



Environment and Climate Change Canada 2022–23 Departmental Results Report

The Honorable Steven Guilbeault, P.C., M.P.
Minister of Environment and Climate Change



Departmental Results Report 2022–23

Issued also in French under title:
Rapport sur les résultats ministériels 2022–2023

Cat. No.: en1-76E-PDF
ISSN: 2561-0791

Unless otherwise specified, you may not reproduce materials in this publication, in whole or in part, for the purposes of commercial redistribution without prior written permission from Environment and Climate Change Canada's copyright administrator. To obtain permission to reproduce Government of Canada materials for commercial purposes, apply for Crown Copyright Clearance by contacting:

Environment and Climate Change Canada
Public Inquiries Centre
Place Vincent Massey Building
351 Saint-Joseph Boulevard
Gatineau QC K1A 0H3
Toll Free: 1-800-668-6767
Email: enviroinfo@ec.gc.ca

© His Majesty the King in Right of Canada, represented by the Minister of Environment and Climate Change, 2023

Aussi disponible en français.

Table of Contents

| | |
|---|----|
| From the Minister..... | 1 |
| Results at a glance..... | 3 |
| Results: what we achieved..... | 6 |
| Taking Action on Clean Growth and Climate Change | 6 |
| Preventing and Managing Pollution | 28 |
| Conserving Nature | 41 |
| Predicting Weather and Environmental Conditions | 53 |
| Internal Services..... | 60 |
| Spending and human resources..... | 65 |
| Spending..... | 65 |
| Human resources..... | 72 |
| Expenditures by vote..... | 72 |
| Government of Canada spending and activities | 72 |
| Financial Statements and Financial Statements Highlights..... | 73 |
| Corporate information..... | 76 |
| Organizational profile | 76 |
| Raison d'être, mandate and role: who we are and what we do..... | 77 |
| Operating context | 77 |
| Reporting framework | 78 |
| Supporting information on the Program Inventory | 79 |
| Supplementary information tables | 79 |
| Federal tax expenditures | 79 |
| Organizational contact information..... | 79 |
| Appendix: Definitions | 80 |
| Endnotes..... | 83 |

From the Minister



As Minister of Environment and Climate Change, I am pleased to present the 2022-23 Departmental Results Report (DRR) for Environment and Climate Change Canada (ECCC).

In 2022-23, ECCC continued to advance efforts to address clean growth, fight and adapt to climate change, prevent and manage pollution, conserve and restore nature, predict weather and environmental conditions, and carry out the wide range of science that underpins all our accomplishments.

The DRR highlights the work led by ECCC to address the triple crisis, which is climate change, biodiversity loss and pollution, in collaboration with provinces and territories, non-governmental organizations, the private sector, Indigenous communities, and youth organizations.

TAKING ACTION ON CLEAN GROWTH AND CLIMATE CHANGE

The science is clear: reducing carbon pollution to net-zero by 2050 is our best chance of keeping the planet livable for our children and grandchildren. In 2022-23, ECCC released the Emissions Reductions Plan, an ambitious and achievable roadmap for Canada to reach its emissions reduction target of 40-45 percent below 2005 levels by 2030 and net-zero emissions by 2050.

We continued to implement the Pan-Canadian Approach to Pricing Carbon Pollution and launched Canada's first National Adaptation Strategy (NAS): *Building Resilient Communities and a Strong Economy*, which establishes a shared vision for climate change adaptation in Canada and the steps needed to get there. The NAS lays out a comprehensive, inclusive approach that focuses on developing climate-resilient systems through adaptation and mitigation efforts.

ECCC supported the Government of Canada's participation at the 2022 UN Climate Change Conference COP27 in Egypt, along with the successful and ambitious outcomes that keep the Paris Agreement goal of limiting temperature rise to 1.5 °C within reach and supports the world's most vulnerable, landing a historic deal on loss and damage.

Canada's strong presence in this important climate conference demonstrated our leadership and commitment to an inclusive and effective climate action, both at home and abroad. International efforts to advance climate and environmental priorities were also supported by the Ambassador for Climate Change.

PREVENTING AND MANAGING POLLUTION

Reducing plastic pollution and investing in Canadian innovation are part of the Government of Canada's overall plan to protect the environment, build a stronger economy and healthier communities.

In 2022–23, ECCC continued to support the advancement of Canada's Zero Plastic Waste Agenda and related regulatory and non-regulatory measures. We banned the manufacturing and importing of five of the six categories of harmful single-use plastics in Canada. With this ban and our progress toward achieving a global treaty, we're joining the global effort to reduce plastic pollution and protect our wildlife and habitats.

We also continued to focus efforts on improving, restoring, and protecting Canada's most important freshwater resources.

ECCC sustained the work with its key federal partners—Health Canada and the National Research Council Canada—to protect the environment and Canadians from harmful substances and to reduce outdoor air pollution by implementing the Air Quality Management System (AQMS) and working internationally to continue to reduce transboundary air pollution impacting Canada.

CONSERVING NATURE

ECCC continued to build partnerships and progress toward achieving Canada's targets for conserving land and inland waters and advancing the protection and recovery of species at risk.

Through partnerships and advisory bodies with First Nations, Inuit, and Métis, ECCC continued to advance Indigenous reconciliation by planning and working toward the establishment of several protected areas with Indigenous leadership. Together, we are braiding Indigenous knowledge systems with Western science for on-the-ground conservation, research and monitoring of biodiversity and climate change in Canada.

Additionally, in 2022, ECCC hosted the Conference of the Parties (COP15) in Montreal and brokered a global biodiversity agreement by signing the Canada Nature Agreement with Yukon - the first agreement of its kind that will advance nature conservation and protection across the territory and support Indigenous leadership in conservation.

During COP15, Canada also agreed on the Kunming-Montreal Global Biodiversity Framework – a historic global framework designed to safeguard nature, halt and reverse biodiversity loss, and put nature on a path to recovery by 2050.

PREDICTING WEATHER AND ENVIRONMENTAL CONDITIONS

ECCC continued providing uninterrupted 24/7 services from its weather forecasting centres, informing Canadians in a timely fashion about severe weather events, as well as information on water levels and flows in real time, while collaborating with emergency management organizations.

In 2022, ECCC proudly hosted the Canadian Hurricane Seasonal Outlook briefing to launch the season and promote preparedness, as well as delivered media technical briefings to provide Canadians with the latest information on Hurricane Fiona.

I invite you to read ECCC's 2022-23 DRR to learn more about the Department's contributions made to improve the environment, prosperity, and health of all Canadians. As Minister, I look forward to building on these important accomplishments in the years to come.

The Honourable Steven Guilbeault, P.C., M.P.
Minister of Environment and Climate Change

Results at a glance

Taking Action on Clean Growth and Climate Change

In December 2022, Canada and nearly 200 other countries at the 15th Conference of the Parties (COP15) to the *United Nations Convention on Biological Diversity* in Montréal reached an agreement on the Sharm el-Sheikh Implementation Plan. Securing agreement on the Implementation Plan was a vital step forward for climate ambition under the Paris Agreement. This historic agreement created a fund to assist developing countries that are particularly vulnerable to loss and damage caused by climate change. Canada also fought hard so that the world did not backslide on the phasing out of fossil fuel subsidies and coal—still the single largest sources of CO₂ emissions.

At the time, the Government also announced new ambitious measures to support the achievement of Canada's greenhouse gas (GHG) targets. This includes capping and reducing emissions from the oil and gas sector at a pace and scale necessary to achieve Canada's 2030 and 2050 climate targets while allowing the sector to compete in a global economy that is working to:

- transition to net-zero by 2050;
- reduce methane emissions from oil and gas by at least 75 percent by 2030; and
- achieve a net-zero electricity grid by 2035.

Canada's 2030 Emissions Reduction Plan (ERP), released on March 29, 2022, presented a sector-by-sector roadmap for Canada to reach its 2030 emissions reduction target of 40 to 45 percent below 2005 levels and put in place the building blocks to achieve net-zero emissions by 2050. In 2022-23, ECCC worked with several other federal departments to initiate and coordinate implementation of this climate plan. ECCC advanced key 2030 ERP measures under its purview, including:

- developing an approach to cap and reduce emissions from the oil and gas sector to achieve net-zero emissions by 2050;
- publishing of draft regulations that set ZEV sales targets for manufacturers and importers of new passenger cars, SUVs and pickup trucks, requiring that at least 20 percent of new vehicles sold in Canada will be zero emission by 2026, at least 60 percent by 2030, and 100 percent by 2035; and
- taking measures to reduce methane emissions from oil and gas by at least 75 percent by 2030, and transition to a net-zero electricity grid by 2035.

In 2022-23, ECCC also continued to implement the Pan-Canadian Approach to Pricing Carbon Pollution. This major initiative includes:

- implementing the Federal Output-Based Pricing System for industrial emitters;
- assessing provincial/territorial carbon pollution pricing systems against the minimum national stringency standards (the federal "benchmark"); and
- finalizing *Canada's GHG Offset Credit System Regulations*, which encourage cost-effective GHG reductions and removals from activities that are not covered by carbon pricing, including in the agriculture, forestry, and waste sectors.

The Department also finalized the *Clean Fuel Regulations* and published a Government of Canada [Fuel Life Cycle Assessment \(LCA\) Model](#).

Canada's first National Adaptation Strategy was released for a period of final comment on November 24, 2022. The Adaptation Strategy reflects two years of engagement with all key sectors: provincial, territorial and municipal governments; First Nations, Inuit, and Métis representatives; key experts and stakeholders; and people from across Canada. The Strategy articulates a shared vision for climate resilience in Canada, identifies key priorities for increased collaboration, and establishes a framework for measuring progress at the national level.

Preventing and Managing Pollution

In 2022-23, ECCC continued to lead government-wide efforts to support a transition to a circular plastics economy. This entails expanding knowledge on plastics in the environment and the economy; developing

and implementing management measures; supporting innovation and market transformation; preventing and reducing plastic pollution; and reducing waste from federal operations.

In June 2022, the Government published the final [Single-use Plastics Prohibition Regulations \(SUPPR\)ⁱⁱ](#), which prohibit six categories of single-use plastics that are harmful to the environment and are difficult to recycle. The first prohibitions under the SUPPR, for 5 of the 6 categories, came into force in December 2022—checkout bags, cutlery, food service ware, stir sticks and straws—with the second prohibition on ring carriers to take effect in 2023. ECCC also continued to work with its provincial and territorial partners in the Canadian Council of Ministers of the Environment to implement the [Canada-wide Action Plan on Zero Plastic Wasteⁱⁱⁱ](#).

The Government also launched consultations on proposed recycled content regulations, proposed rules on recyclability and compostability labelling, and a proposed federal plastics registry. It also began work across the federal house and with other countries and stakeholders—including as an inaugural member of the High Ambition Coalition to End Plastic Pollution—to develop an ambitious and effective legally-binding global agreement on plastic pollution by 2024.

[Bill S-5—Strengthening Environmental Protection for a Healthier Canada Act^{iv}](#)—received Royal Assent on June 13, 2023. The Bill modernizes the [Canadian Environmental Protection Act, 1999 \(CEPA\)^v](#) and represents the first set of comprehensive amendments to CEPA since it was enacted over 20 years ago. With this Bill, the Government of Canada is delivering on its commitment to strengthen CEPA and recognize, for the first time in federal law, that every individual in Canada has a right to a healthy environment.

To protect the environment and Canadians from harmful substances, ECCC continued to collaborate with Health Canada to deliver Canada's [Chemicals Management Plan \(CMP\)^{vi}](#). As of March 31, 2023, the two departments had addressed 4,144 of 4,363 chemicals identified in 2006 as priorities for attention. In 2022-23, the CMP program published 17 final risk assessment reports and five final risk management instruments.

The Department also continued to protect water through the administration and enforcement of the pollution prevention provisions of the [Fisheries Act^{vii}](#) and its related regulations. This included the [Wastewater Systems Effluent Regulations^{viii}](#), the [Metal and Diamond Mines Effluent Regulations^{ix}](#), and the [Pulp and Paper Effluent Regulations^x](#). In addition, ECCC laid the groundwork for modernization of the *Pulp and Paper Effluent Regulations* as well as amendments to the *Wastewater Systems Effluent Regulations*.

The Great Lakes, St. Lawrence River and Lake Winnipeg are among Canada's most important freshwater resources. In 2022–23, ECCC continued to focus efforts on improving, restoring, and protecting these and other large waterbodies. Efforts included undertaking the science necessary to improve water quality and conserve and enhance aquatic ecosystems in these vital watersheds.

In 2022–23, ECCC also continued to work with its key federal partners — including Health Canada —to address air pollution. The aim is to improve air quality and reduce impacts on health and the environment. ECCC continued to collaborate with provinces and territories to implement the Air Quality Management System (AQMS) to reduce outdoor air pollution in Canada and worked internationally to continue to reduce transboundary air pollution impacting Canada.

Conserving Nature

On December 20, 2022, Canada—along with 195 other member nations —agreed on the Kunming-Montréal Global Biodiversity Framework at COP15 in Montréal. This historic global framework is designed to safeguard nature, halt and reverse biodiversity loss, and put nature on a path to recovery by 2050. The framework reflected and supported Canada's main goals: protect 30 percent of lands and waters by 2030; respect the rights and roles of Indigenous Peoples; and address the key drivers of biodiversity loss, such as pollution and overexploitation of nature.

Canada made major new nature conservation commitments and investments over the course of COP15, including:

- \$800 million to support up to four Indigenous-led conservation initiatives that, once completed, could protect up to an additional one million km²;

- Signing of the Canada–Yukon Nature Agreement to advance nature conservation and protection across the territory and support Indigenous leadership in conservation;
- \$350 million in new and additional funding to support developing countries in protecting nature; and
- \$255 million toward projects to help developing countries build a strong future, including by fighting climate change, protecting nature and supporting resilient local economies.

In 2022 the Department designated Edézhíe as a National Wildlife Area in addition to its status as a Dehcho Protected Area. Edézhíe is a pristine area of the Northwest Territories that is important for the Dehcho First Nations people. It is a cultural sanctuary for the Dehcho Dene, a critical habitat for boreal caribou and wood bison, and an important area for waterfowl and other migratory birds.

In November 2022, the Department announced up to \$34.1 million for the recovery and protection of some of Canada's most iconic species across the country. To date, federal, provincial, and territorial governments have identified six shared-priority species: boreal caribou; southern mountain caribou; Peary caribou; barren-ground caribou; greater sage-grouse; and wood bison.

Predicting Weather and Environmental Conditions

The national strategy [Resourceful, Resilient, Ready: Canada's Strategy for Satellite Earth Observation^{xi}](#) was released in 2022. Announced by the Minister of Innovation, Science and Industry alongside the Parliamentary Secretary to the Minister of Natural Resources and the Minister of Environment and Climate Change, the strategy is now being implemented to provide critical data to support agriculture, health, environmental protection, weather forecasting, security, and emergency response applications.

In 2022–23, ECCC's state-of-the-art weather forecasting, dissemination, and early warning systems continued to alert Canadians to approaching high impact weather such as severe storms, heatwaves, atmospheric rivers, and hurricanes. The Department's meteorologists continued to focus their attention on the storms that have the potential to affect Canada and to issue warnings according to a weather event's path, location, and intensity.

Over the course of the year, ECCC made further progress in implementing the Government of Canada's \$131 million Canadian Weather Radar Replacement Program that, when completed, will replace outdated technology with new radars. Twenty-six new radar systems had already been installed and a further seven were put in place in several communities across Canada in 2022–23.

In 2022–23, ECCC's National Hydrological Service continued to modernize and strengthen its engineering and technical capacity and its hydrometric infrastructure, and to put in place new technologies to gather and analyze water information. This completed a \$90 million federal government investment over five years.

For more information on ECCC's plans, priorities and results achieved, see the "[Results: what we achieved](#)" section of this report.

Results: what we achieved

Core Responsibilities

Taking Action on Clean Growth and Climate Change

Description¹

Through engagement with other federal departments and agencies, provinces, territories, Indigenous Peoples, and other stakeholders, and external experts, the Department will support and coordinate the implementation of the Pan-Canadian Framework on Clean Growth and Climate Change (PCF); work to reduce Canadian greenhouse gas (GHG) emissions; drive clean growth; develop regulatory instruments; support businesses and Canadians to adapt and become more resilient to climate change; and contribute to international climate change actions to increase global benefits.

Results

Departmental Result:
Canadian greenhouse gas and short-lived climate pollutant emissions are reduced

In 2022-23, ECCC continued to implement and build on Canada's climate commitments through the development of new regulations to achieve zero-emissions vehicle targets, increase methane reductions from oil and gas, and achieve net-zero electricity. Climate change remains a fundamental challenge for Canada and the world, with significant impacts on the environment, economy, and social well-being. The science is clear: global emissions must reach net-zero by 2050 to limit warming to 1.5°C. The earlier Canada takes action to address climate change, the more effectively the country can reduce its risk and protect the health and safety of Canadians. As investors, consumers, and governments increasingly base their decisions on environmental sustainability, taking climate action now is also a critical economic opportunity.

As a member of the Arctic Council, Canada has committed to producing an annual inventory of black carbon emissions. This annual inventory is continuously improved, serves to inform Canadians about black carbon emissions, and provides valuable information for the development of air quality management strategies.

ECCC is working to help Canada meet the Government's 2030 emissions reduction target of 40 to 45 percent below 2005 levels and set the foundation to achieve net-zero emissions by 2050. In collaboration with other federal departments, provincial and territorial governments, and Indigenous partners, this work is focused on implementation of measures included in the 2030 Emissions Reduction Plan (ERP). Respect for shared constitutional jurisdiction on matters of the environment continued to be a fundamental pillar of the Government of Canada's engagement on these issues.

ECCC is committed to strengthening federal-Indigenous climate partnerships. Highlights from 2022-23 include:

- A return to in-person meetings of the bilateral tables on clean growth and climate change with First Nations, Inuit and Métis, following multiple years of virtual meetings due to the pandemic.
- The release, in July 2022, of the First Nations–Canada Joint Committee on Climate Action's (JCCA) fourth annual report to the Prime Minister and the National Chief of the Assembly of First Nations (AFN). The JCCA provides a unique opportunity for federal and First Nations representatives to work together to develop and implement a model of partnership for climate action to grow an inclusive, clean, and prosperous future together. First Nations are uniquely and disproportionately affected

¹ The Taking Action on Clean Growth and Climate Change core responsibility description was updated in the 2023-24 Departmental Plan to reflect the evolution of Canada's environmental policy landscape and the provision of recent authorities. The description presented here reflects that which was published in the 2022-23 Departmental Plan, prior to this update.

by climate change. They are experiencing an increase in threats caused by wildfires, permafrost thaw, changing wildlife patterns, diminishing access to traditional food sources, and flooding. Their experiences and knowledge related to the environment and climate change are diverse and unique. For these reasons, First Nations' knowledge systems, self-determination, and rights continue to be increasingly woven into all federal climate policy and program development.

- The joint announcement, in December 2022, with Canada and British Columbia, of an investment of up to \$600,000 from the Low Carbon Economy Fund to help the Kwadacha and Heiltsuk Nations create and expand their organic processing capacity. The Nations will also contribute nearly \$150,000 each toward their projects, which will reduce emissions by composting organic waste within the communities and reduce the amount of waste that needs to be transported from these two remote First Nations communities to landfills. The project will also create opportunities for local jobs and will create Class A compost to boost local food production.

In 2022-23, ECCC also undertook a number of efforts to increasingly engage and incorporate Indigenous knowledge into climate science. The Department:

- Launched and led a government-wide Indigenous Voices seminar series with over 500 participants;
- Supported the Indigenous participation of representatives and scholars in many of its international delegations and fora, such as the [27th Conference of the Parties \(COP27\)^{xii}](#) to the *United Nations Framework Convention on Climate Change (UNFCCC^{xiii})*, the [15th Conference of the Parties \(COP15\)^{xiv}](#) to the United Nations *Convention on Biological Diversity^{xv}* (CBD), and the Intergovernmental Panel on Climate Change (*IPCC^{xvi}*);
- Presented the work of ECCC's Indigenous Science Division, as well as a panel with Indigenous experts on caribou and polar bears at COP27; and
- Made advancements in integrating Indigenous and western scientific knowledge and information to improve effective decision-making in the Oil Sands Monitoring Program through effective co-leadership.

In 2022-23, Canada launched the Net-Zero Challenge

to encourage businesses with operations in Canada to develop credible and effective plans to transition their facilities and operations to net-zero emissions by 2050. The program was launched in August 2022 by the Minister of Environment and Climate Change, with 12 initial participants, and grew to 68 participating businesses by March 2023. Participating companies benefit from technical guidance, best practices, a community of peer businesses, and the opportunity to highlight their commitment to achieving net-zero emissions. The Net-Zero Challenge includes participation tiers to encourage ambition in net-zero planning.

In 2022-23, ECCC also continued building on Canada's federal climate action and commitments, focused on zero emissions targets. This work included:

- Publishing the *Clean Fuel Regulations*;
- Putting in place a sales mandate for 100 percent of new light-duty vehicles sold in Canada to be zero emissions by 2035;
- Submitting Canada's updated Long-term Strategy, including net-zero scenarios for 2050, to the *United Nations Framework Convention on Climate Change (UNFCCC)*;
- Publishing [Canada's Methane Strategy^{xvii}](#) that provides a pathway to further reduce methane emissions from across the economy;

Canadian Net-Zero Emissions Accountability Act

The [Canadian Net-Zero Emissions Accountability Act](#) received Royal Assent in June 2021, giving legal force to the achievement of the goal of net-zero GHG emissions by 2050 and requiring the government to set national GHG targets in five-year intervals, with each target being set at least 10 years in advance. The Act also formally establishes in legislation the Net-Zero Advisory Body (NZAB), a diverse body of experts who will provide the Minister of the Environment with advice for achieving net-zero emissions. The NZAB submitted its first annual advice to the Minister in December 2022, and the Minister formally responded to the advice in April 2023.

Canada's first [Emissions Reduction Plan](#) under the Act was released in March 2022 which highlights actions being taken to achieve Canada's 2030 target and puts Canada on the pathway to net-zero emissions by 2050. The Act provides accountability and transparency in the climate accountability process by requiring the Government of Canada to provide the opportunity for provincial/territorial governments, Indigenous peoples, the Net-Zero Advisory Body, and the public to make submissions in the development of a target or plan.

- Committing to reduce methane emissions from the oil and gas sector by at least 75 percent by 2030;
- Continuing to phase out the unabated coal-fired electricity grid by 2030; and
- Developing clean electricity regulations to achieve a net-zero grid by 2035.

Over the course of 2022-23, Canada supported the successful completion of the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Cycle (AR6), with the release of the AR6 Synthesis Report in March, 2023. This report informs Canada's decision making on climate policy—both domestically and internationally—by providing the most current, comprehensive and authoritative scientific assessment of climate change, its widespread impacts and risks, and the action needed to adapt to and mitigate climate change.

ECCC also facilitated the participation of over 20 lead authors to the [Sixth Assessment Report](#)^{xviii} and provided leadership on both the IPCC Bureau and the Bureau of the Task Force on National Greenhouse Gas Inventories. ECCC further ensured Canada's contributions to the Sixth Assessment Report that considered a diverse range of views through engagement with other federal departments, provinces and territories, National Indigenous Organizations, and international partners in Synthesis Report reviews and approvals. Many additional Canadian scientists contributed to the IPCC AR6 as contributing authors, experts and government reviewers, and as Canadian Delegates to meetings of the IPCC.

On International Youth Day— August 12, 2022—ECCC announced its first cohort of the [Environment and Climate Change Youth Council \(ECCYC\)](#)^{xix}. The ECCYC is a group of 10 youths who advise on key environmental and climate issues to inform decisions by the Government of Canada. Members have participated in various engagement opportunities to share their views and insights, including the UNFCCC [COP27](#)^{xx} in Egypt, the *United Nations Convention on Biological Diversity* (UNCBD) COP15 in Montreal, and the UN Water Conference in New York City. The ECCYC advised on climate change, nature conservation, climate communications, and the National Adaptation Strategy, and led and engaged in dialogues with youth on climate education and biodiversity.

Long-term Strategy (LTS) to Net-Zero

In October 2022 the Government of Canada submitted its Long-term Strategy (LTS) *Exploring Approaches for Canada's Transition to Net-Zero Emissions* to the *United Nations Framework Convention on Climate Change*. Building on Canada's efforts in the Emissions Reduction Plan, the LTS outlines several illustrative pathways that Canada could take to achieve its target of net-zero emissions by 2050.

ECCC, in collaboration with Natural Resources Canada, launched in July 2022 formal consultations on a key commitment in the Government's 2030 Emissions Reduction Plan (ERP). Specifically, the ERP sets out an approach to fight climate change while creating jobs and building a strong economy for generations, focused on capping and cutting emissions from the oil and gas sector. This phase of engagement followed more than six months of preliminary meetings with key interested parties. The oil and gas sector is Canada's largest and fastest growing source of emissions. To remain competitive in a tighter future market, Canadian

production will have to reduce its carbon intensity while the sector also explores opportunities to transition to non-emitting products and services. Reducing oil and gas emissions is key to achieving Canada's emission targets and driving meaningful climate action. It will also create sustainable, long-term economic growth and provide affordable, clean energy. During the formal comment period, the Government of Canada received over 25,000 written submissions in response to the ERP discussion paper and held a number of information webinars with interested parties.

At COP27 in Egypt, the Minister of Environment and Climate Change indicated that the emissions cap is being developed on an accelerated timeline, while balancing the need for meaningful engagement. Engagement with provinces, territories, Indigenous Peoples, industry, non-government organizations, and other Canadians continued into the spring of 2023.

Electrifying more activities—from vehicles to heating and cooling buildings to various industrial processes—will be needed for Canada to transition to net-zero emissions by 2050. To do that, Canada needs to both increase the supply of electricity and ensure that all electricity generation has net-zero emissions. In July 2022, the Government released a regulatory frame document and worked with provinces, territories, and Indigenous partners, as well as industry and civil society, to inform the development of the regulations.

ECCC announced in April 2022 plans to develop guidance that will require proponents of new oil and gas production projects subject to a federal impact assessment to demonstrate that they will have “best-in-class” low-emissions performance. As a major economic contributor and Canada's largest source of greenhouse gas emissions, the oil and gas sector has a critical role to play in meeting Canada's climate objectives. To remain competitive in a global market that is moving away from fossil fuel combustion to address climate change and enhance energy security, new Canadian oil production subject to federal impact assessment will have to meet even higher standards. New projects would have to deliver emissions performance—the amount of greenhouse gas pollution it takes to produce a barrel of oil or cubic metre of natural gas—that is best in class, and all future oil and gas projects would have to be net-zero by 2050.

The new guidance from ECCC explains how proponents of new oil and gas projects subject to a federal impact assessment should use the analysis required by the Government of Canada's strategic assessment of climate change (SACC) to demonstrate that the project will be “best in class,” such as by:

- identifying the relevant best-in-class emissions performance by comparing proposed projects to leading projects globally (including in Canada) within the same activity as the proposed project;
- demonstrating whether, when and how the project will achieve that best-in-class emissions performance; and
- describing how the project will remain best-in-class over its lifetime and net-zero by 2050.

In 2022–23, ECCC continued to implement the Pan-Canadian Approach to Pricing Carbon Pollution. This initiative focuses on strengthening the minimum national stringency standards (‘federal benchmark’) for all carbon pricing systems for the 2023-2030 period, including a rising carbon pollution price trajectory from \$65 per tonne of carbon dioxide equivalent (CO₂e)² in 2023, and increasing by \$15 per year to \$170 in 2030.

Canada's approach to pricing carbon pollution gives provinces and territories the flexibility to implement carbon pollution pricing systems tailored to their circumstances, aligned with the federal benchmark requirements. The Government of Canada implements the federal backstop carbon pollution pricing system in jurisdictions that request it or that choose not to implement a system aligned with the federal benchmark. The federal system includes a regulated charge on fossil fuels, and a performance-based trading system for industry - the federal [Output-Based Pricing System](#)^{xxi}.

ECCC also launched Canada's Greenhouse Gas Offset Credit System Regulations in June 2022.

A key measure in Canada's 2030 Emissions Reduction Plan, the offset credit system will encourage cost-effective GHG reductions and removals³ from activities that are not covered by carbon pricing, including in the agriculture, forestry and waste sectors. The offset system will give municipalities, foresters, farmers, Indigenous communities and others a market-based incentive to undertake innovative projects that reduce GHGs by preventing emissions and removing GHGs from the atmosphere. Under the system, registered participants can carry out projects following a federal offset protocol, which sets out a consistent approach for measuring GHG emissions reductions or removals for specific types of projects. These projects can generate one tradeable offset credit for every tonne of GHG emissions they reduce or remove from the atmosphere. There are no limits on who can purchase federal GHG offset credits. Offset credits can be sold and used for compliance by facilities covered in the federal Output-Based Pricing System or sold and used by other firms, governments, or individuals to meet voluntary climate targets or commitments, such as corporate net-zero goals.

Net-Zero Advisory Body

Under the *Net-Zero Accountability Act*, the Net-Zero Advisory Body (NZAB) is established as a Governor in Council-appointed body to provide the Minister of Environment and Climate Change with independent advice on achieving net-zero emissions by 2050. Through a dedicated Secretariat, ECCC provides logistical, administrative, and policy support to the NZAB, including planning and delivering on the Advisory Body's activities, and producing its annual reports and corporate plans.

In addition, in November 2022 the Government announced [Climate Action Incentive payment](#)^{xxii} amounts for the coming year in provinces that have adopted the federal approach. Climate Action Incentive payments are how the Government of Canada returns the proceeds of pollution pricing directly to

² The number of metric tons of CO₂ emissions with the same global warming potential as one metric ton of another greenhouse gas

³ Removals refer to the extraction from the atmosphere and long- term storage of greenhouse gases.

households. Putting a price on pollution remains the most effective, cost-efficient way to fight climate change by creating incentives for individuals, households, and businesses to choose lower-carbon options and drive innovation in clean technologies. For eight out of 10 Canadians who receive Climate Action Incentive payments, the federal pollution pricing system actually puts more money back into their pockets.

ECCC continued to implement regulations to reduce GHG emissions from the oil and gas, transportation, electricity and other industrial sectors that contribute significantly to total GHG emissions in Canada. In June 2022, ECCC published final [Clean Fuel Regulations^{xxiii}](#) (CFR), which set increasingly stringent requirements on producers and importers to reduce the carbon intensity of gasoline and diesel. The CFR are based on a lifecycle carbon intensity approach that takes into account the emissions associated with all stages of fuel production and use—from extraction through processing, distribution, and end use. Registered creators, foreign suppliers and carbon-intensity contributors may use the Government of Canada's [Fuel Life Cycle Assessment \(LCA\) Model^{xxiv}](#)⁴ for the purpose of creating credits under the *Clean Fuel Regulations*. The *Clean Fuel Regulations* will reduce the lifecycle carbon intensity of liquid fuels used in Canada and will support the production of cleaner fuels to further enable the changes required for long-term decarbonization in Canada.

Once fully implemented, the CFR will help cut up to 26.6 million tonnes of greenhouse gas pollution in 2030, or roughly the amount of GHGs currently generated by the entire Canadian economy in two weeks. The Government expects the CFR to drive significant economic opportunities in the development and use of clean fuels and technologies. In moving to adopt regulations that focus on emissions throughout the lifecycle of fuels, Canada is following similar approaches that already exist in British Columbia, California and Oregon. These jurisdictions have benefited from the expansion of clean technology industries as a result of these regulations.

In combination with the Government's \$1.5 billion [Clean Fuels Fund^{xxv}](#), the CFR will create incentives for the increased domestic production of low-carbon-intensity fuels (such as ethanol). This will create economic opportunities for biofuel feedstock providers, such as farmers and foresters. It will also help Canadian fuel producers to compete in the rapidly expanding global market for clean energy. Working in tandem with pollution pricing and the forthcoming oil and gas emissions cap, the CFR will also help diversify energy choices and promote faster adoption of zero-emission vehicles by incentivizing the deployment of vehicle-charging infrastructure. Additional measures taken in 2022-23 to achieve emissions reduction goals include:

- Publication of proposed regulations in December 2022 that set zero-emissions vehicle (ZEV) sales targets for manufacturers and importers of new passenger cars, sport-utility vehicles (SUVs) and pickup trucks. These regulations will require that at least 20 percent of new vehicles sold in Canada will be zero emission by 2026, at least 60 percent by 2030, and 100 percent by 2035.
- The development of emissions standards for heavy-duty vehicles and engines that are aligned with the most stringent standards in North America and require that 100 percent of medium- and heavy-duty vehicle sales be zero-emission by 2040 for a subset of vehicle types (based on feasibility), with interim 2030 targets and the exploration of interim targets for the mid-2020s.
- Work to strengthen Canada's light-duty vehicle regulations for the post-2026 period by aligning them with the new emission standards proposed by the US Environmental Protection Agency (EPA) in spring 2023. Canada will also align with the most stringent GHG performance standards in North America on medium and heavy-duty vehicles.
- Collaboration with California—via the recent memorandum of understanding with the California Air Resources Board—on measures to advance clean transportation and GHG emissions reductions.

