Department of Finance Canada
Ministère des Finances Canada

2024 Report on the Government of Canada's Climate-Related Financial Risk Management

Annual report on key measures undertaken by the federal public administration to manage its financial risks and opportunities related to climate change

Canada

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Minister’s Foreword

The Government of Canada takes its responsibility to manage climate risk seriously. In addition to safeguarding Canadians, climate action also creates jobs and spurs economic growth. There is no greater proof than the $2.4 trillion worth of investment made around the world in 2023 towards net-zero economies. We are proud to say Canada is at the forefront of the global race to attract investment and seize opportunities of the clean economy, with a net-zero economic plan that will invest over $160 billion. This includes a $93 billion suite of major economic investment tax credits to attract investment that helps workers get ahead and keep Canada on track to reach net-zero by 2050. In the 21st century, a competitive economy must be a clean economy.

Beyond incentives to attract investment to Canada, we know investors need robust and transparent guidelines to credibly classify their investments into the clean economy on the path to net-zero. That is why the government has a plan to develop made-in-Canada sustainable investment guidelines identifying “green” and “transition” private sector investments and will expand the coverage of mandatory climate disclosure requirements to large federally-incorporated private companies. Moving forward with these initiatives will mobilize further private sector capital towards activities essential to building a net-zero economy.

The federal government also understands the risks climate change poses to its operations and the services it provides, and the importance of being prepared to respond and seize opportunities to adapt as it continues to serve Canadians.

We are pleased to present the first annual report on key measures the Government of Canada has taken to manage its financial risks and opportunities related to climate change. This report profiles efforts being undertaken across government to identify and act on climate-related financial risks, consistent with the government’s commitment to prudent fiscal planning. The report also corresponds to similar disclosures taken in the private sector and represents an important step to further develop and adopt climate-related financial disclosures for governments across Canada and around the world.

I would like to thank the Honourable Steven Guilbeault, Minister of Environment and Climate Change, for his cooperation in the development of this report and continued leadership of the Government of Canada's efforts to mitigate and adapt to the challenges posed by climate change

The actions outlined in this report put Canada where we need to be—and position the government to continue delivering an economic plan that puts Canada at the forefront of the global race to attract investment while seizing the opportunities of a clean economy.

The Honourable Dominic LeBlanc
Minister of Finance and Intergovernmental Affairs

Executive Summary

Transitioning to a net-zero emissions economy and addressing climate change will unlock important opportunities for Canada – crowding in more investments in the clean economy, developing new businesses and markets, and creating good jobs. At the same time, a changing climate is creating financial risks for Canadians, including Indigenous Peoples, companies, communities and all orders of government. The Government of Canada is no exception.

In response to the requirements of the *Canadian Net-Zero Emissions Accountability Act*, this inaugural report summarizes key measures the federal public administration has taken to manage its climate-related financial risks and opportunities – recognizing that climate change can affect the financial position or performance of the government. This report complements the government's other climate-related strategies and reports detailing its policies and programs to support the net-zero transition and climate adaptation efforts across the economy. To prepare this report, the Department of Finance, in cooperation with Environment and Climate Change Canada, surveyed 52 federal organizations to better understand the potential impact of climate change on their financial positions and the risk management approaches being taken to respond to identified risks and opportunities. Key highlights of this report include:

- **Climate change presents risks and opportunities to the operations of the Government of Canada**. The federal public administration faces a wide range of climate-related financial risks, from the physical effects of climate change impacting federal infrastructure, to risks and opportunities driven by the transition to a net-zero emissions economy. The Government's Greening Government Strategy is the main strategy for managing these risks and opportunities in federal operations.
- **Surveyed federal organizations frequently reported that climate-related financial risks may have consequences for their federal assets, programs and services, and public servants**. Climate change can affect the financial health of federal organizations primarily through impacts to financial and non-financial assets (e.g., climate change can impact federal buildings, the management of pension plans); impacts to program and services (e.g., climate change can impact the way programs and services are delivered); and impacts to federal public servants (e.g., climate change can impact the health and safety of employees).
- **Individual federal organizations are working to address climate-related risks through prudent risk management practices**. Building on decades of integrated risk management practices, federal organizations are identifying, assessing, and integrating climate-related risk information into ongoing business planning and decision-making, as well as taking action to treat or reduce risks. Examples are wide ranging and include using climate-risk and vulnerability assessments to identify risks to federal coastal and inland infrastructure (e.g., harbours, laboratories, bridges); taking steps to ensure the durability of these assets against weather-related events such as wind, ice and rain; protecting Canadians and Canadian livestock from infectious diseases and zoonotic (animal-to-human) diseases that are climate change-driven; and integrating climate change information into regular emergency management planning (including site-specific business continuity plans).

I. Introduction

The impacts of a changing climate are evident worldwide. With average temperatures in Canada increasing at twice the global rate – and three-fold in the North – Canadians and Indigenous People are experiencing more frequent and devastating events like heatwaves, floods, droughts and wildfires. These events are increasingly impacting livelihoods, well-being, and the economy.

This report examines the climate-related financial risks and opportunities facing the federal government. As the country's largest land and building manager, employer, and public buyer of goods and services, the federal government faces climate-related financial risks and opportunities from a wide range of sources. From more frequent and severe wildfires affecting federal infrastructure, to more extreme temperatures affecting the health of public officials working in the field; climate change and the transition to net-zero emissions pose financial **risks**[1] to the operations of the federal public administration, as well as opportunities for more efficient program delivery (for example, by taking action to prevent future disruption caused by climate-related weather damage).

Methodology and Approach

As required under the *Canadian Net-Zero Emissions Accountability Act*, this inaugural report highlights key measures the federal public administration has taken to manage its financial risks and opportunities related to climate change. This report profiles the internal **risk management**[2] practices that federal organizations undertake to identify common climate-related financial risks, as well as trends and approaches specific to managing these risks. In so doing, the focus is placed on the risks, opportunities and measures that are most directly tied to the federal government's assets and operations. The report does not attempt to provide a full discussion of the climate-related financial risks and opportunities faced by the Canadian economy, or a full set of public policies and programs undertaken by the federal government to help the economy decarbonize and adapt to a changing climate. These topics are the focus of other federal reports and strategies (e.g., 2030 Emissions Reduction Plan, 2023 Progress Report on the 2030 Emissions Reduction Plan, and Canada's National Adaptation Strategy).

> This report focusses specifically on actions taken by the **federal public administration**. It is the executive arm of the federal government and made of public servants and other public sector employees employed in federal organizations (i.e., departments, agencies, and certain Crown corporations) that operate separately or together to deliver government programs and services.

[1] ***Risk***: The effect of uncertainty on outcomes. Specifically, risk is the expression of the likelihood and impact of an event that could affect the achievement of an organization's objectives. The positive effect of uncertainty is an **opportunity** (also known as upside risk). Source: Treasury Board of Canada Secretariat, Guide to Risk Taxonomies. Note: Financial risks to the federal public administration are risks of which the federal public administration is the primary owner and do not include risks to other governments, stakeholders, or the broader economy unless the risk is clearly and financially transmitted to the federal public administration.

[2] ***Risk management:*** A systematic approach to setting the best course of action under uncertainty by identifying, assessing, understanding, making decisions on and communicating risk issues. Federal organizations risk manage programs in accordance with a robust regime of administrative policies and oversight by the Treasury Board of Canada, and a guiding framework for risk management.

