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Environment and Climate Change Canada

2021–22

Departmental Results Report

Canada

Departmental Results Report 2021–22

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From the Minister

As Minister of Environment and Climate Change, I am pleased to present the 2021-22 Departmental Results Report for Environment and Climate Change Canada (ECCC).

While fighting the second consecutive year of the COVID-19 pandemic, the Government of Canada continued to take bold, concrete action to build a healthier, more resilient future through continued collaboration, engagement, and the use of science and evidence-based decision-making.

Addressing the triple crisis of climate change, biodiversity loss, pollution, and their combined impacts remains the defining challenge of our time. The Departmental Results Report outlines important achievements and work done to address clean growth and climate change, prevent and manage pollution, conserve nature, predict weather and environmental conditions.

Taking Action on Clean Growth and Climate

In April 2021, Canada raised its climate ambitions by recognizing the need to continue building a sustainable and resilient economy and reduce emissions. We committed to a new 2030 target of 40–45 percent below 2005 levels, and submitted this target to the United Nations Framework Convention on Climate Change as Canada's Nationally Determined Contribution under the Paris Agreement.

In March 2022, the 2030 Emissions Reduction Plan was released, as an important early deliverable under the *Canadian Net-Zero Emissions Accountability Act*. The plan builds on the strong foundation set by the Pan-Canadian Framework and Strengthened Climate Plan by providing a sector-by-sector roadmap with the actions needed for Canada to reach its emission reduction targets in a fair and affordable way.

In 2021-2022, ECCC continued to implement the Low Carbon Economy Fund, which is providing up to $2 billion in funding to provinces and territories, as well as a broad range of eligible recipients, to reduce carbon pollution and generate clean growth.

The Department also advanced work on Canada's first National Adaptation Strategy (NAS) that will focus on a shared vision for resilience in Canada and priorities for collaboration. An early report outlining the NAS was released in August 2021, building on a first round of engagement with provinces and territories, non-governmental organizations, the private sector, Indigenous representatives, and youth organizations to shape the strategy's principles and objectives.

The Department also continues to advance ambitious climate action internationally in support of the goals of the Paris Agreement. In June 2021, Canada announced a doubling of its climate finance to $5.3 billion over the next five years to support developing countries transition to sustainable, low-carbon, climate-resilient, nature-positive and inclusive development.

With an unwavering focus on delivering results, ECCC advanced its strong partnerships with Indigenous partners on their climate-change priorities.

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, and is part of sustainable recovery from the COVID-19 pandemic.

In 2021–22, ECCC helped build the evidence base and engaged industries and communities to make progress on reducing plastic waste and pollution. Through the Zero Plastic Waste Initiative, ECCC invested over $1 million to support 14 projects that prevent and reduce plastic pollution and support the transition to a circular economy.

In September 2021, the World Circular Economy Forum was held for the first time in North America and was co-organized by ECCC and the Finnish Innovation Fund Sitra, in collaboration with partner organizations. The forum brought new voices to the global dialogue on the circular economy to discuss the game changers needed to accelerate the circular transition in the next five years.

Conserving Nature

In 2021-22, 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 the Canada Nature fund, ECCC—in collaboration with other federal departments, provinces and territories, land trusts, philanthropic organizations, and Indigenous peoples—is moving forward on establishing National Wildlife Areas, other effective area-based conservation measures, and private land and Indigenous-led area-based conservation. These initiatives will help the department move towards its goal of protecting 25 percent of Canada's lands and inland waters by 2025 and 30 percent by 2030.

The Department pursued work to transform its approach to terrestrial species at risk conservation through advancing the implementation of the Pan-Canadian Approach and related policy and program improvements, including providing science-based advice to assessments under the *Impact Assessment Act* that reflect migratory birds, species at risk, and wetland considerations.

ECCC's Wildlife Enforcement Officers continued to enforce federal legislation that protects wildlife species and their habitats.

Predicting Weather and Environmental Conditions

In 2021, ECCC proudly marked the 150th anniversary of the Meteorological Service of Canada (MSC). As one of the nation's longest-standing government institutions, MSC has a long and proud history of serving Canadians with authoritative, accurate and timely information on weather and environmental conditions to help them make decisions about their health, safety and economic well-being while they are facing increasingly unprecedented weather.

In another year marked by COVID-19 across Canada, ECCC provided Canadians uninterrupted 24/7 services from its weather forecasting centres and modelling centre. ECCC also continued to make significant progress towards the renewal and upgrading of crucial monitoring infrastructure, including the replacement of an additional seven radars as part of the Canadian Weather Radar Replacement Program, which aims to replace all 31 weather radars by 2024.

I invite you to read ECCC's 2021-22 Departmental Results Report 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

In 2021–22, Environment and Climate Change Canada (ECCC) undertook a wide range of actions on key Government of Canada commitments to address climate change, pollution and harmful substances, species at risk, and conservation of lands and water. Through science, regulation, and partnerships with Indigenous peoples, provincial and territorial governments, and a diverse range of stakeholders, including international partners, ECCC made significant progress on these priorities in Canada and globally.