⁴ This is a tool to calculate the life cycle carbon intensity of fuels and energy sources used and produced in Canada.

To support climate action across the country, ECCC continued to implement the original [Low Carbon Economy Fund^{xxvi}](#) (LCEF), which provides up to \$2 billion in funding to reduce carbon pollution. Specifically, in 2022–23, the Department continued to implement the LCEF (up to \$1.4 billion) by continuing to provide support to stimulate provincial and territorial climate action, with a focus on deploying proven low-carbon technologies that will result in GHG emissions reductions in 2030. The Department also continued to administer the second component of the original LCEF, the Low Carbon Economy Challenge Fund, which provides approximately \$494 million in support of projects that generate clean growth, reduce GHG emissions, and help meet Canada's [Paris Agreement^{xxvii}](#) commitments.

Low Carbon Economy Fund Projects

The [Low Carbon Economy Fund](#) (LCEF) supports innovative projects to encourage and support the transition to a low carbon future with clean technologies, such as investments of:

- up to \$17.5 million from the federal LCEF and \$28.5 million from the Government of Québec to support Ciment Québec, under the [EcoPerformance](#) program, to install a new energy-efficient cement grinding workshop at the Saint-Basile cement plant.
- \$2.8-million in SaskPower's [Northern First Nations Home Retrofit Program](#), complemented by SaskPower contributions of over \$1.0 million, to support energy efficiency home retrofits in participating First Nations communities.
- over \$630K to support the installation of solar energy systems through the SaskPower [Net Metering Program](#) to enable Cowessess First Nation to produce its own green energy. The investment is complemented by Cowessess First Nation contributions of over \$240K to expand their green footprint at home on the reserve.

In 2022-23, ECCC worked to better communicate the impact of climate change and improve science-based communications. This included partnering with ScienceUpFirst (SUF) on its climate initiative. SUF works to share the best available science to address climate change misinformation and enhance climate literacy. In 2022-23, ECCC's support helped SUF build a network of science and community organizations, develop and share science-based information about climate change and health, and lead research on how people navigate the sea of climate change information, and on the value of trusted sources of information.

In 2022-23, Canada took a major next step in tackling methane emissions, with the release of "[Faster and Further: Canada's Methane Strategy^{xxviii}](#)" in September 2022. Cutting methane emissions is one of the fastest and most cost-effective ways to combat near-term climate change. The Methane Strategy provides a pathway to further reduce methane emissions from across the economy while supporting Canadian technology and creating good-paying jobs. It builds on Canada's existing progress and commitments, including the [2030 Emissions Reduction Plan^{xxix}](#). From being the first country to establish national oil and gas methane reduction regulations to investing in our world-class science and clean tech sector, and helping other countries reduce their methane emissions, the Methane Strategy positions Canada to continue leading in reducing methane emissions domestically and driving ambitious reductions internationally. Canada continues to play an active role in global initiatives to reduce methane emissions, including the [Global Methane Initiative^{xxx}](#), the [Climate and Clean Air Coalition^{xxxi}](#), the [International Methane Emissions Observatory^{xxxii}](#), and the [Arctic Council^{xxxiii}](#). The Methane Strategy outlines how Canada will:

- Implement measures across sectors of the economy, including oil and gas, to reduce the largest sources of methane emissions.
- strengthen the clean technology sector and provide tools to industry to achieve cost-effective methane emission reductions while creating good-paying jobs.
- advance scientific knowledge and technical capacity to improve methane detection, measurement, and reporting.
- meet international climate targets under the Paris Agreement and Global Methane Pledge.
- solidify its global leadership and provide funding, tools, and best practices for other countries to achieve emissions reductions.

Benefits of Reducing Methane Emissions

Lowering methane emissions can also have positive impacts globally on air quality and public health. At the global scale, methane contributes to the formation of ground-level ozone that causes serious health problems such as reduced lung function and asthma attacks, and is responsible for half a million premature deaths.

With the measures outlined in the Methane Strategy, Canada will reduce domestic methane emissions by more than 35 percent by 2030, compared to 2020 levels. This will exceed the Global Methane Pledge target of 30 percent that Canada signed on to last year.

At COP27 in November 2022, Canada announced increased cooperation with the United States on reducing oil and gas sector emissions, with a special focus on methane. Canada joined the [Joint Declaration from Energy Importers and Exporters on Reducing Greenhouse](#)

[Gas Emissions from Fossil Fuels](#)^{xxxiv} and reaffirmed its commitment to reduce methane emissions by at least 75 percent by 2030. To help achieve these goals, Canada published a regulatory framework to help to inform consultations and the development of stricter oil and gas methane regulations. It also joined the International Methane Emissions Observatory to help monitor and share methane emissions data gathered by satellites.

The Department continued to administer the [Climate Action and Awareness Fund](#)^{xxxv} (CAAF)—a funding initiative launched in September 2020 that will invest approximately \$200 million over five years. The CAAF supports Canadian projects that help to reduce Canada's GHG emissions and build a sustainable net-zero emissions economy by 2050.

The CAAF is supported by the historic \$196.5 million fine paid by Volkswagen for circumventing Canada's environmental protection rules—the largest environmental fine in Canadian history. In 2022–23, ECCC will continue to apply monies from this fund to support environmental initiatives under three priorities: youth climate awareness and community-based climate action; advancing climate science and technology; and supporting climate research at Canadian think tank organizations and in academia.

ECCC announced in November 2022 that up to \$58 million from the CAAF will be invested in 24 projects that will advance science and technology to fight climate change. Led by 12 universities and one non-governmental organization, these projects will strengthen Canada's science knowledge and be used to identify, accelerate, and evaluate actions leading to net-zero greenhouse gas emissions. These projects will also create employment for Canadians who work in science and technology fields. Other examples of funded initiatives include:

- A \$5.9 million investment in Let's Talk Science, which will engage over 600,000 youth across Canada in climate science awareness and action through regional events, action projects, hands-on activities and a suite of digital resources, including career information. In partnership with the Royal Society of Canada (RSC), including members of the College of New Scholars, Artists and Scientists, Let's Talk Science engages diverse experts in the development of youth events, volunteer and educator training, action projects and resources. All activities and events in this project are locally relevant and will be accessible to children and youth from coast to coast to coast.
- The Science North's new Climate Action Show, which received \$6 million in funding and opened in July 2022. The multi-media, immersive theatrical experience is one of the next-generation elements of Science North's overall youth outreach. Science North is leading a series of high-impact climate action outreach projects to engage the next generation of Canadians on the critical issues of climate change. This includes The Climate Action Show, travelling exhibits, and a climate action digital campaign. Through these projects, Science North will reach two million youth across Canada, improving their understanding of climate change and inspiring action that reduces greenhouse gas emissions.
- The Halifax Discovery Centre's Inspiring Youth to Climate Action project, which received \$6 million and will partner with 30 science centres across the country to engage some 200,000 youth in every province and territory to take real action to fight climate change.
- The Clean Foundation's Youth Climate Action Now (YouCAN) project, which received \$4.5 million to engage and empower 70,000 youth to take climate action in their own lives and communities, including by providing professional learning to 2,000 educators to give them tools to support youth in their climate action initiatives.

- The Project 2050: Community Climate Challenge, where Earth Rangers which received \$3.3 million to engage 300,000 children aged 6 to 12 across Canada to take collective action at home, at school, and in their communities.

As identified in Canada's new climate plan, [A Healthy Environment and a Healthy Economy](#)^{xxxvi}, ECCC continued to work with federal partners, provinces, territories, conservation organizations, Indigenous Peoples, the private sector, and civil society to implement new investments in nature-based climate solutions. Climate change and biodiversity loss are dual crises, for which integrated and complementary solutions are both crucial and urgent. Canada has a role to play in implementing such solutions, in part because it has one of the world's largest carbon stores in its vast landscapes of forests, wetlands, peatlands, and other carbon-rich ecosystems. Initiatives funded in 2022-23 under the overarching Natural Climate Solutions Fund include:

- \$3.16 billion over 10 years to plant two billion trees (led by Natural Resources Canada);
- \$1.4 billion over 10 years to enhance wetland, peatland, grassland and agricultural carbon sequestration potential through the Nature Smart Climate Solutions Fund (NSCSF); and
- \$185 million over 10 years to establish a new Agricultural Climate Solutions program (led by Agriculture and Agri-Food Canada).

In 2022-2023, ECCC invested \$41.1M in 39 [Nature Smart Climate Solutions Fund](#)^{xxxvii} (NSCSF) place-based projects across Canada to reduce greenhouse gas emissions through the protection, enhanced management, and restoration of ecosystems. Additionally, ECCC invested \$3.6M in 22 NSCSF sector-based policy projects to engage the forest, agriculture, urban development, mining, and oil and gas sectors in updating, developing and/or implementing policies and tools to reduce net greenhouse gas emissions. Another \$3.6M was invested in 15 projects under the Indigenous-Led Natural Climate Solutions (ILNCS) stream to build capacity and to undertake on-the-ground activities for ecological restoration, improved land management, and conservation. Four methodological improvements related to capturing natural climate solutions in the National Inventory Report were made. Canada's new climate plan incorporates nature-based climate solutions as one of its five pillars. It also complements Canada's international efforts, including in developing countries where Canada has committed to assign at least 20 percent of funding through its climate finance commitment towards projects that leverage nature-based climate solutions with biodiversity co-benefits.

Departmental Result:

Canadian communities, economies and ecosystems are more resilient

In 2022-23, the [Canadian Centre for Climate Services](#)^{xxxviii} (CCCS) continued to work with partners and stakeholders to help Canadians increase their resilience to climate change. Initiatives focused on information, training, guidance, and resources to support climate-smart decisions. The CCCS, in collaboration with its partners, released new information and features on [ClimateData.ca](#)^{xxxix}, including climate change-scaled Intensity-Duration-Frequency (IDF) data (an indicator of extreme precipitation) and the release of [Coupled Model Intercomparison Project Phase 6](#)^{xl} (CMIP6) projections for temperature, precipitation, and related indices. Several enhancements and features were added to the [Map of Adaptation Actions](#)^{xli} (launched in 2021 in collaboration with Natural Resources Canada) to increase its functionality and usability, along with 75 new examples of adaptation actions.

The CCCS also launched the Climate Services Speaker Series, focused on providing a forum for climate services experts from across the country to share their work and expertise with a non-technical audience. The CCCS developed and piloted new learning resources for Indigenous audiences and delivered tailored training sessions, including an introductory course on using climate data for federal public servants, and targeted training for health sector professionals, contaminated sites managers, and the energy sector. The CCCS continued to provide support to enquiries received through the Climate Services Support Desk, responding to more than 700 clients from across Canada (more than a 35% increase compared to 2021-2022), while maintaining high client satisfaction ratings.

In 2022-23, the CCCS prepared to start working on the Climate Data Strategy (CDS). The CDS is a key commitment of ECCC's Ministerial 2021 Mandate Letter that calls for the creation of a Strategy to "ensure that the private sector and communities have access to data to inform planning and infrastructure

investments". The intent and scope of this commitment were explored, along with a governance structure for the Strategy. Work on developing the Strategy will officially start in 2023-24.

ECCC released Canada's first [National Adaptation Strategy](#)^{xliii} for final comment in November 2022. The strategy reflects two years of engagement with provincial, territorial, and municipal governments; First Nations, Inuit, and Métis representatives; key experts and stakeholders; and people from across Canada. It establishes a shared vision for climate resilience in Canada and is underpinned by a set of guiding principles to ensure adaptation investments and solutions in Canada are fair, inclusive, and equitable. It unites actors from across Canada through shared priorities, cohesive action, and a whole-of-society approach to reducing climate change risks. The Strategy sets ambitious goals and near-term objectives in five systems that are key to building climate resilience across society:

- Reducing the impacts of climate-related disasters
- Improving health and wellbeing
- Protecting and restoring nature and biodiversity
- Building and maintaining resilient infrastructure
- Supporting the economy and workers

ECCC also continued to provide global and regional climate model projections, using different future greenhouse gas emission scenarios, ensuring dissemination to users and stakeholders across the country to inform adaptation planning, infrastructure design and risk assessment. This continued effort is important in ensuring that decisions are made using the latest climate science.

The [Government of Canada Adaptation Action Plan](#)^{xliiii} was released in November 2022, alongside the [National Adaptation Strategy](#). The Action Plan is the federal government's contribution to implementing the Strategy. It sets out strategic and targeted actions to help meet the Strategy's goals and objectives. The Action Plan includes nearly \$1.6 billion in new investments, which include reducing risks to wildfires and flooding, building resilient infrastructure and communities, preparing health systems for climate change, and accelerating adaptation in our environment and our economy.

In 2022-23, ECCC also partnered with the climate consortium Ouranos in the planning of the seventh Adaptation Futures international conference series on global adaptation, scheduled to take place in Montreal in October 2023.

On International Day of Awareness of Food Loss and Waste—September 29, 2022—ECCC, in collaboration with Agriculture and Agri-Food Canada, announced investments of up to \$1.4 million and \$10 million respectively to support Redcliff Cypress Regional Waste Management Authority and PurEnergy Inc.'s waste emissions reduction initiatives, respectively.

- Redcliff Cypress Regional Waste Management Authority, in Redcliff, Alberta, will reduce carbon dioxide and methane emissions by diverting organic waste from a landfill with the help of a compost treatment facility.
- PurEnergy Inc., in Havelock Township, Ontario, will build a waste diversion facility that diverts organic waste from a landfill and processes it using anaerobic digestion to produce biogas and fertilizer.

This federal funding comes from the Low Carbon Economy Fund (LCEF), which invests in projects that help to reduce carbon pollution and supports the adoption of clean technologies for a broad range of recipients across Canada.

In addition, in September 2022, ECCC announced investments of up to \$250 million over four years, through the LCEF, to help make home heating more affordable for families across the country. With a focus on lower-income households, this funding will help homeowners who currently use home heating oil move to more affordable and greener home heating sources, like electric heat pumps. At current energy rates, switching from heating oil to a heat pump has the potential to save homeowners thousands of dollars per year in heating bills.

Departmental Result:
Canada contributes to reducing greenhouse gas emissions and increasing climate resilience globally

In addition to its domestic actions, Canada continued to take a leadership role to advance the phasing out of coal internationally. Coal is one of the most significant sources of carbon emissions and air pollution in the world where the production of electricity from coal has major adverse environmental and health impacts. Approximately 40 percent of the world's (and 6 percent of Canada's) electricity comes from burning coal. In 2022-23, Canada continued to co-chair the Powering Past Coal Alliance (PPCA), a coalition of governments (both national and sub-national), industry, businesses, and finance institutions, co-led by Canada and the United Kingdom, that are committed to ending emissions from coal in support of global climate action. Together, members have committed to phase out nearly 35 percent of the [Organization for Economic Cooperation and Development^{xliv}](#) (OECD)'s total coal capacity, which represents around 20 percent of the world's coal capacity outside of China.

Canada, together with the United Kingdom, in November 2022, announced the release of [Powering Past Coal^{xlv}](#), the first global review of the state of coal phase-out, which showcased Canada's coal phase-out policy experience and community-level efforts towards a just transition from coal power in Leduc County, Alberta. The report's release marked five years of progress by the [Powering Past Coal Alliance^{xvi}](#), which announced that the Alliance has now reached over 165 members strong, and helped ensure that over 75 percent of coal power in OECD member countries is retired or scheduled to close by 2030. Over 30 financial institutions representing more than \$17 trillion in assets have joined the Alliance, committing to robust policies to curb coal power finance that are consistent with the [United Nations' Race to Zero Campaign^{xvii}](#)—the world's largest coalition of organizations aligned with net-zero goals.

In addition to progress of the Powering Past Coal Alliance, ECCC announced two new initiatives helping developing countries transition to clean energy, funded under Canada's \$5.3 billion climate finance commitment:

- \$5 million for the Southeast Asia Energy Transition Partnership to support coal phase-out in Indonesia, the Philippines, and Vietnam.
- \$5 million to the OECD to support its Clean Energy Finance and Investment Mobilisation program.

At [COP27^{xlviii}](#), Canada fought hard so that the world did not backslide on phasing out fossil fuel subsidies and coal, still the single largest sources of CO₂ emissions, and reiterated its commitment to phase out fossil fuel subsidies by 2023, two years earlier than the [Group of Twenty \(G20\)^{xlix}](#) commitment. The agreement also calls on multilateral development banks and financial institutions to reform their practices, ensure greater access to climate finance, and develop operational models to adequately address the global climate emergency.

Canada, along with nearly 200 other countries, strengthened its climate commitments at COP27 by reaching an agreement on the Sharm el-Sheikh Implementation Plan, the next step forward for climate ambition under the Paris Agreement. Climate change is a global crisis that affects all countries, but not all equally. Developing countries are issuing urgent calls for help in combating the worst impacts for which they are the least prepared. COP achieved a historic result for the creation of a fund for assisting developing countries that are particularly vulnerable to loss and damage that are caused by the adverse effects of climate change.

At COP27, Canada reaffirmed its commitment to help the world's most vulnerable combat the impacts of climate change by announcing several practical initiatives totaling \$84.25 million through its \$5.3 billion international climate finance commitment and other sources of funding. This includes \$24 million for critical areas, such as loss and damage, access to climate finance, and climate governance, and \$4 million to help Small Island Developing States (SIDS) in the Caribbean, including Belize, Grenada, Guyana and Saint Lucia to reduce methane emissions and achieve their climate target under the Paris Agreement. Canada remained steadfast in its commitment, including working in partnership to reach the collective goal of mobilizing US\$100 billion as soon as possible.

Canada committed \$10 million to support the Climate Risk and Early Warning Systems (CREWS) initiative. This is part of Canada's renewed commitment to help build and improve early warning systems in

developing countries. By providing funding to the CREWS initiative, Canada is helping countries that are particularly vulnerable to climate and weather-related disasters gain access to authoritative weather and climate information and services. Canada also announced that it is joining the [Least Development Countries \(LDC\) Initiative for Effective Adaptation and Resilience \(LIFE-AR\)](#)ⁱ that is putting people and communities at the center of climate adaptation efforts. Locally-based and gender-balanced initiatives such as this are at the core of Canada's approach to climate finance.

The Department also committed \$20 million over four years to support four West African countries—Ghana, Liberia, The Gambia and Togo—in building capacity with regards to their national climate measurement, reporting and verification (MRV) systems. MRV systems are a crucial step for nations to develop strong and effective mitigation policies and actions because they give governments transparent, accurate and comparable information on emissions sources.

In collaboration with the Pacific Economic Development Agency of Canada, in November 2022 ECCC announced several practical initiatives, totaling \$24 million, that respond directly to the needs and priorities of developing countries. The projects, funded through Canada's \$5.3 billion International Climate Finance Commitment, directly respond to the needs and priorities of developing countries in three critical areas:

- **Loss and Damage:** Contributions to the Global Shield Financing Facility will help make climate-vulnerable countries more resilient and protect the lives and livelihoods of the most vulnerable, including women and girls.
- **Climate Governance:** Contributions to help developing countries build real, institutional capacity in advancing their Nationally Determined Contribution implementation and transparency.
- **Climate Finance:** Ahead of COP27, Canada and Germany released a Progress Report on the Climate Finance Delivery Plan that looks at the collective progress and key actions still required by developed countries to deliver on the commitment to jointly mobilize US\$100 billion in climate finance per year, as soon as possible.

Data Systems to Help Developing Countries Fight Climate Change

In 2022–23 Canada continued to help partner countries take climate action, build resilience and transition to a cleaner and low-carbon future. This includes a commitment of \$4.5 million, over four years, to support Pacific Alliance countries—Mexico, Peru, Chile and Colombia—in strengthening their national climate measurement, reporting, and verification (MRV) systems. MRV systems are critical for nations to develop strong and effective mitigation policies and actions because they provide governments with transparent, accurate, and comparable information on emissions sources.

At COP27ⁱⁱ in November 2022, the Minister of Environment and Climate Change, and Chile's Minister of the Environment, officially rolled out the [Global Carbon Pricing Challenge \(GCPC\)](#)ⁱⁱⁱ. This is a Canadian-led initiative that calls on all countries to adopt an explicit carbon pricing system as a central part of their climate strategies. This informal partnership of jurisdictions committed to carbon pricing aims to expand the use of pollution pricing by strengthening existing systems and supporting emerging ones.

The Challenge creates a forum for dialogue and coordination to accelerate the adoption of carbon pricing globally. GCPC partners include Canada, the UK, Germany, New Zealand, Chile and South Korea. The EU and international organizations, including the [International Energy Agency](#)ⁱⁱⁱⁱ (IEA) and the World Bank also support this initiative. At present, about 23 percent of global GHG emissions are covered by carbon pricing. The Global Carbon Pricing Challenge is working towards a collective goal of covering 60 percent of global emissions by 2030.

In May 2022, the Minister of Environment and Climate Change hosted the sixth Ministerial on Climate Action (MoCA6) in Stockholm, Sweden. The meeting occurred at the key halfway point between COP26, held in Glasgow in late 2021, and COP27 in Egypt in late 2022. Canada emphasized three key priorities:

- Encouraging countries to plan and deliver increased greenhouse gas reduction targets (called the Nationally Determined Contributions).
- Protecting biodiversity and nature as paramount to reaching collective climate goals.
- Helping developing countries contribute to climate solutions and adapt to the impacts of climate change by achieving the goal of \$100 billion in climate finance by 2023.

In 2022-23, Canada continued to seek inclusion of ambitious, comprehensive, and enforceable environmental provisions in its free trade agreements with the Association of Southeast Asian Nations

(ASEAN), India, Indonesia, Ukraine and the United Kingdom. ECCC negotiates obligations to maintain robust environmental governance as trade and investment are liberalized and secures commitments to cooperate on a range of global environmental issues, including illegal wildlife trade, sustainable fisheries and forestry management, climate change, and clean technology. ECCC leads on the implementation of these commitments as part of Canada's free trade agreements, environmental agreements, and other bilateral and regional cooperation instruments with key trading partners, including the United States, Mexico, Chile, the European Union, and countries party to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

In 2022-23, Canada hosted the Twentieth Council session of the Canada-Chile Commission for Environmental Cooperation in Santiago, marking the Canada-Chile Agreement on Environmental Cooperation's 25th anniversary. Canada co-led environmental protection workshops under the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, co-hosted a cleantech summit under the Canada-EU Comprehensive Economic Trade Agreement (CETA) and advanced tri-lateral cooperation under the Canada-United States-Mexico Agreement.

Departmental Result:

Indigenous Peoples are engaged in clean growth and climate change.

Engagement with Indigenous People is an integral component of ECCC's approach to addressing all of its core responsibilities, including clean growth and climate change. Examples of the Department's efforts to meaningfully engage Indigenous Peoples in addressing climate change challenges are interwoven in most of the preceding narrative, including:

- implementing measures included in the 2030 Emissions Reduction Plan;
- the First Nations–Canada Joint Committee on Climate Action's (JCCA);
- Low Carbon Economy Fund investments to help the Kwadacha and Heiltsuk Nations create and expand their organic processing capacity;
- incorporating Indigenous knowledge into climate science, such as leading a government-wide Indigenous Voices seminar series;
- Indigenous representation in international delegations and fora, such as the [27th Conference of the Parties \(COP27\)](#)^{liv} to the *United Nations Framework Convention on Climate Change (UNFCCC)*^{lv}, the [15th Conference of the Parties \(COP15\)](#)^{lvi} to the *United Nations Convention on Biological Diversity*^{lvii} (CBD), and the Intergovernmental Panel on Climate Change (IPCC^{lviii});
- integrating Indigenous knowledge and information to improve the Oil Sands Monitoring Program; and
- building capacity and undertaking on-the-ground activities for ecological restoration, land management, and conservation through Indigenous-Led Natural Climate Solutions (ILNCS) stream investments.

It is important to note that the Department's efforts to meaningfully engage Indigenous Peoples is also imbedded in its delivery, across all its Core Responsibilities. As such, additional notable efforts are found throughout this report.

Gender-based analysis plus



It is well understood that Canada's changing climate exacerbates existing challenges and health stressors for Indigenous People in Canada. Climate change also disproportionately impacts northern, rural, remote, and coastal communities, younger and older generations, people with health issues or disabilities, low-income groups, women, and those at the intersection of these identities. ECCC will continue to consider the impacts of its climate change policies, regulations, and programs to avoid, as much as possible, any further negative impacts on affected populations. ECCC prepared a Gender-based Analysis Plus which is published in Annex 7 of the [2030 Emissions Reduction Plan](#)^{lix}. The Government will continue to conduct additional GBA Plus for each policy, regulatory and program initiative to maximize benefits, and minimize barriers to accessing, participating, or otherwise benefitting from initiatives, for those most impacted by the negative effects of climate change.

Canada's approach features a globally ambitious carbon price and returns all proceeds from the federal system to the jurisdiction of origin, with most proceeds returned through a household rebate system to keep

costs down for low-income and marginalized Canadians and support affordability. An additional 10% top-up on these payments is given to households in rural and smaller communities. Proceeds are also supporting key sectors, including small businesses, Indigenous governments, and farmers. Under the federal system, relief is provided for farmers, fishers, residents of rural and small communities, users of aviation fuel in the territories, greenhouse operators, and power plants that generate electricity for remote communities.

In recognition of climate change's widespread and often disproportionate effects on different segments of society, including its ability to exacerbate existing inequalities and compound risks among already impacted populations, ECCC continued its engagement with a diverse and inclusive set of partners to inform development of the [National Adaptation Strategy](#)^{ix}. The Strategy lays out an inclusive vision for Canada in a changing climate and is underpinned by a set of guiding principles to ensure adaptation investments and solutions in Canada are fair, inclusive, and equitable. ECCC is continuing its ongoing engagement with First Nations, Inuit, and Métis Nation partners through senior-level bilateral tables to support self-determination and enable Indigenous-led climate solutions. On the international front, GBA Plus considerations are included during the negotiation and implementation of free trade agreements and are integrated into bilateral and regional environmental cooperation activities with international partners. Canada also continues to implement the [Gender Action Plan](#)^{xi} that was adopted under the *United Nations Framework Convention on Climate Change*. The Plan aims to increase women's participation and leadership in climate action and to better integrate gender considerations in national climate plans and policies. Over the next five years, 80 percent of Canada's climate finance will also target gender equality outcomes in accordance with Canada's Feminist International Assistance Policy. Under the Policy, the actions taken towards climate mitigation and adaptation must integrate gender equality and empowerment of women and girls.

United Nations' 2030 Agenda⁵ and [Sustainable Development Goals](#)^{lxii}



In defining a whole of government view of federal environmental sustainability commitments and actions, the [2019-2022 Federal Sustainable Development Strategy](#)^{lxiii}, developed and coordinated by ECCC, supports Canada's response to the United Nations Sustainable Development Agenda. ECCC's continued implementation of activities in support of its core responsibility for *Taking Action on Clean Growth and Climate Change* will directly contribute to the achievement of numerous Sustainable Development Goals (SDGs). For example, pricing carbon pollution and implementing

various regulations, such as for clean electricity and zero-emission vehicles, will comprehensively and directly combat climate change and its impacts by reducing GHG emissions and stimulating investments in clean innovation ([Goal 7](#)^{lxiv} and [Goal 13](#)^{lxv}), while initiatives such as climate action incentives and partnership funding will promote inclusive and sustainable economic growth ([Goal 8](#)^{lxvi}) and make cities safer and more sustainable ([Goal 11](#)^{lxvii}). Supporting resilient infrastructure and innovative and inclusive approaches to industrial development will be achieved through Low Carbon Economy Fund incentives ([Goal 9](#)^{lxviii}), which will also foster sustainable business, employment and consumption practices ([Goal 12](#)^{lxix}). Canada also contributes to effective international agreements and initiatives on climate change by pushing for global action to implement the Paris Agreement ([Goal 13](#)^{lxx}). Canada's [climate finance commitment](#)^{lxxi} is delivered through a variety of bilateral and multilateral partners, such as multilateral development banks, multilateral climate funds, civil society organizations and the private sector, to support developing countries in their climate mitigation and adaptation efforts ([Goal 17](#)^{lxxii}). Canada's climate finance commitment aligns with its [Feminist International Assistance Policy](#)^{lxxiii}, and its inclusive approach offers a strong focus on gender equality and the empowerment of women and girls. ECCC will continue to work with Employment and Social Development Canada as they work toward implementing a whole-of-society 2030 Agenda National Strategy.

When considered together, ECCC initiatives represent a comprehensive approach to facilitate Canada's shift to a low carbon economy, reduce GHGs, achieve clean and sustainable growth, and promote innovation in industrial technologies and processes that will create sustainable industries and jobs and enhance Canada's competitiveness. ECCC's programs will also help regions and communities plan for and adapt to the impacts of climate change, and so mitigate threats to health, safety, and well-being.

The federal implementation plan for the 2030 Agenda commits the government to approach the SDGs in a manner guided by human rights principles and advances reconciliation with Indigenous Peoples by fully respecting and protecting their rights. In 2021, the *federal [United Nations Declaration on the Rights of Indigenous Peoples Act](#)*^{lxxiv} received royal assent compelling all departments to align their work with the rights articulated in the UN Declaration. ECCC's implementation of the Act will provide an opportunity to make linkages between shifting to a low carbon economy and protecting and respecting the rights of Indigenous Peoples.

For more information on actions under this Core Responsibility that contribute to the UN SDGs, please consult [ECCC's Departmental Sustainable Development Strategy 2020 to 2023](#)^{lxxv}.

⁵ In 2015, all UN member states came together and adopted [Transforming Our World: The 2030 Agenda for Sustainable Development](#). At its heart are 17 Sustainable Development Goals that encompass key social, economic, and environmental challenges.

Innovation and Experimentation

Program of Applied Research on Climate Action (PARCA)

PARCA is a partnership between the Privy Council Office, Natural Resources Canada and ECCC, directed at leveraging behavioural science to boost individual and organizational climate action across Canada. Phase 1 was a longitudinal public opinion research study completed in eight waves between December 2021 and March 2023. Topline results from the study provided valuable behavioural insights on key priorities and have been shared with climate change communicators across the government for use in communications planning, as well as with policy and program leads to support evidence-based decision-making. Five behavioural science fellows embedded across the department are working on rapid online experiments to test and evaluate potential interventions and understand barriers to engaging in pro-environmental behaviours. Fellows are developing plans and partnerships to test interventions in real-world settings and/or within government functions.

The results of one mixed-methods research project on challenges faced by LCEF funding recipients have informed the adoption of a substantially more transparent approach to ECCC communications with its external stakeholders. This work has also led to modifications of the team's communications with applicants to the LCEF during project evaluations. Partnerships on climate literacy were also established as a result of PARCA research and insights.

Use of Satellites for Greenhouse Gas Policy Development

Testing of GHG Satellite technologies and systems have not been successful in tracking methane emissions from Canada's oil and gas sector. Detection rates seem to be higher than what is expected from the average oil and gas facility in Canada. Challenges also exist with regard to episodic or temporary emissions, since these activities may not occur during satellite observation.

Weather conditions can also be a challenge, resulting in low successful observation rates. There are many factors that affect the capabilities of satellites: clouds, wind, sun reflectivity, water, quality of prior data and more. Due to technological limitations, satellites cannot yet measure emissions accurately over wetlands, snow or at offshore installations in Canada.

Future improvements with successive generations of satellites, such as better predictive tasking and lower detection thresholds, would be useful as part of the overall methane mitigation toolkit, but would still require the integration of ground-based methods to supplement the limitations of satellite technology. Current satellite technology is of limited benefit to support Canada's 2030 methane strategy.