For this inaugural report, the Department of Finance, in cooperation with Environment and Climate Change Canada, surveyed 52 federal organizations with greater than 500 federal public servants employed in 2023-24 to gather initial information about key climate-related financial risks and opportunities they faced and measures they had undertaken (see Annex A for a description of the survey and a list of reporting organizations). Altogether, the 52 reporting federal organizations represent a sizeable portion of the federal government's overall balance sheet. In 2022-23[3], collectively, they:

- Spent $2.1 billion on acquiring and using non-financial fixed assets such as land, buildings, and works, $6 billion on acquiring and using machinery and equipment such as aircraft and ships[4], $8.5 billion on the purchases of utilities, materials and supplies and $4.3 billion on purchased repairs and maintenance;
- Delivered $243.1 billion in transfer payments as part of programming for Canadians and managed federal contributions of $16.5 billion in Federal-Provincial shared-cost programs; and
- Employed roughly 345,000 public servants in a wide variety of roles, including scientists, mechanics, and foreign service officers, as well as approximately 30,000 Royal Canadian Mounted Police officers and 91,000 members of the Canadian Armed Forces.

This report represents the first step towards increased transparency of climate-related financial risk management efforts undertaken by the federal public administration. A growing number of private sector companies are already factoring climate considerations into their financial planning, and investors are increasingly calling for climate-related disclosures to inform investor preference and asset allocation, including from the public sector. For example according to the World Bank as of June 2024 the public sector accounted for approximately 30% of the total green bonds issued globally (i.e., including green bonds issued by the private sector), contributing around CAD $1.43 trillion in green bond issuances.

The Government of Canada is supporting efforts to accelerate the flow of private capital into sustainable activities across the Canadian economy, and recently released a plan to deliver Made-in-Canada sustainable investment guidelines to help investors credibly identify "green" and "transition" investment activities. Further, the Government continues to support the growth of the domestic sustainable finance market through Canada's green bond program (Chart 1), which meet demand from investors seeking green investment opportunities backed by Canada's AAA credit rating, while contributing to the development of a stronger sustainable finance market in Canada.

Building on federal efforts to mandate climate-related disclosures for federal Crown corporations and federally-regulated financial institutions, the Government is also moving forward with mandating climate-related financial disclosures for large federally-incorporated private companies. These disclosures will help investors better understand how large businesses are thinking about and managing risks related to climate change, ensuring that capital allocation aligns with the transition to a net-zero economy.

[3] Source: Public Accounts 2023. Program expenditures can be categorized by "standard object", for example personnel or transfer payments (e.g., grants). These categories used for accounting purposes are intended to be consistent over time. For more information, see Object codes for 2023 to 2024. Employee population counts are from pay system data by the Chief Human Resources Officer of the Treasury Board of Canada Secretariat (available online).

4 This figure includes most the government's total annual spend of $520 million in aircraft and related parts, $1.4 billion on ships, boats and related parts, and $463 million on road motor vehicles and related parts (source: Public Accounts of Canada 2023, Volume 3, Section 5).

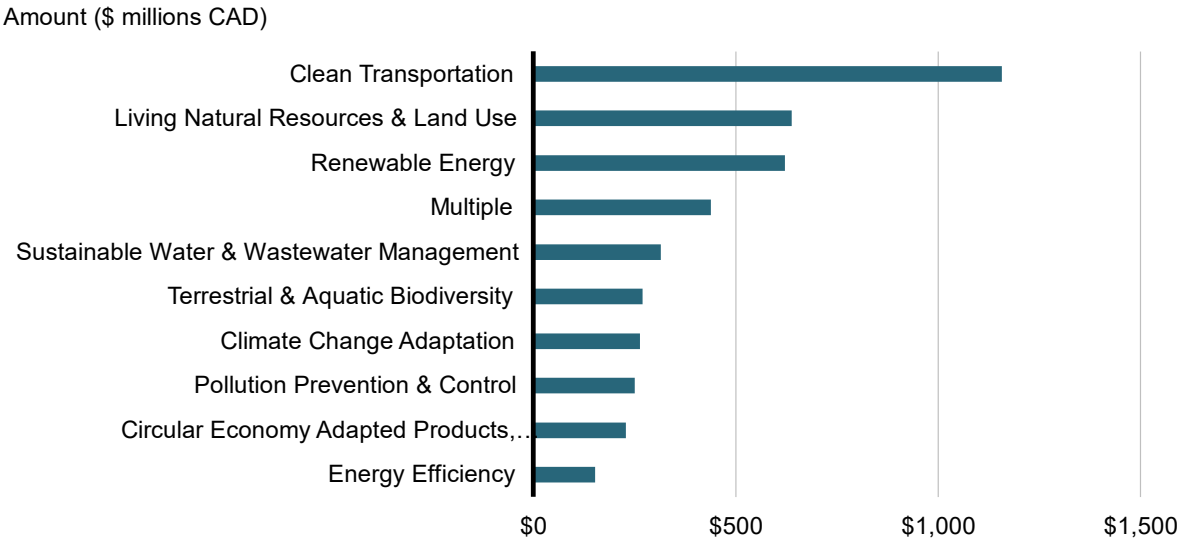
Canada's Green Bond Framework

Since March 2022, the Government of Canada has issued green bonds under Canada's Green Bond Program to meet the demand of investors who are looking for green investment opportunities backed by Canada's strong credit rating, and to attract capital in support of its climate and environmental objectives. Canada is also the first sovereign nation to include nuclear expenditures in its green bond framework to align with Canada's 2030 Emissions Reduction Plan, international best practices, and evolving investor preferences.

Under Canada's Green Bond Framework, the Department of Finance, in coordination with other federal organizations, allocates funds raised through the issuance of green bonds to eligible green expenditures of federal programs. In August 2024, the Government of Canada released the Green Bond Allocation and Impact Report 2022-2023 to provide an overview of collective federal efforts and impacts.

Chart 1

Cumulative (2021-2022 and 2022-2023) Green Bond Allocation, by Category



Notes: "Categories" correspond to project categories of expenditure that are eligible under Canada's Green Bond Framework. This figure excludes green bond allocations to the Canada Infrastructure Bank.

II. Overview of Federal Climate-Related Financial Risks

Using information gathered from federal organizations, this section outlines an approach for summarizing key risks and opportunities facing the federal public administration. This approach adopts concepts that risk managers use to break down complex risks (such as those posed by climate change) into more easily understood and therefore manageable components. This section also spotlights the way the Greening Government Strategy supports the federal public administration in its efforts to address operational climate-related risks.

Drivers of climate-related financial risks

A driver is an internal or external circumstance that contributes to (or "drives") a risk[5]. While risks to the federal public administration have numerous drivers, this report is focused on the financial risks that are substantially driven by climate change, namely:

- Risks and opportunities **driven by a physically changing climate,** including those associated with chronic long-term shifts in climate patterns such as rising temperatures, sea level, and precipitation patterns. These risks can also be driven by acute weather-related events such as wildfires, hurricanes and floods, that increase in severity and frequency under a changing climate.
- Risks and opportunities **driven by the transition to a net-zero emissions economy**, including those resulting from the related transitions to energy, land and infrastructure use, as well as broader changes in policy, prices, technology, and investor and consumer preferences.