The federal implementation plan for the 2030 Agenda commits the government to an integrated and comprehensive approach guided by human rights principles in a manner that advances reconciliation with Indigenous peoples with full regard to their rights. The 2030 Agenda is explicit that sustainable development must respect, protect and promote human rights and fundamental freedoms for all, and refers to human rights declarations including the UN Declaration on the Rights of Indigenous Peoples. In 2021, the federal UN Declaration Act received Royal Assent; the preamble affirms that implementation of the Declaration can contribute to supporting sustainable development and responding to growing concerns relating to climate change and its impacts on Indigenous peoples. ECCC's implementation of the Act provides a crucial context for all measures to implement the 2030 Agenda and the Sustainable Development Goals.

Taking action on clean growth and climate change

In 2021, the Government of Canada committed to achieving an enhanced 2030 emissions reduction target of 40-45 percent below 2005 levels under the Paris Agreement[i] and adopted legislation to enshrine this Nationally Determined Contribution (NDC), as well as the commitment to achieve net-zero emissions by 2050 in law. The *Canadian Net-Zero Emissions Accountability Act* provides a durable framework of accountability and transparency to deliver on this commitment. The Act requires the Minister of Environment and Climate Change to set subsequent targets for 2035, 2040, and 2045 at least 10 years in advance. The Act also holds the federal government accountable as it charts Canada's path to achieve net-zero emissions by establishing a transparent process to plan, assess, and adjust the federal government's efforts to achieve our national targets based on the best scientific information available.

As part of the *Canadian Net-Zero Emissions Accountability Act*, the Government of Canada published the *2030 Emissions Reduction Plan*[ii] (ERP), an ambitious and achievable roadmap that outlines a sector-by-sector path for Canada to reach its emissions reduction target of 40 percent below 2005 levels by 2030 and net-zero emissions by 2050.

In August 2021, the Government of Canada released *Adapting to the Impacts of Climate Change in Canada: an update on the National Adaptation Strategy*. This report builds on a first round of engagement with provinces and territories, non-governmental organizations, the private sector, Indigenous representatives, and youth organizations to shape the objectives and principles of the National Adaptation Strategy. The Government of Canada continued to provide access to authoritative climate science and information. For example, the Canadian Centre for Climate Services (CCCS) added two new sectoral modules on Climatedata.ca[iii] that package climate information to help Canadians make sector-specific adaptation decisions.

Preventing and managing pollution

The Government of Canada's Chemicals Management Plan (CMP) continues to protect the environment and Canadians from exposure to harmful substances. Under the CMP, ECCC and Health Canada assess the risks posed by chemicals, and, where required, take action. The creation and ongoing implementation of risk management tools (such as the *Prohibition of Certain Toxic Substances R*egulations) is essential for protecting the environment.

Addressing plastic pollution remains a priority for the Government of Canada and for countries around the world. Reducing plastic pollution and investing in Canadian innovation are part of the Government of Canada's overall plan to protect the environment and build a stronger economy and healthier communities. Over $2M was invested in 21 projects to reduce plastic waste, prevent plastic pollution and support the transition to a national circular plastics economy.

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, and municipal governments, environmental organizations, and Indigenous communities. Healthier lakes mean economic growth, more recreational opportunities, and healthy, sustainable ecosystems.

The Department protected Canadians' water through the administration and enforcement of the pollution prevention provisions in the *Fisheries Act,* and its regulations, including the Wastewater Systems Effluent Regulations, the Metal and Diamond Mines Effluent Regulations and the Pulp and Paper Effluent Regulations. The Department also worked on the development of new regulations to reduce adverse effects on fish, fish habitat and the use of fish by humans caused by effluent from the coal mining and oil sands sectors. In addition, ECCC advanced amendments to the Pulp and Paper Effluent Regulations and the Wastewater Systems Effluent Regulations.

Conserving nature

Budget 2021 provided an additional $2.3 billion in the Nature Legacy Initiative over five years. This funding, combined with the funding provided for the Nature Legacy[iv] Initiative in Budget 2018, represents the largest investment in nature conservation in Canada's history. This Enhanced Nature Legacy[v] initiative, and other key ongoing initiatives, supports more ambitious targets for protected and conserved areas, the protection and recovery of species at risk, and engagement of Indigenous peoples in conservation. In 2021-22, ECCC continued to build partnerships and progress toward achieving Canada's targets for conserving land and inland waters, advancing the protection and recovery of species at risk, and maintaining and restoring healthy population of migratory birds.

Budget 2021 also provided an investment of up to $340 million in new funding over five years to support Indigenous leadership in nature conservation. From this funding, up to $173 million will fund new and existing Indigenous Guardians initiatives and the development of Indigenous Guardians Networks for First Nations, Inuit and Métis communities. 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 their lands.

