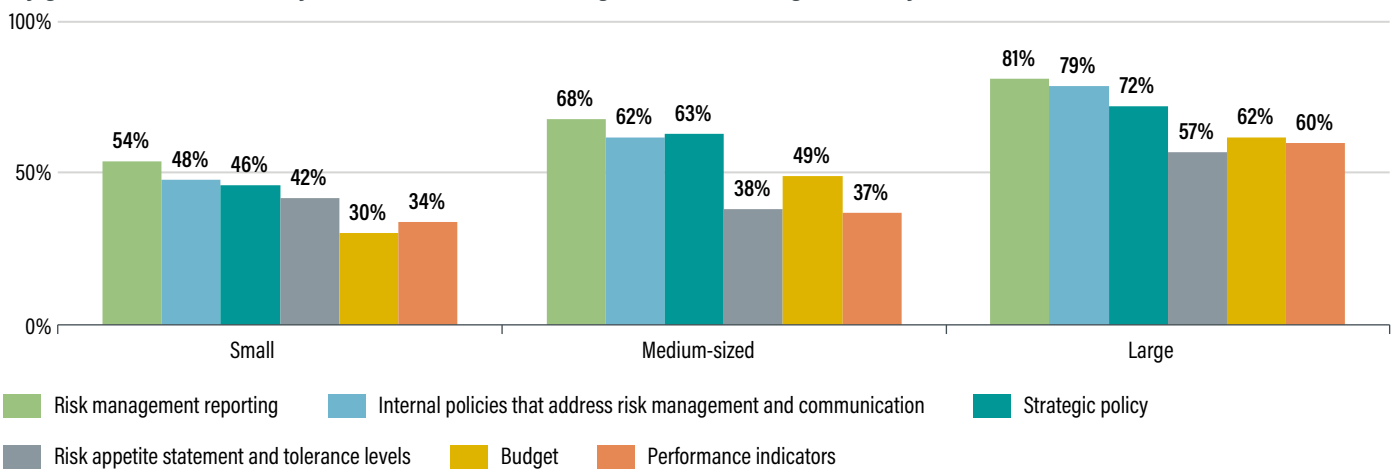


Chart 17

Key governance tools used by financial institutions to integrate climate change risks – by size

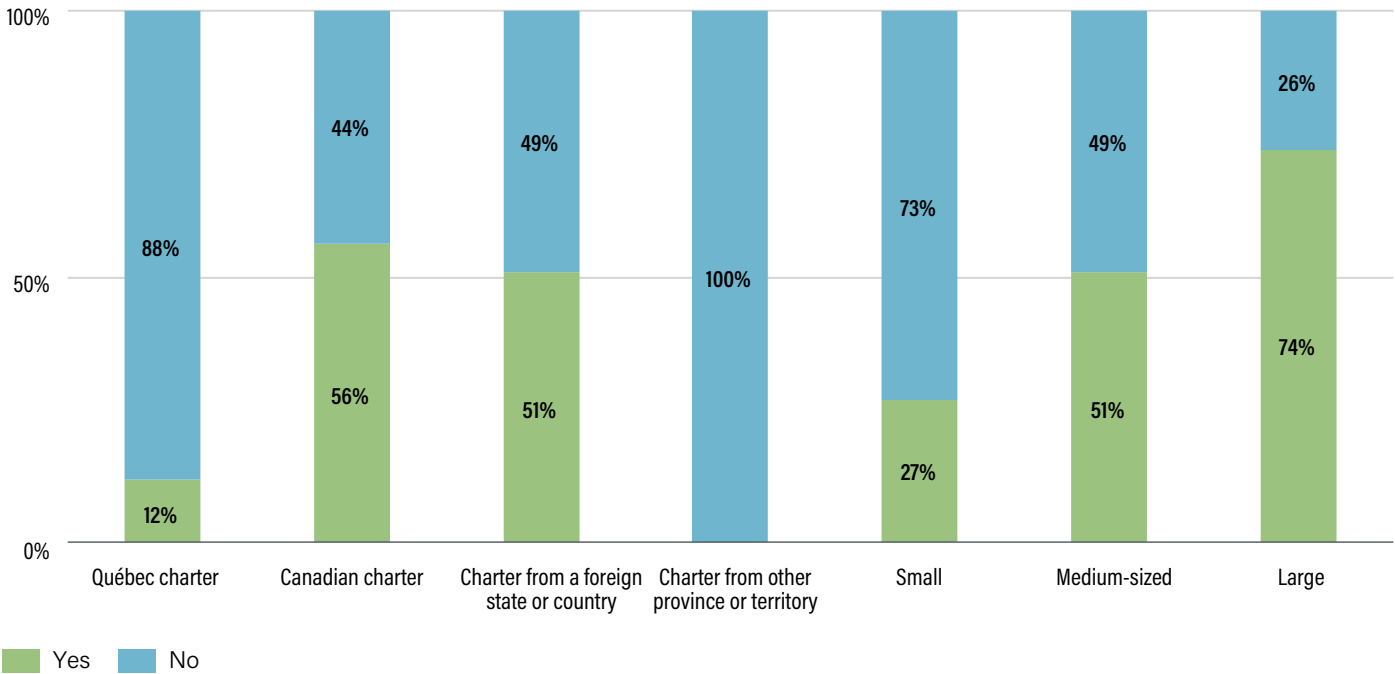


Financial institutions find using performance indicators, the risk appetite statement and the budget less relevant to them in integrating climate change risks.

Chart 17 shows that large financial institutions focus more on available governance tools to properly manage climate change risks.

Chart 18

Appointment of a senior executive in charge of climate risk management – by charter and by size



Question No. 9:

Has your institution appointed a senior executive in charge of climate risk management?

Chart 18 shows that 12% of Québec-chartered institutions said that they have appointed a senior executive in charge of climate risk management, while that percentage is 56% for institutions with a Canadian charter and 51% for institutions with a charter from a foreign country or state. The chart also shows that such appointments are most prevalent among the largest institutions.