Government-wide approach to managing climate-related risk and opportunities: The Greening Government Strategy

The Government of Canada is committed to enhancing the climate resilience of its critical services and activities by at the latest 2035 and in doing so, minimizing disruptions and managing financial risks related to the impacts of climate change. The Greening Government Strategy helps guide the Government of Canada's approach to managing climate-related risks to its operations by reducing greenhouse gas (GHG) emissions and building climate resilience of the federal public administration.

The Greening Government Strategy establishes targets and commitments for federal organizations to achieve net-zero, climate-resilient and environmentally sustainable operations (including on waste, water and biodiversity). The Strategy is focused on government operations and is consistent with the government's broader policies to reduce Canada's GHG emissions, build Canada's resilience to a changing climate, and drive towards a clean economy (e.g. 2030 Emissions Reduction Plan, the Federal Sustainable Development Strategy, and the National Adaptation Strategy).

[5] For details on the definition of risk driver, see Treasury Board of Canada Secretariat, Guide to Risk Taxonomies - Canada.ca

Climate-Related Metrics and Targets

The Greening Government Strategy sets targets covering government operations, including government-owned and leased real property, mobility (fleets, business travel and commuting), procurement of goods and services, national safety and security fleet operations, and government services and activities.

Notable commitments for federal organizations include:

- Reducing absolute Scope 1 and 2 GHGs in real property and conventional fleet operations by 40% by 2025, and by at least 90% below 2005 levels by 2050. On this pathway to net-zero emissions, federal organizations also commit to:
  - Use 100% clean electricity by 2025.
  - Ensure that all new buildings and major retrofits prioritize low carbon and climate resilience elements.
  - Prioritize zero-emission vehicle options for all new vehicles and mobile equipment purchases, including a light-duty fleet that comprises 100% zero emission vehicles, and 40% of commercial medium- and heavy- duty purchases being zero emission vehicles by 2030.
- Enhancing the climate resilience of critical assets, services and activities by 2035 at the latest and remaining high-value assets, services and activities by 2040. This includes conducting climate risk assessments of services and activities every five years and taking measures to reduce identified significant risks. The risk assessments are required to be aligned or integrated with existing departmental risk assessments or business continuity management activities, and include an implementation plan to reduce identified risks.
- Strengthen support for enhancing climate resilience through guidance, tools and training for public service employees.
- Promote incentives for low-carbon alternatives to work-related air travel, including through contributions to and projects from the Greening Government Fund.

Accountability and Governance under the Greening Government Strategy

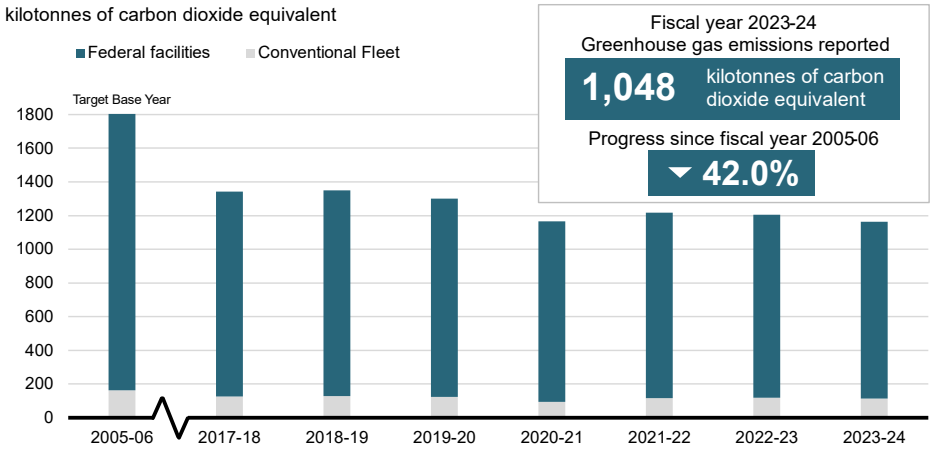
The Treasury Board of Canada Secretariat oversees the implementation of administrative policies, and the Secretariat's Centre for Greening Government provides leadership on the development and implementation of the Greening Government Strategy specifically. The Centre also works closely with technical departments such as Natural Resources Canada, Environment and Climate Change Canada, the National Research Council of Canada and Public Services and Procurement Canada to provide expert advice and develop guidance to support departments that lead the implementation of the Strategy for their assets, procurement and operations.

All federal organizations are responsible for implementing the Strategy in their operations, and report on the relevant results and implementation efforts through their respective Departmental Sustainable Development Strategy, the Greening Government website, and related reports. Crown corporations are expected to align with the Greening Government Strategy or adopt an equivalent set of commitments in each significant area of their operations, including the commitment to net-zero emissions by 2050 and to be climate resilient. Crown corporations report on their climate-related risks and risk management processes in their corporate plans (see Annex A for a list of their reports).

As illustrated in Chart 2, GHGs from federal facilities and fleets are decreasing. For further information on progress achieved, see: highlights of the Government of Canada's operational emissions reduction, open data on the Government of Canada's Greenhouse Gas Emissions Inventory, and Green Procurement Reporting.

Chart 2

Federal greenhouse gas emissions from facilities and conventional fleet operations for fiscal years 2005 to 2006 through 2023 to 2024



Notes: Twenty-eight federal departments reported GHG emissions between 2018–19 and 2023–24. Data is published for all scope 1 and 2 emissions, including for real property, electricity and fleet. For scope 3 emissions from procurement, the government worked with the International Reference Centre for the Life Cycle of Products, Processes and Services (CIRAIG) to estimate the embodied carbon footprint of the goods and services bought by its central procurement departments: Public Services and Procurement Canada and Shared Services Canada.

Risk channels of the federal public administration

Federal organizations reported three main ways through which climate-related risks (i.e., risks that are physical or transition-driven) can cause a financial impact to the federal public administration. They are summarized and described in this report as **risk transmission** channels[6]:

- **Impacts to financial and non-financial assets:** The federal public administration manages a sizable portion of public assets that are relied upon for the effective delivery of programs and services. This includes both non-financial and financial assets (below). Depending on the asset and the driver, climate-related financial risks include changes to the book value of an asset (e.g., the deterioration in value of a building as a result of weather-delated damages), and to their operating and maintenance costs (e.g., increasing costs to cool buildings as a result of more frequent days of extreme heat).
    - **Non-financial assets** include tangible capital assets (land, buildings, works and infrastructure such as roads and bridges, machinery and equipment, ships, aircraft and other vehicles), as well as inventories. The federal public administration is responsible for managing the largest portfolio of non-financial assets in Canada, with over 34,000 buildings, 20,000 engineering assets (e.g., wharves and dams), and 40,000 fleet (e.g., vehicles and boats) with a replacement value of over $110 billion.
    - The federal public administration also manages **financial assets**, such as cash, investments, and loans and advances, which may be used to provide resources to discharge existing liabilities or finance future government obligations. These include, among others, assets held under the Public Service Pension Plan and the Government of Canada Green Bond Framework.