Predicting weather and environmental conditions

In 2021–22, ECCC proudly marked the 150th anniversary of the Meteorological Service of Canada (MSC). As one of the nation's longest-standing government institutions, the MSC has a long and proud history of serving Canadians with accurate and timely information on weather and environmental conditions to help them make decisions about their health, safety and economic well-being.

Over the year, ECCC continued to make significant progress towards the renewal and upgrading of crucial monitoring and computing infrastructure. ECCC advanced the modernization of water monitoring services and infrastructure to generate more timely and accurate information on water flows and levels across Canada to help communities and individuals plan for changes associated with droughts and floods. ECCC also continued advancing its program to upgrade and replace its 31 outdated weather radars with new state-of-the-art radars, as well as install one new training radar and one new operational radar, across Canada by 2024. The Department implemented innovations and improvements resulting from several years of research into ECCC's weather, environmental, and climate prediction systems – the largest ever update to Canada's prediction systems. As a result, ECCC continues to rank among the top 3 global centres in the world for prediction across North America. By maintaining its status as a world-class weather and environmental prediction services organization, ECCC ensures that it is well positioned to continue providing vital information about weather, climate, water quantity, ice, and air quality to Canadians who are facing increasingly unprecedented weather as a result of climate change.

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

Description[1]

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

Implementing and building on Canada's climate commitments

Climate change remains a fundamental challenge for Canada and the world with significant impacts to 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 International Panel on Climate Change has also concluded that there is no pathway to limiting warming to 1.5 °C without deep reductions in short-lived climate pollutants such as methane and black carbon, alongside deep reductions in carbon dioxide and other GHGs.

Since the inception of new Canadian climate plans and strategies, the Government has made several additional commitments to which ECCC will contribute, including a commitment to mandate the sale of zero-emission vehicles so that 100 percent of new light-duty vehicles sold in Canada are zero emission by 2035, a commitment to reduce methane emissions from the oil and gas sector by at least 75 percent by 2030, as well as the development of a clean electricity standard to support the transition to a net-zero electricity supply by 2035.

Achieving Canada's enhanced 2030 GHG reduction target and putting Canada on path to net-zero emissions by 2050

Over the past seven years, an intensive national effort has been made to put Canada on a path to significantly reduce emissions in a way that ensures all sectors and parts of the country can participate and thrive in an increasingly low-carbon economy.

In April 2021, at the United States led Leaders Summit on Climate, Canada and many other countries, including the United Kingdom and the United States, raised their climate ambitions and recognized the need to continue building a sustainable and resilient economy and reduce emissions year over year. This is why Canada committed to a new 2030 target of 40 to 45 percent below the 2005 levels, and submitted this target to the UNFCCC as Canada's Nationally Determined Contribution under the Paris Agreement.

In March 2022, The Government of Canada announced the release of the *2030 Emissions Reduction Plan: Canada's Next Steps for Clean Air and a Strong Economy*. The plan sets out a sector-by-sector approach for Canada to reach its new climate target of cutting emissions by 40 to 45 per cent below the 2005 levels by 2030, and the longer-term goal of net-zero emissions by 2050. Building on the actions of millions of Canadians, Indigenous peoples, businesses, provinces, territories, and municipalities, the Government of

[1] Taking Action on Clean Growth and Climate Change core responsibility description is being updated to reflect the inception of new Climate Plans. Changes will only be reflected in 2023-24.

Canada is continuing to take action to fight climate change, create jobs, and ensure that Canadians are global leaders in the transition to clean industries and technologies.

On June 29, 2021, the *Canadian Net-Zero Emissions Accountability Act* (the Act) received Royal Assent. The Act enshrines in legislation Canada's Nationally Determined Contribution under the Paris Agreement of 40 to 45 percent below the 2005 levels by 2030. It also legislates Canada's target of achieving net-zero emissions by 2050.
The Act introduces a robust reporting and accountability regime for the federal government to improve transparency and accountability as Canada moves toward net-zero emissions by 2030. Key elements of the Act include setting targets every five years from 2030 to 2050; establishing emissions reduction plans for each target; and introducing a new suite of reporting requirements, including progress and assessment reports associated with each emissions reduction plan.

Partnering with Indigenous peoples

Canada maintains strong relationships with First Nations, Inuit and Métis partners on their climate change priorities through high-level, distinctions-based bilateral tables with the Assembly of First Nations, Inuit Tapiriit Kanatami and the Métis National Council. These partnerships have meant that, since the launch of the Pan-Canadian Framework in 2016, Indigenous partners have worked directly with Canada to identify ways for policies and programs to better support Indigenous peoples and their climate priorities. More than five years later, the tables continue to demonstrate the benefits of sustained collaboration. For instance, this partnership was instrumental in ensuring that Canada's Strengthened Climate Plan (December 2020), and the 2030 Emissions Reduction Plan (2022) respond to Indigenous climate priorities.