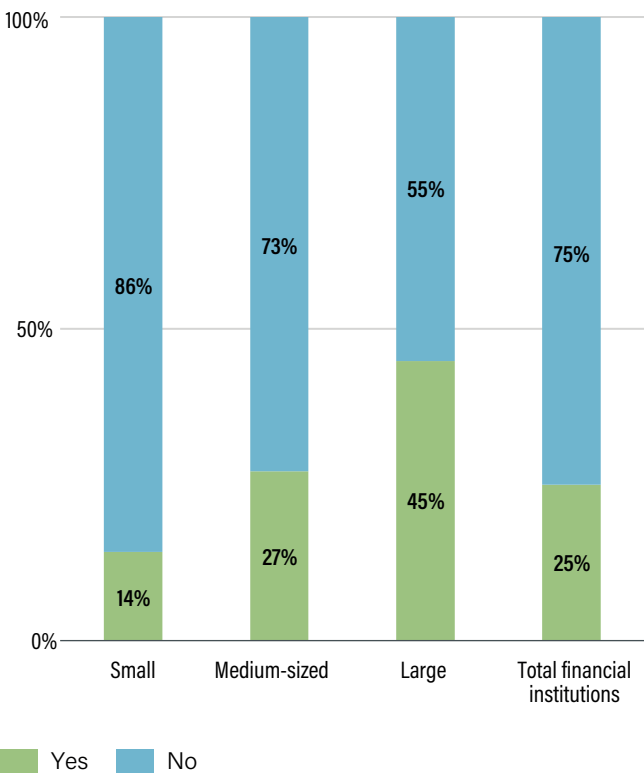
Question No. 10:

Is the compensation of key executives at your institution contingent on achieving climate risk management objectives?

Based on the results presented in **Chart 19**, very few financial institutions have developed executive compensation programs tied to the achievement of climate change risk management objectives. Only 25% of respondents said that have implemented such programs. The percentage is the highest among large institutions, although it is still below 50%.

Chart 19

Is the compensation of key executives contingent on achieving climate risk management objectives?



Changes in business processes

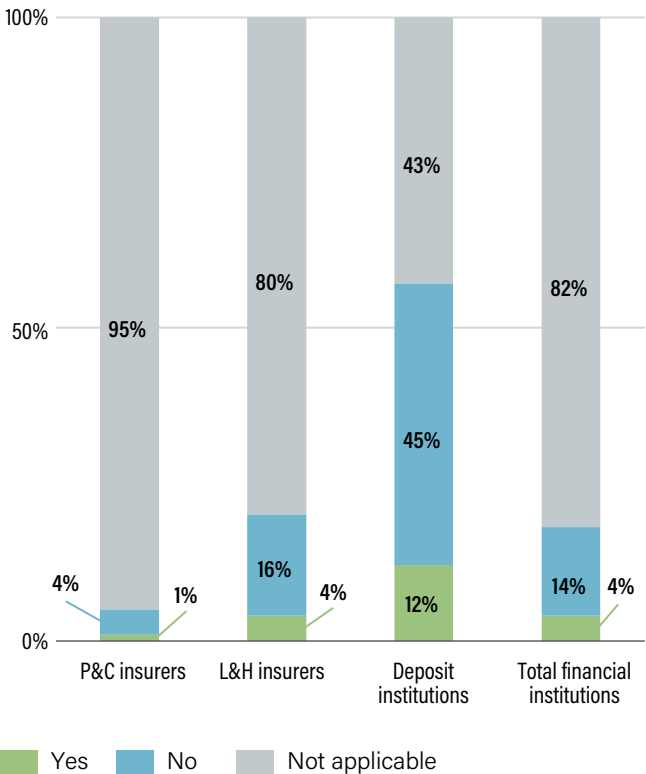
Question No. 13:

As part of the personal or business credit granting process, do you adjust the borrower's risk profile to factor in the vulnerability of the applicant's assets to climate change?

Chart 20 clearly shows that financial institutions in the insurance sector are almost unanimous in not adjusting the borrower's risk profile to factor in climate change risks. These results are due, in part, to personal or commercial lending not being widespread among P&C insurers.

Chart 20

As part of the credit granting process, is the borrower's risk profile adjusted to factor in climate change risks?



Because products offered by deposit institutions include lending, the results shown in **Chart 20** for this sector differ somewhat from the results for insurance.

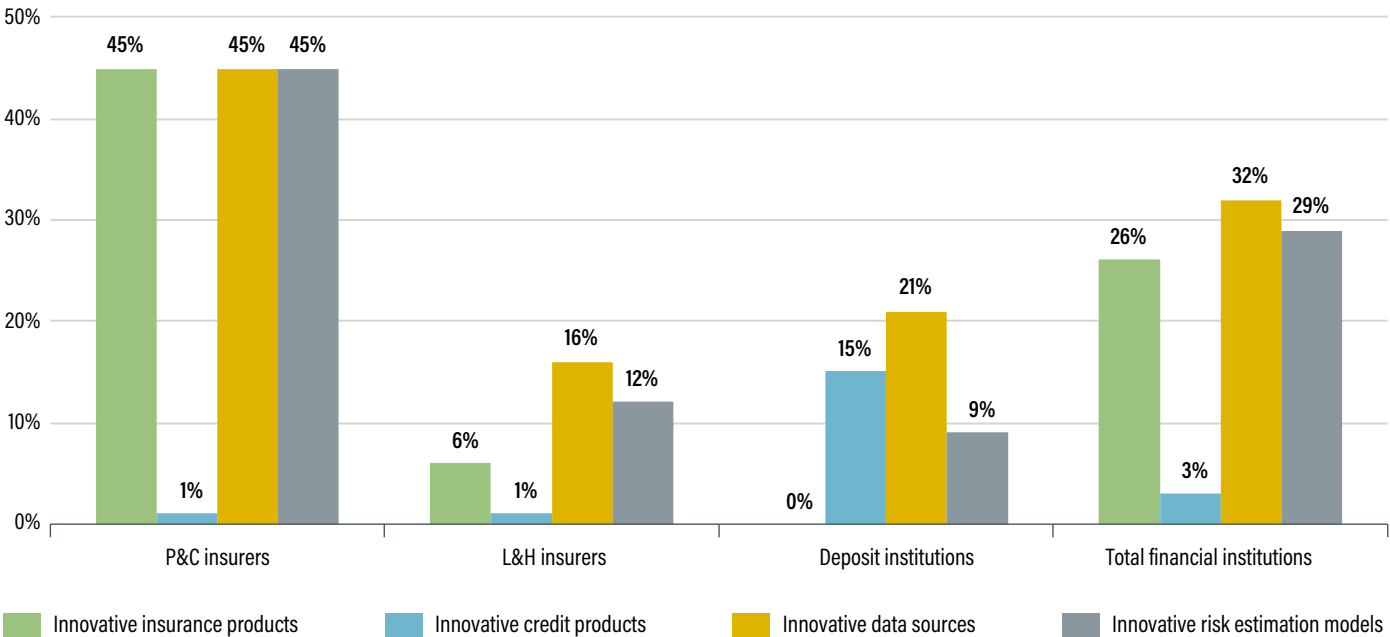
However, only 12% of deposit institutions indicated that they factor in the vulnerability of the applicant's assets to climate change or the carbon intensity of the project for which financing is being sought. Making such an adjustment to borrowers' risk profiles is therefore not a practice that is fully integrated into the business processes of deposit institutions.