Key risks

The Department's ability to deliver results for Canadians on clean growth and climate change requires extensive collaboration with federal, provincial, territorial, Indigenous, and international partners, as well as with the private and non-profit sectors and civil society. Should these relationships falter, there is a risk that external partners will not effectively or efficiently cooperate on matters critical to the achievement of ECCC's mandate.

To ensure a coordinated implementation of Canada's climate actions and deliver results to Canadians, the Department sustained and built strategic relationships with federal, provincial, territorial, and Indigenous counterparts. ECCC works diligently to streamline engagement as much as possible, including by grouping some engagements according to regional priorities. Working bilaterally and regionally with provinces and territories allows ECCC to tailor approaches and actions according to common priorities, while taking into account the unique circumstances of each jurisdiction.

The three distinctions-based Senior Bilateral Tables on Clean Growth and Climate Change continued to meet in 2022-23 to find innovative ways to promote Indigenous-led climate action and further partnerships on climate. The joint tables continue to demonstrate the benefits of sustained collaboration. For instance, in July 2022, First Nations–Canada Joint Committee on Climate Action (JCCA) released its fourth annual report to the Prime Minister and the National Chief of the Assembly of First Nations. The JCCA provides a unique opportunity for federal and First Nations representatives to work together to develop and implement a model of partnership for climate action to grow an inclusive, clean, and prosperous future together. As announced in the 2030 ERP and Budget 2022, the Government of Canada is committed to advancing an Indigenous Climate Leadership (ICL) agenda that will transform and renew Canada's relationship with First Nations, Inuit, and Métis on climate change. This initiative is focused on providing stable long-term financing for Indigenous People to implement self-determined climate actions, enabling Indigenous participation in climate-related decisions with the Government of Canada, and addressing systemic barriers to Indigenous climate leadership.

The Department also ensured that all its programs are designed to account for climate change impacts and risks, enabling the organization to continue to deliver on its mandate by protecting assets and avoiding service disruptions. Adaptation to climate changes allows the Department to take advantage of any opportunities to address related uncertainties. To enable the resilience and continuation of departmental operations and services in the face of a changing climate, ECCC continued to implement its Departmental Adaptation Plan and identified priority actions to address climate risks.

Results achieved

The following table shows, for Taking Action on Clean Growth and Climate Change, the planned results, the result indicators, the targets and the target dates for 2022–23, and the actual results for the three most recent fiscal years for which actual results are available.

| Departmental Result: Canadian greenhouse gas and short-lived climate pollutant emissions are reduced | | | | | |
|---|--|-------------------------------|--|--|---|
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| GHG emissions from light duty vehicles | Under review. ECCC is developing an indicator that will better capture the nature of these regulations. It will be included in the Departmental Plan as soon as possible. ⁶ | Under review. | 21% improvement [2018 model year]. | 23% improvement [2019 model year] Performance is trending slightly below target for 3 primary reasons: 1) Expiration of flex fuel vehicle credit continues to negatively impact the performance of several manufacturers 2) Consumer choice continues to shift/has shifted between segments, specifically away from passenger cars and towards light trucks 3) Consumer choice has shifted towards vehicles with slightly larger footprints within segments. | 26% |
| GHG emissions from heavy duty vehicles | Reporting for 2021 Model Year: Percentage improvement in GHG emissions performance for | April 2023 | <ul style="list-style-type: none"> •13%: heavy-duty pick-up trucks and vans •20%: combination tractors | <ul style="list-style-type: none"> •15%: heavy-duty pick-up trucks and vans •19%: combination tractors | <ul style="list-style-type: none"> •3%: heavy-duty pick-up trucks and vans •10%: combination tractors⁷ |

⁶ 29% improvement in performance relative to the 2011 standard (measured by CO₂e g/mile) for manufacturer model year 2020 reported by Dec 2021.

⁷ The goal of reaching 13% for combination tractors was not achieved in this specific year, but it is still expected to be met over a longer timeframe due to flexible compliance options for regulated companies. These flexibilities involve a credit system ensuring environmental targets are met. A specific year's performance does not imply a lack of compliance, variations from year to year are expected. For example, companies can bank emission credits for up to five years to offset excess emissions and have 3 years to offset a deficit. ECCC is developing an indicator that will better capture the nature of these regulations. It will be included in the Departmental Plan as soon as possible.

| | | | | | |
|---|---|---------------|---|--|---|
| | <p>manufacturer model year 2021–2023 reporting relative to the 2018 model year:</p> <ul style="list-style-type: none"> •2%: heavy-duty pick-up trucks and vans •13%: Combination Tractors •8%: Vocational vehicles | | <ul style="list-style-type: none"> •9%: vocational vehicles [2019 model year] | <ul style="list-style-type: none"> •9%: vocational vehicles [2020 model year] | <ul style="list-style-type: none"> •11%: vocational vehicles [2021 model year] |
| Black carbon emissions, as reported in Canada's Black Carbon Emissions Inventory | 25% decrease from an annually calculated 2013 baseline of national emissions. | December 2025 | 16% reduction from baseline (31Kt in 2019) ⁸ | 22% reduction from baseline (29Kt in 2020) ⁹ | 30% reduction from baseline (26Kt in 2021) |
| Hydrofluorocarbon (HFC) emissions | 10% reduction in consumption relative to calculated Canadian HFC baseline of 18,008,795 tonnes of CO ₂ e ¹⁰ | December 2022 | 23% below baseline for calendar year 2020 | 38.5% below baseline for calendar year 2021 | 24.1% |
| Reduced methane emissions from the oil and gas sector | Annual decrease towards a 40–45% reduction relative to 2012 levels | December 2025 | Results not available. | 45% reduction (32 MT CO ₂ e), estimated based on 2020 compliance actions. ¹¹ | 35% reduction (37 Mt CO ₂ e ¹⁰) below 2012 baseline. Estimate is based on the National Inventory Report published spring 2023 (including data up to the calendar year 2021). |
| Emissions reductions are being achieved under the Clean Fuel Standard building on | Over 20 Mt annual GHG emissions reduction. | December 2030 | Results not yet available. Draft regulations for the liquids class were published on December 19, | Results not available. | Results not available. |

⁸ 30Kt (19% reduction from baseline) Note: This result has been amended to align with emissions estimates in the 2023 Black Carbon Inventory Report, which are recalculated each year as new data and methodologies become available.

⁹ 26Kt (30% reduction from baseline) Note: This result has been amended to align with emissions estimates in the 2023 Black Carbon Inventory Report, which are recalculated each year as new data and methodologies become available.

¹⁰ CO₂e = carbon dioxide equivalent

¹¹ Note that 2020 was an exceptional year marked by a pandemic and global energy system disruptions; the change in emissions may not be wholly attributable to regulatory compliance activity. The 2020-21 results are the first year where data was available.

| the <i>Renewable Fuels Regulations</i> ¹² | | | 2020, with those for gaseous and solid classes to come in 2021. | | |
|---|---|---|--|---|---|
| Percentage of coal-fired electricity generation units meeting their regulated GHG emissions intensity performance requirement | 100% | December 2022 | Results not yet available. Complete reporting will be available in 2021-22. ¹³ | 100% | 100% |
| Carbon pollution pricing systems are in place in Canada | All Provinces and Territories have carbon pollution pricing systems in place that meets the federal benchmark stringency requirements or the federal backstop system applies. | March 2022 | 13 Provinces and Territories. | 13 Provinces and Territories. | 13 Provinces and Territories |
| GHG emissions from ECCC operations are reduced | 40% GHG emissions reduction from ECCC operations (facilities and fleet) relative to 21,549 tonnes in 2005–06 baseline year. | 2025 | 42% | 40.4% | 39.6% |
| Departmental Result: Indigenous peoples are engaged in clean growth and climate change | | | | | |
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Co-development of indicators with Indigenous peoples to ensure they are engaged in the implementation of the PCF, through three distinct senior-level joint tables with First Nations, Inuit and the Métis Nation | This indicator will be retired once the co-development of indicators with Indigenous peoples has been completed. | Targeted completion is development of indicators before March 31, 2023. | In 2020–21, the department continued to advance work with Indigenous partners on the co-development of indicators, while addressing engagement obstacles posed by the COVID-19 pandemic. | No activities to co-develop indicators were advanced in 2021-22, as this indicator will be retired and replaced with a new indicator in 2023-24 that demonstrates ECCC's progress in ensuring Indigenous peoples are engaged in | No activities to co-develop indicators were advanced in 2022-23, as this indicator will be retired and replaced with a new indicator in 2023-24 that better demonstrates ECCC's progress in |

¹² This indicator cannot be measured and has been retired.

¹³ As of July 2021, of the six units required to meet the performance standard by January 1, 2021: one has shut down, one has demonstrated compliance with the regulation and four are subject to equivalency agreements with specific provinces.

| | | | | clean growth and climate change. | ensuring Indigenous peoples are engaged in clean growth and climate change. |
|--|--|---|---|--|--|
| Departmental Result: Canada contributes to reducing greenhouse gas emissions and increasing climate resilience globally | | | | | |
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Cumulative amount of private finance mobilized through Canada's public sector investments | Higher cumulative amounts mobilised in private climate finance, from year to year (reaching overall a ratio of private sector finance leveraged by Canada's public sector investments, of at least 1 to 0.5) | Long-term cumulative indicator | Results not yet available. The results of private finance leveraged in 2020 are expected to become available by the end of 2021. | Between 2017 and 2020, Canada mobilised CAD \$205.7M in private climate finance, from public funding of CAD \$270.88M as part of Canada's \$2.65B climate finance commitment (equivalent to a ratio of 0.759). | Between 2017 and 2021, Canada mobilized CAD \$312.4M in private climate finance, from public funding of CAD \$367.5M as part of Canada's \$2.65B climate finance commitment (equivalent to a ratio of 0.85). ¹⁴ |
| GHG reductions resulting from international initiatives funded by Canada | Higher cumulative reductions from year to year, from the baseline, reaching a minimum reduction of 200 Mt of GHGs | Long-term cumulative indicator. ¹⁵ | An estimated cumulative reduction of 222.2 Mt of GHGs is expected from Canada's \$2.65B climate finance commitment to date. | An estimated cumulative reduction of 228.6 Mt of GHGs is expected from Canada's \$2.65B climate finance commitment to date. | An estimated 223.7 Mt of GHG emissions reduced are expected from Canada's \$2.65B climate finance commitment to date. ¹⁶ |
| Cumulative number of people in developing countries who benefited from Canada's adaptation finance | At least 10 million | December 2030 | A cumulative estimate of 5.9M people with increased resilience is expected from Canada's \$2.65B | A cumulative estimate of 6.6M people with increased resilience are expected from Canada's \$2.65B | An estimated 8.04 million people are expected to develop increased resilience to |

¹⁴ This result is presented as a ratio of private to public funding (i.e., private funding divided by public funding). The 2022–23 result shows that for every \$1 dollar of public funding invested, there was \$0.85 of private funding mobilized. This represents an increase in private funding relative to 2021–22.

¹⁵ Date to achieve target is not applicable. The nature of the indicator is such that it is expected to generate results for an undetermined period.

¹⁶ The cumulative results of Canada's climate finance program are subject to fluctuation due to the implementation stage of various projects. The decrease in cumulative GHG reductions from 2021–22 to 2022–23 is attributable to methodological changes at the project-level which impact expected results.

| | | | climate finance commitment to date | climate finance commitment to date. | climate change from funds delivered so far from Canada's \$2.65B climate finance commitment. |
|--|---|--|------------------------------------|-------------------------------------|--|
| Departmental Result: Canadian communities, economies and ecosystems are more resilient | | | | | |
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Number of individuals, businesses, and governments accessing climate services and using that information to inform decision-making | For annual reporting: Increase from baseline. For reporting every 5 years: Establish baseline. ¹⁷ | For annual reporting: Annually in March For reporting every 5 years: March 2028 | 201,272 visits | 262,812 visits | 296,974 visits 98% of individuals, businesses, and governments accessing climate services indicate that they intend to use this information to inform decision making |

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{lxxvi}.

Budgetary Financial Resources (dollars)*

The following table shows, for Taking Action on Clean Growth and Climate Change, budgetary spending for 2022–23, as well as actual spending for that year.

| 2022–23 Main Estimates | 2022–23 Planned spending | 2022–23 Total authorities available for use | 2022–23 Actual spending [authorities used] | 2022–23 Difference [actual minus planned]** |
|-------------------------------|---------------------------------|--|---|--|
| 478,116,465 | 478,116,465 | 589,591,492 | 407,374,384 | -70,742,081 |

* All figures, throughout the document, are net of re-spendable revenues.

** The actual spending for 2022-23 is lower than the 2022-23 planned spending, mainly due to surplus under the Low Carbon Economy Fund and the Dr. Neil Trivett Global Atmosphere Watch Observatory in Alert, Nunavut. The variance is offset by spending for Canada's International Climate Finance Program, economic increases tied to compensation, as well as payments to the United Nations, universities in aid of research, non-profit national organizations and for Clean Growth and Climate Change Mitigation.

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{lxxvii}.

¹⁷ Baseline for the 5-year survey will be established when the Canadian Centre for Climate Services has been operational for 5–6 full years.

Human Resources (Full-Time Equivalents—FTEs)*

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for 2022–23.

| 2022–23 Planned FTEs | 2022–23 Actual FTEs | 2022–23 Difference [actual minus planned] |
|----------------------|---------------------|--|
| 897 | 883 | -14 |

* Totals may differ within and between tables due to the rounding of figures. The FTE numbers, throughout the document, include students.

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{lxxviii}.

Preventing and Managing Pollution

Description¹⁸

Collaborate with provinces, territories, Indigenous Peoples and others to develop and administer environmental standards, guidelines, regulations and risk management instruments to reduce releases and monitor levels of contaminants in air, water and soil, and promote and enforce compliance with environmental laws and regulations.

Results

Departmental Result:
The Canadian environment is protected from harmful substances

ECCC leads Government-wide efforts to implement Canada's [Zero Plastic Waste Agenda^{lxxxix}](#) to reduce plastic pollution, improve the sustainable production, use and management of plastics, and move towards a circular plastics economy. The Government is working with its partners—including provinces and territories—to implement the [Ocean Plastics Charter^{lxxx}](#) and [Canada-wide Strategy on Zero Plastic Waste and Action Plan^{lxxxi}](#) through a range of complementary solutions across the plastics lifecycle.

Over 2022-23, ECCC continued to collaborate closely with its CCME partners, contributing to the publication of [Guidance to Facilitate Consistent Extended Producer Responsibility Policies and Programs for Plastics^{lxxxii}](#) and a [Roadmap to Strengthen the Management of Single-use and Disposable Plastics^{lxxxiii}](#). The Department also continued to implement the Action Plan, including developing guidance and identifying best practices to address plastic pollution sources, raise awareness and inform consumer behaviors, and improve the end-of-life management of fishing and aquaculture gear.

Canada also continued to play a leadership role internationally in addressing plastic waste and pollution through a [circular economy^{lxxxiv}](#) and [lifecycle approach^{lxxxv}](#). As committed to under the United Nations Environment Assembly Resolution 5/14, an intergovernmental negotiation committee was established in 2022 to develop a legally-binding global agreement on plastic pollution by 2024. Canada is working with other countries and stakeholders, including as an inaugural member of the High Ambition Coalition to End Plastic Pollution, to develop an ambitious and effective agreement that addresses the full lifecycle of plastics. Canada looks forward to bringing the world together for the fourth session of these negotiations in Ottawa in April 2024.

Seven federal organizations—Environment and Climate Change Canada, Crown-Indigenous Relations and Northern Affairs Canada, Fisheries and Oceans Canada, Health Canada, the National Research Council, Statistics Canada, and Transport Canada—received funding in Budget 2023 to work in five priority areas:

- expanding knowledge on plastics in the environment and the economy

Reuse and other Value-Retention Processes

In November 2022, ECCC co-hosted a multi-stakeholder Symposium on Reuse, in partnership with the European Union's "Reducing Plastic Waste in Canada" project. The Symposium showcased innovative reuse solutions and policies in leading jurisdictions and examined barriers and opportunities to inform the government's path forward on advancing reuse. A [What We Heard Report](#) is available. Reuse is one "value-retention process" ([VRP](#)). Others are [remanufacturing](#), refurbishment, and repair. They are key activities of the circular economy, as they maintain a product in service or extend its useful life beyond its expected service life, while preserving its inherent value. They help to increase both economic and environmental sustainability and resilience.

¹⁸ The Preventing and Managing Pollution core responsibility description was updated in the 2023-24 Departmental Plan to reflect the evolution of Canada's environmental policy landscape and the provision of recent authorities. The description presented here reflects that which was published in the 2022-23 Departmental Plan, prior to this update.

- developing and implementing management measures
- supporting innovation and market transformation
- preventing and reducing plastic pollution
- reducing waste from federal operations

In 2022-23, ECCC again supported Statistics Canada in its publication of the annual Pilot Physical Flow Account for Plastic Materials. This is an innovative environmental/economic account that estimates the flow of plastics through the Canadian economy. The account features breakdowns by product category, resin type, and province or territory. Covering reference years 2012 to 2019, it tracks the entire lifecycle of plastics from production through reuse to recycling and final disposal, with data that is available to all.

ECCC also continued to deliver the [Canadian Plastics Innovation Challenges](#)^{lxxxvi}. Over the course of 2022-23, three Phase 2 grant recipients developed innovative prototypes:

- Axipolymer's recyclable multi-layer film used for food packaging
- Magemi Mining Inc.'s graphene-reinforced recycled paper as a sustainable alternative to plastic packaging
- GreenMantra Recycling Technologies' project to use polystyrene construction waste to produce polystyrene additives to create new lighter, better performing polystyrene insulation with higher recycled content

Over \$600,000 was leveraged from the private sector for these projects.

In its role as a science-based department, ECCC hosted a Plastics Science Knowledge Mobilization workshop in November and December 2022. The workshop brought together experts from academia and the federal government to facilitate the exchange and discussion of current research and science on plastic pollution and examine their contribution to policy development. The Department also continued to conduct and support research and monitoring to detect and assess the impacts of microplastics in the environment.

The Government of Canada finalized in June 2022 the [Single-Use Plastics Prohibition Regulations](#)^{lxxxvii}. This achievement delivered on Canada's commitment to ban certain harmful single-use plastics (SUPs).

Effective December 20, 2022, Canada prohibited the manufacture, sale and import for sale of certain harmful SUPs. The six categories of SUP items were chosen because they are prevalent in the environment, pose a threat of harm (e.g., to wildlife and their habitat), are difficult to recycle, and have readily available alternatives. These products consist of checkout bags, cutlery, foodservice ware containing hard-to-recycle plastics, stir sticks, and straws (with some exceptions).

To provide businesses in Canada with enough time to transition and to deplete their existing stocks, the sale of these items will be prohibited as of December 2023. The Government will also prohibit the export of plastics in the six categories by the end of 2025, making Canada the first among peer jurisdictions to do so internationally. A ban on the manufacture and import of ring carriers—used to hold multiple beverage cans or bottles—is scheduled to enter into force in June 2023.

The SUP regulations reflect input received through extensive consultations, including from businesses who identified a need for guidance on switching to available alternative products and systems. In response, in July 2022, the Government published [Guidance for Selecting Alternatives to the Single-Use Plastics in the Proposed Single-Use Plastics Prohibition Regulations](#)^{lxxxviii} (SUPPR). The guidance document outlines best practices for reducing the use of SUPs and for choosing less-impactful plastics or non-plastic alternatives to the six categories of SUPs in the regulations. The Government also published [technical guidance](#)^{lxxxix} to help those regulated by the SUPPR understand their obligations.

The prohibitions enacted through the SUPPR are being phased in between 2022 and 2025. Prohibitions on the manufacture and import of checkout bags, cutlery, food service ware made from or containing problematic plastics, stir sticks, and straws (with some exceptions), came into force in December 2022. The SUPPR is projected to prevent over 1.3 million tonnes of plastic waste and 22,000 tonnes of plastic pollution over 10 years.

In 2022-23, the Government also took the next steps in implementing its plastics regulatory agenda. This entailed the publishing of two consultation papers in July 2022: one on [proposed rules to strengthen](#)

[recycling and composting of plastic through accurate labelling^{xc}](#), and one for a [proposed federal plastics registry^{xcii}](#).

- The proposed labelling rules would: improve plastic packaging design; inform consumer choices for the plastics they buy and how they use and dispose of them; and improve the performance of recycling systems to generate more and higher-quality recycled plastics. The Government is currently developing regulations that would include labelling rules and minimum recycled content requirements for certain plastic products.
- The proposed federal plastics registry would support the provinces and territories that are making plastic producers responsible for their plastic waste by requiring companies to report on the quantity of plastic products they place on the Canadian market and how these products are diverted from landfills at the end of their lives.

In 2022-23, ECCC continued to focus on key partnerships and initiatives stemming from the [One Ocean Summit^{xciii}](#) toward reducing plastic pollution and protecting Canada's oceans. These actions include:

- joining the High Ambition Coalition on Biodiversity Beyond National Jurisdiction to advance the protection of marine biodiversity;
- endorsing the New Plastics Economy Global Commitment, which unites more than 500 businesses and governments committed to taking prompt action to reduce plastic pollution;
- supporting the development of a new, ambitious, and legally-binding international instrument on plastic pollution, as an inaugural member of the High Ambition Coalition to End Plastic Pollution;
- contributing \$4 million to the United Nations Environment Programme to support a fair, open and inclusive negotiation process; and
- supporting ocean health through the development of a new, government-wide Blue Economy Strategy.

Regulatory Services Modernization

ECCC has embarked on a regulatory services modernization initiative to improve the processes and systems used to collect, manage and distribute data and information associated with the administration of environmental regulations. The initiative aims to deliver modern digital systems leading to key benefits for regulated parties and more efficient departmental operations.

ECCC continued to collaborate with domestic and international partners and counterparts in 2022-23 to advance the circular economy, building on the 2021 World Circular Economy Forum and the Canadian Council of Canadian Academies' [Turning Point^{xciii}](#) study, by investing in policy research to identify clear opportunities for Canada to retain the value of materials and products in the economy. ECCC also collaborated with Innovation, Science and Economic Development Canada to begin exploring how to implement a right to repair in Canada.

The Department continued to collaborate with provinces and territories through the Canadian Council of Ministers of the Environment (CCME) on a two-phased Action Plan to implement the 2018 [Canada-Wide Strategy on Zero Plastic Waste^{xciv}](#). The Strategy lays out a vision for a circular economy for plastics. This approach seeks to support change across the entire lifecycle of plastics—from design to manufacture, use, and recovery.

Bill S-5—Strengthening Environmental Protection for a Healthier Canada Act—received Royal Assent on June 13, 2023. The Bill modernizes the *Canadian Environmental Protection Act, 1999* (CEPA) and represents the first set of comprehensive amendments to CEPA in over 20 years to:

- better protect vulnerable populations who are most impacted by pollution;
- advance Indigenous reconciliation by confirming the implementation of the United Nations Declaration on the Rights of Indigenous Peoples including free, prior, and informed consent, and the role of Indigenous knowledge in decision-making related to the protection of the environment and human health, and by adding new reporting requirements on the operation of CEPA in respect of Aboriginal Peoples of Canada;
- require a new Plan of Chemicals Management Priorities, increase the assessment of cumulative effects of exposure to multiple chemicals, and develop a Watch List to support the shift to safer chemicals;

- promote the development and implementation of scientifically justified alternative testing methods and strategies to reduce reliance on vertebrate animal testing; and
- incorporate an environmental purpose into the *Food and Drugs Act* (FDA) so that environmental risks resulting from drugs can be managed and so that a modernized environmental regulatory framework for drugs can be developed under the FDA.

The amendments also—for the first time at the federal level—recognize the right to a healthy environment in Canada when administering CEPA. This provides a solid foundation on which to continue taking action across the country to support a strong, healthy future for all.

In 2022-23, the Government supported Private Member's Bill C-226, An Act respecting the development of a national strategy to assess, prevent and address environmental racism and to advance environmental justice. The support was in alignment with the Government's commitment to develop an environmental justice strategy and examine the link between race, socio-economic status and exposure to environmental risk.

Bill C-226 would create a new Act requiring the Minister of Environment and Climate Change to develop a national strategy to promote efforts across Canada to advance environmental justice and to assess, prevent and address environmental racism. This would be in consultation with any interested persons, bodies, organizations, or communities—including representatives of governments in Canada and Indigenous communities. The Minister would be required to develop the strategy within two years of the Bill coming into force, and to report on its effectiveness every five years.

The development of such a national strategy would add two important elements to the ongoing efforts to combat systemic racism and inequalities relating to the inclusion of Indigenous Peoples, Black and racialized communities in environmental decision-making and initiatives. The process to develop the strategy would be an opportunity for marginalized communities to help define the problem and contribute to solutions, and a national strategy would help frame necessary actions by a wide range of government and non-government actors.

To protect the environment and Canadians from harmful substances, in collaboration with Health Canada, ECCC continued to deliver Canada's Chemicals Management Plan (CMP). As of September 30, 2021, the two departments had addressed 4,144 of 4,363 chemicals identified in 2006 as priorities for attention. The remaining established priority chemicals continue to be addressed as required. Since the launch of the CMP in 2006, over 210 risk management measures for toxic substances have been put in place. In 2022-23, the CMP program published five final risk management instruments including regulations, guidelines and other provisions for toxic substances. Under the CMP, ECCC also undertook a number of other activities and initiatives, including:

- monitoring and surveillance activities for air, birds, fish, water, sediments, wastewater and biosolids in support of risk assessment and risk management activities;
- several research projects to address issues of chemical fate, bioaccumulation and the effects of CMP priority substances, such as flame retardants, perfluoroalkyl substances, rare earth elements and nanomaterials;¹⁹ and
- the publication of a [performance measurement evaluation report^{xv}](#) to provide Canadians with information on the effectiveness of risk management actions in place for toxic substances; and
- investments in changes to [ECCC's Single Window online submission system^{xvi}](#) to support the CMP and streamline and improve data collection, reporting and information dissemination.

Recognizing that certain populations in Canada—such as expectant mothers, children, the elderly, and Indigenous communities—are more vulnerable to harmful substances, the Department is continuing to

¹⁹ A few projects focused on the development of new analytical methods, for instance to characterize chlorinated alkanes and chemical mixtures in air. One of the key findings from these research activities is that, once released to the environment, some chemicals can transform to other chemicals that are even more hazardous than the parent chemicals. Hence, a better characterization and understanding of these chemical mixtures is needed to assess, and manage, where needed, their potential risks to the environment.

ensure that their needs and circumstances will continue to be considered in selecting risk management measures.

In October 2022, the Minister of Environment and Climate Change and the Minister of Health launched consultations to help determine how the [New Substances Notification Regulations \(Organisms\)^{xcvii}](#) can better protect human health and the environment. This would be achieved through increasing openness and transparency in the risk assessment and regulatory decision-making process, while also enabling innovations in biotechnology that benefit Canadians. By modernizing the regulations, ECCC and Health Canada are working together to make sure that new living organisms created through, or used in, biotechnology are properly assessed before they can be introduced into the Canadian marketplace.

The Benefits of Biotechnology

Biotechnology is the process of using living organisms to make new products or technology intended to improve lives and the health of the planet. It is used in areas such as health, agriculture, aquaculture, and the environment, and dates back to the dawn of civilization when humans began fermenting foods. Living organisms include micro-organisms such as bacteria, fungi, yeasts, protozoa, algae, viruses, eukaryotic cell cultures, and other organisms such as animals and plants.

In 2022–23, ECCC completed the process of aligning its [Canadian Notice and Manifest Tracking System^{xcviii}](#) with the [Cross-Border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations^{xcix}](#). ECCC and Health Canada also continued to support regional First Nations leadership organizations to host community sessions about environmental protection on reserve lands.

The Department also continued to work with Indigenous partners, stakeholders, land users and communities, and conducted research and monitoring to inform decision-making regarding contaminants in Canadian ecosystems and traditionally harvested foods. ECCC continued to monitor priority contaminant trends in ecosystems, including in northern and arctic environments, in support of domestic

and international chemical management initiatives, food safety and security, and the maintenance of traditional ways of life.

In 2022–23, ECCC continued to provide expert advice to help federal custodians assess and remediate their contaminated sites. The goals of the [Federal Contaminated Sites Action Plan^c](#) (FCSAP) are to ensure that the highest-priority sites are remediated, and that risks to human health and the environment are reduced. Across the 17 FCSAP custodians, assessment activities took place at 84 sites (of which 34 site assessments were completed), and remediation activities were conducted at 731 sites (of which 53 site remediations were completed). In 2022–23, ECCC assessed 12 sites and conducted remediation activities at 41 sites where the Department is responsible. In collaboration with other departments, ECCC also conducted 31 site classification reviews to confirm eligibility for funding, reviewed 28 technical documents from federal custodians, developed 4 guidance documents, and delivered 4 training and 3 engagement sessions to support custodian departments in managing their contaminated sites. In addition to supporting these FCSAP activities, ECCC also provided expert support to non-FCSAP sites.

FCSAP Phase IV funding eligibility criteria was expanded to allow the program to be more responsive to Indigenous Peoples. In 2022–23, a potential approach was developed to identify and prioritize the clean-up of contaminated sites in areas where Indigenous People, racialized and visible minorities, and low-income Canadians live.

ECCC tabled the [2022 to 2026 Federal Sustainable Development Strategy^{ci}](#) (FSDS) in November 2022. This latest version now incorporates contributions from 101 federal organizations. While this is Canada's fifth FSDS, it is the first to be developed under a strengthened [Federal Sustainable Development Act^{cii}](#) that improves accountability through measurable, time-bound targets, and whole-of government participation.

The FSDS brings together the Government of Canada's sustainable development priorities, including achieving net-zero greenhouse gas emissions, conserving nature and biodiversity for future generations, promoting gender equality, advancing reconciliation with First Nations, Inuit and Métis communities, reducing poverty, and supporting innovation and economic growth.

It is also the first FSDS to be oriented toward the 17 [Sustainable Development Goals^{ciii}](#) (SDGs) of the United Nations 2030 Agenda for Sustainable Development and the first to provide a balanced view of the environmental, social, and economic dimensions of sustainable development. In addition, it is the first FSDS to include direct Indigenous contributions, reflecting Indigenous perspectives from the Sustainable

Development Advisory Council and from National Indigenous Organizations, and to provide examples of Indigenous-led sustainable development.

The [Canadian Environmental Sustainability Indicators \(CESI\)](#)^{ci} program continued to provide data and information to track Canada's performance on issues including climate change, air quality, water quality and availability, and nature protection. It is the primary instrument for measuring progress on the FSDS and for reporting to Canadians on the state of the environment. CESI released 29 environmental indicators in 2022-23.

Departmental Result:
Canadians have clean water

In 2022–23, ECCC continued to manage its responsibilities under the *Fisheries Act*. This entails developing regulations that set strict requirements on any releases to water, and applying and enforcing the *Fisheries Act* prohibition where there are no regulations. ECCC is the lead for the administration and enforcement of the [pollution prevention provisions of the *Fisheries Act*](#)^{cy}, which prohibits the release of pollution in waters frequented by fish.

To further protect Canada's freshwater resources, in 2022–23, ECCC advanced a number of regulations designed to protect Canada's freshwater resources. This included consultations to advance the development of proposed *Coal Mining Effluent Regulations* and of potential oil sands effluent regulations, and work to amend the *Wastewater Systems Effluent Regulations* and modernize *Pulp and Paper Effluent Regulations*.