The Act provides accountability and transparency by enshrining the role of Indigenous Knowledge in the climate accountability process. It also requires the Government to provide the opportunity for provincial/territorial governments, Indigenous peoples, the Net-Zero Advisory Body and the public to make submissions when targets are set or amended. The Act sets out requirements for reporting on actions taken to mitigate climate change (Commissioner of the Environment and Sustainable Development) and manage financial risks and opportunities (Minister of Finance).

Net-Zero Advisory Body

Further to the creation of the Net-Zero Advisory Body (NZAB) in 2021, the Governor General in Council appointed ten members to the NZAB in February 2022 and one month later, the NZAB published its advice to the Government of Canada's 2030 Emissions Reduction Plan. This advice was intended to inform decision-making to reduce Canada's national greenhouse gas emissions by 40 to 45 percent below the 2005 levels by 2030. Future annual reports from the NZAB will inform the targets and emissions reduction plans required by the *Canadian Net-Zero Emissions Accountability Act*.

Under the 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, Environment and Climate Change Canada (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.

As a key early deliverable under the Act, the Government of Canada established the 2030 Emissions Reduction Plan: Clean Air, Strong Economy, on March 29, 2022. Building on the foundation set by the 2016 Pan-Canadian Framework and 2020 Strengthened Climate Plan, the 2030 plan provides a credible roadmap to enable Canada to achieve the lower end of its target of 40 percent below the 2005 levels by 2030, including $9.1 billion in new investments to cut pollution and grow the economy. Over 30,000 submissions from provinces and territories, Indigenous peoples, the Net-Zero Advisory Body, stakeholders, and Canadians were received and reflected in the Plan.

Other key achievements in 2021–22 include:

- Finalized Clean Fuel Regulations (CFR), which aims to reduce GHG emissions from producing and using liquid fossil fuels in Canada. The CFR will incent the uptake of technologies that reduce the lifecycle carbon intensity of liquid fossil fuels, such as carbon capture and storage and renewable energy. It will also create economic opportunities for lower-carbon fuel providers, such as biofuel producers, and feedstock providers like farmers and foresters supporting lower-carbon fuel production. The Clean Fuel Regulations will also promote the uptake of advanced vehicle technologies such as electric and hydrogen fuel cell vehicles.

Collaboration with provinces, territories and municipalities

The Government of Canada continued to work closely with provinces and territories on climate change actions and green economic recovery. Both bilaterally and multilaterally, ECCC continued to promote collaborative actions by governments including, to advance shared climate change objectives, undertake studies and analysis, develop best practices, report on climate action to both domestic and international audiences, and enhance governments' climate action.

- The pre-publication of the Fuel Life Cycle Assessment (LCA) Model, a tool to calculate the life cycle carbon intensity (CI) of fuels and energy sources used and produced in Canada. Users of the Model could include industry, academia, LCA practitioners, governmental organizations, non-governmental organizations, and other organizations with interest in the Canadian energy sector. The Model may also be used in the context of specific programs. For example, the *Clean Fuel Regulations* will use the Model to determine the CI of fuels and energy sources for credit creation.

- The Government consulted Canadians in January 2022 on the path forward to mandate and achieve its ZEV sales targets for light- and heavy-duty vehicles. Two discussion papers were released to help inform consultations. In April 2022, the Government committed to put in place a sales mandate to ensure at least 20 percent of new light-duty vehicle sales will be zero-emission vehicles by 2026, at least 60 percent by 2030 and 100 percent by 2035. The Government will also launch an integrated strategy to reduce emissions from medium- and heavy-duty vehicles (MHDVs) with the aim of reaching 35 percent of total MHDV sales being ZEVs by 2030. In addition, it will develop a MHDV ZEV regulation to require 100 percent MHDV sales to be ZEVs by 2040 for a subset of vehicle types based on feasibility, with interim 2030 regulated sales requirements that would vary for different vehicle categories based on feasibility, and explore interim targets for the mid-2020s. Also, the Government of Canada committed to pursuing zero-emission standards or new off-road small spark-ignition engines (such as lawn and garden equipment).

- The finalization of Canada's Greenhouse Gas (GHG) Offset Credit System[vi] to reduce carbon emissions, create jobs to incent cost-effective, voluntary emissions reductions and removals across Canada from activities not covered by carbon pollution pricing. This Credit System enables project proponents to generate federal offset credits for projects that reduce or remove GHG emissions following published federal offset protocols. In 2021-22, ECCC published draft protocols for reducing GHG emissions from refrigeration and landfill methane recovery and destruction. Offset credits can be sold and used for compliance by facilities covered in the federal Output Based Pricing System or sold and used for other purposes such as to meet greening government or corporate net-zero climate change commitments.

- The initiation of consultations on the design of a Clean Electricity Standard by working with provinces, territories, Indigenous groups, utilities, industry, and interested Canadians. The Clean Electricity Standard will put Canada on a transition towards achieving a net-zero electricity grid by 2035.

- The reception of advice from the Net-Zero Advisory Body on the design of the Oil and Gas Emissions Cap informed a discussion paper[vii] engaging a wide range of stakeholders including provinces, territories and Indigenous peoples on key issues related to the cap.