Question No. 14:

Have you adopted one or more of the following innovative measures aimed at markets vulnerable to climate risks? These markets may include vulnerable geographic areas or business models.

Chart 21

Have financial institutions adopted one or more of the following innovative measures aimed at markets vulnerable to climate risks?



Properties in certain geographic areas not currently vulnerable to natural disasters could become vulnerable to such disasters as a result of climate change. If that happens, the property owners could face insurability issues.

Chart 21 outlines some of the innovative measures adopted by financial institutions for markets most vulnerable to climate change risks.

P&C insurers are the most active adopters of such measures, with a significant percentage of them having developed innovative insurance products aimed at mitigating the risks of insureds in areas vulnerable to climate change risks, including, but without being limited to, flood protection. However, there is still room for improvement, with 55% of P&C insurers indicating that they have not developed any insurance products for such vulnerable markets.

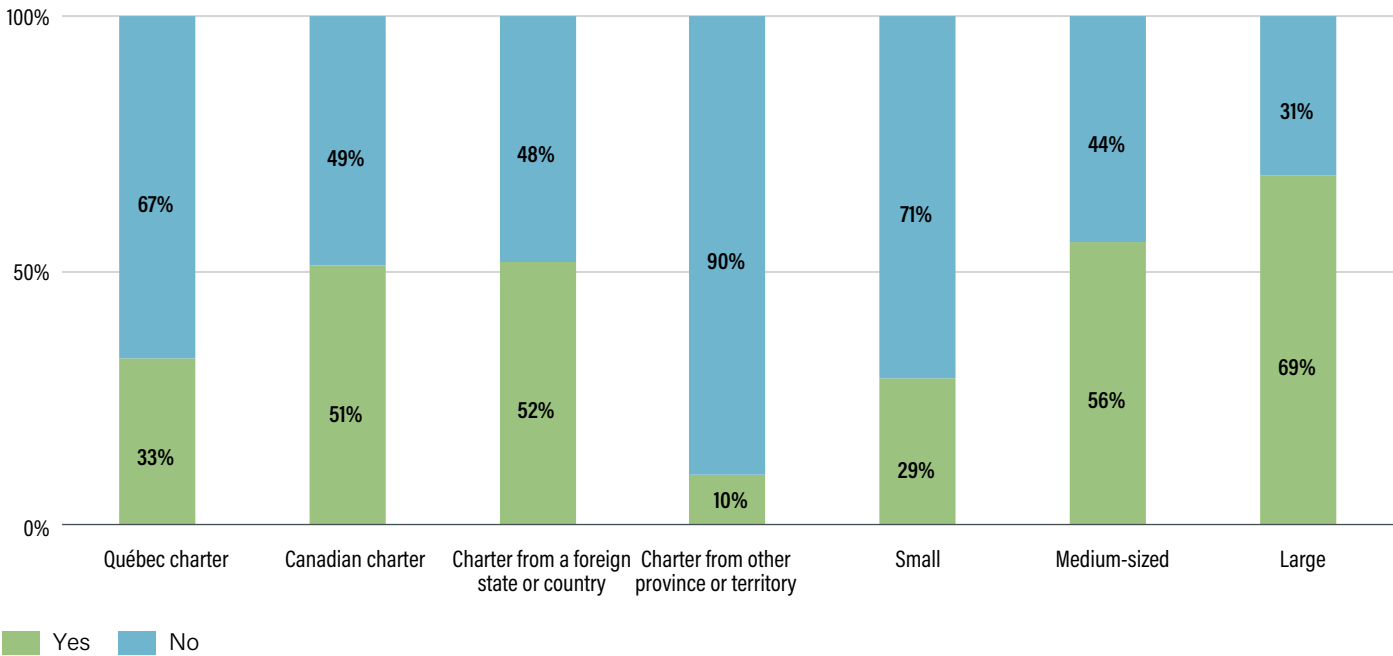
Conversely, this practice is not very widespread or even present among L&H insurers and deposit institutions, as evidenced by the fact that only 15% of deposit institutions offer innovative credit products to help clients reduce their GHG emissions, for example.

Chart 21 also shows that the use of innovative data sources for climate change risks is most widespread among P&C insurers. This practice is less widespread among L&H insurers and deposit institutions, with only 16% and 21% of respondents, respectively, saying that they use such data sources to manage climate change risks.

Of all financial institutions surveyed, 29% are increasingly using innovative risk measurement models. Such models are being developed mainly by P&C insurers to measure exposure to flood, forest fire and sewer backup and other risks. These models are also being used to assess the financial impacts of various stress scenarios, capital adequacy and the effectiveness of risk mitigation measures.

Chart 22

As part of the underwriting process, do insurers adjust the risk profile of the insured to incorporate climate change risks?



Question No. 19:

As part of your underwriting process, do you adjust the risk profile of the insured to incorporate climate change risks?