In 2022–23, ECCC continued to focus effort on improving, restoring and protecting the Great Lakes, St. Lawrence River, Lake Winnipeg and other large lakes and rivers that are among Canada's most important freshwater resources. This includes undertaking the science necessary to improve water quality, and to conserve and enhance aquatic ecosystems in these vital waterbodies. The Department continued to engage Indigenous partners in the conservation and restoration of freshwater resources, including by implementing key water agreements, and supporting Indigenous-led projects in line with recommendations from recent Freshwater evaluations. The Department also continued to increase public engagement in conservation and restoration through citizen science, and to fund water conservation and protection activities through various ecosystems initiatives, such as:

- \$440,000 in funding from the Atlantic Ecosystems Initiative for three new projects to directly address water quality issues in the Wolastoq [Wəlastəkw]/Saint John River watershed. Three New Brunswick-based organizations, in collaboration with local Indigenous organizations and youth, will lead these clean water initiatives to help protect the local environment from pollutants, such as plastics and harmful bacteria.
- An investment of more than \$3.9 million over three years in 39 new projects in Ontario through the Great Lakes Protection Initiative, part of the Government of Canada's Freshwater Action Plan. The 39 projects support Canada's commitments under the Great Lakes Water Quality Agreement and the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health. Examples of projects supported include funding for:
 - the Niagara Peninsula Conservation Authority to conduct an assessment and provide options to manage contaminated sediment at Lyons Creek East in the Niagara River Area of Concern;
 - the Mohawk Council of Akwesasne to participate in the assessment and remediation of the St. Lawrence River Area of Concern, including decision-making on fish consumption restrictions, beach access, and challenges impacting fish and wildlife populations; and
 - the Maitland Valley Conservation Authority to engage non-governmental organizations, municipalities, and the public to develop and implement community-scale solutions to

Canada's Stewardship of Fresh Water

Canada is home to one fifth of the world's fresh water. The federal government continued to take action to protect this precious resource, together with its partners in provincial, territorial, municipal governments, environmental organizations, and Indigenous communities. Healthier lakes mean economic growth, more recreational opportunities, and healthy, sustainable ecosystems.

improve water quality in tributaries and nearshore water, enhance natural coastal protection, and restore degraded habitat.

- Investments of \$41.2 million and \$23.1 million over five years by the governments of Canada and Québec, respectively, as part of the St. Lawrence Action Plan 2011–2026.
- Ongoing work to implement the Canada-Manitoba Memorandum of Understanding (MOU) Respecting Lake Winnipeg and the Lake Winnipeg Basin, under which efforts continued with Indigenous and other partners to reduce nutrient loadings in the Basin. Canada invested \$1.6M in stakeholder-led actions to support nutrient reduction, advance science, and support Indigenous engagement and collaboration.
- A \$25 million investment in the International Institute for Sustainable Development's Experimental Lakes Areas to support new and ongoing freshwater science, enhance national and international scientific collaborations, and support projects to improve research capacity and knowledge exchange, both in Canada and abroad.

In 2022-23, ECCC continued to lead the implementation of the 2012 Canada-United States Great Lakes Water Quality Agreement (GLWQA) and finalize bi-national priorities to guide science and actions for 2023–2025 under the GLWQA. Actions delivered in cooperation with other federal departments, the Province of Ontario, U.S. federal and state agencies, Indigenous communities and organizations, and other partners focus on key challenges such as invasive species, excess nutrients that contribute to toxic algae, and other measures to protect and conserve the Great Lakes. Binational and domestic activities and accomplishments in implementing the 2012 GLWQA over 2020 to 2022 were documented in the [2022 Progress Report of the Parties^{cv}](#).

In partnership with the Government of Ontario, the Department is leading the implementation of the 2021 [Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health^{cvi}](#) (2021–2026), which is aligned to, and helps Canada meet its commitments under the GLWQA, and continued to implement the [Canada–Ontario Lake Erie Action Plan^{cvi}](#).

The Department also continued implementation of the renewed Oceans Protection Plan (OPP 2.0). This entails continuing to expand ECCC's scientific and enforcement capacity to respond to marine incidents. The Department also continued the collection of environmental sensitivities data in priority areas that are highly sensitive or at risk of a marine pollution incident. Finally, the Department continued the development of a recovery framework that will: clarify the various roles and responsibilities involved in recovery; manage and guide efforts by the federal government to minimize the long-term consequences of ship-source marine oil spills by monitoring and addressing long-term impacts; and support recovery, which aims for the return of affected areas to a healthy state within a well-functioning ecosystem.

Under this initiative and working with partners, the Department improved its capacity for responding to chemical spills in freshwater ecosystems through: shoreline assessments, scientific studies of new types of oils to better understand their behaviours, and contributions to research on the physical and chemical properties of spilled bitumen.

ECCC continued to work on advancing the governance and management of freshwater resources in 2022-23. This included continued work to establish the new Canada Water Agency to work together with provinces, territories, Indigenous communities, local authorities, scientists, and others to find the best ways to keep our water safe, clean and well-managed.

Notably, ECCC and the Tsleil-Waututh Nation in British Columbia reached a landmark, first-of-its-kind agreement in May 2022 to co-manage the Burrard Inlet under ECCC's [Disposal at Sea Program^{cix}](#). The disposal of any substance into the sea, even on the seabed, is not allowed unless a permit is issued. Under the agreement, the Tsleil-Waututh Nation's Treaty, Lands, and Resources Department and ECCC will work together to assess risks of disposal at sea applications. To support this important work, ECCC will provide a total of \$500,000 in funds over the next five years. The agreement recognizes the Tsleil-Waututh Nation's essential role as a partner with Canada in monitoring, protecting, and restoring the health of the Burrard Inlet and its long stewardship over the land.

Departmental Result:
Canadians have clean air

In 2022-23, ECCC maintained its close collaboration with provinces and territories to implement the Air Quality Management System (AQMS). This constitutes a comprehensive approach to reducing outdoor air pollution in Canada. The Department, in collaboration with Health Canada, continued to work with provinces, territories, and stakeholders toward updated ambient air quality standards [for fine particulate matter^{cx}](#) (PM_{2.5}²⁰).

ECCC continued to monitor levels of key air pollutants in 2022–23, in collaboration with provinces and territories through the [National Air Pollutant Surveillance Program^{cxii}](#). The Department leveraged its high-performance computing infrastructure to conduct research and modelling to understand atmospheric chemistry processes and their impacts on ecosystems and human health, worked to improve models to predict atmospheric contaminant effects on air quality, and provided scenarios to support policy development.

The Department also continued, together with Health Canada, to develop, implement and maintain the [Air Quality Health Index^{cxiii}](#) (AQHI). The AQHI was accessed by 1.37 million individuals sensitive to the health effects of air pollution in 2022–23. ECCC also continued to report on air quality and emissions, including in Canada's [Air Pollutant Emissions Inventory^{cxiii}](#), to meet international reporting obligations.

Internationally, ECCC continued its active participation and leadership in international fora to reduce transboundary air pollution. ECCC's work included demonstrating environmental stewardship by continuing to meet air quality-related obligations under the Canada-United States Air Quality Agreement, the United Nations Environment Programme, and the *Convention on Long-Range Transboundary Air Pollution* and in particular, its amended Protocol to Abate Acidification, Eutrophication and Ground-level Ozone [[Gothenburg Protocol^{cxiv}](#)] which entered into force in 2019.

In 2022-23, Canada continued to meet its emission reduction commitments for 2020 and beyond under the Gothenburg Protocol, and to address key air pollutants, including nitrogen oxides, sulphur dioxides, volatile organic compounds, and fine particulate matter.

ECCC also continued to develop, administer, and amend regulations to reduce air pollutant emissions from industrial sources, vehicles, engines, fuels, and consumer and commercial products. This entails ongoing action to:

- administer the [Multi-Sector Air Pollutants Regulations^{cxv}](#), as well as various non-regulatory instruments that address air pollutant emissions from industrial sectors;
- administer the [Reduction in the Release of Volatile Organic Compounds Regulations \(Petroleum Sector\)^{cxvi}](#), published in November 2020, which reduce air pollution from petroleum refineries, upgraders and certain petrochemical facilities;
- develop regulations to reduce Volatile organic compound (VOC) emissions from the storage and loading of petroleum liquids and continue to assess options to reduce air pollution from other sources in the oil and gas sector;
- administer existing fuel quality regulations related to sulphur, benzene, lead and other contaminants;
- administer the [Off-Road Compression-Ignition \(Mobile and Stationary\) and Large Spark-Ignition Engine Emission Regulations^{cxvii}](#), published in December 2020; and
- prepare for the implementation of the newly finalized [Volatile Organic Compound Concentration Limits for Certain Products Regulations^{cxviii}](#) to reduce VOC emissions from approximately 130 categories and subcategories of personal care products, automotive and household maintenance products, adhesives, adhesive removers, sealants and caulks, and other products.

In 2022–23, the Department's on-the-ground environmental enforcement officers continued to verify compliance with environmental legislation and associated regulations that prohibit or control the pollution

²⁰ Fine particulate matter is the name for a range of particles that are less than 2.5 microns (µm) in diameter. This is why it is often referred to as PM_{2.5}.

of air and water. ECCC's environmental enforcement officers conducted 3,330 inspections under the *Canadian Environmental Protection Act, 1999* and the *Fisheries Act*, including 349 inspections related to risk-based priorities such as mining, fuels and power generation.

These inspections initiated 25 new investigations under pollution regulations, and resulted in the implementation of 603 enforcement measures, including Administrative Monetary Penalties (AMPs), compliance orders, tickets, warnings, and alternative measures. Investigations led to 10 convictions and 7 new prosecutions. In 2022-23, a total of \$22,090,000 in penalties resulted from prosecutions. Additionally, monetary penalties resulting from AMPs totaled \$199,600.

Enforcement actions targeting the pollution of air and water in 2022-23 included:

- An order in April 2022 for CaNickel Mining Limited to pay \$200,000 after pleading guilty in the Provincial Court of Manitoba to two offences, which are violations of the *Metal Mining Effluent Regulations* made pursuant to the *Fisheries Act*.
- A \$600,000 fine to Husky Oil Operations Limited in April 2022 for contravening section 36(3) of the *Fisheries Act* in relation to the 2018 release of approximately 2.8 million litres of process water (a by-product of oil and gas production) from the Westhazel pipeline.
- A fine totaling \$15 million issued in June 2022 to ArcelorMittal Canada Inc. and 7623704 Canada Inc. for violating the *Fisheries Act* and *Metal Mining Effluent Regulations* (MMER), stemming from incidents at the Mont-Wright mining complex in Fermont, Québec, from May 25, 2011 to May 14, 2013.

Fines paid by offenders are directed to the Government of Canada's [Environmental Damages Fund^{cxix}](#) for use in beneficial environment protection and conservation initiatives. The Department also continued to concentrate on capacity building by on-boarding and training newly recruited enforcement officers, and by providing re-certification training for existing designated enforcement officers.

Gender-based analysis plus



ECCC continued to apply a GBA Plus lens to the development of policy recommendations, programs, and measures to address air pollution and improve air quality. Detrimental health effects of air pollution can be compounded in individuals who have multiple risk factors. For example, a person could be disproportionately affected by air pollution if they are elderly, have chronic health conditions, and live in an area that has a higher degree of air pollution, compared to someone who has only one risk factor. In 2022-23, the Department continued to ensure that more at-risk populations, including Indigenous communities located downwind of large industrial complexes and those affected by smoke during wildfires, are involved in air quality work. Similarly, the Department continued to engage with Indigenous communities on the modernization of the *Canada Water Act* and on water quality initiatives in key freshwater ecosystems, including in the Great Lakes, Lake Winnipeg, the St. Lawrence River watershed and the Wolastoq [Wəlastəkw]/Saint John River Watershed. Projects were aimed at addressing communities' concerns, increasing the participation of Indigenous Peoples in decision-making and governance of water agreements, and expanding the use of Indigenous Knowledge in water quality initiatives. ECCC's work to identify and manage harmful substances continued to use scientific information and reflect the importance of sound risk management to reduce risks posed to at-risk groups from exposure to toxic chemicals. This has contributed to adapting compliance promotion material to better reflect the target audiences' cultural and linguistic profiles. The Department also strengthened its hiring practices to increase representation of the Canadian population in its enforcement workforce.

United Nations' 2030 Agenda²¹ and [Sustainable Development Goals](#)^{cxx}



The diverse programs and strategies under ECCC's core responsibility for Preventing and Managing Pollution contribute substantially to more than half of the 17 UN Sustainable Development Goals. Continued enforcement of the *Canadian Environmental Protection Act 1999* and key provisions of the *Fisheries Act*, coupled with the implementation of the Chemicals Management Plan, implementation of Canada's obligations under multilateral environmental agreements on air pollution, chemicals, and waste, implementation of the Freshwater Action Plan in major water bodies across Canada, and advancement of regulations to protect air and water quality and promote clean fuels, contributed to supporting healthy lives and well-being for all ([Goal 3^{cxxi}](#)). These will also advance the sustainable management of water and sanitation ([Goal 6^{cxxii}](#)), promote sustainable production and consumption practices ([Goal 12^{cxxiii}](#)), and fight climate change ([Goal 13^{cxxiv}](#)).

Through the implementation of domestic and international measures focused on responsible waste management, oceans protection, and the elimination and reduction of plastics waste and pollution in the environment, ECCC will support sustainable use of marine resources ([Goal 14^{cxxv}](#)) and promote inclusive approaches to sustainable development, industrialization, and urbanization ([Goal 8^{cxxvi}](#), [Goal 9^{cxxvii}](#), [Goal 11^{cxxviii}](#), and [Goal 15^{cxxix}](#)). ECCC will also continue to be an active partner and leader in global action on pollution prevention and management ([Goal 17^{cxxx}](#)).

The federal implementation plan for the 2030 Agenda commits the government to approach the SDGs in a manner guided by human rights principles and advances reconciliation with Indigenous Peoples by fully respecting and protecting their rights. In 2021, the *United Nations Declaration on the Rights of Indigenous Peoples Act* (UN Declaration Act) received royal assent compelling all departments to align their work with the rights articulated in the UN Declaration. ECCC's implementation of the Act will provide an opportunity to make linkages between preventing and managing pollution, fighting the twin crises of biodiversity and climate change and, protecting and respecting the rights of Indigenous Peoples.

For more information on actions under this Core Responsibility that contribute to the UN SDGs, please consult [ECCC's Departmental Sustainable Development Strategy 2020 to 2023^{cxxxi}](#).

²¹ In 2015, all UN member states came together and adopted Transforming Our World: The 2030 Agenda for Sustainable Development. At its heart are 17 Sustainable Development Goals that encompass key social, economic, and environmental challenges.

Innovation and Experimentation

Reducing Use of Plastics through Behavioural Science

Two behavioural science fellows are experimenting with ways to inform consumers about chemicals in products and to improve collection rates for recycling plastic. Preliminary findings of a study fielded in March 2023 to test and analyze the effectiveness of labelling designs and dimensions show that label designs that have a hazard warning sign and an ECCC attribute were the most effective. The results will guide recommendations for the disclosure of chemicals in products. Another online study was launched in March 2023 to find out what people care most about when purchasing products.

Stakeholder Engagement to Advance Supply Chain Transparency for Chemicals in Products

National consultations on supply chain transparency and labelling were held from spring to fall 2022. ECCC, with funding support from the Centre for Regulatory Innovation at TBS, tested the use of a policy lab approach to co-develop solutions for supply chain transparency and labelling to better understand its benefits and challenges.

Key insights gathered include the notion of using digital solutions for improve chemicals in products disclosure, the need for consistent domestic and international requirements for information sharing to avoid duplication and regulatory burden, and alignment with current international initiatives. Data gathered through national consultations will support the development of a broader chemicals in products disclosure strategy, anticipated to be published in 2023.

Key risks

Partnerships are key to the Department's efforts to deliver anti-pollution programming. To ensure ECCC's programming is coordinated with that of its partners and stakeholders, and so avoid any risk to the achievement of shared objectives, the Department continued to develop and build relationships. For example, ECCC continued to work with Indigenous partners, stakeholders, land users and communities by continuing to monitor priority contaminant trends in ecosystems, including in northern and arctic environments, in support of domestic and international chemical management initiatives, food safety and security, and the maintenance of traditional ways of life.

ECCC continued to promote a sensible and collaborative approach to flagship initiatives in order to generate maximum buy-in among partners and targeted sectors. For example, as of December 2022 the manufacturing and import for sale of certain harmful single-use plastics in Canada became prohibited. To mitigate possible risks of low uptake among targeted sectors, businesses in Canada are being provided with enough time to transition and to deplete their existing stocks, as the sale of these items will be prohibited as of December 2023. The Department will continue to collaborate with other government departments, provinces, territories, and industry in delivering across its ambitious agenda.

Results achieved

| Departmental Result: Canadians have clean air | | | | | |
|---|---------------|-------------------------------|------------------------------|------------------------------|---|
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Percentage of Canadians living in areas where air quality standards are achieved ²² | 85% | December 2030 | 68% ²³ | 71% ²⁴ | 64% ^{25,26} |
| Departmental Result: Canadians have clean water | | | | | |
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Percentage of wastewater systems where effluent quality standards are achieved | 100% | December 2040 | 77% | 77% | Result not yet available. ²⁷ |
| Departmental Result: The Canadian environment is protected from harmful substances | | | | | |
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Percentage of actions taken in a timely manner to protect Canada's environment from chemicals found to be a risk to the environment ²⁸ | 100% | March 31, 2023 | N/A | N/A | 93% ²⁹ |

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{cxxxii}.

²² The lag in reporting the result reflects the time needed to compile the data and perform quality control and data analyses.

²³ Data is for the 2016–18 data period.

²⁴ Data is for the 2017–19 data period.

²⁵ Data is for the 2018–20 data period.

²⁶ The decline in results from 2021–22 to 2022–23 can be attributed to large wildfires that negatively affected air quality, therefore this indicator is "at risk".

²⁷ The 2022 data has not yet been compiled and analyzed since the final 2022 results are only submitted to ECCC in the first half of 2023. The analysis of the 2022 dataset will be completed by October 2023.

²⁸ This is a new indicator introduced in 2022–23.

²⁹ The publication of one risk management instrument (Cosmetic Hotlist) was delayed by one month which led to missing the target. The publication date of this instrument is determined outside the program and addresses substances under the Chemicals Management Plan and other programs. In this instance, unforeseen circumstances caused the publication to be released just outside the required timeframe. The program will continue to monitor the progress of publications to determine if the methodology needs to be updated in the future.

Budgetary Financial Resources (dollars)

The following table shows, for Preventing and Managing Pollution, budgetary spending for 2022–23, as well as actual spending for that year.

| 2022–23 Main Estimates | 2022–23 Planned spending | 2022–23 Total authorities available for use | 2022–23 Actual spending [authorities used] | 2022–23 Difference [actual minus planned]* |
|---------------------------|-----------------------------|---|--|--|
| 379,219,765 | 379,219,765 | 412,163,483 | 390,259,703 | 11,039,938 |

* The actual spending for 2022-23 is higher than the 2022-23 planned spending, mainly due to increased spending for Great Lake Ecosystem Initiatives, offset by new funding related to the Federal Contaminated Sites Action Plan and the Trans Mountain Expansion Pipeline.

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{cxxxiii}.

Human Resources (FTEs)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for 2022–23.

| 2022–23 Planned FTEs | 2022–23 Actual FTEs | 2022–23 Difference [actual minus planned] |
|----------------------|---------------------|--|
| 2,220 | 2,255 | 35 |

Financial, human resources and performance information for ECCC's program inventory is available in the [GC InfoBase](#)^{cxxxiv}.

Conserving Nature

Description³⁰

Protect and recover species at risk and their critical habitat; conserve and protect healthy populations of migratory birds; engage and enable provinces and territories, Indigenous peoples, stakeholders, and the public to increase protected areas and contribute to conservation and stewardship activities; expand and manage the Department's protected areas; and collaborate with domestic and international partners to advance the conservation of biodiversity and sustainable development.

Results

Departmental Result: Canada's wildlife and habitat are conserved and protected

Canada—along with the other 195 member nations—wrapped up negotiations at the 15th meeting of the [Conference of the Parties \(COP15\)^{cxxxv}](#) to the *United Nations Convention on Biological Diversity* in Montréal on December 20, 2022. After 13 days of negotiations at the largest-ever conference for biodiversity, the Parties at COP15 in Montréal agreed on the *Kunming-Montréal Global Biodiversity Framework*. The historic agreement is designed to safeguard nature, halt and reverse biodiversity loss, and put nature on a path to recovery by 2050. Canada's main goals were reflected in the framework: protecting 30 percent of lands and waters by 2030; respecting the rights and roles of Indigenous Peoples; and addressing the key drivers of biodiversity loss, notably pollution and overexploitation of nature.

Canada made major new nature conservation commitments and investments over the course of COP15, including:

- Signing of the Canada–Yukon Nature Agreement to advance nature conservation and protection across the territory and support Indigenous leadership in conservation.
- \$800 million to support up to four Indigenous-led conservation initiatives. Once completed, these projects could protect an additional one million km².
- \$350 million in new and additional funding to support developing countries in protecting nature.
- \$255 million toward projects to help developing countries build a strong future, including by fighting climate change, protecting nature, and supporting resilient local economies.

Nature Advisory Committee

In 2022, the Minister of Environment and Climate Change established a [Nature Advisory Committee](#) to support the Government in working toward halting and reversing nature loss by 2030 in Canada and achieving a full recovery for nature by 2050. The Nature Advisory Committee is a group of experts with a range of perspectives that provides strategic advice and recommendations on biodiversity conservation and sustainable use of land and resources to the Department and the Minister. The committee will help address some of the Department's most pressing issues, including: advancing the development of Canada's post-2030 National Biodiversity Strategy; working toward area based conservation targets such as conserving 25 percent of the lands and oceans in Canada by 2025 and 30 percent by 2030; and supporting wildlife and species at risk management initiatives.

At COP15, Canada also pledged to join the [Bonn Challenge^{cxxxvi}](#). This is a global initiative aimed at bringing 350 million hectares of degraded and deforested landscapes under restoration by 2030. Canada committed to restore approximately 19 million hectares through federal programs managed by ECCC, Parks Canada, and Natural Resources Canada that support on-the-ground landscape and ecosystem restoration. This commitment includes the [2 Billion Trees program^{cxxxvii}](#) commitment which provides financial

³⁰ The Conserving Nature core responsibility description was updated in the 2023-24 Departmental Plan to reflect the evolution of Canada's environmental policy landscape and the provision of recent authorities. The description presented here reflects that which was published in the 2022-23 Departmental Plan, prior to this update.

support to organizations to plant trees over 10 years. Canada is one of a few countries with large, healthy natural ecosystems. The nation's forests, wetlands, peatlands, prairies and other natural ecosystems are an important part of Canada's heritage, future prosperity and well-being. The restoration of ecosystems and landscapes is a powerful nature-based solution to address climate change and bring back habitat for wildlife.

In April 2022, Canada and Newfoundland and Labrador committed to accelerate the creation of new protected areas in the province. In recognition of the importance of biodiversity and nature conservation efforts that can support broader environmental goals and climate change resiliency, the two governments agreed to work together to:

- establish Eagle River Watershed protected area, in consultation with Indigenous communities, by 2025; and
- reach an agreement to advance marine conservation opportunities on the Labrador Coast in partnership with Labrador Indigenous communities.

The two governments also agreed to explore the identification of additional national marine conservation areas, marine national wildlife areas, national parks, and Fisheries and Oceans-led marine conservation areas in Newfoundland and Labrador. Canada and Newfoundland and Labrador also agreed to advance negotiations on a nature agreement that will focus on advancing a number of nature-related issues, including habitat protection for species at risk and migratory birds.

In 2022-23, ECCC designated [Edézhíe as a National Wildlife Area, in addition to its status as a Dehcho Protected Area](#)^{cxxxviii}. Edézhíe is a pristine area of the Northwest Territories that is important for the Dehcho First Nations people. It is a cultural sanctuary where the Dehcho Dene can return for spiritual nourishment, and to reconnect and reconcile with the land. It is also a critical habitat for boreal caribou and wood bison, as well as an important area for waterfowl and other migratory birds. This designation ensures that Edézhíe's lands, waters and biodiversity are permanently protected through the provisions of the *Canada Wildlife Act* and the *Wildlife Area Regulations*. Furthermore, the Government of the Northwest Territories has protected Edézhíe from any future mineral, oil, or gas exploration or development. To support these protections, the Government of Canada contributed \$10 million towards the Edézhíe Trust Fund to provide long-term funding for management of the area led by Dehcho First Nations.

The Department also committed to invest \$5.6 million over three years with Ducks Unlimited Canada to reduce greenhouse gas emissions. This will be achieved by increasing biodiversity conservation efforts in southern Canadian wetlands and coastal areas in the six provinces from Ontario to Newfoundland and Labrador. Ducks Unlimited Canada will use the funds to restore and conserve degraded wetlands and upland habitats, acquire habitat at high risk of being lost to alternative land uses, and acquire habitat to enable inland migration to coastal salt marsh habitats. This project will target up to 15 species at risk listed under the *Species at Risk Act* and permanently secure wetlands and upland habitats to provide significant long-term carbon storage.

In 2022-23, the Government announced that it will invest up to \$90 million over three years to extend the [Natural Heritage Conservation Program](#)^{cxxxix} (NHCP). This will help secure an additional 180,000 hectares of ecologically sensitive land and establish new protected and conserved areas across the country. This additional investment to the Natural Heritage Conservation Program will be managed through agreements with the Nature Conservancy of Canada, Ducks Unlimited Canada, and Wildlife Habitat Canada, on behalf of local and regional land trusts across the country. For every dollar of federal funding, the program will match a minimum of \$1.50 from non-federal sources, including in-kind matching such as land donations from private landowners and corporations. The Government's investment leverages at least \$225 million in

Nature-Based Climate Solutions

Canada announced the [Natural Climate Solutions Fund](#) horizontal initiative to address climate change and biodiversity loss, with expected results of reducing greenhouse gas emissions, restoring ecosystems, preventing biodiversity loss, and improving human well-being and resilience to climate change. To help inform evidence-based decisions around sustainable and resilient nature in cities as well as support the mental and physical wellbeing of people, ECCC launched an urban ecology transdisciplinary research program. This program will push forward a new way of doing biodiversity research and mobilizing knowledge through a social-ecological framework. It will also serve to address Canada's commitments under the Kunming-Montreal global biodiversity framework (GBF) Target 12 to increase nature in cities and improve peoples' access to green spaces.

total funding to further pursue Canada's goal of protecting 30 percent of land and inland waters by 2030³¹. A prime example of this came earlier in 2022 when the Nature Conservancy of Canada (NCC), in collaboration with forestry company Domtar and supporters from around the world, rallied to protect globally significant forest and wetlands. Together they landed the largest private land conservation agreement in Canadian history to conserve more than 1,500 km² (twice the size of Toronto). This included 100 lakes and 1,300 km of rivers, streams and shoreline known as the Hearst Forest in Northern Ontario.

In 2022-23, ECCC also committed to invest \$11.3 million over three years from Canada's Enhanced Nature Legacy to increase biodiversity conservation efforts in 19 UNESCO biosphere reserves across Canada.

These biosphere reserves range from Clayoquot Sound in British Columbia to Riding Mountain in Manitoba, Ontario's Niagara Escarpment, the Manicouagan-Uapishka Biosphere Reserve in the Baie-Comeau region of Québec, and New Brunswick's Fundy Biosphere Reserve.

Sharing Biodiversity data to support conservation

Managing and sharing data on species at risk is critical to support their conservation. In 2022-23, ECCC released the [Critical Habitat for Species at Risk](#) national dataset (<https://t.co/sXm9hS4PmW>) giving open access to the location of Critical Habitat for over 250 species at risk in Canada. This information will help Canadians to locate and protect Critical Habitat near them.

Biosphere reserves are a model for how communities can connect with nature in healthier and more sustainable ways. They inspire and empower Canadians to work together to address global challenges, such as biodiversity loss and climate change. By investing in Canadian biosphere reserves, the Department is advancing important conservation work in areas rich with cultural and biological diversity. One example is the Georgian Bay Biosphere reserve that will receive more than \$585,000 over three years from Canada's Enhanced Nature Legacy. These funds will support the biosphere reserve's biodiversity conservation efforts and support Canada's goal to conserve 25 percent of lands and inland waters by 2025, working toward 30 percent by 2030. For the duration of the project, partners will work together to restore, maintain, and enhance biodiversity conservation in the buffer

zones surrounding the core protected areas of the biosphere reserve, which encompasses the eastern shore of Georgian Bay and stretches approximately 175 km from the Severn River to the French River in Ontario. It is hoped that, in the coming years, managed areas within the biosphere reserve's buffer zone will be recognized as [Other Effective Conservation Measures](#)^{exl32} (OECMs), which will allow them to become part of Canada's recognized conservation network.

The Department modernized the [Migratory Birds Regulations](#)^{exlii} (MBR) in 2022-23 as part of the Government of Canada's commitment to protecting and conserving migratory birds.

Canada hosts almost 400 species of migratory birds, and their health reflects the health of the natural ecosystems that support us all. Birds across the country are also emblematic of Canadians' love of nature, and an important part of Indigenous communities' way of life, culture, and livelihood. Changes to the MBR will make it easier for Canadians to understand and comply with the regulations, first enacted in 1918, and will improve the government's ability to effectively manage and protect migratory birds in Canada. The modernized MBR will also ensure that Indigenous Peoples are accurately represented and that their existing harvesting rights, recognized and affirmed under the *Constitution Act*, 1982, are reflected. This includes the right to use, gift, sell, or exchange feathers; the right to hunt, gift, or exchange migratory birds; and the right to harvest their eggs.

Bird-friendly Cities

The Government of Canada joined forces with author Margaret Atwood to announce that 14 Canadian cities are now certified as [Bird Friendly Cities](#) by Nature Canada. The Department stressed the importance of cities in sustaining bird populations because they enrich our urban environments.

In addition, in December 2022, the Department announced investments of \$1.998 million over three years in a wide range of programs for migratory bird monitoring and conservation, including for species at risk, throughout Canada. The results of these projects will assist in planning the recovery of species at risk and in protecting their habitats. These programs will be carried out with the help of citizen science volunteers who

³¹ In December 2022, parties to the [Convention on Biological Diversity](#), including Canada, set an aspirational target to conserve at least 30% of terrestrial areas and inland waters, and 30% of marine areas, by 2030. This is one of 23 targets collectively known as the [Kunming-Montreal Global Biodiversity Framework](#).

³² Other Effective area-based Conservation Measures (OECMs) are a means of recognizing the conservation efforts of others.

are recruited and managed by Birds Canada. The programs will take place in a wide range of habitats across Canada to provide information on the status and distribution of birds in Canada.

In 2022–23, representatives of the Governments of Canada and British Columbia, with representatives of the British Columbia First Nations Leadership Council, continued to work towards a Nature Agreement. Nature agreements aim to advance conservation in Canada to be collaboratively developed with provinces and territories, with full participation of Indigenous partners, to establish coordinated and aligned approaches, targeted initiatives, and cost-shared investments to contribute towards conserving nature, habitat and ecosystem protection, species at risk protection and recovery, migratory bird conservation and management, nature-based solutions to climate change, and to advance Indigenous leadership and partnerships. The agreements will also help support a green recovery by ensuring the coordinated delivery of nature-based solutions to climate change.

Departmental Result:
Canada's species at risk are recovered

In 2022-23, ECCC continued to deliver on its obligations and commitments under the [Species at Risk Act^{cxlii} \(SARA\)](#), including support for the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessments of species at risk (SAR). The department also worked to: reduce the SAR listing backlog; bring the number of required SAR recovery documents to 93 percent compliance with the Act through the publication of recovery strategies, management plans, and action plans; and issue an updated report on steps taken by provinces and territories, and through federal action, towards the protection of critical habitat for terrestrial species.

The Minister of Environment and Climate Change appointed six members to the [National Aboriginal Council on Species at Risk^{cxliii} \(NACOSAR\)](#). In accordance with 8.1 of SARA, NACOSAR offers advice and recommendations to the Minister of Environment and Climate Change on the administration of SARA. It also provides recommendations and guidance to all SARA competent Ministers and their departments (including ECCC, Parks Canada, and the Department of Fisheries and Oceans). The Council met face to face in January 2023 to discuss priorities for its tenure.

ECCC also continued to advance its approach to terrestrial species at risk conservation through SARA policy and program improvements and the implementation of the [Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada^{cxliv} \(PCA-SAR\)](#). The latter outlines principles to guide collaborative implementation of conservation actions among federal, provincial, and territorial governments, including strengthening collaboration between governments and Indigenous Peoples in the conservation of species at risk and biodiversity, and establishing criteria for the identification of shared priority places, sectors, or species for conservation. Canada's Enhanced Nature Legacy (ENL) Fund in turn provides funding to support projects focussed on these shared priorities.

Under ENL's Priority Places, projects are funded to engage partners and stakeholders, establish governance frameworks, further develop collaborative multi-species and ecosystem-based conservation implementation plans, and implement priority actions on-the-ground.