Phasing out coal-fired electricity—at home and globally

Coal is one of the most significant sources of carbon emissions and air pollution in the world as its electricity has major adverse environmental and health impacts. Approximately 40 percent of the world's (and 7 percent of Canada's) electricity comes from burning coal. The Government of Canada is phasing out conventional coal-fired electricity by 2030 and is taking steps to support a just transition for coal workers and communities. Between January 1, 2019 and January 1, 2022, 33 percent of the coal units in Canada have either retired or stopped using coal.

In addition to its domestic actions, Canada is also taking a leadership role to advance the phasing out of coal internationally. Canada continues to co-chair the Powering Past Coal Alliance (PPCA), a coalition of governments (both national and sub-national), industry, businesses, and finance institutions 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 OECD's total coal capacity, which represents around 20 percent of the world's coal capacity outside of China. Twenty-nine new members joined the Alliance in 2021–22.

Building on Canada's 2018 G7 Presidency, our government, supported by the G7 Ministers in 2021, developed and led the Equal by 30 Campaign, an initiative that puts gender equality and diversity at the heart of the energy transition.

Federal carbon pollution pricing proceeds programming

A price on carbon pollution[ix] across Canada creates incentives for individuals, households, and businesses to choose cleaner options, including green technology. Under the *Greenhouse Gas Pollution Pricing Act*, the federal carbon pollution pricing system has two parts: a regulatory charge on fossil fuels (the fuel charge); and a performance-based pricing system for industrial facilities, known as the Output-Based Pricing System (OBPS). The system applies in those provinces and territories that requested it and in those that did not have their own system that meets the federal benchmark stringency criteria. The OBPS is designed to put a price on carbon pollution and reduce the risk of carbon leakage from industry, enabling industries to maintain competitiveness relative to international peers and affording them the flexibility to meet emissions limits through emissions trading and the use of GHG offset credits. The Government of Canada has committed to return all direct proceeds from the federal carbon pollution pricing system to the jurisdictions of origin.

Proceeds from the Output-Based Pricing System

Proceeds from the OBPS for industry began to be collected in the spring of 2021. In February 2022, ECCC launched the OBPS Proceeds Fund[viii], a program to support industrial initiatives that reduce GHG emissions, deploy clean technology, and generate green energy. The program is using proceeds from the OBPS – collected in Saskatchewan, Manitoba, Ontario, and New Brunswick – to support low carbon technology projects in those provinces. Provinces and territories that voluntarily adopted the federal OBPS were able to opt for a direct transfer of proceeds collected. This said, approximately $161.1 million was collected from the federal OBPS for the 2019 compliance period, as well as approximately $230.9 million collected from the 2020 compliance period. These funds are being returned through two streams of the OBPS Proceeds Fund: the Decarbonization Incentive Program and the Future Electricity Fund.

Canada also committed to returning a portion of the federal fuel charge to Indigenous recipients in involuntary backstop jurisdictions[2]. To date, the Government has returned more than seven million dollars as a result of the commitment ensuring Indigenous partners benefit from their share of the federal carbon pricing proceeds. In 2022-23, ECCC will continue to engage and work with Indigenous partners in Alberta, Saskatchewan, Manitoba and Ontario to co-develop flexible funding mechanisms to return 1 percent of the fuel charge proceeds collected in those jurisdictions from 2020-21 to 2022-23.

[2] Under the Pan-Canadian Approach to pricing carbon pollution, province and territories can design their own pricing systems or opt for the federal system. The federal government sets minimum national stringency standards (benchmark) that all systems must meet to ensure they are comparable and effective. The federal carbon pollution pricing system applies in any jurisdiction that requests it or that does not implement its own system that meets these national stringency standards (i.e, involuntary backstop jurisdictions).

Climate change adaptation

ECCC continued to advance work on Canada's first National Adaptation Strategy that focuses on a shared vision for resilience in Canada and priorities for collaboration. In August 2021, the Government of Canada released *Adapting to the Impacts of Climate Change in Canada: an update on the National Adaptation Strategy*[x]. This report builds on a first round of engagement with provinces and territories, non-governmental organizations, the private sector, Indigenous representatives, and youth organizations to shape the strategy's objectives and principles. The National Adaptation Strategy will include the development of metrics to measure progress at the national level.

As a result, the Government of Canada:

- Partnered with National Indigenous Organizations, industry, and academia,
- Convened expert advisory tables to inform the development of the National Adaptation Strategy,
- Completed phase one of the process in March 2022 which led o the development of the long-term transformation goals (to the year 2050) and medium-term objectives (to 2030). Those partners will have the mandate to create a framework for concrete adaptation action, with aspirational goals and advice on how to face climate change.

ECCC also collaborated with other federal departments and agencies to support new investments announced in 2021 for climate change adaptation and resilience, including wildfire resilience, flood maps, health adaptation, and standards to support infrastructure resilience.