Chart 22 shows that the inclusion of climate change risks in the insured's risk profile is not yet firmly rooted in the culture of insurers carrying on business in Québec. Only 33% of Québec-chartered institutions said they have integrated this practice into their underwriting process, while 51% of institutions with a Canadian charter and 52% with a charter from a foreign state of country stated that they have modified their underwriting process accordingly. This chart also reveals that such a culture is much more prevalent among large institutions than among small institutions.

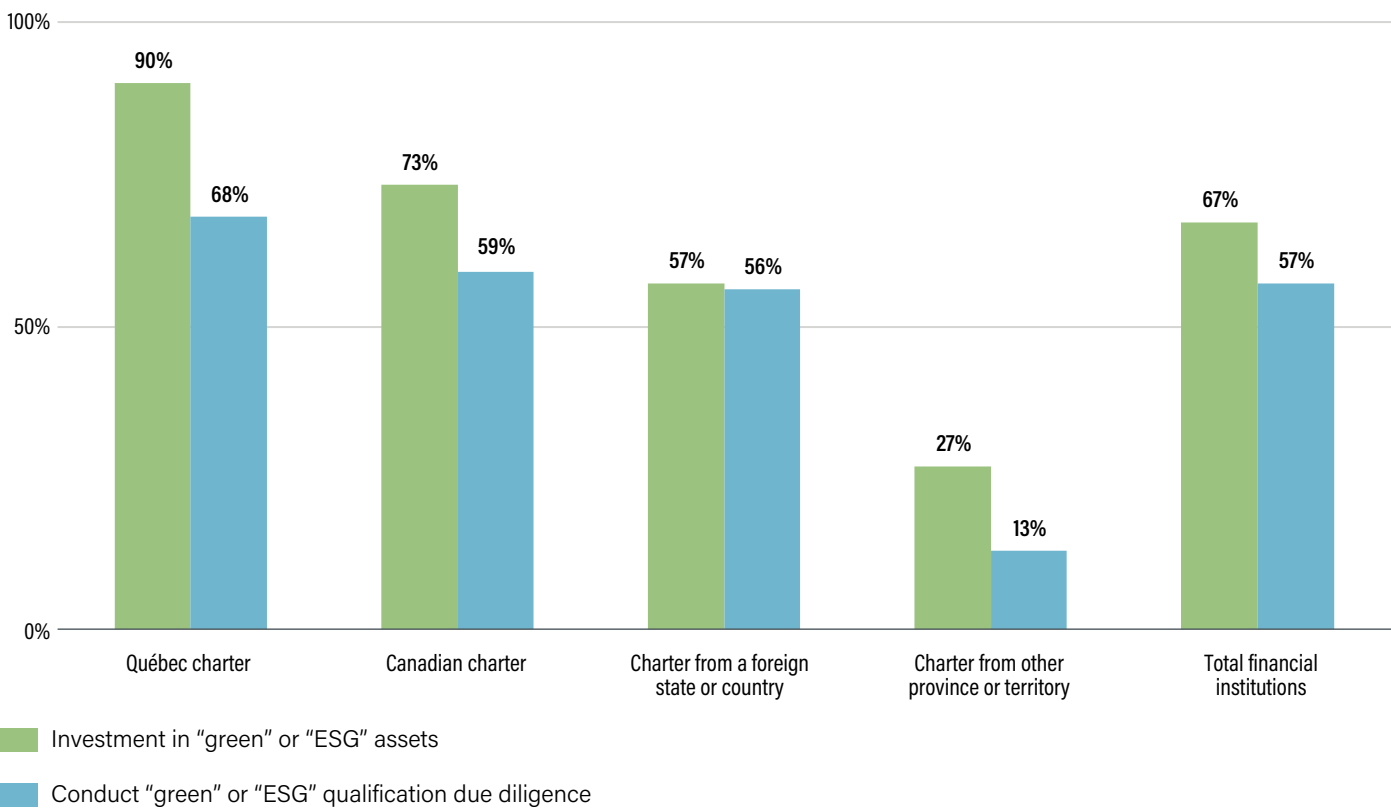
Question No. 20:

Has your institution invested, or is it planning to invest, in products labelled “green” or “ESG”?

Chart 23 shows that most financial institutions carrying on business in Québec (67%) have changed their investor behaviour in order to make a “green” shift and increase their investments in assets labelled “green” or “ESG”. Québec-chartered institutions are leading the way, with 90% of them having made this shift, followed by institutions with a Canadian charter (73%), institutions with a charter from a foreign country or state (57%) and institutions with a charter from another province or territory (27%).

Chart 23

Have financial institutions invested in “green” or “ESG” assets?