In November 2022, through ENL's Priority Places, the Government announced more than \$27.5 million in funding over four years to support 67 projects across Canada in 11 Priority Places for Species at Risk. One example of a Priority Place is the Prince Edward Island (PEI) Forested Landscape Priority Place. The PEI forested landscape is an area that is high in biodiversity and is a habitat for species at risk. In 2022, three projects totaling up to \$2.75 million over four years were approved or renewed to support the continued implementation of conservation actions in the PEI Forested Landscape Priority Place. This includes support for Island Nature Trust to work with landowners of forested wetlands, and riparian, upland, and coastal forests in PEI, to identify and protect forest habitat for species at risk. This forest habitat is known to support 13 species at risk, including the little brown and northern myotis bat species and the Canada Warbler. The PEI Department of Environment, Energy and Climate Action and the Abegweit Conservation Society will also receive continued funding to support existing projects in the PEI Forested Landscape Priority Place.

Delta Farmland and Wildlife Trust also received funding under the ENL's Priority Places for Species at Risk initiative to carry out work that protects grassland habitat on agricultural land in Delta, British Columbia,

which is located in the Southwestern British Columbia Priority Place. Only five percent of native grassland remains within the lower Fraser River Delta. Delta Farmland and Wildlife Trust works with farmers to temporarily take fields out of agricultural production, plant native grasses, and set them aside as undisturbed grassland habitat for species at risk and species of other concern. This work targets four species: the great blue heron, the barn owl, the barn swallow, and the short-eared owl.

In addition, as part of the ENL's Priority Species initiative, the Department announced up to \$34.1 million in funding to support 13 new projects focused on the recovery and protection of some of Canada's most iconic species across the country. To date, federal, provincial, and territorial governments have identified six shared priority species: boreal caribou, southern mountain caribou, Peary caribou, barren-ground caribou, greater sage-grouse, and wood bison. They are part of the Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada. The agreed-upon priority species: have complex threat scenarios and wide ranges; have (or had) large geographic ranges; have special meaning for many Canadians; are typically of cultural significance for Indigenous Peoples; and play important ecological role. Conservation of these priority species can have significant co-benefits for other species at risk, wildlife in general, and related biodiversity values.

The Pan-Canadian Approach also identified [three priority sectors: agriculture, forest and urban development^{cxlv}](#). Each of the priority sectors was chosen given its impact on species at risk, national scope, and relevance. Work has progressed substantially in all priority sectors, including supporting innovative projects within the sector, creating mechanisms for collaboration, and developing sector-based strategic conservation frameworks for species at risk. In 2021, federal financial investments totalling \$1.2 million supported 10 multi-year projects.

In 2022-23, ECCC invested \$14.2 million in 74 projects through the Indigenous Partnerships Initiative, another related subset of ENL funding distinct from the Pan-Canadian Approach, that strives to support Indigenous leadership in species at risk conservation and enhance relationships with Indigenous Peoples. The projects supported: Priority Species (caribou, wood bison); wildlife health monitoring; the inclusion of Indigenous Knowledge and priorities in multi-species conservation planning; and ECCC's consultation and cooperation obligations under SARA.

The Department also committed more than \$3.7 million in funding over three years, starting in 2022-23, through the [Aboriginal Fund for Species at Risk^{cxlvi}](#), supporting 33 conservation projects across Canada. The projects will be led by Indigenous nations and organizations, reflecting their unique values, interests and knowledge in taking action to recover species at risk. The Aboriginal Fund for Species at Risk plays an important role in the conservation of land-based species at risk across Indigenous territories. It supports long-standing Indigenous leadership in stewarding lands, waters, animals and plants, as well as supporting the implementation of SARA.

The [Habitat Stewardship Program for Species at Risk^{cxlvii}](#) provided \$6.5 million in funding for 67 conservation projects for the 2022-23 fiscal year across Canada, led mainly by environmental non-governmental organizations taking action to recover species at risk in their communities. The Program plays an important role in the conservation of land-based species at risk across the country by supporting local actions to steward lands, waters, animals, and plants, as well as the implementation of SARA.

In April 2022, the Governments of Canada and Ontario reached an agreement to support the conservation and recovery of boreal caribou in the province. Boreal caribou is an iconic species. It is listed as a threatened species under both SARA and the Ontario *Endangered Species Act*. The agreement builds on Ontario's ongoing caribou conservation program and the federal caribou action plan, through cooperation and investment in monitoring, reporting, protection, restoration, planning, management, and stewardship actions.

Stewarding Bird Conservation in Atlantic Canada

The Government of Canada is committed to protecting Canada's nature, biodiversity, and species at risk. Bird populations are excellent indicators of the health of air, water, and land. When bird habitats are healthy, communities also benefit by reducing flooding and erosion, filtering groundwater, and maintaining resilient ecosystems. Despite their great adaptability, science shows significant decreases in many bird populations. That is why the Government of Canada is partnering with Birds Canada to steward local conservation projects to protect at-risk migratory birds and their habitats in Atlantic Canada, supported by a contribution of \$384,594 from the Department.

The Department also announced in December 2022 that the Government of Canada will support the Government of Northwest Territories' actions to conserve barren-ground caribou. This will entail investing \$3.8 million in three conservation projects. The Government of Northwest Territories will provide an equal investment of \$3.8 million. These projects will monitor barren-ground caribou, their habitats, and threats that may be affecting herds in the Northwest Territories by using Indigenous and Western science and knowledge. Projects also aim to conserve and protect barren-ground caribou populations and their habitats by working to minimize human and predator impacts and identifying important barren-ground caribou habitats such as calving grounds and migratory routes for conservation. These actions have been identified as priorities in the 2020 Recovery Strategy for barren-ground caribou in the Northwest Territories.

In 2022-23, under the *Impact Assessment Act* (IAA), ECCC continued to provide knowledge and information for the review of proposed projects on matters related to climate change, air quality, water quality, environmental preparedness and emergencies, and biodiversity. This included advice on the characterization of effects and the efficacy of mitigation measures. In particular, the Department advanced development of the final Technical Guides Related to the Strategic Assessment of Climate Change (SACC) in 2022-23. While the SACC provides guidance on how climate change should be considered in impact assessments to ensure greater transparency, clarity, consistency, and improved process certainty, supporting documents will provide additional technical guidance on specific elements of the SACC to allow proponents to better prepare for impact assessments, which may in turn result in a more timely assessment process.

Throughout 2022-23, ECCC maintained ongoing efforts to protect wildlife species and their habitat from actions by businesses and individuals. ECCC's wildlife enforcement officers continued to conduct inspections and investigations based on the risk-based approach to address illegal wildlife trade, verify compliance in federal protected habitats, and respond to the destruction of wildlife habitats, critical habitats, and protected areas. These activities included:

- responding to multiple complaints and tips received from the public concerning habitat and wildlife destruction;
- conducting inspections, enforcement activities and hunter checks, and led a series of border crossing blitzes to look for evidence of illegal exports of Canadian species, as well as illegal imports of exotic species; and
- participating, during the month of October 2022, in INTERPOL's Operation Thunder 2022, an international enforcement effort in collaboration with the World Customs Organization, aimed at cracking down on wildlife crime including smuggling, poaching, and trafficking; where ECCC wildlife enforcement officers inspected and seized numerous illegal shipments of CITES species that arrived without permits including crocodile oil, Prickly Pear cactuses, hippopotamus and walrus parts, live Golden Thread Turtles, a giraffe skull, and several other CITES species at international airports in Toronto, Montreal, and Calgary, and freight terminals across the country.

Use of Alternative Measures in Compliance and Enforcement

In December 2022, Ocean Seafood Company met the conditions of an alternative measures agreement, which was reached after the company was charged with an offence under the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act* (WAPPRITA). As part of the agreement, the company made a contribution of \$30,000 to the Environmental Damages Fund. Ocean Seafood Company also forfeited imported eel meat to the Crown to remove the illegally imported product from the commercial market. In addition, the company was required to implement a training program for employees, focusing on compliance with WAPPRITA. As the company completed all measures outlined in the alternative measures agreement, the charge against the company was withdrawn.

Wildlife enforcement activities carried out by officers included responding to 126 complaints and tips received from the public concerning habitat and wildlife destruction. Officers conducted 6,657 inspections, including 5,830 inspections related to risk-based priorities such as the control of points of entry, outfitters and national wildlife areas. Wildlife enforcement officers initiated 102 new investigations under relevant wildlife legislation and implemented 470 enforcement measures, consisting of Administrative Monetary Penalties (AMPs), compliance orders, prosecutions, tickets, warnings, and alternative measures.

Wildlife enforcement investigations led to four convictions and initiated 11 new prosecutions. A total of \$260,959 in penalties resulting from enforcement efforts were issued between April 1, 2022, and March 31, 2023. Items confiscated include medicinal composites, finished products, dead specimens, live specimens,

and hunting trophies. With a value of \$169,000, 140 AMPs were issued under the *Migratory Birds Convention Act, 1994*, the *Canada Wildlife Act* and the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*. The amount received from the AMPs was directed to the Environmental Damages Fund.

In addition, in support of the Minister's Mandate Letter Commitment to curb illegal wildlife trade, the Department worked in 2022-23 with partner organizations to improve intelligence collection and analysis with respect to illegal wildlife trade and completed various inspections based on its risk-based approach.

Departmental Result:
Indigenous peoples are engaged in conservation

During COP15, in December 2022, the Prime Minister announced \$800 million in funding for four large-scale Indigenous-led Project Finance for Permanence (PFP) initiatives. The initiatives are all led by Indigenous proponents who are committed to working together to protect and conserve nature. The PFP model will bring together Indigenous organizations, governments, ENGOs and philanthropic organizations to leverage sustainable funding for the long-term protection of nature, including making substantial progress towards Canada's goals of conserving 25 per cent of land and inland waters by 2025, and 30 per cent of each by 2030. The four individual PFP initiatives are in:

- the Northwest Territories, involving over Indigenous governments and organizations from across the territory;
- the Great Bear Sea in the [Northern Shelf Bioregion^{cxlviii}](#) in British Columbia;
- the Qikiqtani Region in Nunavut; and
- Ontario's Hudson Bay Lowlands, including the coastline of Western Hudson Bay.

In 2022-23, Athabasca Chipewyan First Nation (ACFN), Mikisew Cree First Nation (MCFN), and the Government of Canada signed a Conservation Agreement under section 11 of SARA to work together to advance the recovery and protection of boreal caribou in northeastern Alberta. The Agreement sets out measures that support Indigenous-led conservation efforts and develops new ways for Indigenous Nations to work in partnership with Canada. Conservation actions include the development of an Indigenous Stewardship plan for boreal caribou, the collection of Indigenous Knowledge, training on habitat restoration practices and an Indigenous Guardians Program pilot to advance on-the-ground monitoring of caribou and its habitat. ECCC supports the conservation actions in the section 11 Agreement via four-year contribution agreements with ACFN (\$462,500/four years) and MCFN (\$490,500/four years).

From September to November 2022, the Department invited expressions of interest for up to \$40 million in Indigenous-led area-based conservation funding. To be eligible for funding, proposals had to be Indigenous-led, contribute toward Canada's conservation targets within the next few years, and have the support of the relevant provincial or territorial government, or reporting authority. Indigenous People in Canada have long been environmental stewards on land, ice and water and are the original leaders in sustainable development and natural resource management. That is why the Government of Canada is committed to working in partnership with First Nations, Inuit, and Métis to support Indigenous leadership in conservation as we tackle the twin crises of biodiversity loss and climate change.

As part of Canada's historic Budget 2021 investment of \$2.3 billion over five years in nature conservation through the Enhanced Nature Legacy initiative, ECCC will invest up to \$340 million in new funding over five years to support Indigenous leadership in nature conservation. Of this funding, up to \$173 million will support new and existing Indigenous Guardians initiatives and the development of Indigenous Guardians Networks for First Nations, Inuit and Métis until 2025-2026. At COP15, in December 2022, the launch of the [New First Nations National Guardians Network^{cxlix}](#) was announced, signalling a major step in reconciliation and self-determination. This Network will enable a Nation-based model of self-determination and a Nation-to-Nation-based model of reconciliation and partnership for responsible land and marine stewardship. Indigenous Guardians initiatives support Indigenous Peoples in protecting and conserving the environment, developing and maintaining sustainable economies, and continuing the profound connections between Indigenous cultures and nature.

In 2022-23, ECCC announced nearly \$30 million in funding for more than 80 First Nations, Inuit and Métis Guardians initiatives across the country. These initiatives are to address the twin crises of climate change and biodiversity loss that are taking place from coast to coast, providing benefits for Indigenous communities, the natural environment, and species at risk, including boreal caribou. ECCC is also committed to the co-generation of knowledge with Indigenous Peoples to enhance local conservation efforts. ECCC wildlife scientists are engaged with communities to gain a deeper understanding of the habitat requirements and threats for species at risk, such as Peary caribou.

In December 2022, the Department committed \$5.8 million in funding for 14 Indigenous-led initiatives, as part of the Indigenous-led Natural Climate Solutions Initiative.

The Nature Smart Climate Solutions Fund is a \$1.4 billion, 10-year fund to support projects that conserve, restore, and enhance wetlands, peatlands, grasslands, and forests, in order to store and capture carbon. Of this amount, up to \$76.9 million is allocated to provide targeted support for Indigenous Peoples through the Indigenous-led Natural Climate Solution funding stream. Indigenous-led initiatives, are taking place across the country, focusing on building capacity and reducing greenhouse gas emissions, while providing important benefits to support increased well-being and resilience in Indigenous Nations and communities.

Indigenous Guardians

Indigenous Guardians are the “eyes and ears on the ground” in Indigenous territories, and a unique example of reconciliation in action. They monitor ecological health, maintain cultural sites, and protect sensitive areas and species. Guardians’ initiatives support Indigenous peoples in protecting land, water, and ice in their traditional territories through on-the-ground, community-based, stewardship initiatives. Indigenous Guardians also promote social and community well-being through connections to the land, culture and language.

Since 2018, over 170 Guardians initiatives have been supported and have contributed to the development of capacity and employment in Indigenous communities across the country. In the spirit of reconciliation, the Government of Canada is committed to supporting the leadership of Indigenous peoples to help conserve ecosystems, protect Indigenous cultures, and develop sustainable economies for future generations. Fighting the twin crises of climate change and biodiversity loss requires collective effort and systemic change in the ways we interact with nature. This change must include respect for Indigenous Knowledge and Indigenous Science, derived from First Nations, Inuit and Métis experience as caretakers of land, water, air and ice.

Most Complete Overview of Canada’s Biodiversity to Date

In November 2022, the Department released *Wild Species 2020: The General Status of Species in Canada*—a collaborative initiative with provinces and territories that provides the most complete overview of Canada’s biodiversity to date. With the goal of enhancing understanding of the status and distribution of wild species across the country, for the first time the *Wild Species* report takes stock of more than half of all known species in Canada. The total of 50,534 species covered represents an increase of over 20,000 species from the edition published five years earlier. The report’s results indicate that 80 percent of the assessed species are secure, while 20 percent are at some level of risk of extinction in Canada.

The [Canada-Yukon Nature Agreement](#)^{cl} has committed \$5.9M of federal funds to Indigenous engagement, including \$4.3M to flow to Indigenous recipients, to support their collaboration and engagement in the Agreement’s conservation planning and species at risk work.

On December 17, 2022 at [COP-15](#)^{cl}, the federal Minister of Environment and Climate Change, the Northwest Territories Minister of Environment and Natural Resources and Danny Gaudet, ʔek’wahtı́dǎ (Chief), Délı̨ne Got’ı̨ne Government, signed a letter of intent to support the establishment of the Sahtú K’aowe Indigenous Protected and Conserved Area around Great Bear Lake (Tsá Tué) in the Northwest Territories. Tsá Tué is the eighth largest lake in the world, and it is culturally significant for the Dene peoples and ecologically valuable for Canada. The lake straddles the Arctic Circle and is surrounded by boreal forest. The lake is larger than 31,000 km², which represents approximately 0.3 percent of Canada’s land mass, and is

one of the most ecologically intact ecosystems in the world. The Tsá Tué watershed provides important habitat for iconic Canadian species, like muskox, moose, and caribou, among others.

Gender-based analysis plus



In 2022-23, ECCC continued to work to achieve protection and recovery goals for species, while recognizing that Indigenous reserves and lands often provide important refuge for species at risk and migratory birds. Indigenous Peoples in Canada are also the holders of Indigenous

Knowledge essential to achieving these goals. To ensure the consideration of Indigenous Knowledge systems while reducing the impact of consultation fatigue and repeated gathering of knowledge on species, the Department focused efforts on ecosystem-based and multi-species conservation approaches, and on improving coordination among federal departments and provincial/territorial governments. In its efforts to meet Canada's biodiversity commitments, ECCC actively engaged diverse groups of people in Canada, including Indigenous communities, in conservation initiatives. ECCC conducted an annual survey of Indigenous partners to seek their feedback on the meaningfulness of ECCC engagement efforts. Through the federal assessment process, the Department continued to provide expert advice and knowledge to support resource development decisions that mitigate negative impacts on at-risk populations.

United Nations' 2030 Agenda³³ and [Sustainable Development Goals](#)^{ciii}



Under the *Species at Risk Act*, ECCC works to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened, and to manage species of special concern to prevent them from becoming endangered or threatened. Independent actions on single species are complemented with strategic multi-species and ecosystems-based actions – focused on a set of shared priority places, species, and sectors with Provincial and Territories across Canada through a Pan-Canadian Approach.

The Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada and its substantial new investments in federal and other protected areas under its [Enhanced Nature Legacy initiative](#)^{ciii}, complement ongoing action for wetlands protection, habitat stewardship and terrestrial and marine wildlife conservation. Collectively, these serve to: conserve biodiversity and the quality and viability of natural ecosystems; preserve and restore air and water quality; and promote sustainable land use and wildlife harvesting practices.

ECCC's activities to conserve nature and protect terrestrial and marine species at risk and their habitats contribute to the UN Sustainable Development Goals (SDGs) of sustainable cities and communities ([Goal 11](#)^{civ}), life below water ([Goal 14](#)^{civ}), and life on land ([Goal 15](#)^{cvi}).

ECCC also contributes to [Goal 17](#)^{cvi}, as the lead in the negotiation and implementation of the *Convention on Biological Diversity* (CBD) and other conventions, including on resource mobilization and biodiversity financing. This work aims to ensure adequate financing for biodiversity policy to achieve the goals and targets under the SDGs related to the protection, restoration, and sustainable use of biodiversity and nature. In doing so, the department aims to ensure coherence between international and domestic biodiversity efforts.

The federal implementation plan for the 2030 Agenda commits the government to approach the SDGs in a manner guided by human rights principles and advances reconciliation with Indigenous Peoples by fully respecting and protecting their rights. In 2021, the United Nations Declaration on the Rights of Indigenous Peoples Act (UN Declaration Act) received royal assent compelling all departments to align their work with the rights articulated in the UN Declaration. ECCC's implementation of the Act will provide an opportunity to make linkages between protection, stewardship and conservation and protecting and respecting all rights of Indigenous Peoples.

For more information on actions under this Core Responsibility that contribute to the UN SDGs, please consult [ECCC's Departmental Sustainable Development Strategy 2020 to 2023](#)^{cvi}.

³³ In 2015, all UN member states came together and adopted Transforming Our World: The 2030 Agenda for Sustainable Development. At its heart are 17 Sustainable Development Goals that encompass key social, economic, and environmental challenges.

Innovation and Experimentation

Innovation in Monitoring Wildlife

For several years, ECCC has experimented with novel approaches for monitoring wildlife populations and comparing them against traditional survey methods. Some of these experiments carried on through 2022-23. For example, digital sound recorders continued to be tested for monitoring migratory birds, including evaluating an online interface to interpret sound recordings, developing Artificial Intelligence (AI) / deep learning (DL) approaches to validate bird song identifications, and comparing results from interpreted sound recordings with field observers. AI/DL algorithms are also continuing to be tested and developed for counting cliff-nesting seabirds in photographs of colonies and comparing with traditional counting methods.

Key risks

The Department's ability to engage with key stakeholders and include Indigenous communities' perspectives in decisions is critical to perform the technical fieldwork for monitoring wildlife populations and delivering on conservation outcomes. To ensure productive partnerships and engagement and so mitigate risks to the delivery of its mandate, ECCC collaborated with external partners to leverage existing sources of scientific data for the collective advancement of critical conservation efforts. This included:

- partnering with Birds Canada and Ducks Unlimited Canada towards conservation of migratory bird populations and wetlands;
- being signatory to the Kunming-Montreal Global Biodiversity Framework at the December 2022 COP15 in Montréal; and
- incorporating Indigenous communities' perspectives while reaching an agreement with the Northwest Territories to protect Edézhzié and Tsá Tué (Great Bear Lake).

Sustaining the effective management and use of information assets is also key to ECCC's ability to make timely, evidence-based decisions on nature conservation. As such, through the Digital Strategy Roadmap and the Data and Analytics Strategy, the Department continued to implement a strategic approach to investments in information management systems, and in infrastructure and tools that enable the appropriate management and sharing of information. This is of critical importance when, for example, providing expertise and advice to the review of proposed projects under the Impact Assessment Act that reflect biodiversity considerations.

Results achieved

| Departmental Result: Canada's wildlife and habitat are conserved and protected | | | | | |
|---|--|------------------------|---------------------------|---------------------------------|---|
| Performance indicator | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Percentage of migratory bird species that are within target population ranges | 70% | December 2030 | Results not yet available | Not yet available ³⁴ | Not yet available ³⁵ |
| Percentage of Canadian areas conserved as protected areas and other effective areas-based conservation measures | Increase toward achievement of 17-20% from a baseline of 10.6% in 2015 (terrestrial lands and inland waters) | March 2025 | 12.5% | 13.5% ³⁶ | 13.6% as of December 2022 ³⁷ |
| Departmental Result: Canada's species at risk are recovered | | | | | |
| Performance indicators | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Percentage of species at risk for which changes in populations are consistent with recovery and management objectives ³⁸ | 60% | May 2025 | 42% | 41% ³⁹ | 43% ⁴⁰ |

³⁴ Results for 2020-21 and 2021-22 will be available in December of 2023.

³⁵ The database that underpins this indicator is being rebuilt and will be completed shortly. Results will be functional and populated by December 2023.

³⁶ Establishing protected areas takes time and requires negotiations with many partners. Work is ongoing towards achieving the Canadian target of 25% by 2025.

³⁷ Although Canada continues to invest significant time and resources in fostering deep relationships with a broad range of partners, it still faces many barriers which can make the process complex and lengthy. Durable and ongoing financing remains an impediment to the establishment of new protected areas. ECCC continues work towards meeting this target by leveraging relationships built with partners to turn capacity building projects into establishment projects, negotiating Nature Agreements with willing provinces and territories, and focusing on large-scale, Indigenous-led conservation initiatives, such as the 4 Project Finance for Permanence Initiatives announced at COP15.

³⁸ Indicator wording updated to be consistent with Planned Results for 2022-23 on GCInfobase.

³⁹ In general, successful recovery of species should improve or stabilize the likelihood of the species' persistence in the wild. Recovery takes time; once recovery efforts are in place, it may take many years for changes in populations to be measurable.

⁴⁰ With increasing numbers of species being listed as at risk, progress towards this objective is slow. Recovery of species at risk takes decades, but there is progress being made. Efforts to continue to advance and modernize the approach to the recovery of species at risk are under way.

| Departmental Result: Indigenous peoples are engaged in conservation | | | | | |
|--|---------------|-------------------------------|------------------------------|------------------------------|------------------------------|
| Performance indicators | Target | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Percentage of Indigenous peoples engaged with ECCC who indicate that the engagement was meaningful | 61% | April of each year | 64% | 70% | 66% ⁴¹ |

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{clix}.

Budgetary Financial Resources (dollars)

The following table shows, for Conserving Nature, budgetary spending for 2022–23, as well as actual spending for that year.

| 2022–23 Main Estimates | 2022–23 Planned spending | 2022–23 Total authorities available for use | 2022–23 Actual spending [authorities used] | 2022–23 Difference [actual minus planned]* |
|-------------------------------|---------------------------------|--|---|---|
| 609,338,156 | 609,338,156 | 643,983,141 | 576,201,081 | -33,137,075 |

* The actual spending for 2022-23 is lower than the 2022-23 planned spending mainly due to a reprofile of funds to future years to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature under the Enhanced Nature Legacy. Also, it is due to a reduction in spending for the Species at Risk Act, for protecting Canada's nature, parks and wild spaces (Nature Legacy), and to implement natural climate solutions in Canada. The reductions are offset by expenditures for the *United Nations Convention on Biological Diversity*, payments to non-profit national organizations and to First Nations, and economic increases tied to compensation.

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{clix}.

Human Resources (FTEs)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for 2022–23.

| 2022–23 Planned FTEs | 2022–23 Actual FTEs | 2022–23 Difference [actual minus planned] |
|-----------------------------|----------------------------|--|
| 1,477 | 1,487 | 10 |

Financial, human resources and performance information for ECCC's program inventory is available in the [GC InfoBase](#)^{clxi}.

⁴¹ The type, frequency and scope of engagement varies each year depending on program activities. The target was established using the results of the first year of the survey (2018-2019) as the baseline. Results for this indicator have fluctuated from year to year, with results ranging between 61% and 70% since 2018-19.

Predicting Weather and Environmental Conditions

Description⁴²

Monitor weather, water, air quality and climate conditions; provide forecasts, information and warnings to the Canadian public and targeted sectors through a range of service delivery options; conduct research; develop and maintain computer-based models for predicting weather and other environmental conditions; and collaborate and exchange data with other national meteorological services and with international organizations.

Results

Departmental Result:

Canadians use authoritative weather and related information to make decisions about their health and safety

With over 150 years of service, the Meteorological Service of Canada (MSC) has a long and proud history of serving Canadians. It provides them with accurate and timely information on weather and environmental conditions to help them make decisions about their health, safety, and economic well-being.

Hurricane Fiona

In September, 2022 Hurricane Fiona made landfall as a post-tropical cyclone, with Category 2 hurricane-strength winds in Atlantic Canada. The storm registered the deepest barometric pressure for a storm ever recorded over land in Canada, with a central low pressure of 931.15 mb. The Canadian Hurricane Centre (CHC) played a critical role supporting the emergency management community by providing 114 operational and media technical briefings and products, including targeted information and messages for vulnerable sectors and industries and delivering briefings to Indigenous Organizations.

The Department also deployed meteorologists to provincial emergency operations centres during the storm, enabling the CHC to provide direct and immediate support to emergency management officials.

Early engagement and close coordination with emergency managers and other critical partners were recognized by provinces as being key to their preparedness. The highly-followed media technical briefings contributed to very strong public awareness and personal preparations. International media interest in Hurricane Fiona surpassed that for any other previous tropical storm.

ECCC's [WeatherCAN app^{clxii}](#) continued to provide live weather information though 2022-23. The app has been downloaded over 2.5 million times since its launch in February 2019 and is accessed about 680,000 times per month by active users. WeatherCAN provides easy-to-understand weather observations and forecasts for virtually every community in Canada. Its unique message centre is used to provide contextual information about weather and climate. Through it, Canadians can access current and future weather conditions and receive "push notifications" for weather alerts for locations anywhere in Canada.

In 2022-23, ECCC added a personalized threshold-alerting capability for the Air Quality Health Index (AQHI) to the WeatherCAN app, enabling users to set custom notifications for their unique personal risk level, depending on their sensitivity to air pollution.

Canadians continue to have access to updated forecasts and warnings by: visiting [ECCC's weather website^{clxiii}](#); using the automated phone system [HELLO WEATHER^{clxiv}](#); accessing information through the [WeatherCAN^{clxv}](#) app and the [National Public Alerting System^{clxvi}](#) (NPAS); and tuning in to local media outlets.

In 2022-23, ECCC continued to leverage social media to broaden its reach when notifying Canadians of the potential for high-impact weather events. Weather warnings provide information that can assist Canadians—including vulnerable elderly people,

⁴² The Predicting Weather and Environmental Conditions core responsibility description was updated in the 2023-24 Departmental Plan to reflect the evolution of Canada's environmental policy landscape and the provision of recent authorities. The description presented here reflects that which was published in the 2022-23 Departmental Plan, prior to this update.

children, the homeless, and the chronically ill or their caretakers—to make informed decisions in response to different weather scenarios that may pose increased risks for them. ECCC also took advantage of information-sharing platforms such as Facebook and Twitter to spread messages about the weather and get feedback from Canadians population.

Canadians have also had access to [HELLO WEATHER^{cxvii}](#) in both official languages since the fall of 2021. This is a 24/7 toll-free number that allows anyone in North America to access a directory of locations, and get information about alerts, as well as the latest observations and forecasts for a given location. In 2022-2023, the HELLO WEATHER service received over 5 million calls.

The Department also continued to provide interpretative and decision support services to provincial emergency management and public health organizations to support broad civil preparedness for high-impact weather events. ECCC meteorologists continued to focus their attention on storms and environmental events that have the potential to impact Canada, and to issue warnings according to a weather event's path, location, and intensity. In 2022-23, Hurricane Fiona and the Derecho windstorm crossing southern Ontario and Quebec were the two most severe weather events impacting the safety and security of Canadians that mobilized the MSC and its partners.

In 2022-23, ECCC's state-of-the-art weather and environmental forecasting, dissemination, and early warning systems continued to alert Canadians of approaching high-impact weather events. This included advisories and warnings about storms, heatwaves, air quality conditions, atmospheric rivers, and hurricanes. Meteorologists continued to focus their attention on storms with the potential to affect Canada, and to issue warnings according to the weather event's path, location, and intensity.

In 2022-23, ECCC's new broadcast immediate (BI) technology was leveraged over 640 times to provide Canadians with tornado warnings. The new warning capability was established in 2021 and allows ECCC meteorologists to leverage BI technology of the NPAS. In turn, BI technology allows the Department to notify the population of a given area on their cell phones, or through television and radio, of the possibility of a severe thunderstorm or tornado. The BI capability was used in May 2022 to warn Canadians of a fast-moving Derecho windstorm crossing southern Ontario and Quebec. The storm caused 11 fatalities, toppled trees and led to extensive power outages.

Weather Data Dissemination

Every day, ECCC responds to 65–75 million machine-to-machine requests for weather and environmental data and products. The Department's meteorologists and scientists work around the clock in prediction centres across the country to leverage high-performance computing model results and transform them into warnings, forecasts, and expert advice for weather and extreme weather conditions. These are disseminated using various channels and are relied upon for decision-making by public authorities such as emergency managers, stakeholders and everyday Canadians.

The year 2022 marked the 35th anniversary of the Canadian Hurricane Centre (CHC). The CHC serves as a Canada-focused authoritative source of meteorological information on tropical cyclones in or approaching Canada. The primary responsibility of the CHC is to provide forecasts and warnings on tropical cyclones that threaten Canada or Canadian waters to help Canadians make informed decisions to protect their safety and secure their property. One of CHC's core responsibilities is to effectively collaborate with emergency management agencies at all levels of government, not only when these storms threaten, but prior to the season as well.

Since its creation, the CHC has issued over 2,500 tropical-cyclone information bulletins for over 125 storms, providing critical weather information to weather-sensitive businesses and the public. On average, the CHC responds to three or four tropical cyclone events each year, with one or two of those affecting Canadian soil, and another two or three threatening offshore waters, regardless of the number of storms forecast for the entire Atlantic basin. Typically, hurricanes are of greater concern in Canadian waters later in the season, however, the CHC monitors the Atlantic Ocean year-round for any tropical or tropical-like cyclones that could impact Canada or its waters.

In 2022–23, ECCC continued to implement the Government of Canada's Canadian Weather Radar Replacement Program. This initiative aims to replace outdated technology with 33 new radars by March 2024. Thirty-one new weather radar systems have been installed as of March 2023, with the remaining two radars on track to be installed by the end of 2023.

Radars are the primary tools used by meteorologists to forecast short-term severe weather events associated with thunderstorms, tornadoes, ice storms, and blizzards. The new radars use the most modern technology available and provide more detailed information on precipitation type and storm structure. This allows ECCC to give Canadians a greater lead time to protect themselves and their property from severe weather events.

In 2022-23, ECCC's High-Performance Computer (HPC) system was upgraded to be faster and more powerful. Both of ECCC's supercomputers now rank among the top 100 fastest computers in the world. This upgrade allows for the continued advancement of research and development, and the uninterrupted delivery of operational prediction data and products. Additionally, in 2022–23, data from Canada's upgraded radar network became integrated in real-time into the Canadian national prediction system. With these improvements, ECCC is solidifying its position among the top three centres in the world for 1-2 day forecast accuracy over North America.