Through the Canadian Council of Minister's of the Environment, the Department continued to collaborate with provinces and territories to advance work on shared adaptation priorities, including completing projects on climate change risk assessment (April 2021) and natural infrastructure (September 2021). In July 2021, Canada submitted its first Adaptation Communication to the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat, outlining Canada's efforts and approach on adaptation, including the development of Canada's first National Adaptation Strategy.

Low carbon economy fund

ECCC continued to implement the Low Carbon Economy Fund[xi] (LCEF) which provides up to $2 billion in funding to reduce carbon pollution and generate clean growth. The fund has two components: an up to $1.4 billion Leadership Fund that supports provincial and territorial climate actions; and the Challenge Fund, consisting of an approximately $450 million Champions stream, and up to $50 million Partnerships stream. In January 2022, ECCC launched an Expression of Interest application process to allocate over $200 million in remaining Champions stream funding to eligible recipient in order to continue to support ambitious emissions-reduction projects.

In 2021–22, the LCEF also announced funding for diverse projects across Canada, including initiatives that leverage Canadian ingenuity to reduce emissions and generate clean growth, and to retrofit for energy efficiency. Investments announced include:

- Approximately $3.3 million for Noventa Energy Partners, which will provide clean energy to Toronto Western Hospital, using recovered heat extracted from wastewater and the sewage system.
- Approximately $3.5 million for the Manitoba Métis Federation, which will upgrade its office building in Winnipeg to be more energy efficient.
- Up to $17.5 million to Ciment Québec, which will reduce emissions by installing a new energy-efficient cement grinding workshop at the Saint-Basile cement plant.
- 2.8 million to support SaskPower's Northern First Nations Home Retrofit Program, which will provide energy efficiency home retrofits in participating First Nations communities.

Climate action and awareness fund

Launched in September 2020, the Department continues to administer the Climate Action and Awareness Fund[xii] (CAAF), a funding initiative that will invest up to $206 million over five years to support Canadian projects that help to reduce Canada's GHG emissions and build a sustainable net zero emissions economy by 2050. Funding for this initiative comes from the Climate Action Fund ($3 million in annual funding in 2020-21 and 2021-22) and from the $196.5 million fine paid by Volkswagen AG to the Environmental Damages Fund for circumventing Canada's environmental protection rules, the largest environmental fine in Canadian history.

CAAF supports environmental initiatives under three priorities: 1) youth climate awareness and community-based climate action; 2) advancing climate science and technology; and 3) supporting climate research at Canadian think tank organizations and in academia. Initiatives include:

- $5.9 million for 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.
- $6 million for the Halifax Discovery Centre's Inspiring Youth to Climate Action project, which 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.
- $4.5 million for Clean Foundation's Youth Climate Action Now (YouCAN) project, which will 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.
- $3.3 million for Project 2050: Community Climate Challenge, where Earth Rangers will engage 300,000 children aged six to twelve across Canada to take collective action at home, at school, and in their communities.

Reducing short-lived climate pollutants

ECCC continued to implement its Strategy on Short-lived Climate Pollutants[xiii] (SLCPs). These potent GHGs and air pollutants, including black carbon, methane, hydrofluorocarbons and ground-level ozone, play an important role in climate warming and air quality. A range of actions on SLCPs (and on other GHGs), including science and mitigation, are in support of meeting the temperature goals of the Paris Agreement. The Strategy aims at generating reductions from all key SLCP emission sources while ensuring a coordinated approach to addressing these GHGs across the Government of Canada.

Short-lived Climate Pollutants

Methane is responsible for about 30 percent of observed global warming to date and Canada is taking ambitious action to reduce methane emissions across the broader Canadian economy. Black carbon is particularly significant in the Arctic due to its additional warming effect when deposited onto snow or ice.

In 2021–22, ECCC made progress on addressing SLCPs on a number of fronts:

- ECCC continued to administer the *Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds* (Upstream Oil and Gas Sector), under which the first requirements came into force in January 2020. In June 2021, a federal review of Canada's national approach to reducing oil and gas methane emissions by 40 to 45 percent by 2025 relative to the 2012 levels was launched in consultation with provincial governments, industry, environmental non-governmental organizations, and Indigenous organizations. The final report, published in December 2021, concluded that Canada is on track to meet its 2025 target for methane reductions from the oil and gas sector
- Canada signed the Global Methane Pledge, which aims to reduce global anthropogenic methane emissions by 30 percent from the 2020 levels by 2030. Canada is developing a plan to reduce methane emissions across the broader Canadian economy.