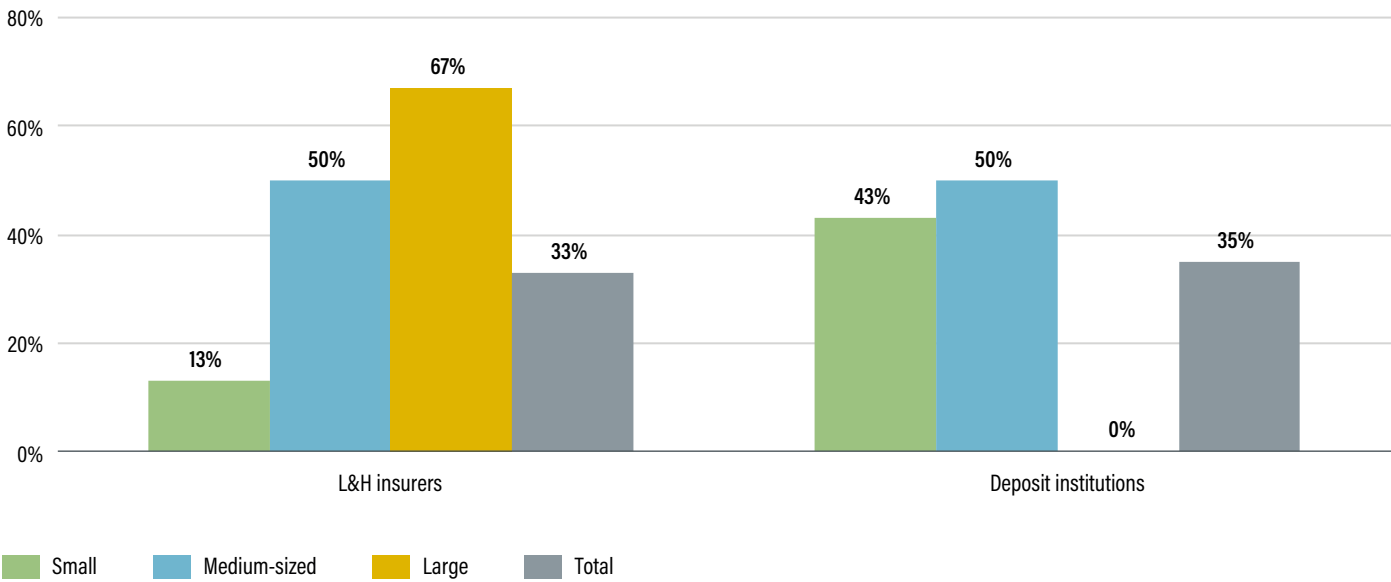


Interestingly, despite most institutions having made a “green” shift in their investment strategies, many have yet to do due diligence on the qualification of the assets they invest in. This indicates that a investment policy review should be considered to ensure policy alignment with guidance from senior management and the board of directors. It also indicates that additional training may lead to a better understanding of the distinction between climate change risk and the selection of assets labelled “green” or “ESG”, enabling a proper alignment with a reduction in GHGs.

Question No. 22:
Does your institution collect insurance coverage data on the properties you hold mortgages on, particularly in areas vulnerable to natural disasters (e.g. subject to flooding)?

Again with respect to changes in business processes, some institutions, primarily in the L&H insurance and deposit institutions sectors, indicated that they consider property insurance coverage data before granting a mortgage. For example, for real properties located in flood-prone areas, these institutions ensure that adequate insurance coverage is maintained in force each year for the properties underlying mortgage loans. The results also show that, among L&H insurers, large institutions are more inclined to request this information, while among deposit institutions, this tendency is more prevalent among small and medium sized institutions.

Chart 24
Does your institution collect insurance coverage data on the properties you hold mortgages on?



Area 4: Climate change risk guidance and disclosure

Guidance

Question No. 5:

Rank the following climate change risk mitigation measures from most to least relevant to your institution.

As shown in **Chart 7**, of all the risk management measures contemplated by regulators, the ones preferred overall by financial institutions are a disclosure to the regulator that specifically includes climate risk and public disclosure of climate change risks as per TCFD recommendations.

An analysis of the results by financial institution sector and size, as presented in **Chart 25** and **Chart 26**, reveals a similar pattern. Additionally, irrespective of sector or size, financial institutions have shown little appetite for new regulator-imposed requirements for sound governance and climate change risk management.

Chart 25

Financial institution preferences regarding certain climate change risk mitigation measures – by sector (scale of 1 to 5)

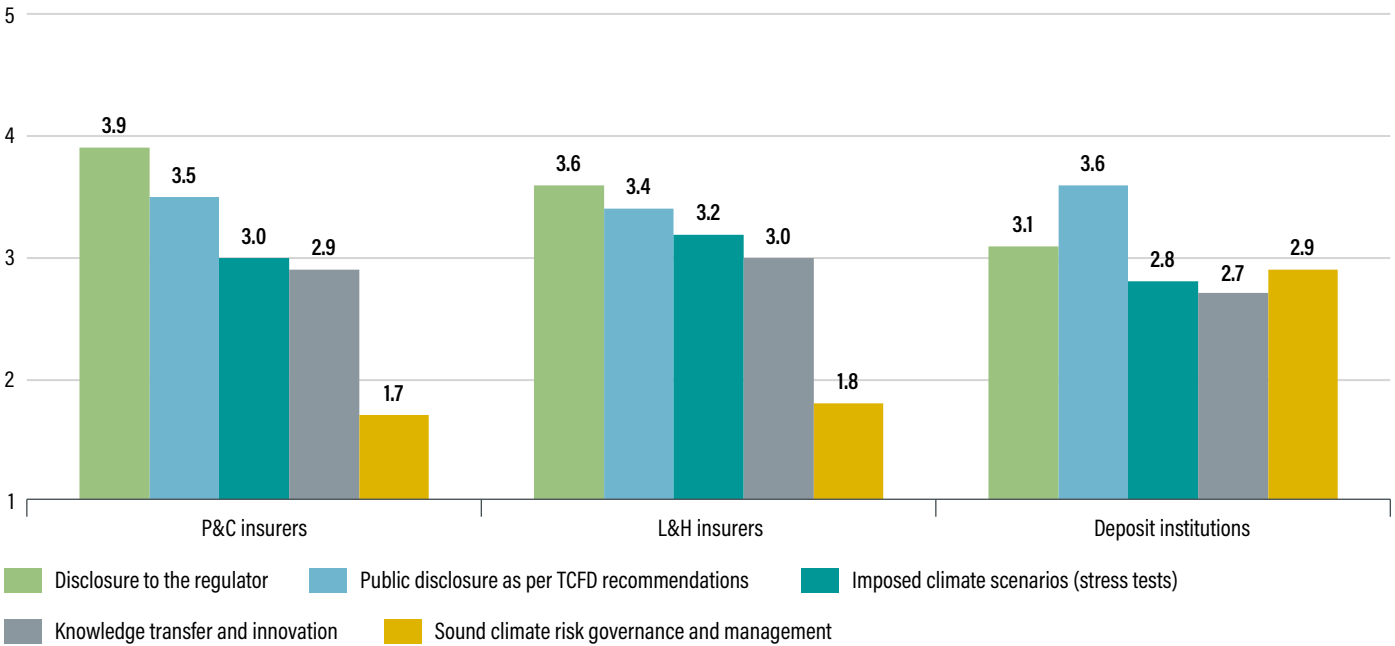
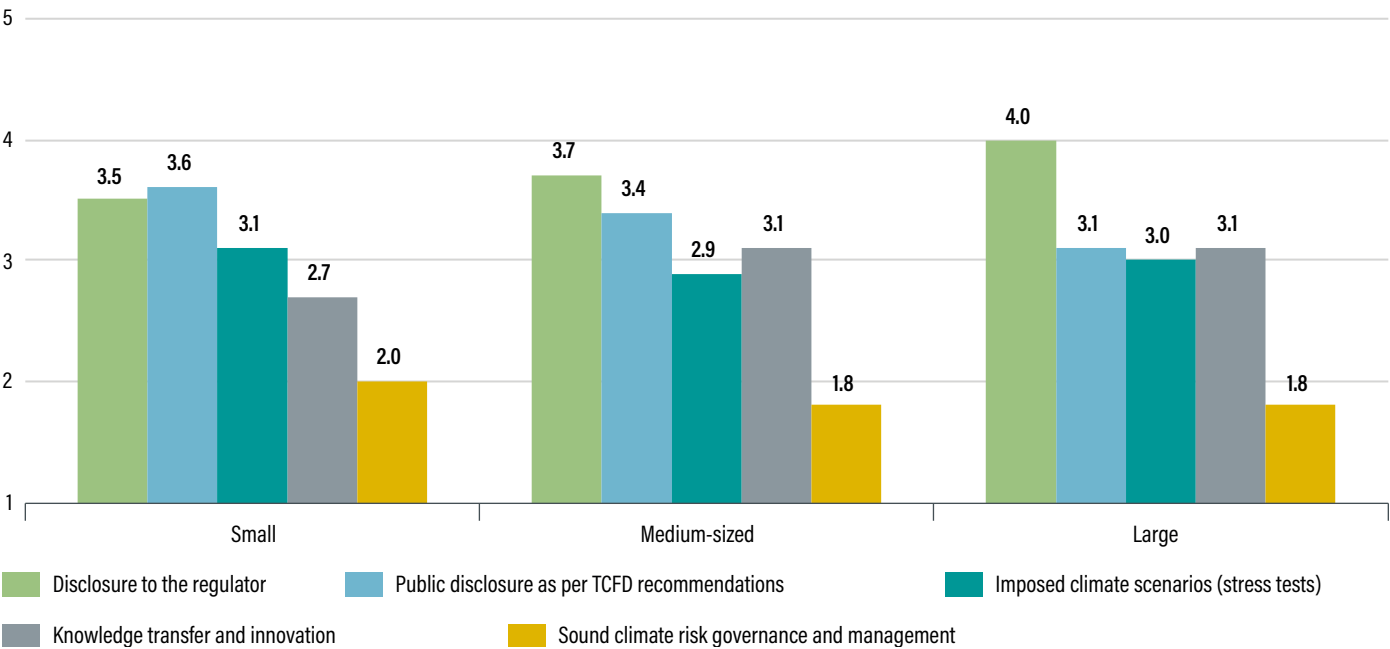