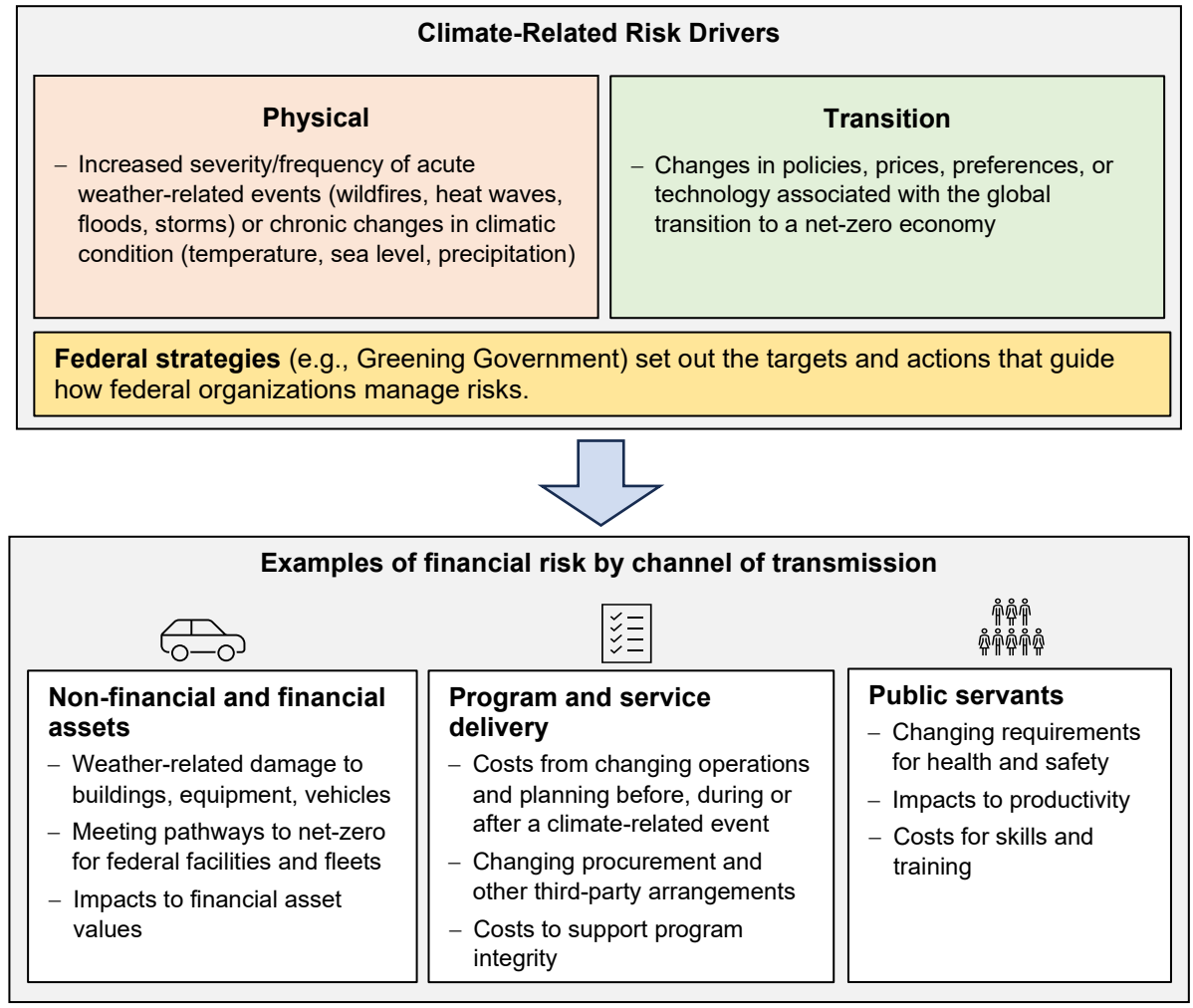
[6] ***Risk Transmission Channel****: A causal chain that links climate-related risk drivers to financial risks. Source:* Bank for international Settlements, Climate-related risk drivers and their transmission channels, 2021; and Coalition of Finance Ministers for Climate Action, Climate-related risks for Ministries of Finance: An overview, 2021

- **Impacts to program and service delivery**: The federal government delivers a very broad range of programs and services, from policing remote communities to ensuring the health and safety of our food system to investing in housing. Climate-related risks can affect the circumstances under which these programs are delivered by potentially changing the resources or activities needed to meet the program's objectives. The financial risk to the federal public administration will depend on the changing circumstance and the federal public administration's capacity to respond. For example, federal organizations that provide emergency services to Canadians may face greater pressure to provide a wider range of services, in which case they may face higher operating costs or require new investments in equipment or supplies.
- **Impacts on federal public servants:** Climate-related risk may affect employee-related costs, such as for new training requirements for employees associated with climate-related risks (e.g. inspector training for new invasive species) or to maintain workplace health and safety (e.g. new equipment to manage risks from poor air quality).

Figure 1 illustrates the climate-related financial risks faced by the federal public administration through the risk transmission channels, as described above.

Figure 1

Illustration of Climate-Related Financial Risks and Opportunities to the Federal Public Administration



III. Key Measures to Manage Climate-Related Financial Risks

This section summarizes the reported climate-related financial risks and key risk management measures undertaken by the federal public administration in 2023-24 according to the channels of risk transmission illustrated above. The section is also guided by the federal government's Risk Management Framework, which generally describes risk management as a continual practice of identification, analysis, treatment and communication across a broad range of key decision-makers (e.g., from internal managers to Parliamentarians and the public). Climate-related financial risks to the federal public administration are managed through these three key steps:

- **Identifying and assessing risk**: Developing a solid understanding of pertinent risks and analyzing and prioritizing relative to other significant risks (e.g. based on likelihood or impact).
- **Taking action to reduce risk**: Reducing exposure or vulnerability to significant risks.
- **Integrating and communicating information on risk**: Continuously informing planning activities and relevant decision-making.

Figure 2
Illustration of cyclical steps of risk management

A. Managing Risks to Financial and Non-Financial Assets

Identifying and assessing risks to assets

In 2024, federal organizations reported the steps they are undertaking to identify and assess climate-related risks, and cited a range of tools and approaches. For example:

- Federal organizations often described the use of climate-risk and vulnerability assessments, to identify, understand and prioritize climate change related risks across specific non-financial assets or portfolios of assets.
- Organizations also described assessing the environmental and energy performance of federal non-financial assets using the RETScreen Clean Energy management software and GHG Life-cycle cost analysis for real property emissions.
- Federal organizations also developed or used climate information specific to their operating context or mandate. For example Fisheries and Oceans Canada noted the Canadian Extreme Water Level Adaptation Tool for projecting sea level rise across Canada's small craft harbours.
- The Office of the Superintendent of Financial Institutions and the Treasury Board of Canada Secretariat reported that the Public Sector Pension Investment Board undertakes stress testing of the public sector pension plans under multiple climate scenarios, including a scenario where there is increased market volatility from climate-related risks.