- In addition to the domestic plan, Canada demonstrates leadership in international fora on short-lived climate pollutants as Chair of the Steering Committee of the Global Methane Initiative, Board member of the Climate and Clean Air Coalition and an active member of the Arctic Council. Canada is on track to reduce domestic sources of black carbon in line with the commitment of Arctic States to collectively reduce emissions of black carbon emissions by 25 to 33 percent of the 2013 levels by 2025. In addition, Canada is the first country to commit to reducing oil and gas methane emissions by at least 75 percent below the 2012 levels by 2030.
- As committed to in Canada's strengthened climate plan, in January 2022, the Department published a discussion paper seeking input on new federal regulations to reduce methane emissions from municipal solid waste landfills.
- The Minister of Environment and Climate Change published the results of a mid-term evaluation of Canada's light-duty vehicle regulations[xiv] for the 2022 to 2025 model years. Results of the analysis indicate that adopting more stringent standards for the 2023 to 2025 model years could result in net benefits of approximately 2.5 billion (2018 Canadian dollars) and would support the attainment of Canada's zero-emissions vehicles (ZEV) sales targets.

Enhancing climate information and services to build resilience to climate change

The Canadian Centre for Climate Services (CCCS) continued to enhance access to climate information and provide support for Canadians to consider climate change in their decisions. The CCCS, in collaboration with its many partners, released new information and features on ClimateData.ca[xv]. These include two new sectoral modules: Transportation and Buildings. Each module includes tailored climate data for that sector, case studies, and user guidance. Moreover, relative sea-level change data was added to the portal, in collaboration with Natural Resources Canada. This information will be useful to those looking to better understand the coastal impacts from climate change. As part of the CCCS' efforts to enhance integration of climate information into decision-making processes, it has created two new web pages on the CCCS website with tailored information. The first is the *Climate-related resources for local governments*[xvi] page. This web page includes relevant resources for local governments who are looking to conduct risk assessments and adaptation plans. The second page provides information and guidance on the development of climate resilient standards and codes[xvii].

In June 2021, the CCCS, in collaboration with Natural Resources Canada, launched the Map of Adaptation Actions. It houses a collection of climate change adaptation action examples that are useful to decision-makers and those taking action on climate change adaptation.

Finally, the CCCS continued to advance its efforts to build capacity and expertise across the country. CLIMAtlantic[xviii] became operational in fall 2021, and facilitates access to data and information that supports adaptation to climate change in Atlantic Canada through collaboration, networking and partnerships.

Nature-based climate solutions

Nature-based climate solutions (e.g. forests, wetlands, grasslands) are an important component of Canada's plan to achieve its emissions reductions' target and to increase Canada's resiliency. As reinforced in Canada's 2030 Emissions Reduction Plan, ECCC will continue to work with federal partners, provinces, territories, conservation organizations, Indigenous peoples, the private sector, and civil society to implement new investments. This includes an additional investment of $780 million to the Nature Smart Climate Solutions Fund to deliver additional emission reductions from nature-based climate solutions. The Fund supports projects that conserve, restore and enhance wetlands, peatlands, and grasslands to store and capture carbon.

The initiatives below are among fourteen projects to receive funding from the Nature Smart Climate Solutions Fund in 2021–2022. Collectively, they are projected to conserve up to 30,000 hectares; restore up to 6,000 hectares; and contribute to the enhanced management of up to 18,000 hectares of wetlands, grasslands, and riparian areas. They include:

- **Ducks Unlimited Canada** will receive up to $19.28 million over three years for projects to conserve and restore wetland and grassland habitats in the Prairies, including the restoration of croplands to grasslands. These lands will capture and store carbon, while providing a range of other ecological benefits.
- **Nature Conservancy of Canada** will receive up to $4.05 million over three years for projects to retain and restore carbon stocks by conserving, restoring, and enhancing management of Prairie grasslands and wetlands;
- **Manitoba Habitat Heritage Corporation** will receive up to $2.4 million over three years for projects to conserve, restore, and enhance management of threatened grasslands and wetlands in order to store carbon while providing a range of other benefits for local communities in the agricultural zone of southwestern Manitoba, including improving water quality and supporting wildlife habitat.
- **Conservation Ontario** will receive $9 million in funding to better conserve lands across southern Ontario through approximately sixty-three projects. Conservation Ontario and regional conservation authorities will implement a variety of conservation activities on grasslands and wetlands, including protecting more land, restoring wetlands, and enhancing agricultural management.

The Nature Smart Climate Solutions Fund provides funding specifically to support Indigenous communities using a distinctions-based approach with First Nations, Métis, and Inuit, to deliver projects that build capacity and advance Indigenous-led efforts on natural climate solutions. In 2021-22, early funding was provided to six initiatives to restore, conserve or enhance land management practices towards reducing greenhouse gas (GHG) emissions, while supporting community well-being and biodiversity co-benefits. For example, the Sipekne'katik First Nation is working to both restore habitat and mitigate flooding along the Shubenacadie River. This work is expected to also contribute to fostering deeper cultural connection to the land using outreach and education.

Canada's new climate plan incorporates nature-based climate solutions as one of its five pillars. It also complements Canada's international efforts. Nature-based solutions and biodiversity is one of the four thematic areas of Canada's $5.3 billion climate finance commitment to developing countries. As well, we have committed to assign at least 20 percent of the commitment toward projects that leverage nature-based climate solutions and projects that contribute biodiversity co-benefits.