Effectively leveraging the capabilities of satellite earth observation is increasingly important for the benefit of ECCC's programs and services. In response to Resourceful, Resilient, Ready: Canada's Strategy for Satellite Earth Observation, ECCC worked with federal partners in 2022-23 to produce an internal satellite earth observation roadmap. This is intended to provide a portfolio of activities that meet the Strategy's objectives and may be advanced in alignment with other priorities.

ECCC continued to provide quality-assured data and information on water levels and flows in real time to provincial and territorial clients throughout 2022-23. This helps Canadians, provincial and territorial emergency management organizations, and weather-sensitive businesses prepare for weather and flood events, make decisions on mitigation and response, and become more resilient to the consequences of climate change. Systematic monitoring of water levels and flow remained an ongoing priority in Canada and continues to be increasingly important. Canada is warming at twice the average global rate, and the Canadian Arctic is warming at nearly three times the global pace. A warmer climate means more weather extremes, including increased frequencies of droughts and floods.

In 2022–23, ECCC's National Hydrological Service (NHS) continued to modernize and strengthen its engineering and technical capacity and its hydrometric infrastructure. It made progress in putting into place new technologies to gather and analyze water information. The NHS also worked with key partners, including provinces and territories, to develop water quantity and predictive products and services. This work targeted major basins in Canada and significantly accelerated research, leading to the development of hydro-meteorological prediction systems. ECCC now has in place a suite of operational hydrological prediction products available online to support hydrological forecasting for the provinces and territories and other partners across Canada.

ECCC also continued to provide expert advice and recommendations to inter-jurisdictional and international water boards. This work—which will be completed by the end of 2023-24—represents the critical components of a \$90 million federal government investment to modernize engineering models and systems for better service delivery to partner agencies involved with domestic and transboundary water management across Canada.

In 2022-23, ECCC continued its co-management relationships with international water boards and committees. This follows through on plans and commitments in an International Joint Commission (IJC) Memorandum of Understanding (MOU) and other interprovincial MOUs. ECCC provides data, technical, engineering and communication support to IJC boards and committees, and takes part in a total of 17 IJC boards and committees and three non-IJC international committees. Key accomplishments in 2022–23 include:

- Release of a draft of the [International Rainy-Lake of the Woods Watershed Board](#)^{clxviii} (IRLWWB) Water Levels Committee (WLC) 2022 Post Flood Report for public input. In the spring and summer of 2022, the Namakan chain of lakes and Rainy Lake reached some of the highest water levels on record. The flood was a natural disaster that lasted many weeks, with Rainy Lake and Namakan Lake reaching record-breaking water levels.
- Completion of the second year of the [International St. Mary and Milk Rivers Study](#)^{clxix} through ongoing collaboration among various levels of government, including engagement with Indigenous Nations and the public. These collective efforts are expected to yield long-term benefits to adapt to climate change and optimize the utilization of available water resources.

- Finalization of the [Lake Champlain-Richelieu River Study^{clxx}](#) and the public dissemination and archiving of data and products from the study.
- Initiation of Phase 2 of the Expedited Review of Plan 2014 to explore possible improvements to the existing regulation plan for managing the outflows from Lake Ontario. Building on Phase 1, this Phase 2 of the expedited review includes: extensive data collection; sophisticated modelling and expert analyses across various sectors and regions; and public engagement and the building of relationships with Indigenous Communities in order to effectively evaluate possible modifications to the regulation plan (due spring 2025).

ECCC also continued to take part in four domestic water management boards, whose accomplishments in 2022–23 include:

- The Ottawa River Regulation Planning Board continued to support the collaborative management of water flows from the principal reservoirs through the third significant flood event in seven years along the Ottawa River.
- The Lake of the Woods Control Board continued to regulate water levels and flow according to the treaty and legislation requirements. Spring and summer of 2022 saw historic flooding conditions to the region, including Lake of the Woods, Lac Seul and the Winnipeg and English Rivers. The Board operated on an emergency basis during this period, supporting flood response efforts at local, provincial, state, and federal levels with water data, forecasts, and expertise.
- The Prairie Provinces Water Board (PPWB) updated water quality objectives for 2021, which are based on the most protective water use guidelines. Despite low flow concerns in the summer of 2021, due to the near record drought in many parts of the southern prairies, distribution commitments were met on all PPWB-monitored interprovincial rivers.
- The Mackenzie River Basin Board shared the 2021 State of the Aquatic Ecosystem Report (SOAER). The 2021 SOAER is an online web-based report that braids publicly available science and Indigenous Knowledge for four aquatic indicators.

In 2022-23, ECCC continued to support the Government of Canada's priority to improve the resilience of communities most at risk of flooding, focused on contributing to the National Risk Profile initiative. ECCC continued work with Natural Resources Canada (NRCan) and Public Safety Canada (PSC) to modernize best practices for consistent floodplain mapping in Canada. ECCC also continued to engage with provinces and territories through existing governance structures to inform flood mapping engineering methods and approaches to assess flood maps, and to support NRCan in advancing a national flood-mapping standard. This program supports the dissemination of flood hazard information to the public and informs decision makers at all levels and in many areas, including in municipal planning and urban development.

ECCC also continued to develop a national prediction system with the capability of generating forecasts and alerts for coastal flooding in response to the growing frequency and severity of storm surge events, and in support of resilient coastal communities and safer near-shore marine navigation.

Gender-based analysis plus



ECCC continued delivering weather forecasts, warnings, and expert advice to support the needs of Canadians, including those most impacted by extreme weather and environmental events (such as floods). In Canada, disproportionately or differentially impacted populations may include northern/rural dwellers, older Canadians and children, people with health issues or disabilities, low-income communities, and people experiencing homelessness. To enhance the reach and accessibility of ECCC's information, ECCC adopted several strategies to better communicate risk to a wide variety of Canadians and prepare them for potential impacts from hazardous weather. ECCC provided weather and environmental information through a wide range of dissemination platforms (including the WeatherCAN app, Weatheradio and webinars), and directly to key decision-makers, such as provincial emergency management and public health organizations. The Department continues to improve the accessibility and documentation of its weather and environmental data and services based on the results of stakeholder engagement.

United Nations' 2030 Agenda⁴³ and [Sustainable Development Goals](#)^{clxxi}



ECCC's weather and environmental observations, forecasts and warnings, including its water monitoring programs, are vital for governments, industry, and citizens across the country to make daily decisions related to protecting property and saving lives, or in decision-making related to weather-dependent economic activities. ECCC's work on improving services to public authorities and the emergency management community supports efforts in increasing the resilience of the poor and vulnerable, and reducing their exposure to extreme climate-related events and emergencies ([Goal 1](#)^{clxxii}). ECCC's work under the Air Quality Program and on the Air Quality Health Index, together with its extreme weather warnings, contribute to public health and safety ([Goal 3](#)^{clxxiii}). More generally, the accumulated knowledge about weather and climate patterns and trends supports the development of effective long-term strategies for water and air quality management, and action on climate change ([Goal 13](#)^{clxxiv}). ECCC's presence on the international stage, such as participation in the World Meteorological Organization, helps to influence and advance global priorities, including the provision of funding and expertise in support of the UN secretary general's pledge to ensure all citizens on Earth are protected with early warning systems against extreme weather and climate change.

The federal implementation plan for the 2030 Agenda commits the government to approach the Sustainable Development Goals in a manner guided by human rights principles. It advances reconciliation with Indigenous Peoples by fully respecting and protecting their rights. In 2021, the *United Nations Declaration on the Rights of Indigenous Peoples Act* (the UN Declaration Act) received royal assent, compelling all departments to align their work with the rights articulated in the UN Declaration. ECCC's implementation of the Act will provide an opportunity to make linkages between weather, water and environmental observations, forecasts and accumulated knowledge and the protection of, and respect for the rights of Indigenous Peoples.

For more information on actions under this Core Responsibility that contribute to the UN SDGs, please consult [ECCC's Departmental Sustainable Development Strategy 2020 to 2023](#)^{clxxv}.

Innovation and Experimentation

Upper Air Renewal II

ECCC continues to identify new ways to improve weather warnings and forecasts for Canadians through new technologies that can be integrated into monitoring networks to build on existing data and fill gaps. Positive results have been confirmed from experimentation and research into the use of data from Aircraft Meteorological Data Relay (AMDAR), and instruments that use laser light to study the properties of the atmosphere (Doppler LiDAR) in weather prediction.

Aircraft Meteorological Data Relay (AMDAR) data is now operational in MSC's numerical weather and environmental prediction models, and further expansion of this project is being explored due to the positive results. Encouraging outcomes have been shown from preliminary assessments of the use of Doppler LiDAR data in weather forecasting, as case studies have shown that data collected from this advanced technology can enhance short-term forecasting (also called nowcasting) capabilities and have been useful in filling geographic gaps in upper air observations. The Department plans to deploy two additional MSC LiDARs in 2023-24.

⁴³ In 2015, all UN member states came together and adopted Transforming Our World: The 2030 Agenda for Sustainable Development. At its heart are 17 Sustainable Development Goals that encompass key social, economic, and environmental challenges.

Key risks

The provision of timely weather and climate information and services to Canadians is contingent on the ongoing maintenance and investment in capital and technological infrastructure to prevent rust-out, ensure functionality, and withstand the impacts of climate change. This may be exacerbated by more frequent severe climate change-related events, such as catastrophic flooding, droughts, and wildfires. To address these risks, ECCC continued to enhance its capital and technological planning, in part by proactively identifying infrastructure deficits and determining priorities and funding needs in these areas. For instance, ECCC continued to replace outdated technology with new radars in numerous communities across Canada, and to modernize and strengthen hydrological engineering, technical capacity and infrastructure.

The Department's continuous ability to efficiently access, collect, share, and analyze increasingly large and complex data is also closely linked to its capacity to sustain core operations and timely delivery of world-class meteorological, environmental, and hydrological information and services to Canadians. To tackle uncertainties and risks in this area, ECCC continued to leverage its scientific expertise and state-of-the-art computing capacity, including through the continuous improvement of weather and environmental prediction models and technical innovations. Together, these advancements allowed the Department to support resilient, safer communities, by giving Canadians greater lead-time to protect themselves and their property.

The Department also continued to explore and implement strategies to enhance data governance and transparency, empower people and culture, and foster an enabling data structure. It continued to invest in information management systems, infrastructure, tools, and people to support the appropriate management of information and seamless data mining, interoperability, and sharing. Among other things, this has allowed the continued provision of expert advice and recommendations to inter-jurisdictional and international water boards and has supported the delivery of services to partner agencies involved with domestic and transboundary water management across the country.

Results achieved

| Departmental Result: Canadians use authoritative weather and related information to make decisions about their health and safety | | | | | |
|--|------------------------------------|------------------------|---|--|--|
| Performance indicators | Targets | Date to achieve target | 2020–21 Actual result | 2021–22 Actual result | 2022–23 Actual result |
| Index of the timeliness and accuracy of severe weather warnings on a scale of 0 to 10 | At least 8.4 on a scale of 1 to 10 | June 2023 | 8.8 (three-year rolling average 2018-20) | 8.8 (three-year rolling average 2019-21) | 8.7 (three year rolling average 2020-2022) ⁴⁴ |
| Percentage of program partners rating their satisfaction with Environment and Climate Change Canada's hydrological services as 8 out of 10 or higher ⁴⁵ | 80% | May 31, 2023 | First results will be reported in 2022-23. | | 69% ⁴⁶ |

⁴⁴ Although the value of the indicator is slightly less than for the previous reporting period (8.8), it is within the level of year-to-year variability that is expected and exceeds the target value of 8.4.

⁴⁵ Replacing retired indicator: Percentage of Canadians that use ECCC information to address water-related impacts on health, safety, economy and environment. The new indicator is a more meaningful annual performance indicator as it represents the actual user groups of the program.

⁴⁶ Provincial and territorial partners identified that the National Hydrological Service (NHS) continues to experience backlogs in approved historical data, which is limiting satisfaction despite other areas of strength. As it was the largest issue contributing to partner dissatisfaction, NHS will focus efforts on optimizing data approval/upload processes and eliminating data approval backlogs. In addition, NHS will renew focus on client relationships, particularly with those that have expressed dissatisfaction with the services provided. This year, the number of survey responses was low. In future reporting years, NHS will focus on sending out surveys earlier to allow greater time to provide responses.

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{clxxvi}.

Budgetary Financial Resources (dollars)

The following table shows, for Predicting Weather and Environmental Conditions, budgetary spending for 2022–23, as well as actual spending for that year.

| 2022–23 Main Estimates | 2022–23 Planned spending | 2022–23 Total authorities available for use | 2022–23 Actual spending [authorities used] | 2022–23 Difference [actual minus planned]* |
|---------------------------|-----------------------------|---|--|---|
| 281,875,508 | 281,875,508 | 293,717,828 | 257,185,465 | -24,690,043 |

* The actual spending for 2022-23 is lower than the 2022-23 planned spending, mainly due to surplus under the Revitalization of Canada's Weather Services and Strong Arctic and Northern Communities initiatives.

Financial, human resources and performance information for ECCC's program inventory is available on [GC InfoBase](#)^{clxxvii}.

Human Resources (FTEs)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for 2022–23.

| 2022–23 Planned FTEs | 2022–23 Actual FTEs | 2022–23 Difference [actual minus planned] |
|----------------------|---------------------|--|
| 1,711 | 1,722 | 11 |

Financial, human resources and performance information for the Environment and Climate Change Canada's Program Inventory is available in the GC's [InfoBase](#)^{clxxviii}.

Internal Services

Description

Description

Internal Services are those groups of related activities and resources that the federal government considers to be services in support of programs and/or required to meet corporate obligations of an organization. Internal Services refers to the activities and resources of the 10 distinct service categories that support Program delivery in the organization, regardless of the Internal Services delivery model in a department. The 10 service categories are:

- Acquisition Management Services
- Communications Services
- Financial Management Services
- Human Resources Management Services
- Information Management Services
- Information Technology Services
- Legal Services
- Materiel Management Services
- Management and Oversight Services
- Real Property Management Services

Results

Human Resources

In 2022-23, the Department remained committed to providing a supportive, respectful, and stigma-free environment that promotes employee wellness. ECCC's Culture of Care is founded upon the principle that all levels of the organization will work together to build a workplace culture characterized by humility, compassion, courage and collaboration in support of psychological health, safety and well-being of all personnel. This is done through collaboration, inclusion, and respectful conversations, guided by a clear sense of collective and individual responsibility. Executives, managers, and employees all play a key role in taking direct, practical actions to bring about cultural change, and improve the workplace.

In 2022–23, ECCC developed and promoted its workplace values and ethics resources, and mental health and wellness tools, as well as accessibility tools and a feedback mechanism. These all support the implementation of the Department's Accessibility Strategy and compliance with the [Accessible Canada Act](#)^{clxxxix}.

ECCC has a well-established reputation for supporting senior management with the introduction of new leaders into the Culture of Care. ECCC is recognized for its leadership in promoting a change of mindsets and behaviours within the Department to enable workplace wellbeing in accordance with Government priorities on mental health. As an example, the [Mental Health Crisis support guide](#)^{clxxx} and [5 golden rules for managers](#)^{clxxxi} have been adopted as best practices in the federal public service.

In 2022-23, ECCC continued to implement its 2021–2024 Diversity, Inclusion and Employment Equity Strategy. The Strategy—which was launched in June 2021—was inspired by feedback from ECCC networks, as well as the Clerk of the Privy [Council's Call to Action on Anti-racism, Equity, and Inclusion in the Federal Public Service](#)^{clxxxii}. The Department's Strategy includes a twenty-point action plan that sets out specific, bold, and measurable actions to build a diverse and inclusive workforce. It seeks to close employment equity gaps under four broad pillars: recruitment; employee development and retention; education and awareness; and support to key elements in governance, including employee and management-led networks.

Notable 2022-23 achievements with regards to the Department's diversity, inclusion and employment equity efforts include: reducing departmental gaps in areas of departmental representation, revamping pool management guidelines to facilitate and accelerate referrals, and modernizing internal reporting procedures to launch a departmental Employment Equity Dashboard which provides further employment equity data to track progress, as well as monitor and adjust strategies.

ECCC also continued its role as a core science-based department and advanced an ambitious approach to science communication and women in science, technology, engineering, and math (STEM). To facilitate this, ECCC will continue to strengthen recognition and support through an invigorated Women in Science and Technology Committee. In addition, ECCC continued to encourage and support the creation and operation of a wide range of employee networks and committees devoted to raising diversity awareness, fostering inclusion of diverse perspectives, and capturing ideas of youth in Canada.

ECCC continued to build its capacity to provide culturally competent and legally sound policy advice to its officials who consult and engage with First Nations, Inuit and Métis partners. To facilitate this, the Department reviewed, augmented and updated tools and learning opportunities to improve the way it delivers funding to Indigenous partners. It also continued to deliver training on Indigenous awareness and consultation. ECCC supported the identification of measures for the Action Plan on the [United Nations Declaration on the Rights of Indigenous Peoples Act^{clxxxiii}](#) to advance meaningful inclusion of Indigenous Peoples in the work of the Department. To facilitate the inclusion of Indigenous perspectives, ECCC continued to leverage its Practical Guide to Indigenous Consultation and Engagement to provide guidance to officials involved in consultations and engage with Indigenous Peoples.

In 2022-23, the Department continued to contribute to the government-wide HR-to-Pay stabilization efforts.

This initiative focused on providing regular reports and updates to senior management in areas such as timeliness of statistics and approval of pending transactions in Phoenix. ECCC also continued to invest significant funding and resources for pay service delivery (transactional and client service) to better support employees, address the backlog of pay issues, and supplement PSPC Pay Centre's capacity on special projects and initiatives.

ECCC is a science-driven department that relies on highly qualified and specialized personnel. Faced with a very competitive labour market, the evolution of ECCC's business requirements is driving a need for new skills and competencies to address complex policy, program, scientific and regulatory issues. To ensure ECCC has the capacity to respond quickly and effectively to emerging human resources priorities, the Department continued to maintain flexibility in providing human resources services. This included a focus on realigning human resources to priority files and supporting managers in human resources and succession planning to effectively attract and retain highly qualified and experienced personnel in a timely manner.

Greening Government

ECCC remains committed to transitioning to net-zero carbon and climate-resilient operations while also reducing other environmental impacts of its activities. This includes specific measures focused on waste management, plastics, and water usage in departmental operations.

In 2022-23 the Department continued to implement measures and assess its performance to support the government-wide goal of reducing energy-related greenhouse gas (GHG) emissions from Government of Canada operations by 40 percent from 2005 levels by 2025. ECCC also continued working toward diverting at least 75 percent of non-hazardous operational and plastic waste, and 90 percent of construction and demolition waste, from landfills by 2030. This is in support of Government of Canada's 2020 Greening Government Strategy and the Canada-wide Strategy on Zero Plastic Waste.

ECCC also continued to develop and deliver employee training on eco-conscious procurement practices, and to develop a departmental waste management action plan with time-bound targets to reduce the generation of waste and increase the diversion of non-hazardous operational waste.

Communications

In 2022-23, ECCC continued to deliver transparent, accurate and timely environmental information and communication to Canadians, federal departments, provincial and territorial governments, and stakeholders. This was achieved by using a variety of traditional, digital and innovative communication

strategies and channels to communicate how the Government of Canada is taking action to foster clean growth, conserve nature, prevent and manage pollution, and provide timely information about the impacts of climate change, including severe weather. Highlights include:

- Training scientists to deliver science-based information in plain language to school-aged children.
- Informing Canadians about severe weather events in collaboration with emergency management organizations to help prepare Canadians in a timely fashion, including information on hurricanes such as Fiona.
- Providing information to Canadians on nature-based climate solutions and climate change impacts through social media and advertising campaigns.
- Connecting Canadians to the successes of COP15 via an innovative, continual, and intense communications program with extensive social media opportunities, live reporting, a daily media highlights package, a vlog series, daily briefings and press conferences, and over 25 major announcements.
- A broad and consistent social media presence to communicate the federal zero plastic waste agenda to Canadians and support information exchange and awareness raising. News releases and campaigns helped raise awareness about federal policy measures, identify consultation and engagement opportunities, promote reduction and value-retention processes such as reuse and repair, and recognize collective efforts to reduce plastic waste and pollution.

Information Technology and Information Management

The COVID-19 pandemic continues to influence the way the Department conducts its business. Early in the pandemic, ECCC implemented strategies to bolster its digital transformation to support virtual work, including extensive use of MS 365 and cloud-based collaboration tools. In 2022–23, ECCC's workplace policies that were impacted by COVID-19 continued to align with public health guidelines. The Department is continuing to consolidate experiences and lessons learned to support future operations.

Continuing its efforts to support the return to the workplace hybrid work model, and in collaboration with Shared Services Canada, ECCC upgraded its internet and network links, and improved virtual private network capabilities. In addition, various audio conferencing and videoconferencing solutions were deployed to foster and enable virtual meetings nationally and internationally, all in turn supporting Government greening goals.

In 2022-23, the Department remained committed to supporting digital initiatives that enable ECCC's scientists to inform and enable the ECCC's diverse and complex programs and priorities. This focused on:

- implementing a data strategy;
- modernizing digital services to Canadians and businesses; and
- ensuring that timely insights are available to support decision-making and scientific objectives.

With the recent release of the 2023–2026 Data Strategy for the Federal Public Service, ECCC continued to implement its own data and analytics strategy. The strategy builds on existing digital service investments to improve access to authoritative data and information, both domestically and abroad.

In collaboration with Shared Services Canada and Public Service and Procurement Canada, ECCC's Winnipeg Weather Office was relocated to a new facility with modern workspace that supports the SSC Data Center Closures initiative by consolidating IT workloads and paving the way to the Montreal Enterprise Data Center planned for December 2023.

The effective management of data is a key pillar of scientific departments such as ECCC. In 2022-23, ECCC delivered the first phase of the cloud-based Data Hubs initiative which will enable the Department to better manage its data holdings, leverage them to enable informed decision making, and further enable open data sharing with Canadians.

As a leader in Open Government, ECCC implemented new data publication automation processes and improvements to the Open Data Mart in 2022-23, and the ECCC Data Catalogue which further expands public access to key data with almost 1000 datasets published to Canadians. ECCC is a key contributor to the NRCan Open Science and Data Platform which provides access to science, data, publications, and

information about development activities across the country that can be used to understand the cumulative effects of human activities to support better decisions in the future.

Contracts awarded to Indigenous businesses

Environment and Climate Change Canada is a Phase 3 organization with a deadline of the end of 2024-2025 to ensure Indigenous businesses hold at least 5 percent of the total value of contracts awarded by the department.

In preparation for the 2024-25 deadline, ECCC will report its results for fiscal year 2022-23 in September 2023. The 2022-23 Fiscal Year Report will serve as a test of ECCC's reporting and data quality and allow the Department time to implement corrective measures to provide better data to achieve the minimum 5 percent target.

ECCC aims to meet the 5 percent target by focussing efforts on certain types of goods or services, particularly the purchase of computer equipment, charter flights, and contracts awarded in a geographic region subject to a Land Claim Agreement. A procurement communication strategy has also been initiated to target both employees and ECCC's procurement community, including information sessions, regular reporting, and targeted messages.

To enhance departmental capacity and promote engagement of Indigenous businesses, the department has made Indigenous Considerations in Procurement a mandatory requirement of the Procurement Officer training plan, with a total of 33 of 47 (70 percent) targeted employees having completed this training in 2022-23. As well, a Senior Procurement Review Committee (SPRC) was established in October of 2022 to review new procurements valued at over \$40,000, including procurements which are candidates for set asides with Indigenous suppliers or are subject to Land Claim Agreements. This quality assurance continues post-contract award to ensure that procurements with indigenous suppliers are properly coded and identified in the Department's financial management systems.

Financial Management

In 2022-23, ECCC continued its efforts to improve the effectiveness and efficiency of its financial management to better enable its programs and priorities on behalf of Canadians. To attend to the growing need for the Department to address environmental and climate change issues, ECCC conducted a review of its management and allocation of financial resources. The resulting adjustments served to increase the agility and effectiveness of the department's governance of internal financial resources.

Budgetary Financial Resources (dollars)

The following table shows, for internal services, budgetary spending for 2022–23, as well as spending for that year.

| 2022–23 Main Estimates | 2022–23 Planned spending | 2022–23 Total authorities available for use | 2022–23 Actual spending [authorities used] | 2022–23 Difference [actual minus planned]* |
|---------------------------|-----------------------------|---|--|---|
| 219,667,177 | 219,667,177 | 298,793,250 | 298,661,385 | 78,994,208 |

* The actual spending for 2022-23 is higher than the 2022-23 planned spending, mainly due to economic increases tied to compensation. It is also due to increased spending related to information technology, to the Pacific Environment Centre (PEC) and to advertising for a Healthy Economy and Healthy Environment.

Human Resources (FTEs)

The following table shows, in full time equivalents, the human resources the department needed to carry out its internal services for 2022–23.

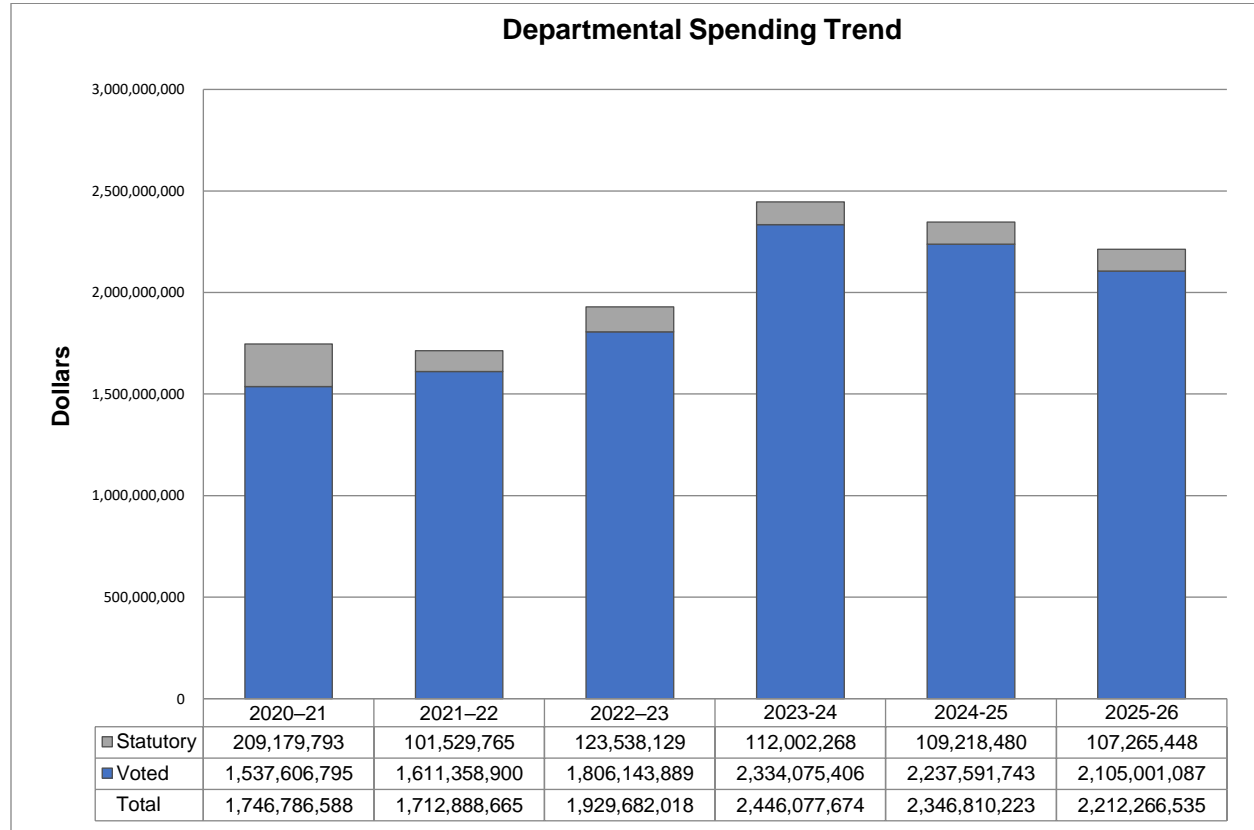
| 2022–23 Planned FTEs | 2022–23 Actual FTEs | 2022–23 Difference [actual minus planned] |
|----------------------|---------------------|--|
| 1,726 | 1,797 | 71 |

Spending and human resources

Spending

Spending 2020–21 to 2025–26

The following chart depicts the departmental spending trend over a six-year period. For fiscal years 2020-21, 2021-22 and 2022-23, the amounts shown represent the actual spending as reported in the Public Accounts. For fiscal year 2023-24, 2024-25 and 2025-26, the planned spending represents the planned budgetary and statutory expenditures as presented in the 2023-24 Departmental Plan.



Environment and Climate Change Canada's actual spending for 2022-23 was \$1,929.7 million, a year-over-year increase of \$216.8 million (13 percent) from the 2021-22 actual spending. This increase is mainly due to the funding to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature (Enhanced Nature Legacy), increased payments for permanent salary expenditures and retroactive payments in 2022-23 following the economic increase for the Executives and Senior leaders, to advertise for a Healthy Economy and Healthy Environment, for the *United Nations Convention on Biological Diversity*, for the Canada's International Climate Finance Program and for the Natural Climate Solutions in Canada. The increase is partially offset by a decrease in expenditures for the Low Carbon Economy Fund, to Protect Canada's Nature, Parks and Wild Spaces (Nature Legacy) and for the Youth Employment and Skills Strategy.

See the [2021-22 Departmental Results Report \(DRR\)](#)^{clxxxiv} for additional details on year-over-year actual spending variances between 2020-21 and 2021-22.

For 2023-24 to 2025-26, the figures represent total planned spending for the fiscal year, which reflects approved funding by Treasury Board, at the time of the 2023-24 Departmental Plan, to support the departmental core responsibilities. Overall, there is a decrease in planned spending over the 2024–25 to 2025–26 planning horizon presented in the summary table. This is the result of sunseting initiatives with

temporary funding. Funding requests for such initiatives are subject to government decisions and will be reflected in future Budget exercises and Estimates documents.

Major initiatives for which the funding profile will decrease or end in 2024–25 include:

- the Chemical Management Plan (\$25.7M);
- Strong Arctic and Northern Communities (\$18.9M);
- the Revitalization of Canada's Weather Radar Network ((\$17.9M); and
- the Federal Contaminated Sites Action Plan (\$11.9M).

Major initiatives for which the funding profile will decrease or end in 2025–26 include:

- the Low Carbon Economy Fund (\$47.4M);
- the Federal Contaminated Sites Action Plan (\$31.0M);
- the British Columbia Old Growth Nature Fund (\$26.0M); and
- the Youth Employment and Skills Strategy (\$15.4M).

See the [2023-24 Departmental Plan^{clxxxv}](#) (DP) for additional details on year-over-year planned spending variances between 2023-24 and 2025-26.

Budgetary financial resources (dollars)

| Core responsibilities and internal services | 2022–23 Main Estimates | 2022–23 planned spending | 2022–23 total authorities available for use | 2022–23 actual spending (authorities used) | 2022–23 difference (actual spending minus planned spending) |
|--|------------------------|--------------------------|---|--|---|
| Taking Action on Clean Growth and Climate Change | 478,116,465 | 478,116,465 | 589,591,492 | 407,374,384 | -70,742,081 |
| Preventing and Managing Pollution | 379,219,765 | 379,219,765 | 412,163,483 | 390,259,703 | 11,039,938 |
| Conserving Nature | 609,338,156 | 609,338,156 | 643,983,141 | 576,201,081 | -33,137,075 |
| Predicting Weather and Environmental Conditions | 281,875,508 | 281,875,508 | 293,717,828 | 257,185,465 | -24,690,043 |
| Subtotal | 1,748,549,894 | 1,748,549,894 | 1,939,455,945 | 1,631,020,633 | -117,529,261 |
| Internal services | 219,667,177 | 219,667,177 | 298,793,250 | 298,661,385 | 78,994,208 |
| Total | 1,968,217,071 | 1,968,217,071 | 2,238,249,195 | 1,929,682,018 | -38,535,053 |

* Totals may not add up due to rounding.