Federal organizations also reported on financial risks channeled through the non-financial or financial assets held under their management. For example:

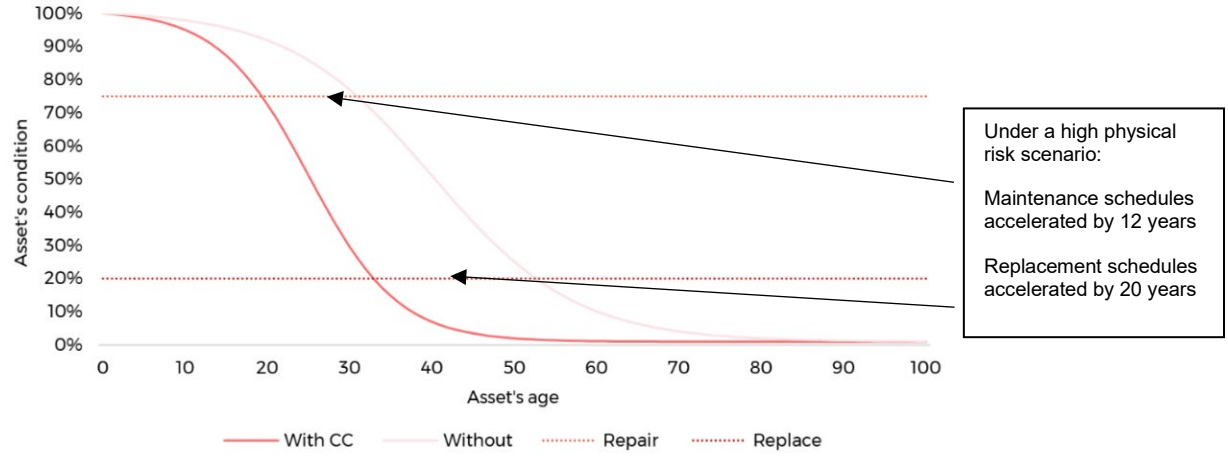
- National Defence identified physical risks to its infrastructure and equipment from a changing climate, which would increase the need for maintenance and repairs of weather-related damage. It also reported transition risks associated with reaching net-zero emissions targets for its infrastructure and defence equipment, as well as opportunities for renewed equipment to operate more efficiently.
- Public Services and Procurement Canada described how its non-financial assets are at risk of infrastructure deterioration caused by weather-related events, including to docks, dams, bridges, office and heritage buildings, as well as the British Columbia segment of the Alaska Highway which it manages. It also reported transition-related risks and opportunities associated with impacts or avoidance of impacts from future energy costs or weather damage associated with more efficient and resilient asset investments.
- Fisheries and Oceans Canada, including the Canadian Coast Guard, reported climate-related risks affecting its coastal and inland infrastructure (e.g., harbours, shipping channels, wharves, hatcheries, laboratories, bridges, light stations, fixed and floating aids to navigation) and vessels. It also reported the risk of unforeseen costs to operate assets exposed to weather-related damage and upgrade assets to meet net-zero standards.
- Indigenous Services Canada identified climate-related risks impacting community infrastructure, including the deterioration of essential facilities like health centers, due to more frequent events like fires and floods, and a potential worsening of infrastructure conditions amid growing climate uncertainty.
- The Royal Canadian Mounted Police reported costs to rebuild its detachment in Lytton, British Columbia, and resume police services following a wildfire in 2021 that occurred amid the most extreme heat in Canada to date.

Timeline Estimates to Maintain and Replace Assets Due to Climate Change

Commonly cited transition risks facing non-financial assets were the costs to upgrade, retrofit, or replace assets to be more resilient to the physical effects of climate change or to reduce their emissions exposure. Notably, the Treasury Board of Canada Secretariat commissioned an assessment that projected the replacement schedule of federal non-financial assets will be shortened due to climate change, thus increasing costs over the long term. Specifically, they forecasted that maintenance and replacement schedules will be accelerated by 12 and 20 years respectively under a high physical risk scenario, resulting in higher capital, operating and maintenance costs for such assets exposed to certain climate-related risks.

Chart 3

Timeline Estimates to Maintain and Replace Assets Due to Climate Change



A forward-looking asset deterioration model that illustrates the accelerated deterioration of federal assets to climate change.
Notes: climate change refers to deterioration accelerated with climate change under an extremely "high physical risk" scenario (RCP 8.5).
Sources: WSP (prepared for Treasury Board of Canada Secretariat), 2023, Costing the Impacts of Climate Change to the Federal Government.

Taking action to reduce risks to assets

To reduce climate-related risks to federal assets, federal organizations reported a range of steps or measures they are taking, which generally relate to reducing the exposure of their assets or building up their resiliency to future risk. For example:

- Housing, Infrastructure and Communities Canada (formerly Infrastructure Canada) noted steps taken to ensure the resilience of the Samuel de Champlain Bridge Corridor to weather-related events such as wind, ice and rain. For example, measures have been taken to minimize the risk of ice accumulation on the bridge stay cables, along with drainage and water retention strategies to prevent potential flooding events.
- The National Research Council of Canada noted it had begun implementing measures for wildfire safety mitigation and protection at its Penticton site.
- The Canada School of Public Service described its work to reduce its real estate footprint and exposure to physical risks, through its digital first learning strategy.
- Health Canada reported on the review of its land vehicle fleet with an emphasis on identifying opportunities to replace current vehicles with green vehicles, and noted that by ensuring a gradual transition to a zero-emissions fleet, the department can avoid the financial pressures related to a more rapid transition in the future.

- The Canada Border Services Agency noted it had integrated climate change resilience into the design, construction and operational aspects of its custodial facilities under the Land Border Crossing Project.
- The Canadian Space Agency completed three major projects using climate resiliency information. This included a study for an envelope refit project and the completion of a civil infrastructure project and a drainage infrastructure refit project.
- The Courts Administration Service, Library and Archives Canada, and Shared Services Canada described ongoing efforts to obtain LEED© certified or standards with equivalent climate resilience criteria as LEED© certification for their facilities.

Integrating risk information about assets into decision-making and communications

Federal organizations reported on their efforts to integrate climate-related risk information into ongoing business and risk management practices. This includes investment planning activities expected under the Treasury Board *Policy on the Planning and Management of Investments* as well as other strategic planning tools focussing more on to climate considerations such as:

- Federal organizations (particularly custodians of real property who do not lease their buildings) described work towards or the completion of a net-zero portfolio plan or a Climate Resilient Real Property Portfolio Plan to reduce climate change risks to federal assets.
- National Defence and the Royal Canadian Mounted Police reported how they had updated their Green Building policies to require climate considerations in new building construction and major renovation projects.
- Federal organizations including Shared Services Canada and Employment and Social Development Canada described efforts to strengthen green procurement practices and enhance environmental considerations in federal procurement by updating common procurement instruments such as standing offers and service agreements.

Impact Reporting in the Federal Budget

The Department of Finance Canada's impact reporting undertaken as part of the federal budget is an important part of integrating information, including climate-related information, into the decision-making and communication of the federal budget. Gender and diversity summaries were first introduced in Budget 2019 to improve the quality of budget information available to Canadians. This approach has since evolved, especially with the introduction of the Quality of Life Framework in Budget 2021 which has helped further advance reporting on environmental impacts via the framework's environmental pillar. As such, *The Statement and Impacts Report on Gender, Diversity and Inclusion* has since 2021 described expected impacts of new budget initiatives, including those that are tied to climate and environmental goals.

The government's approach to impact reporting was endorsed by the Organisation of Economic Co-operation and Development (OECD) in a recently released review of green budgeting practices in the Government of Canada. The report also highlighted the Climate, Nature Economy Lens (described above) as a best practice.