Chart 26

Financial institution preferences regarding certain climate change risk mitigation measures – by size (scale of 1 to 5)



Public disclosure

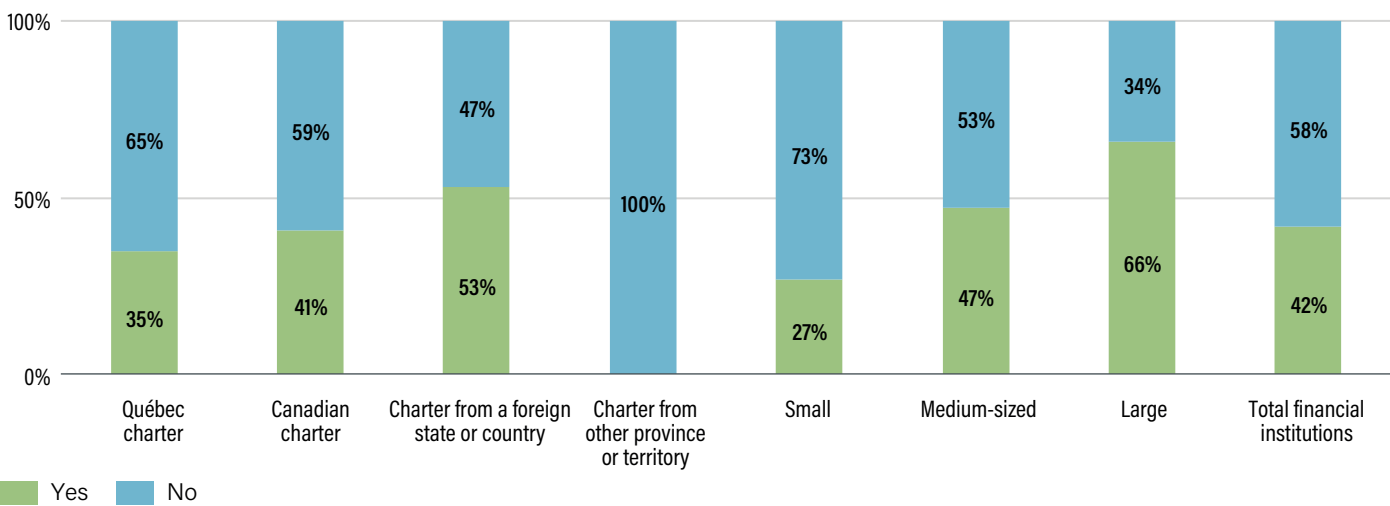
Question No. 6:

Has your institution developed a climate change position statement?

Chart 27 shows that 42% of financial institutions carrying on business in Québec have developed a climate change position statement. This statement is generally made through a specific publication in the institution’s annual report in which it sets out its sustainable development policy and, particularly, its net GHG emission targets.

Chart 27

Have financial institutions developed a climate change risk position statement?