The overall \$ 38.5 million decrease between the 2022-23 planned spending of \$1,968.2 million and the 2022-23 actual spending of 1,929.7 million is mainly due to the following variances in funding:

- Taking action on Clean Growth and Climate Change: The actual spending for 2022-23 is lower than the 2022-23 planned spending, mainly related to the Low Carbon Economy Fund and the Dr. Neil Trivett Global Atmosphere Watch Observatory in Alert, Nunavut. The variance is offset by spending for Canada's International Climate Finance Program, economic increases tied to compensation as well as payments to the United Nations, universities in aid research and non-profit national organizations and for Clean Growth and Climate Change Mitigation.
- Preventing and Managing Pollution: The actual spending for 2022-23 is higher than the 2022-23 planned spending, mainly due to an increase in spending for Great Lake Ecosystem Initiatives, offset by lower than anticipated spending for new funding related to Federal Contaminated Sites Action Plan and Trans Mountain Expansion Pipeline.
- Conserving Nature: The actual spending for 2022-23 is lower than the 2022-23 planned spending mainly related to funding to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation, and increase access to nature (Enhanced Nature Legacy). Spending was also lower than anticipated for the Species at Risk Act, for protecting Canada's nature, parks, and wild spaces (Nature Legacy), and to implement natural climate solutions in Canada. The reductions are offset by expenditures for the *United Nations Convention on Biological Diversity*, payments to non-profit national organizations and First Nations, and economic increases tied to compensation.
- Predicting Weather and Environmental Conditions: The actual spending for 2022-23 is lower than the 2022-23 planned spending, mainly related to the Revitalization of Canada's Weather Services due to the introduction of measures to control the spread of COVID-19, including travel restrictions which created logistical challenges and limited progress. The variance is also due to unavailability of construction materials related to the Strong Arctic and Northern Communities initiative.

- Internal Services: The actual spending for 2022-23 is higher than the 2022-23 planned spending, mainly due to economic increases tied to compensation. It is also due to increased spending related to information technology and to advertising for a Healthy Economy and Healthy Environment.

Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to carry out its departmental results for 2022–23.

| 2022–23 planned full-time equivalents | 2022–23 actual full-time equivalents | 2022–23 difference (actual full-time equivalents minus planned full-time equivalents) |
|--|---|---|
| 8,031 | 8,144 | 113 |

Budgetary performance summary for Core Responsibilities and Internal Services (dollars)

The "Budgetary performance summary for core responsibilities and internal services" table presents the budgetary financial resources allocated for ECCC's core responsibilities and for internal services.

| Core responsibilities and internal services | 2022–23 Main Estimates | 2022–23 planned spending | 2023–24 planned spending | 2024–25 planned spending | 2022–23 total authorities available for use | 2020–21 actual spending (authorities used) | 2021–22 actual spending (authorities used) | 2022–23 actual spending (authorities used) |
|--|------------------------|--------------------------|--------------------------|--------------------------|---|--|--|--|
| Taking Action on Clean Growth and Climate Change | 478,116,465 | 478,116,465 | 876,753,252 | 858,285,411 | 589,591,492 | 495,862,449 | 381,382,505 | 407,374,384 |
| Preventing and Managing Pollution | 379,219,765 | 379,219,765 | 420,436,048 | 366,609,523 | 412,163,483 | 360,265,374 | 380,061,047 | 390,259,703 |
| Conserving Nature | 609,338,156 | 609,338,156 | 677,409,744 | 705,019,220 | 643,983,141 | 366,851,749 | 413,663,898 | 576,201,081 |
| Predicting Weather and Environmental Conditions | 281,875,508 | 281,875,508 | 229,586,460 | 181,108,799 | 293,717,828 | 252,729,020 | 274,731,867 | 257,185,465 |
| Subtotal | 1,748,549,894 | 1,748,549,894 | 2,204,185,504 | 2,111,022,953 | 1,939,455,945 | 1,475,708,592 | 1,449,839,317 | 1,631,020,633 |
| Internal services | 219,667,177 | 219,667,177 | 241,892,170 | 235,787,270 | 298,793,250 | 271,077,996 | 263,049,348 | 298,661,385 |
| Total | 1,968,217,071 | 1,968,217,071 | 2,446,077,674 | 2,346,810,223 | 2,238,249,195 | 1,746,786,588 | 1,712,888,665 | 1,929,682,018 |

* Totals may not add up due to rounding.

The 2022-23 planned spending figures in the Departmental Results Report reflect those that had been published in the 2022-23 DP. It was tabled in Parliament prior to Budget 2023 and therefore does not reflect new funding announced in the Budget.

The 2022-23 total authorities available for use includes all items approved through the Estimates processes for fiscal year 2022-23. The overall variance of \$270 million between the 2022-23 total authorities available for use (\$2,238 million) and the 2022-23 planned spending (\$1,968 million) is mainly attributed to increases from the Operating and Capital Carry Forwards from the previous year as well as increases for the following initiatives:

- Low carbon economy fund (LCEF);
- Output-Based Pricing System;
- *United Nations Convention on Biological Diversity*;
- Advancing a circular economy for plastics in Canada;
- Canada's international climate change finance program;
- British Columbia old growth nature fund;
- Great lake ecosystem Initiatives;
- Clean growth and climate change mitigation;
- Establish the Canada Water Agency transition office; and
- Implementation of the fuel charge proceeds return program.

The overall \$308.5 million variance between the 2022-23 Total authorities available for use (\$2,238.2 million) and 2022-23 actual spending (\$1,929.7 million) is mainly due to lower than anticipated spending for:

- The Low Carbon Economy Fund, as recipients faced project implementation delays caused by factors that were mainly outside of both ECCC and project recipients' control;
- Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature (Enhanced Nature Legacy); and
- Several other initiatives including Strong Arctic and Northern Communities, the Transmountain Expansion project, the protect Canada's Nature, Parks and Wild Spaces (Nature Legacy) initiative, the revitalization of Canada's weather services and the Oceans Protection Plan which were caused by, but not limited to, construction delays in the North, natural disasters, supply chain issues, and multiple hiring delays.

The overall \$216.8 million increase between the 2021-22 actual spending of \$1,712.9 million and the 2022-23 actual spending of \$1,929.7 million is mainly due to the following variances in funding:

- Taking action on Clean Growth and Climate Change: The actual spending for 2022-23 is higher than the actual spending for 2021-22 mainly due to spending for Canada's International Climate Finance Program, the new Output-Based Pricing System, Clean Growth and Climate Change Mitigation, payments to the United Nations, universities in aid research and non-profit national organizations, as well as economic increases tied to compensation. These are offset by a decrease related to the Low Carbon Economy Fund (LCEF).
- Preventing and Managing Pollution: The actual spending for 2022-23 is higher than the actual spending for 2021-22 mainly due to increases for the Federal Contaminated Sites Action Plan, the Trans Mountain Expansion Pipeline, engineering consultants and payments to First Nations & Inuit associations. This is offset by decreased spending for the Youth Employment and Skills Strategy to support students and youth.
- Conserving Nature: The actual spending for 2022-23 is higher than the actual spending for 2021-22 mainly due to spending for initiatives such as Conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature (Enhanced Nature Legacy), the *United Nations Convention on Biological Diversity*, the implementation of natural climate solutions in Canada, to address imminent threats to wood bison herds and for the new British Columbia Old Growth Nature Fund. These are offset by decreased spending to protect Canada's nature, parks and wild spaces (Nature Legacy).

- Predicting Weather and Environmental Conditions: The actual spending for 2022-23 is higher than the actual spending for 2021-22 mainly due to increased spending related to initiatives such as Strong Arctic and Northern Communities, the Revitalization of Canada's Weather Services, the Oceans Protection Plan as well as other expenditures such as repair and maintenance and meteorological supplies.
- Internal Services: The actual spending for 2022-23 is higher than the actual spending for 2021-22 mainly due to increases in various expenditures such as legal services, contract administration with Public Services and Procurement Canada (PSPC) and rental of buildings, computer equipment, licensing fees, furniture and fixtures, office furnishing, as well as economic increases tied to compensation. These are offset by a decrease for the Advertising for the Nature Legacy Campaign.

2022–23 Budgetary actual gross spending summary (dollars)

The following table reconciles gross planned spending with net spending for 2022–23.

| Core Responsibilities and Internal Services | 2022-23 Actual gross spending | 2022-23 Actual gross spending for specified purpose accounts | 2022-23 Actual revenues netted against expenditures | 2022-23 Actual net spending (authorities used) |
|--|-------------------------------|--|---|--|
| Taking Action on Clean Growth and Climate Change | 407,374,384 | 0 | 0 | 407,374,384 |
| Preventing and Managing Pollution | 404,919,118 | 0 | 14,659,415 | 390,259,703 |
| Conserving Nature | 580,435,652 | 0 | 4,234,572 | 576,201,081 |
| Predicting Weather and Environmental Conditions | 305,833,720 | 0 | 48,648,256 | 257,185,465 |
| Sub-Total | 1,698,562,875 | 0 | 67,542,243 | 1,631,020,633 |
| Internal Services | 299,515,465 | 0 | 854,080 | 298,661,385 |
| Total | 1,998,078,340 | 0 | 68,396,323 | 1,929,682,018 |

*Total may not add up due to rounding.

Environment and Climate Change Canada's major sources of revenues netted against expenditures are the following:

- Provinces that receive water quantity monitoring services (Hydrometric);
- NavCan to which ECCC provides aviation weather services;
- Third parties to which ECCC provides rental of non-research facilities and scientific and analytical projects;
- Department of National Defense, which receives detailed weather services in support of its military operations;
- Canadian Association of Petroleum Producers, which funds the Joint Canada-Alberta implementation Plan for Oil Sands;
- Canadian Coast Guard, which receives marine and ice monitoring forecasts and services; and
- Third parties to which ECCC provides permits to dispose of non-hazardous substances into the sea.

Human resources

The “Human resources summary for core responsibilities and internal services” table presents the full-time equivalents (FTEs) allocated to each of ECCC’s core responsibilities and to internal services.

Human resources summary for Core Responsibilities and Internal Services (full-time equivalents - FTEs)

| Core responsibilities and Internal Services | 2020–21 Actual full-time equivalents | 2021–22 Actual full-time equivalents | 2022–23 Planned full-time equivalents | 2022–23 Actual full-time equivalents | 2023–24 Planned full-time equivalents | 2024–25 Planned full-time equivalents. |
|--|--------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|--|
| Taking action on Clean Growth and Climate Change | 611 | 744 | 897 | 883 | 906 | 896 |
| Preventing and Managing Pollution | 2,232 | 2,229 | 2,220 | 2,255 | 2,197 | 2,052 |
| Conserving Nature | 1,197 | 1,302 | 1,477 | 1,487 | 1,243 | 1,233 |
| Predicting Weather and Environmental Conditions | 1,700 | 1,714 | 1,711 | 1,722 | 1,566 | 1,544 |
| Subtotal | 5,740 | 5,989 | 6,305 | 6,347 | 5,912 | 5,725 |
| Internal Services | 1,604 | 1,698 | 1,726 | 1,797 | 1,787 | 1,767 |
| Total | 7,344 | 7,687 | 8,031 | 8,144 | 7,699 | 7,492 |

*Total may not add up due to rounding

The variance between actual and planned full-time equivalents (FTE) for 2022-23 is due to an increase in FTEs for new initiatives approved during the fiscal year, mainly to advance a circular economy for plastics in Canada, for the Oceans Protection Plan and implementing the *United Nations Convention on Biological Diversity* (COP15).

The planned spending presented in the DP 2022-23 did not include the planned FTEs for these initiatives.

Expenditures by vote

For information on Environment and Climate Change Canada's organizational voted and statutory expenditures, consult the [Public Accounts of Canada 2022](#).^{c1xxxvi}

Government of Canada spending and activities

Information on the alignment of Environment and Climate Change Canada's spending with Government of Canada's spending and activities is available in [GC InfoBase](#).^{c1xxxvii}

Financial Statements and Financial Statements Highlights

Financial Statements

Environment and Climate Change Canada's unaudited financial Statements for the year ended March 31, 2023, are available on [Environment and Climate Change Canada's transparency page^{clxxxviii}](#).

Financial Statements Highlights

Condensed Statement of Operations (unaudited) for the Year Ended March 31, 2023 (dollars)

| Financial Information | 2022-23 Planned Results | 2022-23 Actual | 2021-22 Actual (restated) | Difference (2022-23 actual minus 2022-23 planned) | Difference (2022-23 actual minus 2021-22 actual) |
|---|-------------------------|----------------|---------------------------|---|--|
| Total expenses | 2,092,588,983 | 2,106,684,988 | 1,802,383,263 | 14,096,005 | 304,301,725 |
| Total revenues | 101,446,259 | 206,533,022 | 89,206,854 | 105,086,763 | 117,326,168 |
| Net cost of operations before government funding and transfers | 1,991,142,724 | 1,900,151,966 | 1,713,176,409 | -90,990,758 | 186,975,557 |

Environment and Climate Change Canada's 2022-23 Future-Oriented Statement of Operations are available on [Environment and Climate Change Canada's transparency page^{clxxxix}](#).

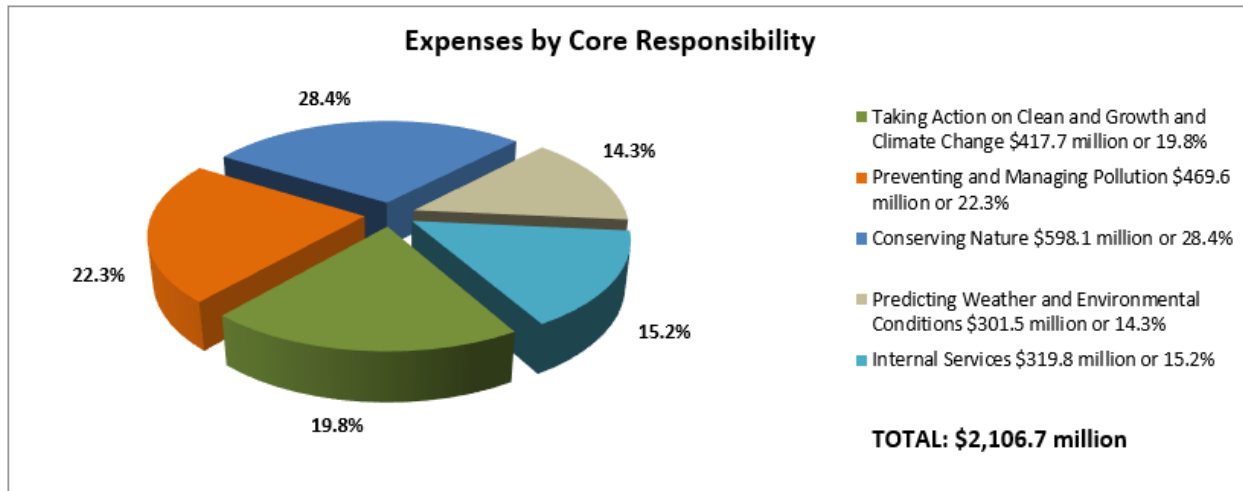
Expenses by Core Responsibility

Total departmental expenses by Core Responsibility amounted to \$2,106.7 million for 2022-23 (\$1,802.4 million for 2021-22). The increase of \$304.3 million or 16.9 percent in Environment and Climate Change Canada's expenses is mainly attributable to:

- an increase in spending for temporary initiatives such as to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature, the *United Nations Convention on Biological Diversity*, Canada's International Climate Finance Program, as well as to implement natural climate solutions in Canada; and
- an increase in salary and employee benefits.

Offset by:

- a decrease in spending for temporary initiatives such as the Low Carbon Economy Fund (LCEF), the Youth Employment and Skills Strategy, as well as to protect Canada's nature, parks and wild spaces.



See Note 17 of the Departmental Financial Statements for a further breakdown of expenditures – Segmented information by Standard Objects and Core Responsibility.

Revenues by Type

Total revenues amounted to \$206.5 million for 2022-23 (\$89.2 million for 2021-22). This amount excludes \$311.9 million earned on behalf of Government. Revenues at Environment and Climate Change Canada come from sales of goods and information products and services of a non-regulatory nature. Major revenue items include, for example: Oil Sands monitoring activities, Ocean disposal permit applications, Hydrometric services, Ocean disposal monitoring fees, Weather and environmental services as well as fines and court orders directed to the Environmental Damages Fund.

The increase in Environment and Climate Change Canada's revenue is mainly attributable to:

- a settlement agreement for the remediation of a contaminated site in British Columbia; and
- new fines received under the Environmental Damages fund.

Condensed Statement of Financial Position (unaudited) as of March 31, 2023 (dollars)

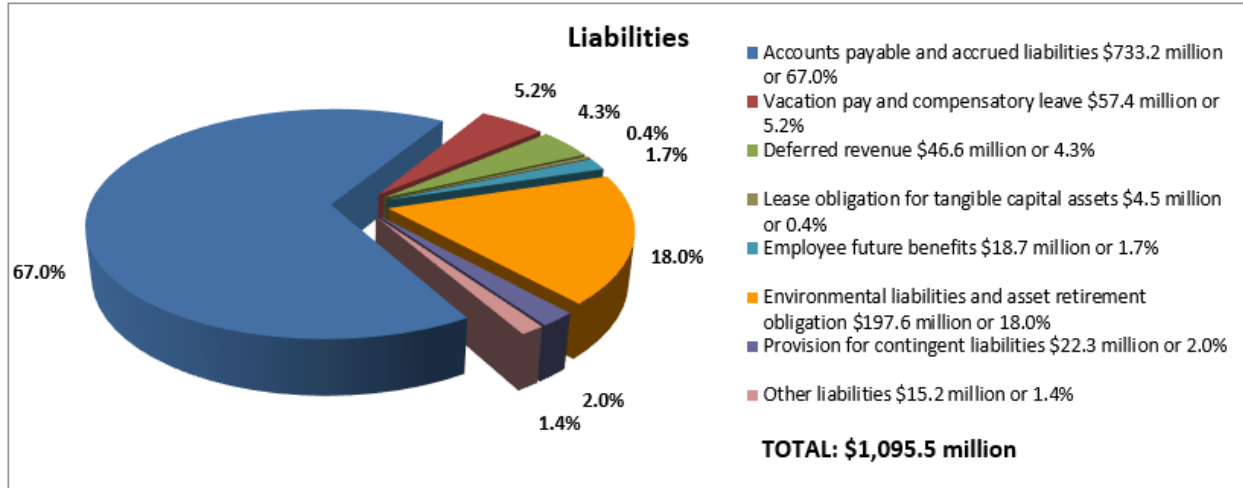
| Financial Information | 2022-23 | 2021-22 (restated) | Difference (2022-23 minus 2021-22) |
|--|---------------|--------------------|------------------------------------|
| Total net liabilities | 1,095,472,223 | 998,764,308 | 96,707,915 |
| Total net financial assets | 731,259,344 | 643,854,222 | 87,405,122 |
| Departmental net debt | 364,212,879 | 354,910,086 | 9,302,793 |
| Total non-financial assets | 653,579,061 | 614,409,855 | 39,169,206 |
| Departmental net financial position | 289,366,182 | 259,499,769 | 29,866,413 |

Liabilities by Type

Total liabilities were \$1,095.5 million at the end of 2022-23. This represents an increase of \$96.7 million or 9.7 percent from the previous year's total liabilities of \$998.8 million. The accounts payable and accrued liabilities (\$733.3 million) and the environmental liabilities and asset retirement obligation (\$197.6 million) are the largest components of liabilities in 2022-23 and represent 85.0 percent of total liabilities.

The increase in Environment and Climate Change Canada's total net liabilities valuation is offset by:

- a decrease in vacation pay due to the mandatory leave cash-out implementation.



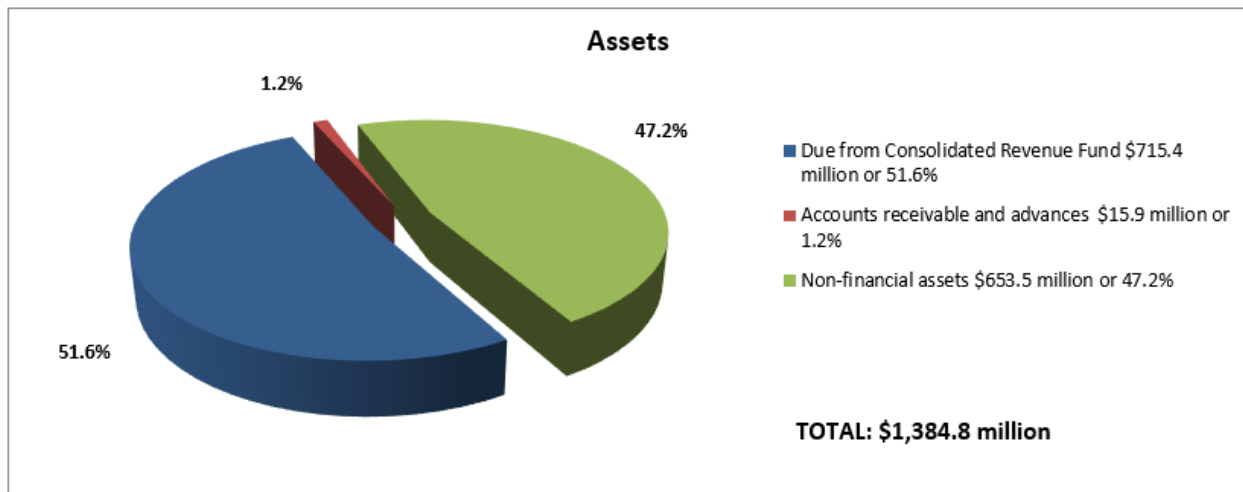
See Notes 4 to 8 and Notes 13 and 14 of the Departmental Financial Statements for more details – Accounts payable and accrued liabilities; Environmental liabilities; Deferred revenue; Lease obligation for tangible capital assets; Employee future benefits; Contractual obligations and contractual rights; Contingent liabilities and contingent assets.

Assets by Type

Total net financial assets (\$731.2 million) and non-financial assets (\$653.6 million) of \$1,384.8 million have increased by \$126.6 million or 10.1 percent in 2022-23. The amount due from the Consolidated Revenue Fund represents the largest component of assets at \$715.4 million (51.7 percent of total assets) in 2022-23.

The increase in Environment and Climate Change Canada's total net assets valuation is mainly attributable to:

- an increase in the financial asset mainly due to an increase in accrued liabilities; and
- an increase in the non-financial asset primarily due to an increase in tangible capital assets.



See Notes 9 to 11 of the Departmental Financial Statements for more details – Accounts receivable and advances; Inventory; Tangible Capital Assets.

Corporate information

Organizational profile

| | |
|-------------------------------|--|
| Appropriate minister: | The Honourable Steven Guilbeault, P.C., M.P. |
| Institutional head: | Christopher Forbes |
| Ministerial portfolio: | Environment and Climate Change Canada |
| Enabling instruments: | |

- [Department of the Environment Act, 1971^{cx}](#)
- [Canadian Environmental Protection Act, 1999^{cxci}](#)
- [Fisheries Act, 1985^{cxcii}](#) (administration and enforcement of the Pollution Prevention Provisions)
- [Greenhouse Gas Pollution Pricing Act, 2018^{cxcii}](#) (joint responsibility with Finance Canada)
- [Species at Risk Act, 2004^{cxciiv}](#)
- [Manganese-based Fuel Additives Act, 1997^{cxcv}](#)
- [Antarctic Environmental Protection Act, 2003^{cxcvi}](#)
- [Perfluorooctane Sulfonate Virtual Elimination Act, 2008^{cxcvii}](#)
- [Canada Wildlife Act, 1985^{cxcviii}](#)
- [Migratory Birds Convention Act, 1994^{cxciix}](#)
- [Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act, 1992^{cc}](#)
- [National Wildlife Week Act, 1985^{cci}](#)
- [Canada Water Act, 1985^{ccii}](#)
- [International River Improvements Act, 1985^{cciii}](#)
- [Lake of the Woods Control Board Act, 1921^{cciv}](#)
- [Canada Emission Reduction Incentives Agency Act, 2005^{ccv}](#)
- [Weather Modification Information Act, 1985^{ccvi}](#)
- [Canadian Environmental Week Act, 1985^{ccvii}](#)
- [Environmental Enforcement Act, 2010^{ccviii}](#)
- [Environmental Violations Administrative Monetary Penalties Act, 2009^{ccix}](#)
- [Federal Sustainable Development Act, 2008^{ccx}](#)
- [National Strategy for Safe and Environmentally Sound Disposal of Lamps Containing Mercury Act, 2017^{ccxi}](#)
- [Arctic Waters Pollution Prevention Act, 1985^{ccxii}](#)
- [Bridge to Strengthen Trade Act, 2012^{ccxiii}](#)
- [Canada Foundation for Sustainable Development Technology Act, 2001^{ccxiv}](#)
- [Canada Oil and Gas Operations Act, 1985^{ccxv}](#)
- [Canada-Newfoundland Atlantic Accord Implementation Act, 1987^{ccxvi}](#)
- [Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, 1988^{ccxvii}](#)
- [Energy Supplies Emergency Act, 1985^{ccxviii}](#)
- [Income Tax Act, 1985^{ccxix}](#)
- [Marine Liability Act, 2001^{ccxx}](#)
- [Nunavut Planning and Project Assessment Act, 2013^{ccxxi}](#)
- [Resources and Technical Surveys Act, 1985^{ccxxii}](#)
- [Yukon Environmental and Socio-economic Assessment Act, 2003^{ccxxiii}](#)

Year of incorporation/commencement: 1971

Raison d'être, mandate and role: who we are and what we do

"Raison d'être, mandate and role: who we are and what we do" is available on [Environment and Climate Change Canada's website^{ccxxiv}](#).

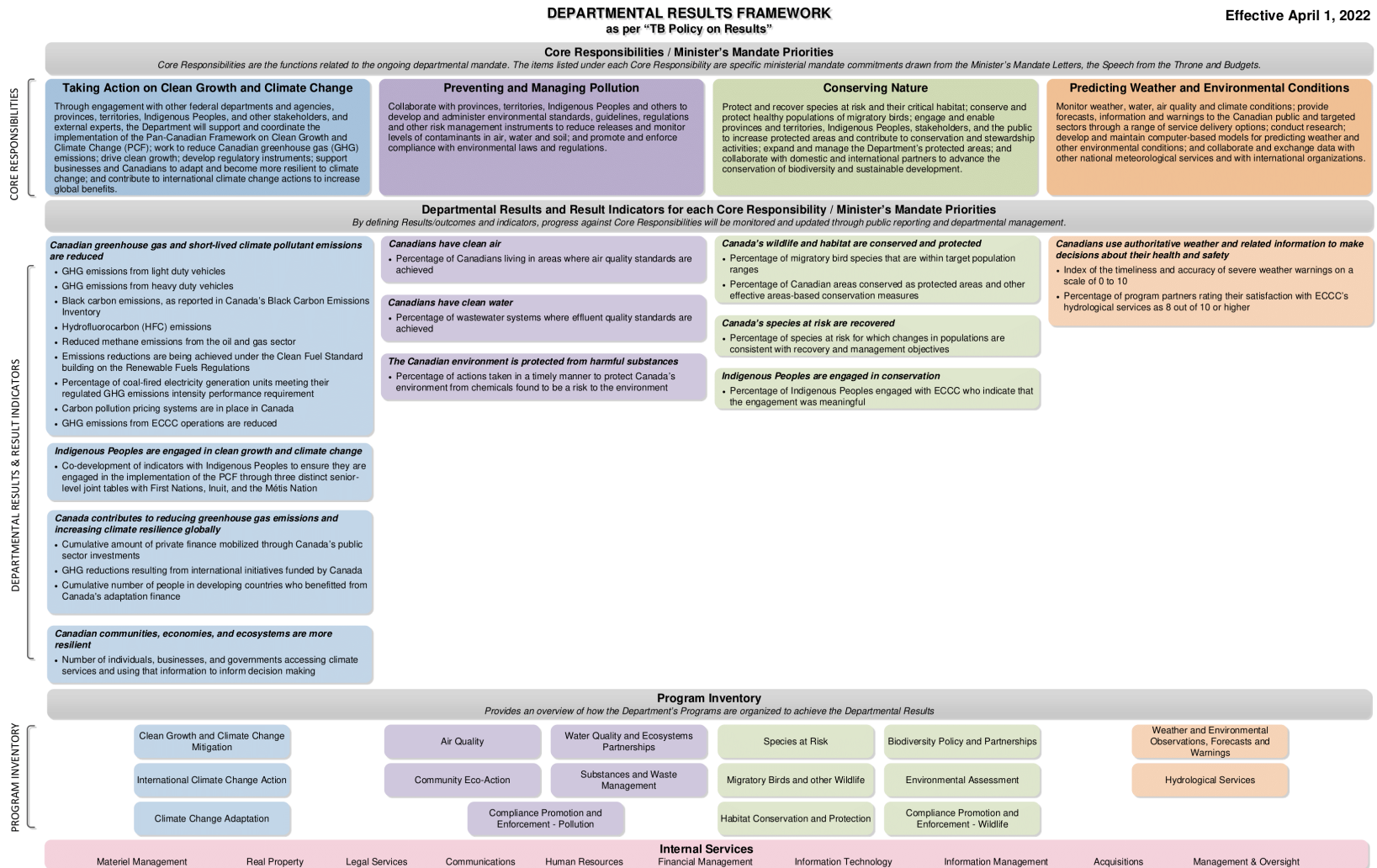
For more information on the department's organizational mandate letter commitments, see the [Minister's mandate letter^{ccxxv}](#).

Operating context

Information on the operating context is available on [Environment and Climate Change's website^{ccxxvi}](#).

Reporting framework

Environment and Climate Change Canada's departmental results framework and program inventory of record for 2022–23 are shown below.



Supporting information on the Program Inventory

Financial, human resources and performance information for Environment and Climate Change Canada's program inventory is available in [GC InfoBase^{ccxxvii}](#).

Supplementary information tables

The following supplementary information tables are available on Environment and Climate Change Canada's [website^{ccxxviii}](#).

- Reporting in Green Procurement
- Details on transfer payment programs
- Gender-based analysis plus
- Horizontal initiatives
- Up-front multi-year Funding
- United Nations 2030 Agenda and Sustainable Development Goals
- Response to Parliamentary Committees

Federal tax expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures each year in the [Report on Tax Expenditures^{ccxxix}](#). This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs as well as evaluations and Gender-based analysis plus of tax expenditures.

Organizational contact information

Environment and Climate Change Canada
Public Inquiries Centre
Place Vincent Massey Building
351 Saint-Joseph Boulevard
Gatineau QC K1A 0H3
Toll Free: 1-800-668-6767
Email: enviroinfo@ec.gc.ca
Website: <https://www.canada.ca/en/environment-climate-change.html>

Appendix: Definitions

appropriation (*crédit*)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

budgetary expenditures (*dépenses budgétaires*)

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

core responsibility (*responsabilité essentielle*)

An enduring function or role performed by a department. The intentions of the department with respect to a core responsibility are reflected in one or more related departmental results that the department seeks to contribute to or influence.

Departmental Plan (*plan ministériel*)

A report on the plans and expected performance of an appropriated department over a 3-year period. Departmental Plans are usually tabled in Parliament each spring.

departmental priority (*priorité*)

A plan or project that a department has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired departmental results.

departmental result (*résultat ministériel*)

A consequence or outcome that a department seeks to achieve. A departmental result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

departmental result indicator (*indicateur de résultat ministériel*)

A quantitative measure of progress on a departmental result.

departmental results framework (*cadre ministériel des résultats*)

A framework that connects the department's core responsibilities to its departmental results and departmental result indicators.

Departmental Results Report (*rapport sur les résultats ministériels*)

A report on a department's actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

experimentation (*expérimentation*)

The conduct of activities that seek to first explore, then test and compare the effects and impacts of policies and interventions in order to inform evidence-based decision-making, and improve outcomes for Canadians, by learning what works, for whom and in what circumstances. Experimentation is related to, but distinct from innovation (the trying of new things), because it involves a rigorous comparison of results. For example, using a new website to communicate with Canadians can be an innovation; systematically testing the new website against existing outreach tools or an old website to see which one leads to more engagement, is experimentation.

full-time equivalent (*équivalent temps plein*)

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. For a particular position, the full-time equivalent figure is the ratio of number of hours the person actually works divided by the standard number of hours set out in the person's collective agreement.

gender-based analysis plus (GBA Plus) (*analyse comparative entre les sexes plus [ACS Plus]*)

An analytical tool used to support the development of responsive and inclusive policies, programs and other initiatives; and understand how factors such as sex, race, national and ethnic origin, Indigenous origin or identity, age, sexual orientation, socio-economic conditions, geography, culture and disability, impact experiences and outcomes, and can affect access to and experience of government programs.

government-wide priorities (*priorités pangouvernementales*)

For the purpose of the 2022–23 Departmental Results Report, government-wide priorities are the high-level themes outlining the government's agenda in the [November 23, 2021, Speech from the Throne^{ccxxx}](#): building a healthier today and tomorrow; growing a more resilient economy; bolder climate action; fighter harder for safer communities; standing up for diversity and inclusion; moving faster on the path to reconciliation; and fighting for a secure, just and equitable world.

horizontal initiative (*initiative horizontale*)

An initiative where two or more federal organizations are given funding to pursue a shared outcome, often linked to a government priority.