B. Managing Risks to Program and Service Delivery

Identifying and assessing risk to program and service delivery

Federal organizations reported tools they were using or developing to identify and assess climate-related risks to the delivery and planning of programs and services. For example:

- The Canadian Space Agency reported on critical satellite missions that will support climate resiliency and adaptation with high-value climate risk data for use by federal stakeholders as well as non-federal users across Canada once they are operational (e.g., RADARSAT+, and WildFireSat).
- The Office of the Superintendent of Financial Institutions described several products it developed to gather climate-related risk data about Canada's federally regulated financial sector to enable it to carry out its regulatory and oversight programs. This includes Guideline B-15 – Climate Risk Management, Climate Risk Returns, the Standard Climate Scenario Exercise and an assessment of Climate-Related Flood Risk to Residential Lending Portfolios in Canada
- The Canadian Food Inspection Agency indicated taking steps to managing risks in monitoring pests and diseases by building risk intelligence, developing early warning platforms, and enhancing access to data about infectious animal and zoonotic diseases and their environmental determinants to better predict, detect, and respond to risks.
- The Canada Energy Regulator published *Energy Supply and Demand Projections to 2050* to inform Canadians, Parliamentarians and policy makers of potential future scenarios of Canada's energy market.

Federal organizations reported risks associated with the need to deliver programs at a higher state of readiness or to respond to rapid change in the demand associated with a federal program or service due to climate change. The increasing frequency of climate change events, as well as concurrent incidents, were reported to lead to higher operational pressure. Potential financial impacts were described in the form of higher operating costs to respond to disrupted services (e.g., expedited sourcing, transportation surcharges, labour costs). For example, federal organizations reported that climate-related risks may create operational pressure for the following programs and services:

- Programs that provide emergency response and disaster recovery, such as the Disaster Financial Assistance Arrangements under Public Safety's Emergency Response/Recovery program, the Canadian Coast Guard's Search and Rescue operations, National Defence's Operations in Canada (including Operation LENTUS), and the Royal Canadian Mounted Police's Federal, Indigenous and Contract Policing.
- Programs relying on transportation across Northern and remote communities, including the Remote Passenger Rail Program (Transport Canada) and the Nutrition North Program (Crown-Indigenous Relations and Northern Affairs Canada) which was observed to be especially exposed to financial risk of increased operating costs due to shipping delays, shortened winter road seasons, and an increased reliance on air delivery or sea lift.
- Programs that manage the effects of invasive animal and plant species, including those that support Canadians and businesses with their financial impacts, could be susceptible to changing migration patterns, as reported by Agriculture and Agri-Food Canada, Canada Border Services Agency, the Canadian Food Inspection Agency, Environment and Climate Change Canada, and Fisheries and Oceans Canada.
- Programs to support forest management, including the Canadian Forest Service (Natural Resources Canada) and forestry services delivered by Parks Canada.

- Programs that support the remediation of contaminated federal sites. As noted by Public Services and Procurement, its financial liabilities associated with the degree of required remediation under these programs may change due to impacts of climate change on sites (notably permafrost change and flooding).
- Programs that facilitate access to justice, as reported by the Courts Administration Service and Public Prosecution Service of Canada, the latter of which reported on the disruption caused by the August 2023 wildfires in Yellowknife to its ability to provide services and fulfill court obligations.
- Programs that conduct regulatory compliance, as reported by the Office of the Superintendent of Financial Institutions and the Canadian Nuclear Safety Commission. The latter organization specifically reported how regulatory compliance costs may be affected by both the increasing occurrence of physical climate events (e.g., risks of flooding or wildfires that cause an incident at Canadian nuclear infrastructure) and the transition to a net-zero economy (e.g., the rising demand for nuclear energy and related growth in compliance activities).
- Programs to support economic sectors or households impacted by climate-related events, including agricultural producers affected by climate-related health issues (Canadian Food Inspection Agency), travelling exhibitors impacted by disruptive climate-related events under the Canada Travelling Exhibitions Indemnification Program (Canadian Heritage), and increased need for social protection programs or services (Employment and Social Development Canada).
- Federal monitoring and inspection services, including inspecting safe food for Canadians (Canadian Food Inspection Agency), and responding to climate-related transportation accidents (Transport Canada).
- Federal science and research activities conducted to build resilience and climate adaptation for business and communities (Environment and Climate Change Canada), the agricultural sector (Agriculture and Agri-Food Canada), consumers of climate-related energy information (Canada Energy Regulator) or to provide climate-specific earth observation data (Canadian Space Agency).
- Common services provided to other federal organizations for program delivery, including maintaining secure federal data services and network infrastructure (Shared Services Canada).

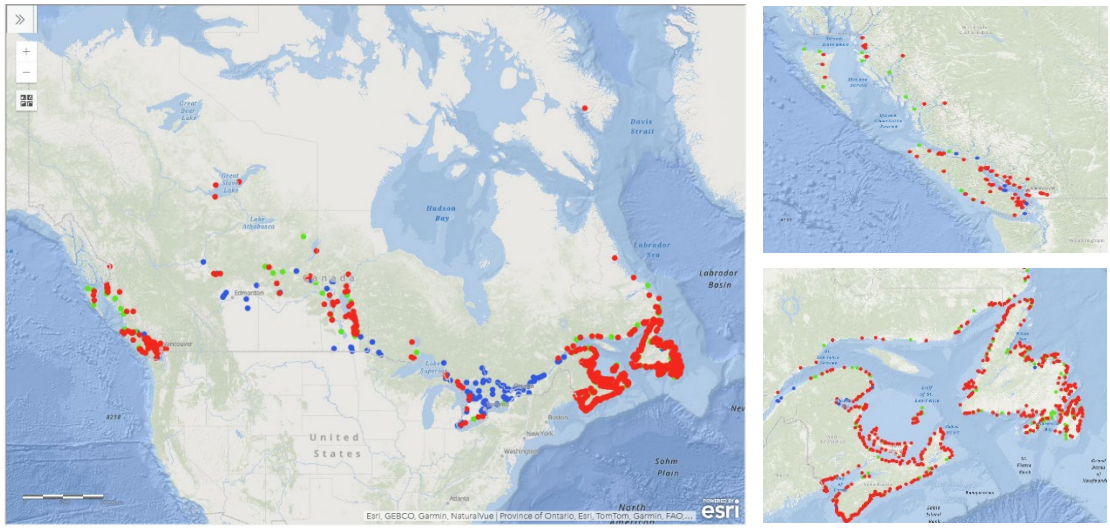
Common Components of Risk to Federal Programs and Services

In the survey, multiple federal organizations described several common components of risk (e.g., exposure, vulnerability). Two components are described here to illustrate the potential for climate-related risk to accumulate and cascade across the federal public administration.

Broad footprint across and beyond Canada. Geographic exposure is a key issue cited by federal organizations that are more likely to be affected by physical climate-related risks (such as Global Affairs Canada, Department of Fisheries and Oceans, Department of National Defence, Parks Canada, Employment and Social Development Canada and the Royal Canadian Mounted Police). For example, the Department of Fisheries and Oceans operates the Small Craft Harbour Program which maintains harbours across Canada. Significant weather events across the country are a key source of risk to the Program. For example, Hurricane Fiona resulted in 142 out of 184 small craft harbours that were hit by the storm being damaged.