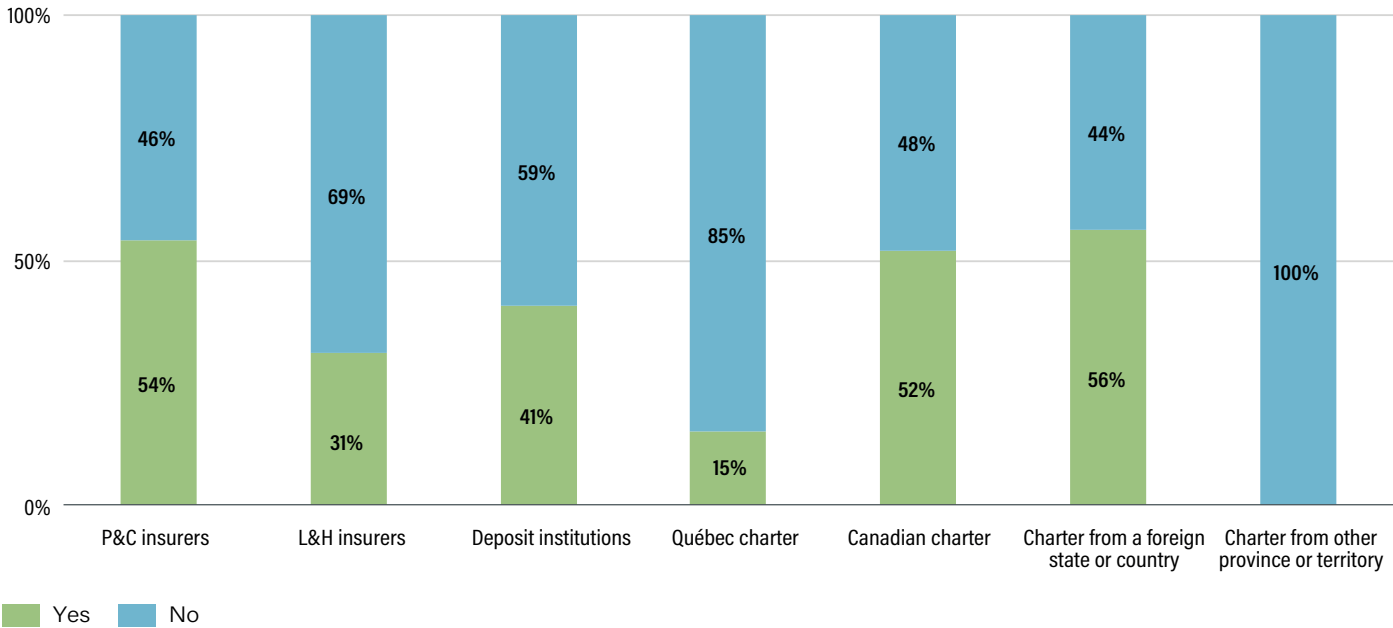


While financial institutions can manage and consider climate change risks by meeting the expectations set out in the various AMF guidelines, particularly for governance and integrated risk management, the growing impact, complexity and cross-sectoral nature of climate change risks support a more specific consideration of such risks.

Supranational bodies and some regulators have already expressed expectations in this regard, which may explain why large entities and institutions with a charter from a foreign country or state are ahead of the curve and more likely to have developed a more formal statement of their position on the consideration of climate change risks. Smaller institutions may not have developed a climate position statement owing, in part, to the more limited capacity and local nature of such institutions.

Chart 28

Do financial institutions publicly disclose climate change risks?



Question No. 11:

Does your institution publicly disclose its climate change risks?

Chart 28 shows that the highest percentage of financial institutions that publicly disclose their climate change risks are found in P&C insurance, at 54%, compared with 31% of L&H insurers and 41% of deposit institutions.

Moreover, the percentage of Québec-chartered insurers that publicly disclose their climate change risks is significantly lower than the percentages for their Canadian and foreign counterparts.

Question No. 15:

Is your institution a signatory to the following international initiatives?

In recent years, a variety of international initiatives have emerged, bringing together financial institutions committed to identifying the issues arising from climate change risks and to establish and track progress on objectives to mitigate those issues. Such initiatives mainly strive to foster synergies and knowledge sharing.

Chart 29

Is your institution a signatory to the following international initiatives?

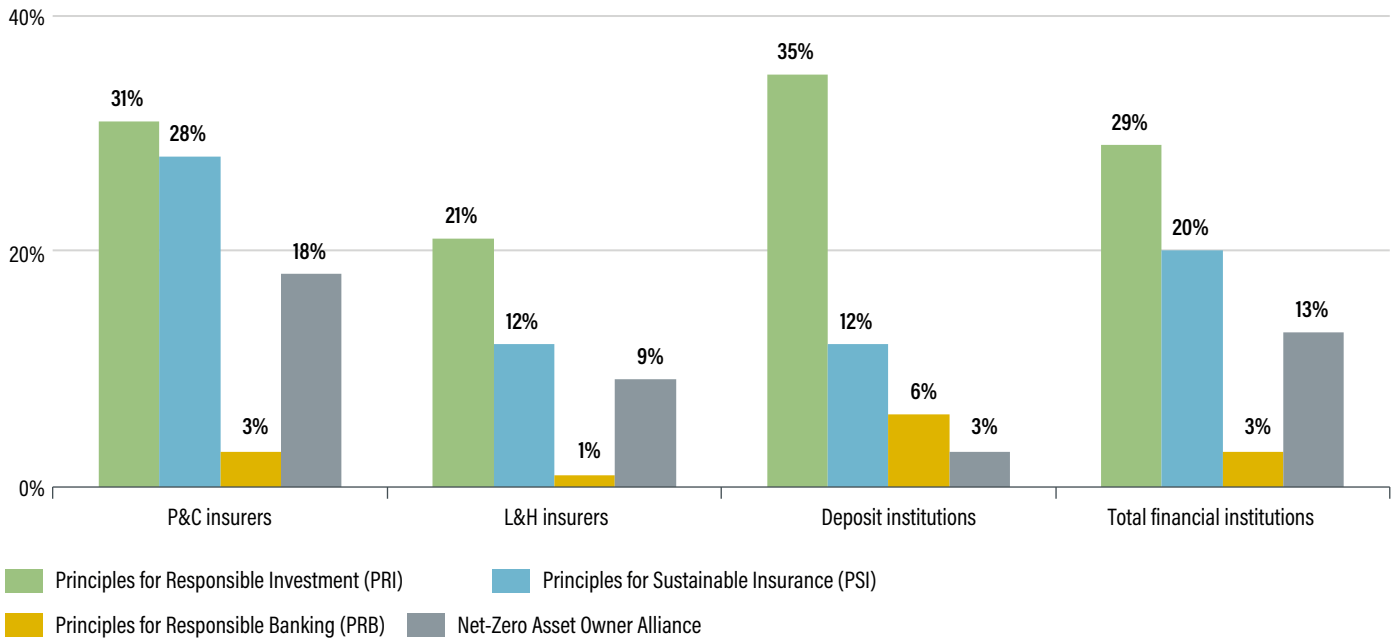


Chart 29 shows that very few financial institutions carrying on business in Québec (29%) have joined international initiatives related to the Principles for Responsible Investment (PRI). Of all respondents, 31% of P&C insurers 21% of L&H insurers and 35% of deposit institutions have joined such initiatives.