Indigenous business (*entreprise autochtones*)

For the purpose of the *Directive on the Management of Procurement Appendix E: Mandatory Procedures for Contracts Awarded to Indigenous Businesses* and the Government of Canada's commitment that a mandatory minimum target of 5% of the total value of contracts is awarded to Indigenous businesses, an organization that meets the definition and requirements as defined by the [Indigenous Business Directory^{ccxxxi}](#).

non-budgetary expenditures (*dépenses non budgétaires*)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

performance (*rendement*)

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

performance indicator (*indicateur de rendement*)

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, program, policy or initiative respecting expected results.

performance reporting (*production de rapports sur le rendement*)

The process of communicating evidence-based performance information. Performance reporting supports decision-making, accountability and transparency.

plan (*plan*)

The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally, a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead to the expected result.

planned spending (*dépenses prévues*)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts presented in Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

program (*programme*)

Individual or groups of services, activities or combinations thereof that are managed together within the department and focus on a specific set of outputs, outcomes or service levels.

program inventory (*répertoire des programmes*)

Identifies all the department's programs and describes how resources are organized to contribute to the department's core responsibilities and results.

result (*résultat*)

A consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead they are within the area of the organization's influence.

statutory expenditures (*dépenses législatives*)

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

target (*cible*)

A measurable performance or success level that an organization, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

voted expenditures (*dépenses votées*)

Expenditures that Parliament approves annually through an appropriation act. The vote wording becomes the governing conditions under which these expenditures may be made.

Endnotes

- ⁱ Fuel Life Cycle Assessment (LCA) Model: <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/fuel-life-cycle-assessment-model.html>
- ⁱⁱ Single-use Plastics Prohibition Regulations (SUPPR): <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/single-use-plastic-overview.html>
- ⁱⁱⁱ Canada-wide Action Plan on Zero Plastic Waste: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/canada-action.html>
- ^{iv} Bill S-5—Strengthening Environmental Protection for a Healthier Canada Act: <https://www.canada.ca/en/environment-climate-change/news/2023/06/bill-s-5-strengthening-environmental-protection-for-a-healthier-canada-act.html>
- ^v Canadian Environmental Protection Act, 1999 (CEPA): <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/related-documents.html>
- ^{vi} Chemicals Management Plan (CMP): <https://www.canada.ca/en/health-canada/services/chemical-substances/chemicals-management-plan.html>
- ^{vii} Fisheries Act: <https://www.dfo-mpo.gc.ca/campaign-campagne/fisheries-act-loi-sur-les-peches/introduction-eng.html>
- ^{viii} Wastewater Systems Effluent Regulations: <https://www.canada.ca/en/environment-climate-change/services/wastewater/wastewater-systems-effluent-regulations.html>
- ^{ix} Metal and Diamond Mines Effluent Regulation: <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/sources-industry/mining-effluent/metal-diamond-mining-effluent/metal-diamond-mining-effluent-regulation.html>
- ^x Pulp and Paper Effluent Regulations: <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/sources-industry/pulp-paper-effluent.html>
- ^{xi} Resourceful, Resilient, Ready: Canada's Strategy for Satellite Earth Observation: https://publications.gc.ca/collections/collection_2022/asc-csa/ST99-80-2022-eng.pdf
- ^{xii} 27th Conference of the Parties (COP27): <https://www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/un-climate-change-conference/cop27-summit.html>
- ^{xiii} UNFCCC: <https://unfccc.int/>
- ^{xiv} 15th Conference of the Parties (COP15): <https://www.canada.ca/en/services/environment/wildlife-plants-species/biodiversity/cop15.html>
- ^{xv} Convention on Biological Diversity: <https://www.cbd.int/conferences/2021-2022>
- ^{xvi} IPCC: <https://www.ipcc.ch/>
- ^{xvii} Canada's Methane Strategy: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/reducing-methane-emissions/faster-further-strategy.html>
- ^{xviii} Sixth Assessment Report: <https://www.ipcc.ch/assessment-report/ar6/>
- ^{xix} Environment and Climate Change Youth Council (ECCYC): <https://www.canada.ca/en/services/environment/weather/climatechange/get-involved/environment-climate-change-youth-council.html>
- ^{xx} COP27: <https://www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/un-climate-change-conference/cop27-summit.html>
- ^{xxi} Output-Based Pricing System: <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system.html>
- ^{xxii} Climate Action Incentive payment: <https://www.canada.ca/en/department-finance/news/2022/03/climate-action-incentive-payment-amounts-for-2022-23.html>
- ^{xxiii} Clean Fuel Regulations: <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/energy-production/fuel-regulations/clean-fuel-regulations.html>
- ^{xxiv} Fuel Life Cycle Assessment (LCA) Model: <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/fuel-life-cycle-assessment-model.html>
- ^{xxv} Clean Fuels Fund: <https://natural-resources.canada.ca/climate-change/canadas-green-future/clean-fuels-fund/23734>
- ^{xxvi} Low Carbon Economy Fund: <https://www.canada.ca/en/environment-climate-change/services/climate-change/low-carbon-economy-fund.html>
- ^{xxvii} Paris Agreement: <https://unfccc.int/process-and-meetings/the-paris-agreement>
- ^{xxviii} Faster and Further: Canada's Methane Strategy: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/reducing-methane-emissions/faster-further-strategy.html>
- ^{xxix} 2030 Emissions Reduction Plan: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030.html>
- ^{xxx} Global Methane Initiative: <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewilhYD3i9OAAxVChikEHWvQBj0QFnoECAyQAQ&url=https%3A%2F%2Fwww.globalmethane.org%2F&usq=A0vVaw1tAmU5Rg5Aah8JMKGgY8JJ&opi=89978449>

xxxi Climate and Clean Air Coalition:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewi142PiNOAAxX2m0kEHQu2AYYQFnoECAYQAQ&url=https%3A%2F%2Fwww.ccacoalition.org%2F&usg=AOvVaw0YFbItYKe3zLpAslUV3kMI&opi=89978449>

xxxii International Methane Emissions Observatory: <https://www.iea.org/reports/global-methane-tracker-2022/estimating-methane-emissions>

xxxiii Arctic Council:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewilxaatjNOAAxViKYkEHV2bCs8QFnoECAYQAQ&url=https%3A%2F%2Farctic-council.org%2F&usg=AOvVaw3PUYGsZKLMKcKUU_555HYP&opi=89978449

xxxiv Joint Declaration from Energy Importers and Exporters on Reducing Greenhouse Gas Emissions from Fossil Fuels:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewj79sDUjNOAAxU1l0kEHdqCccQFnoECBIAQAQ&url=https%3A%2F%2Fwww.iea.org%2Fpolicies%2F16935-joint-declaration-from-energy-importers-and-exporters-on-reducing-greenhouse-gas-emissions-from-fossil-fuels&usg=AOvVaw2ObyA39OKjLzov9kedBQh2&opi=89978449>

xxxv Climate Action and Awareness Fund:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewitMvOjdOAAxUtk0kEHfrJC74QFnoECBUQAQ&url=https%3A%2F%2Fwww.canada.ca%2Fen%2Fservices%2Fenvironment%2Fweather%2Fclimate-change%2Ffunding-programs%2Fclimate-action-awareness-fund.html&usg=AOvVaw0NMxovziyi1UF8ubfplp7h&opi=89978449>

xxxvi A Healthy Environment and a Healthy Economy:

<https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/healthy-environment-healthy-economy.html>

xxxvii Nature Smart Climate Solutions Fund:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewjD9e-nj9OAAxKXNlkFHS8hDy4QFnoECB4QAQ&url=https%3A%2F%2Fwww.canada.ca%2Fen%2Fenvironment-climate-change%2Fservices%2Fenvironmental-funding%2Fprograms%2Fnature-smart-climate-solutions-fund.html&usg=AOvVaw0ThAObc4-FgOqQxc7KJZ_a&opi=89978449

xxxviii Canadian Centre for Climate Services:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewjfv_jl9OAAxXlhlkEHRMiB48QFnoECBAQAQ&url=https%3A%2F%2Fwww.canada.ca%2Fen%2Fenvironment-climate-change%2Fservices%2Fclimate-change%2Fcanadian-centre-climate-services.html&usg=AOvVaw0EzY_4_T5a6_WqDS5ngmej&opi=89978449

xxxix ClimateData.ca: <https://climatedata.ca/>

xl Coupled Model Intercomparison Project Phase 6: <https://climate-scenarios.canada.ca/?page=cmip6-scenarios>

xli Map of Adaptation Actions:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewijrbbfj9OAAxVIF1kFHQNMAxQQFnoECB4QAQ&url=https%3A%2F%2Fchangingclimate.ca%2Fmap%2F&usg=AOvVaw0fxw9z6yKn_P9oMHUFGxXF&opi=89978449

xlii National Adaptation Strategy: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/national-adaptation-strategy/full-strategy.html>

xliii Government of Canada Adaptation Action Plan:

<https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/national-adaptation-strategy/action-plan.html>

xliv Organization for Economic Cooperation and Development: <https://www.oecd.org/>

xlv Powering Past Coal: <https://poweringpastcoal.org/news/powering-past-coal-2022/>

xlvi Powering Past Coal Alliance: <https://www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/coal-phase-out.html>

xlvii United Nations' Race to Zero Campaign: https://unfccc.int/climate-action/race-to-zero-campaign?gclid=FAIaQobChMIs9i8jPya-wIV7_bj8x2ysAJvEAAySAAEgJf6fD_BwE

xlviii COP27: <https://www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/un-climate-change-conference/cop27-summit.html>

xlix Group of Twenty (G20): https://www.international.gc.ca/world-monde/international_relations_relations_internationales/g20/index.aspx?lang=eng

¹ Least Development Countries (LDC) Initiative for Effective Adaptation and Resilience (LIFE-AR):

<https://www.iied.org/supporting-ldc-initiative-for-effective-adaptation-resilience-life-ar>

ⁱⁱ COP27: <https://www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/un-climate-change-conference/cop27-summit.html>

ⁱⁱⁱ Global Carbon Pricing Challenge (GCPC): <https://canada.ca/carbon-pricing-challenge>

ⁱⁱⁱⁱ International Energy Agency:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewiT7ST2dSAAxXN>

[llkEHX9cDGYQFnoECA4QAQ&url=https%3A%2F%2Fwww.iaea.org%2F&usq=AOvVaw1mZ_zfDdcqblmHP4v4P6Yi&opi=89978449](https://www.iaea.org/2f&usq=AOvVaw1mZ_zfDdcqblmHP4v4P6Yi&opi=89978449)

liv 27th Conference of the Parties (COP27):

<https://www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/un-climate-change-conference/cop27-summit.html>

lv UNFCCC: <https://unfccc.int/>

lvi 15th Conference of the Parties (COP15): <https://www.canada.ca/en/services/environment/wildlife-plants-species/biodiversity/cop15.html>

lvii *Convention on Biological Diversity*: <https://www.cbd.int/conferences/2021-2022>

lviii IPCC: <https://www.ipcc.ch/>

lix 2030 Emissions Reduction Plan: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030/plan/annex-7.html>

lx National Adaptation Strategy: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/national-adaptation-strategy/full-strategy.html>

lxi Gender Action Plan: <https://unfccc.int/topics/gender/workstreams/the-gender-action-plan>

lxii Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

lxiii 2019-2022 Federal Sustainable Development Strategy: <https://2019-2022.fds-sfdd.ca/en>

lxiv Goal 7: <https://www.un.org/sustainabledevelopment/energy/>

lxv Goal 13: <https://www.un.org/sustainabledevelopment/climate-change/>

lxvi Goal 8: www.un.org/sustainabledevelopment/economic-growth/

lxvii Goal 11: www.un.org/sustainabledevelopment/cities/

lxviii Goal 9: www.un.org/sustainabledevelopment/infrastructure-industrialization/

lxix Goal 12: www.un.org/sustainabledevelopment/sustainable-consumption-production/

lxx Goal 13: <https://www.un.org/sustainabledevelopment/climate-change/>

lxxi Climate finance commitment: www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/climate-finance.html

lxxii Goal 17: www.un.org/sustainabledevelopment/globalpartnerships/

lxxiii Feminist International Assistance Policy: www.international.gc.ca/world-monde/issues_development-enjeux_developpement/priorities-priorites/policy-politique.aspx?lang=eng

lxxiv *United Nations Declaration on the Rights of Indigenous Peoples Act*: <https://laws-lois.justice.gc.ca/eng/acts/U-2.2/page-1.html>

lxxv ECCC's Departmental Sustainable Development Strategy 2020 to 2023: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-sustainable-development-strategy/2020-2023.html

lxxvi GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

lxxvii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

lxxviii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

lxxix Zero Plastic Waste Agenda: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/canada-action.html>

lxxx Ocean Plastics Charter: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/international-commitments/ocean-plastics-charter.html>

lxxxi Canada-wide Strategy on Zero Plastic Waste and Action Plan: <https://ccme.ca/en/current-activities/waste>

lxxxii Guidance to Facilitate Consistent Extended Producer Responsibility Policies and Programs for Plastics: <https://ccme.ca/en/res/eprguidanceen.pdf>

lxxxiii Roadmap to Strengthen the Management of Single-use and Disposable Plastics: <https://ccme.ca/en/res/sudproadmapen.pdf>

lxxxiv Circular economy: <https://www.canada.ca/en/services/environment/conservation/sustainability/circular-economy.html>

lxxxv Lifecycle approach: <https://www.unep.org/news-and-stories/story/how-can-life-cycle-approach-curb-plastic-pollution-crisis>

lxxxvi Canadian Plastics Innovation Challenges: <https://ised-isde.canada.ca/site/innovative-solutions-canada/en/innovative-solutions-canada-awarded-companies#s2>

lxxxvii *Single-Use Plastics Prohibition Regulations*: <https://www.gazette.gc.ca/rp-pr/p2/2022/2022-06-22/html/sor-dors138-eng.html>

lxxxviii *Guidance for Selecting Alternatives to the Single-Use Plastics in the Proposed Single-Use Plastics Prohibition Regulations*: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/single-use-plastic-guidance.html>

lxxxix Technical guidance: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/single-use-plastic-technical-guidance.html>

xc Proposed rules to strengthen recycling and composting of plastic through accurate labelling:

<https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/consultation-rules-recycling-composting-plastics-labelling.html>

- xcⁱ Proposed federal plastics registry: <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/consultation-proposed-registry-producers-plastic-manufactured-items.html>
- xcⁱⁱ One Ocean Summit: <https://www.oneplanetsummit.fr/en/events-16/one-ocean-summit-221>
- xcⁱⁱⁱ Turning Point: <https://cca-reports.ca/reports/the-circular-economy-in-canada/>
- xc^{iv} Canada-Wide Strategy on Zero Plastic Waste: <https://ccme.ca/en/res/strategyonzeroplasticwaste.pdf>
- xc^v Performance measurement evaluation report: <https://www.canada.ca/en/health-canada/services/chemical-substances/performance-measurement-toxic-substances.html>
- xc^{vi} ECCC's Single Window online submission system: <https://www.canada.ca/en/environment-climate-change/services/evaluating-existing-substances/sw-for-cepa-section71-guide.html>
- xc^{vii} New Substances Notification Regulations (Organisms): <https://laws-lois.justice.gc.ca/eng/Regulations/SOR-2005-248/index.html>
- xc^{viii} Canadian Notice and Manifest Tracking System: https://publications.gc.ca/collections/collection_2019/eccc/En14-387-1-2019-eng.pdf
- xc^{ix} Cross-Border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/cross-border-regulations.html>
- c Federal Contaminated Sites Action Plan: <https://www.canada.ca/en/environment-climate-change/services/federal-contaminated-sites/action-plan.html>
- ci 2022 to 2026 Federal Sustainable Development Strategy: <https://www.fsds-sfdd.ca/en>
- cii Federal Sustainable Development Act: <https://laws-lois.justice.gc.ca/eng/acts/f-8.6/>
- ciii Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- civ Canadian Environmental Sustainability Indicators (CESI): <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators.html>
- cv Pollution prevention provisions of the Fisheries Act: <https://waves-vagues.dfo-mpo.gc.ca/library-bibliotheque/272733.pdf>
- cvi 2022 Progress Report of the Parties: <https://binational.net/2022/07/29/2022-prp-rep/>
- cviⁱ Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health: <https://www.canada.ca/en/environment-climate-change/services/great-lakes-protection/canada-ontario-agreement-water-quality-ecosystem.html>
- cviⁱⁱ Canada–Ontario Lake Erie Action Plan: <https://www.canada.ca/en/environment-climate-change/services/great-lakes-protection/action-plan-reduce-phosphorus-lake-erie.html>
- cix Disposal at Sea Program: <https://www.canada.ca/en/environment-climate-change/services/disposal-at-sea/information.html>
- cx Fine particulate matter: <https://www.canada.ca/en/health-canada/services/air-quality/indoor-air-contaminants/fine-particulate-matter.html>
- cxⁱ National Air Pollutant Surveillance Program: <https://www.canada.ca/en/environment-climate-change/services/air-pollution/monitoring-networks-data/national-air-pollution-program.html>
- cxⁱⁱ Air Quality Health Index: <https://www.canada.ca/en/environment-climate-change/services/air-quality-health-index.html>
- cxⁱⁱⁱ Air Pollutant Emissions Inventory: <https://open.canada.ca/data/en/dataset/fa1c88a8-bf78-4fcb-9c1e-2a5534b92131>
- cx^{iv} Gothenburg Protocol: <https://www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-organizations/gothenburg-protocol-air-pollution.html>
- cx^v Multi-Sector Air Pollutants Regulations: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2016-151/index.html>
- cx^{vi} Reduction in the Release of Volatile Organic Compounds Regulations (Petroleum Sector): <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2020-231/page-1.html>
- cx^{vii} Off-Road Compression-Ignition (Mobile and Stationary) and Large Spark-Ignition Engine Emission Regulations: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2020-258/index.html>
- cx^{viii} Volatile Organic Compound Concentration Limits for Certain Products Regulations: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2021-268/index.html>
- cx^{ix} Environmental Damages Fund: <https://www.canada.ca/en/environment-climate-change/services/environmental-funding/programs/environmental-damages-fund.html>
- cx^x Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- cx^{xi} Goal 3: www.un.org/sustainabledevelopment/health/
- cx^{xii} Goal 6: www.un.org/sustainabledevelopment/water-and-sanitation/
- cx^{xiii} Goal 12: www.un.org/sustainabledevelopment/sustainable-consumption-production/
- cx^{xiv} Goal 13: www.un.org/sustainabledevelopment/climate-change/
- cx^{xv} Goal 14: www.un.org/sustainabledevelopment/oceans/
- cx^{xvi} Goal 8: www.un.org/sustainabledevelopment/economic-growth/
- cx^{xvii} Goal 9: www.un.org/sustainabledevelopment/infrastructure-industrialization/
- cx^{xviii} Goal 11: www.un.org/sustainabledevelopment/cities/
- cx^{xix} Goal 15: sustainabledevelopment.un.org/sdg15
- cx^{xx} Goal 17: www.un.org/sustainabledevelopment/globalpartnerships/

- cxviii ECCC's Departmental Sustainable Development Strategy 2020 to 2023: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-sustainable-development-strategy/2020-2023.html
- cxviiii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
- cxviiii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
- cxviiii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
- cxviiii Conference of the Parties (COP15): <https://www.canada.ca/en/services/environment/wildlife-plants-species/biodiversity/cop15.html>
- cxviiii Bonn Challenge: <https://www.bonnchallenge.org/>
- cxviiii 2 Billion Trees program: <https://www.canada.ca/en/campaign/2-billion-trees.html>
- cxviiii Edézhzie National Wildlife Area and Dehcho Protected Area: <https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/locations/edehzhie.html>
- cxviiii Natural Heritage Conservation Program: <https://www.canada.ca/en/environment-climate-change/news/2019/04/the-natural-heritage-conservation-program.html>
- cxli Other Effective Conservation Measures: <https://www.canada.ca/en/environment-climate-change/services/nature-legacy/other-effective-area-based-measures.html>
- cxli Migratory Birds Regulations: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2022-105/index.html>
- cxlii Species at Risk Act: <https://laws.justice.gc.ca/eng/acts/s-15.3/>
- cxliii National Aboriginal Council on Species at Risk: <https://www.canada.ca/en/environment-climate-change/services/species-risk-act-accord-funding/act-description/national-aboriginal-council.html>
- cxliii Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada: <https://www.canada.ca/en/services/environment/wildlife-plants-species/species-risk/pan-canadian-approach.html>
- cxliii Three priority sectors and threats: <https://www.canada.ca/en/services/environment/wildlife-plants-species/species-risk/pan-canadian-approach.html#toc3>
- cxliii Aboriginal Fund for Species at Risk: <https://www.canada.ca/en/environment-climate-change/services/environmental-funding/programs/aboriginal-fund-species-risk.html>
- cxliii Habitat Stewardship Program for Species at Risk: <https://www.canada.ca/en/environment-climate-change/services/environmental-funding/programs/habitat-stewardship-species-at-risk.html>
- cxliii Northern Shelf Bioregion: <https://www.canada.ca/en/fisheries-oceans/news/2023/02/marine-protected-area-network-for-the-northern-shelf-bioregion.html>
- cxliii New First Nations National Guardians Network: <https://www.canada.ca/en/environment-climate-change/news/2022/12/introducing-the-new-first-nations-guardians-network.html>
- cli Canada-Yukon Nature Agreement: <https://www.canada.ca/en/environment-climate-change/services/integrated-nature-initiatives/nature-agreements/yukon-nature-agreement-summary.html>
- cli COP-15: <https://www.canada.ca/en/services/environment/wildlife-plants-species/biodiversity/cop15.html>
- clii Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- cliii Enhanced Nature Legacy initiative: www.canada.ca/en/environment-climate-change/services/sustainable-development/strategic-environmental-assessment/public-statements/enhanced-nature-legacy.html
- cliv Goal 11: www.un.org/sustainabledevelopment/cities/
- cliv Goal 14: www.un.org/sustainabledevelopment/oceans/
- clvi Goal 15: sustainabledevelopment.un.org/sdg15
- clvii Goal 17: www.un.org/sustainabledevelopment/globalpartnerships/
- clviii ECCC's Departmental Sustainable Development Strategy 2020 to 2023: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-sustainable-development-strategy/2020-2023.html
- clix GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
- clx GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
- clxi GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
- clxii WeatherCAN app: <https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/weathercan.html>
- clxiii ECCC's weather website: <https://weather.gc.ca/>
- clxiv HELLO WEATHER: <https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/telephone-services/recorded-observations-forecasts.html>
- clxv WeatherCAN: <https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/weathercan.html>
- clxvi National Public Alerting System: <https://www.publicsafety.gc.ca/cnt/mrnc-mngmnt/mrnc-prprdss/ntnl-pblc-lrtng-sstm-en.aspx>
- clxvii HELLO WEATHER: <https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/telephone-services/recorded-observations-forecasts.html>
- clxviii International Rainy-Lake of the Woods Watershed Board: https://www.google.com/url?sa=t&rct=i&q=&esc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewjm8_go29WAA

[xWRIyKHEHWQPDvWQFnoECCUQAQ&url=https%3A%2F%2Fwww.iic.org%2Fen%2Frlwwb&usg=AOvVaw0LknTGHSTuViuHPlpzUYyx&opi=89978449](https://www.iic.org/Fen%2Frlwwb&usg=AOvVaw0LknTGHSTuViuHPlpzUYyx&opi=89978449)

clxix International St. Mary and Milk Rivers Study:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwi79p2529WAAxWXl4kEHfynAcEQFnoECB4QAQ&url=https%3A%2F%2Fwww.iic.org%2Fen%2Fsmmr&usg=AOvVaw0cGcmxpxSQY9Sax3orSUHV&opi=89978449>

clxx Lake Champlain-Richelieu River Study:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjew_PM29WAAxXChlkEHQo3BIYQFnoECBkQAQ&url=https%3A%2F%2Fwww.iic.org%2Fen%2Ffclrr&usg=AOvVaw3P8S1LV-yD8ZJ7nW8cQXa&opi=89978449

clxxi Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

clxxii Goal 1: [sdgs.un.org/goals/goal1](https://www.un.org/sustainabledevelopment/health/)

clxxiii Goal 3: www.un.org/sustainabledevelopment/health/

clxxiv Goal 13: www.un.org/sustainabledevelopment/climate-change/

clxxv ECCC's Departmental Sustainable Development Strategy 2020 to 2023: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-sustainable-development-strategy/2020-2023.html

clxxvi GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

clxxvii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

clxxviii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html

clxxix Accessible Canada Act: <https://www.canada.ca/en/employment-social-development/programs/accessible-canada.html>

clxxx Mental Health Crisis support guide: <https://www.canada.ca/content/dam/eccc/documents/pdf/corporate-info/covid-19/mental-health-crisis-support-guide-employees.pdf>

clxxxi 5 golden rules for managers: <https://ecollab.ncr.inf.ec.gc.ca/projects/SanteMGT-MHealthWG/Documents/five-rules-managers.pdf>

clxxxii Council's Call to Action on Anti-racism, Equity, and Inclusion in the Federal Public Service:

<https://www.canada.ca/en/privy-council/corporate/clerk/call-to-action-anti-racism-equity-inclusion-federal-public-service.html>

clxxxiii United Nations Declaration on the Rights of Indigenous Peoples Act:

<https://www.justice.gc.ca/eng/declaration/about-afropos.html>

clxxxiv 2021-22 Departmental Results Report (DRR): <https://www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report/2021-2022.html>

clxxxv 2023-24 Departmental Plan: <https://www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-plans/2023-2024.html#toc9>

clxxxvi Public Accounts of Canada: <http://www.tpsgc-pwgsc.gc.ca/recgen/cpc-pac/index-eng.html>

clxxxvii GC InfoBase: <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start>

clxxxviii Environment and Climate Change Canada's transparency page: <https://www.canada.ca/en/environment-climate-change/corporate/transparency/finances/financial-statements-unaudited.html>

clxxxix Environment and Climate Change Canada's transparency page: <https://www.canada.ca/en/environment-climate-change/corporate/transparency/finances/financial-statements-unaudited.html>

cx Department of the Environment Act: laws-lois.justice.gc.ca/eng/acts/E-10/index.html

cxci Canadian Environmental Protection Act, 1999: [laws.justice.gc.ca/eng/acts/C-15.31/](https://laws-lois.justice.gc.ca/eng/acts/C-15.31/)

cxcii Fisheries Act: laws-lois.justice.gc.ca/eng/acts/F-14/

cxci Greenhouse Gas Pollution Pricing Act, 2018: laws-lois.justice.gc.ca/eng/acts/G-11.55/

cxci Species at Risk Act: [laws.justice.gc.ca/eng/acts/S-15.3/index.html](https://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html)

cxci Manganese-based Fuel Additives Act, 1997: laws-lois.justice.gc.ca/eng/acts/M-0.5/index.html

cxci Antarctic Environmental Protection Act, 2003: laws-lois.justice.gc.ca/eng/acts/A-11.44/

cxci Perfluorooctane Sulfonate Virtual Elimination Act, 2008: <https://laws-lois.justice.gc.ca/eng/acts/p-8.3/index.html>

cxci Canada Wildlife Act, 1985: [laws.justice.gc.ca/eng/acts/W-9/](https://laws-lois.justice.gc.ca/eng/acts/W-9/)

cxci Migratory Birds Convention Act, 1994: [laws.justice.gc.ca/eng/acts/M-7.01/](https://laws-lois.justice.gc.ca/eng/acts/M-7.01/)

cc Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act, 1992: [laws.justice.gc.ca/eng/acts/W-8.5/](https://laws-lois.justice.gc.ca/eng/acts/W-8.5/)

cc National Wildlife Week Act, 1985: laws-lois.justice.gc.ca/eng/acts/W-10/index.html

ccii Canada Water Act, 1985: laws-lois.justice.gc.ca/eng/acts/C-11/index.html

cciii International River Improvements Act, 1985: [laws.justice.gc.ca/eng/acts/I-20/index.html](https://laws-lois.justice.gc.ca/eng/acts/I-20/index.html)

cciv Lake of the Woods Control Board Act, 1921: laws-lois.justice.gc.ca/eng/acts/L-10.4/page-1.html

ccv Canada Emission Reduction Incentives Agency Act, 2005: laws-lois.justice.gc.ca/eng/acts/C-3.8/index.html

ccvi Weather Modification Information Act, 1985: laws-lois.justice.gc.ca/eng/acts/w-5/index.html

ccvii Canadian Environmental Week Act, 1985: laws-lois.justice.gc.ca/eng/acts/e-11/index.html

ccviii Environmental Enforcement Act, 2010: <https://www.canada.ca/en/environment-climate-change/services/environmental-enforcement/acts-regulations/about-act.html>

- ccix *Environmental Violations Administrative Monetary Penalties Act*, 2009: laws-lois.justice.gc.ca/eng/acts/E-12.5/page-1.html
- ccx *Federal Sustainable Development Act*, 2008: laws-lois.justice.gc.ca/eng/acts/F-8.6/
- ccxi *National Strategy for Safe and Environmentally Sound Disposal of Lamps Containing Mercury Act*, 2017: laws-lois.justice.gc.ca/eng/acts/N-16.8/
- ccxii *Arctic Waters Pollution Prevention Act*, 1985: laws-lois.justice.gc.ca/eng/acts/A-12/
- ccxiii *Bridge To Strengthen Trade Act*, 2012: laws-lois.justice.gc.ca/eng/acts/B-8.05/FullText.html
- ccxiv *Canada Foundation for Sustainable Development Technology Act*, 2001: laws-lois.justice.gc.ca/eng/acts/c-5.5/
- ccxv *Canada Oil and Gas Operations Act*, 1985: <https://laws-lois.justice.gc.ca/eng/acts/o-7/>
- ccxvi *Canada-Newfoundland Atlantic Accord Implementation Act*, 1987: <https://laws-lois.justice.gc.ca/eng/acts/C-7.5/>
- ccxvii *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, 1988: laws-lois.justice.gc.ca/eng/acts/c-7.8/
- ccxviii *Energy Supplies Emergency Act*, 1985: laws-lois.justice.gc.ca/eng/acts/E-9/
- ccxix *Income Tax Act*, 1985: laws-lois.justice.gc.ca/eng/acts/i-3.3/
- ccxx *Marine Liability Act*, 2001: laws-lois.justice.gc.ca/eng/acts/m-0.7/
- ccxxi *Nunavut Planning and Project Assessment Act*, 2013: laws-lois.justice.gc.ca/eng/acts/N-28.75/
- ccxxii *Resources and Technical Surveys Act*, 1985: <https://laws-lois.justice.gc.ca/eng/acts/R-7/>
- ccxxiii *Yukon Environmental and Socio-economic Assessment Act*, 2003: <https://laws-lois.justice.gc.ca/eng/acts/Y-2.2/>
- ccxxiv Environment and Climate Change Canada's website: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report.html
- ccxxv Minister's mandate letter: <https://www.pm.gc.ca/en/mandate-letters>
- ccxxvi Environment and Climate Change Canada's website: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report.html
- ccxxvii GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html
- ccxxviii Environment and Climate Change Canada's website: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report.html
- ccxxix Report on Tax Expenditures: <https://www.canada.ca/en/department-finance/services/publications/federal-tax-expenditures/2023/part-1.html>
- ccxxx November 23, 2021, Speech from the Throne: <https://www.canada.ca/en/privy-council/campaigns/speech-throne/2021/speech-from-the-throne.html>
- ccxxxi Indigenous Business Directory: <https://www.sac-isc.gc.ca/rea-ibd>