Figure 3

Map of small craft harbours, Fisheries and Oceans Canada (weblink)



Vulnerability of critical research and science activities. Federal organizations described how the criticality and sensitivity of certain scientific research activities adds to the risk of higher-than-expected costs from weather-related hazards on assets (e.g., laboratories, monitoring equipment), employees, and suppliers (e.g., lab equipment). For example, extreme heat was identified by several federal organizations, including the Public Health Agency of Canada, Innovation, Science and Economic Development, Agriculture and Agri-Food Canada and Health Canada, as having an impact on operations from maintaining consistent climate conditions for heritage collections, to measurements and laboratory activities.

Taking action to reduce risk to program and service delivery

In 2024 federal organizations described various ways they were reducing climate-related financial risk to the delivery of their programs. For example:

- Federal organizations described the use of response teams that promote long-term strategies in climate risk management (such as the Office of the Superintendent of Financial Institution's Climate Risk Division), quickly respond to climate-related crises (the Financial Transactions and Reports Analysis Centre of Canada's Crisis Management team), and minimize their impact (Canada Revenue Agency's Disaster Relief Team).
- The Royal Canadian Mounted Policy noted how existing arrangements for policing services in provinces and territories and Indigenous communities help to provide immediate temporary access to incremental resources to assist with police-related duties during declared emergencies. These provisions were invoked for wildfires in Alberta (May 2023) and the Northwest Territories (August 2023).
- The Canada Border Services Agency noted how the Canada Emergency Response Plan, led by the Government Operations Centre, allows it to better plan its financial requirements for emergency preparedness. The Plan outlines the federal approach to supporting provinces and territories in their efforts to respond to emergencies related to cyclical events mainly including flooding, wildfires and hurricanes/tropical storms.
- Shared Services Canada reported that the implementation of an agile contracting framework can help to mitigate how it is impacted by the physical effects of climate change on vendors, manufacturing locations and supply chains. Similarly, Innovation Science and Economic Development Canada reported how Measurement Canada is pursuing options to manage risks associated with volatile procurement costs for specialized equipment that have long lead times and whose supply chains could be disrupted by climate-related events.
- Agriculture and Agri-Food Canada described its ongoing work to understand the impacts of climate change on its business risk management programming, as well as targeted improvements to this programming to support the sector's climate needs, such as by requiring large producers to conduct agri-environmental risk assessments under AgriInvest.
- Statistics Canada reported on its work to ensure the integrity of its operations for the Census Program from climate-related disruptions that may impact census data collection and coverage. For example, it described how disaster information received from their Statistical Geomatics Centre is used to asses that impact of collection areas, as well as statistical contingency plans and dynamic models that allow the agency to respond to disruptions as they arise during the census collection period.

The **Disaster Financial Assistance Arrangement** (DFAA) plays a critical role in the response to and recovery from disasters by providing financial assistance to provinces and territories (PTs).

PTs design and administer their own disaster financial assistance programs to assist individuals, businesses, farms and municipalities, and may request federal financial assistance following a large-scale natural disaster to reimburse the eligible costs incurred under the PT programs. In order to be considered for DFAA assistance, PTs must first submit a formal request for assistance to the Minister of Public Safety. If the Governor in Council authorizes the provision of financial assistance, federal assistance may then be provided for up to 90% of the PT's DFAA eligible expenditures.

On average, among disasters that took place across the last 10 years, the annual cost to the federal government under the DFAA program has amounted to approximately $793 million. However, with the ongoing trend of more severe and more frequent disasters (such as events in BC in 2021 and the recent Hurricane Fiona in Atlantic Canada), annual costs are projected to remain close to or surpass $1 billion in the future.

Public Safety is modernizing the DFAA in part to manage climate-related risks by incentivizing mitigation efforts that help build more resilient communities in a changing risk environment. As part of a modernized DFAA, key measures that address climate-related risks include:

- Funding that enables PTs to repair/reconstruct and/or restore damaged physical and natural structures to climate resilient guidelines as part of their regular reconstruction costs.
- Greater flexibility for mitigation funding that enables PTs to strategically reduce vulnerability to future emergencies (up to 25% of total eligible response and reconstruction costs).
- PTs may be eligible to receive up to 40% federal cost share of their eligible pre-threshold costs (for qualifying events) if they have completed high-impact disaster risk reduction actions in advance of the disaster. This helps incentivize pre-disaster mitigation and increase long term resilience. Actions that could qualify for this rebate could include the creation of effective and climate-sensitive standards for land-use planning and maintenance of recovery plans.

Integrating risk information about programs and services into decision-making and communication

Informing decision-makers of climate-related risks associated with program planning and delivery is a crucial step towards taking action and building greater climate resiliency into program design. Federal organizations reported a variety of steps they were taking to reduce climate-related financial risks to the delivery of their programs. For example:

- As required under the Cabinet Directive on Strategic Environmental and Economic Assessments, introduced in 2024, federal organizations are now integrating environmental and economic considerations in the development of policies, programs and regulations intended for Cabinet or funding consideration. Application of the Directive includes the use of a standardized template for most program proposals - the Climate, Nature and Economy Lens. The lens requires consideration of climate change (mitigation, adaptation, resilience), biodiversity, other environmental effects, and economic impacts when developing program proposals.
- Federal organizations described factoring climate change information into their regular emergency management planning, such as Statistics Canada, which reported its efforts to assess the risk of climate change impacts to critical services by including climate resiliency in the scope of its business continuity plans.

- Indigenous Services Canada, Public Health Agency of Canada, and other federal organizations described their work in developing climate risk management action plans, which are customized, program-specific management plans and services, to more effectively integrate climate considerations into its programs and services and help these organizations better prepare for climate-related risks to their programming.
- Federal organizations such as Health Canada described integrating climate-related risk considerations into their corporate risk profile, to ensure climate change is considered as part of their risk planning activities across the enterprise.

C. Managing Risks to Federal Public Servants

Identifying and assessing risks to federal public servants

In 2024, federal organizations reported that climate-related risks had the potential to directly affect federal public servants and how they work. For example:

- Environment and Climate Change Canada identified health and safety risks to access facilities and services during extreme weather events like floods and wildfire evacuations, particularly for those that work in the field, resulting in additional financial risks associated with maintaining protective equipment and scheduling changes.
- Federal organizations that require staff to operate in remote sites across the country (such as the Canada Energy Regulator's inspection officers who conduct regulatory compliance reviews, and staff who conduct field research for Statistics Canada, the National Research Council of Canada, and Natural Resources Canada), described exposure of their employees to climate-related physical risks, such as extreme heat or cold, or permafrost changes, which prevent access to research or project sites, resulting in potentially higher transportation costs or a disruption to program performance.
- The Public Health Agency Canada noted that public health events are likely to be exacerbated by climate change, such as the changing prevalence of vector-borne diseases, like Lyme disease and West Nile virus, which pose health risks to people living in Canada, and which it monitors in collaboration with provincial and territorial public health authorities and partners.

Taking action to reduce risks to public servants

Federal organizations reported how they are providing training and promoting resiliency for federal public servants in fields related to climate literacy, green procurement, and occupational health and safety. For example:

- Agriculture and Agri-Food Canada reported on the department's Hazard Prevention Program, which aims to prevent losses, accidents and injuries in the workplace by addressing hazards at departmental sites including environmental conditions affecting staff.
- Atlantic Canada Opportunities Agency and Agriculture and Agri-Food Canada respectively described efforts to provide green procurement training and guidance on risk factors and best practices to mitigate risks to employee health.