A smaller number of financial institutions have joined the Principles for Sustainable Insurance (PSI) initiative and the Net Zero Asset Owner Alliance initiative than have joined PRI initiatives. Only six of the 230 survey respondents said their financial institution had formally joined the Principles for Responsible Banking (PRB) initiative, which applies primarily to deposit institutions.

Chart 30

Is your institution a signatory to the following international initiatives? – by size

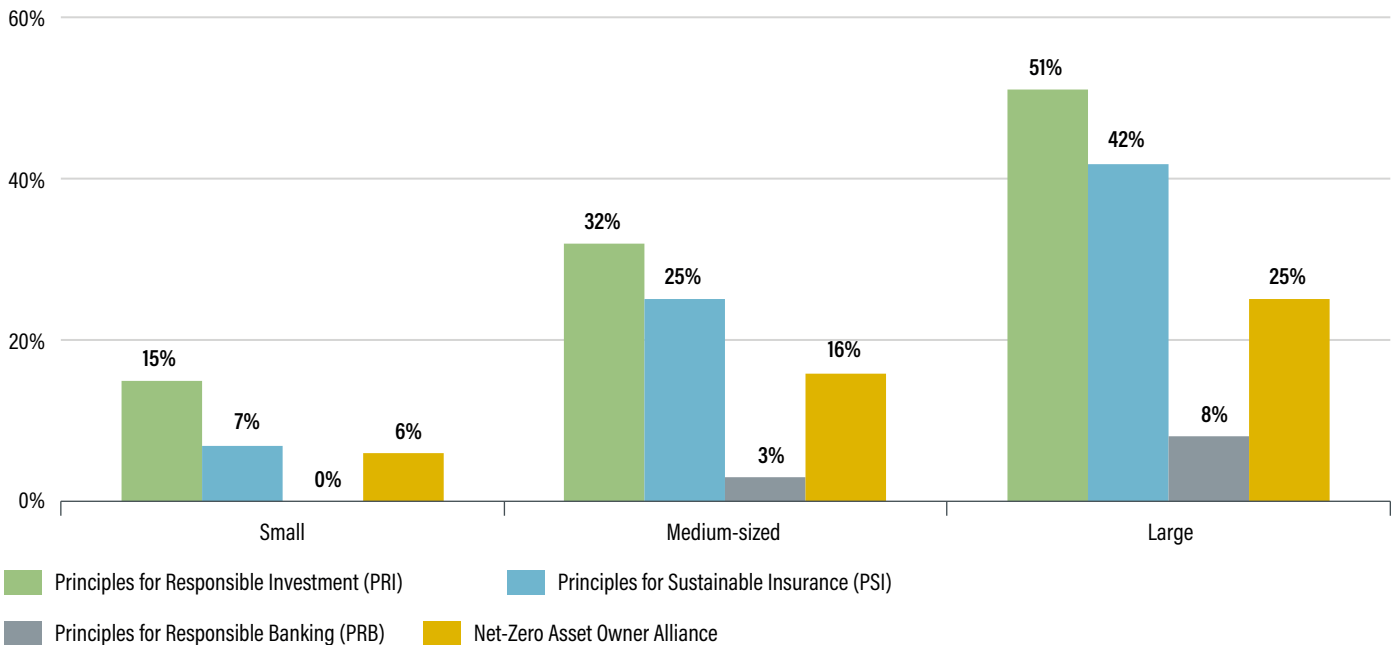



Chart 30 also shows that most of the signatories of the various international initiatives are large institutions, as opposed to small and medium sized, institutions.



Conclusion and next steps

Climate change impacts have increased in significance in recent decades. The AMF believes that to ensure a resilient financial system, climate change risk management should form an integral part of financial institutions' sound commercial practices and sound and prudent management practices. The survey to obtain a picture of current financial institution practices in relation to climate change risks was undertaken with this goal in mind and to assess the various measures that financial institutions have implemented to manage those risks.

The survey results generally show a fairly low or medium level of concern about climate change risks. Although many financial institutions have put in place actions and initiatives to mitigate the consequences of such risks, the AMF found disparities in the practices they have implemented. This finding points to a need to harmonize practices that the AMF could address by incorporating specific climate change risk expectations into its prudential framework.

In this respect, financial institutions are supportive of the AMF expressing its expectations in the form of principles, provided those principles are aligned and consistent with international standards while tailored to the Québec market and take their perspectives into account.

The financial institutions also said that, in their view, a disclosure to the AMF that specifically includes climate change risks would be the most relevant measure for properly monitoring such risks.

The analysis of the survey responses also underscored the importance of supporting financial institutions' efforts to build their knowledge in change risk management. Enhancing financial institutions' resilience and ability to mitigate such risks will increase public confidence in them.

Recognizing that climate change risks are systemic in nature, the AMF will analyze the various options available to it. The findings generated by the survey will serve as a basis for continued discussions with the financial institutions about whether the AMF should provide them an appropriate framework for the sound management of climate change risks and whether it should provide them with the necessary assistance in connection with its supervisory activities.



Québec City

Place de la Cité, tour Cominar
2640, boulevard Laurier, bureau 400
Québec (Québec) G1V 5C1
418-525-0337

Montréal

800, square-Victoria, 22^e étage
Place Victoria
Montréal (Québec) H4Z 1G3
514-395-0337

Toll-free 1-877-525-0337

lautorite.qc.ca



**AUTORITÉ
DES MARCHÉS
FINANCIERS**