Integrating risk information regarding public servants into decision-making and communication

Federal organizations reported on how they were integrating risk information about federal public servants into further decision-making and communications. For example:

- Environment and Climate Change Canada and the Canada School of Public Service are leading efforts by creating training courses for federal public servants to integrate climate, nature and economic considerations into decision-making.
- To communicate to the public about the information it provides public servants through its training on climate literacy, Environment and Climate Change Canada publishes supplementary material about its courses online.
- Parks Canada reported it was providing emergency management training to its employees and conducting exercises with emergency management partners to ensure interoperability, to better prepare for and respond to climate-related disasters such as wildfires, flooding and erosion.

Federal Training Courses to Support Climate-related Risk Management:

As part of their efforts to raise awareness and support learning among public servants on sustainable development and operations, the Canada School of Public Service has developed several training materials and courses to better integrate climate-related information into management practices in the public service, including:

- Green Procurement: Provides public servants with detailed strategies for implementing the *Policy on Green Procurement* throughout the procurement process.
- Optimizing Energy Performance of Existing Buildings: Presents federal public servants with the guiding principles for optimizing the energy performance of buildings: metering, benchmarking, energy efficiency, and renewable and clean energy.
- Sustainable Strategies for Existing Federal Facilities: Presents strategies for creating and maintaining high-performance buildings, focusing on the fundamentals of improving the sustainability of federal facilities.

IV. Conclusion

This is the first annual report under Section 23 of the *Canadian Net-Zero Emission Accountability Act*. It aims to promote transparency and accountability by providing greater insight into actions the federal public administration is taking to manage its financial risks and opportunities arising from climate change.

Informed by a survey of federal departments and agencies, this report provides an overview of how climate change poses financial risks to the federal public administration through potential effects on assets, program and service delivery, and public servants, and the consequences this could have on program performance and results.

This report further illustrates that in a dynamic and complex operating context, risk management plays a significant role in strengthening government capacity to recognize, understand, and respond to new challenges and opportunities. This is a continuous cycle, and the risks associated with climate change are relatively new, wide ranging and increasing with time. Going forward, the Government of Canada will continue to build on federal integrated risk management practices to identify and assess risks, take action to reduce risks, and integrate information about risks into further decision-making and communications.

Annex A: Summary of Guidance to Federal Organizations Completing the 2023-24 Survey of Climate-Related Risk Management

In the first half of 2024, the Department of Finance surveyed 52 federal departments and agencies with more than 500 full-time equivalent employees. The survey sought views from respective deputy heads (i.e., deputy ministers) regarding significant climate-related financial risks and opportunities faced by their department or agency and key measures undertaken to manage them.

In the request from the Department of Finance, departments and agencies were asked to prepare responses with information about risks or management measures that would be significant or material to report. Through guidance, the Department of Finance indicated this could involve prioritizing measures based on the respective federal organization's view of significance, such as importance in managing the highest risk categories or highest financial impact. Federal organizations were also asked to determine an approach to gathering information that enabled them to consider all reasonable and supportable information they have available at the reporting date without undue cost or effort. This determination should include an assessment of the organization's exposure to climate-related risks and opportunities, as well as available skills, capabilities, and resources. If organizations had not identified any climate-related financial risks, opportunities or measures, they were not expected to report.

The format of responses was open-ended (free text) to avoid biasing the initial information gathering approach and ensure a broad range of risk management measures could be captured. After all federal input was received, the Department of Finance compiled responses and used the information to prepare the annual report.

Table 1
Federal organizations surveyed in 2024

Federal organizations surveyed in 2024	
Administrative Tribunals Support Service of Canada	Immigration and Refugee Board of Canada
Agriculture and Agri-Food Canada	Immigration, Refugees and Citizenship Canada
Atlantic Canada Opportunities Agency	Impact Assessment Agency of Canada
Canada Border Services Agency	Innovation, Science and Economic Development Canada
Canada Energy Regulator	Library and Archives Canada
Canada Revenue Agency	National Defence
Canada School of Public Service	National Research Council Canada
Canadian Food Inspection Agency	Natural Resources Canada
Canadian Heritage	Natural Sciences and Engineering Research Council of Canada
Canadian Institutes of Health Research	Office of the Auditor General of Canada
Canadian Nuclear Safety Commission	Office of the Chief Electoral Officer
Canadian Radio-television and Telecommunications Commission	Office of the Superintendent of Financial Institutions
Canadian Space Agency	Parks Canada
Correctional Service Canada	Parole Board of Canada
Courts Administration Service	Privy Council Office
Crown-Indigenous Relations and	Public Health Agency of Canada

Northern Affairs Canada	
Department of Finance Canada	Public Prosecution Service of Canada
Department of Indigenous Services	Public Safety Canada
Department of Justice Canada	Public Service Commission of Canada
Employment and Social Development Canada	Public Services and Procurement Canada
Environment and Climate Change Canada	Royal Canadian Mounted Police
Financial Transactions and Reports Analysis Centre of Canada	Shared Services Canada
Fisheries and Oceans Canada	Statistics Canada
Global Affairs Canada	Transport Canada
Health Canada	Treasury Board of Canada Secretariat
Housing, Infrastructure and Communities Canada	Veterans Affairs Canada

Crown corporations were excluded from the survey this year as they are already publishing or working to publish annual climate-related financial disclosures following direction provided in the context of Budget 2021.

Budget 2021 asked Canada's Crown corporations with over $1 billion in assets to report on their climate-related financial risks for their financial years, starting in calendar year 2022 at the latest. All 16 implicated Crown corporations fulfilled this request and have released climate-related financial risk reporting (see below). The remaining Crown corporations are expected to begin reporting on their 2024 financial years by the end of 2025.

Table 2
Crown Corporation Disclosures

Crown Corporation	Disclosure Since	Link to Latest Disclosure
Canada Pension Plan Investment Board	2021 Financial Year	Sustainable Investing Report
Canada Mortgage and Housing Corporation	2020 Financial Year	2023 Annual Report Page 45
Public Sector Pension Investment Board	2021 Financial Year	2023 Climate-Related Financial Disclosures
Bank of Canada	2022 Financial Year	Disclosure of Climate-Related Risks 2023
Export Development Canada	2018 Financial Year	EDC – 2023 Climate-Related Disclosure
Farm Credit Canada	2021 Financial Year	2023-24 Climate Related Disclosure
Business Development Bank of Canada	2022 Financial Year	BDC 2024 Sustainability Report and Appendix
Canada Post Corporation	2021 Financial Year	Canada Post 2023 Sustainability Report
Canada Development Investment Corporation	2022 Financial Year	CDEV TCFD Report
Canada Deposit Insurance Corporation	2022 Financial Year	2024 Annual Report – Appendix A
Canadian Broadcasting Corporation	2022 Financial Year	TCFD Disclosure 23-24
Windsor-Detroit Bridge Authority	2022 Financial Year	TCFD Report 2022
VIA Rail Canada Inc	2022 Financial Year	VIA Rail - 2023 Report TCFD
Atomic Energy of Canada Limited	2022 Financial Year	2023-Climate-Resilience-Report
Canada Lands Company Limited	2022 Financial Year	2023-24 ESG Report
Canada Infrastructure Bank	2022 Financial Year	CIB Sustainability Report