International agreements and actions

Canada continues to play an active role in the implementation of the Paris Agreement through the G7, G20, UN, Powering Past Coal Alliance and other fora. ECCC continued its leadership role in the global response to climate change by working with international partners to implement the Paris Agreement, which Canada ratified in October 2016. Having continued to engage internationally to advance ambitious and inclusive climate action at the November 2021 Conference of the Parties (COP 26), Canada will prepare for COP 27 planned for November 2022.

COP26 was characterized as the most important climate conference since the Paris Agreement was adopted in 2015 and as a critical turning point to secure ambitious commitments on climate change. The conference was framed around closing the global ambition gap and keeping global temperature goal of 1.5°C within reach. COP26 also marked a significant shift in multilateral discussions to focus on concrete implementation of the Paris Agreement.

Canada's overarching objective for COP26 was to position itself as a climate leader, to help drive momentum and global ambition on climate change, and to support the effective implementation of the Paris Agreement. This objective was supported by the following policy priorities:

- Amplifying and explaining Canada's domestic climate action and clean technology solutions;
- Amplifying international support for developing countries; and,
- Advocating for new, enhanced, and concrete action by all.

These policy priorities built on important commitments that Canada had already made in 2021, including a doubling of its international climate finance pledge for developing countries, enhancing its 2030 emissions reduction target, and legislating a 2050 net-zero target.

At COP26, the Government of Canada announced new ambitious measures to support the achievement of Canada's 2030 GHG target. This includes:

- capping and reducing emissions from the oil and gas sector at a scale and scope needed to achieve net-zero emissions by 2050;
- reducing methane emissions from oil and gas by at least 75 percent by 2030;
- calling for global leaders to work together to triple the global emissions covered by carbon pollution pricing to 60 percent by 2030; and,
- transitioning to a net-zero electricity grid by 2035.

In 2021, Canada fully delivered on its 2015 climate finance commitment to provide $2.65 billion to developing countries for their climate action over five years, which is expected to result in enhanced resilience for the poorest and most vulnerable people, reduced GHG emissions, and leveraged co-financing for climate action in developing countries, especially from the private sector. Of that amount, ECCC delivered $57.5 million for important initiatives such as the Climate and Clean Air Coalition (CCAC) Trust Fund[xix] to reduce short-lived climate pollutants, the Climate Risk Early Warning Systems (CREWS)[xx] of the World Meteorological Organization, as well as capacity building in countries such as Mexico[xxi] and Vietnam[xxii] to support their respective nationally-determined contributions.

The Department is continuing to support developing countries' transition to sustainable, low-carbon, climate-resilient, nature-positive and inclusive development. In June 2021, Canada announced a doubling of its climate finance to $5.3 billion over the next five years. ECCC will support the delivery of Canada's climate finance commitment by implementing targeted and strategic initiatives through bilateral and multilateral channels to support climate action in developing countries, totalling $160 million. The Department will continue to collaborate with its partners to establish robust interdepartmental governance to support the implementation of the $5.3 billion commitment, as recommended in a recent evaluation on International Climate Change Cooperation.

ECCC will also continue to advance clean growth and climate action in support of the goals of the Paris Agreement through international partnerships, initiatives, and bilateral cooperation. For example, the Department will continue to co-lead the Powering Past Coal Alliance (PPCA) with the United Kingdom. The PPCA is the world's first and only government-led initiative seeking to accelerate the global phase-out of emissions from coal power.

Canada has already announced a number of initiatives that will be supported under the $5.3 billion commitment. For example, a contribution of up to $37.5 million to the Least Developed Countries Fund (LDCF), up to $10 million to the Adaptation Fund, up to $10 million for the National Adaptation Plan (NAP) Global Network, and $315 million to the Partnering for Climate initiative for climate adaptation. With the additional support to the LDCF, this Fund will continue to address the adaptation needs of the poorest and most vulnerable countries through critical, on-the-ground projects related to water, agriculture and food security, disaster risk management and prevention, and fragile ecosystems. The Adaptation Fund supports projects and programs that help vulnerable communities in developing countries to adapt to climate change. Increased funding to the NAP Global Network will continue to build on results achieved to date and advance gender responsive capacity building. The Partnering for Climate Initiative will fund projects from civil society, Indigenous peoples and other organizations in Canada to support climate change adaptation in Sub-Saharan Africa and other parts of the world.

Canada will also continue to support clean energy and coal phase-out. This includes the up to $1 billion contribution to the Climate Investment Funds – Accelerated Coal Transition Initiative (CIF-ACT) to help developing countries transition from coal-fired electricity to clean power as quickly as possible. The $25 million contribution to the Energy Sector Management Assistance Program (ESMAP) will support low- and middle-income countries in the transition to cleaner economy by helping to implement clean energy alternatives.

For the latest information on initiatives support by Canada's climate finance commitment, see Canada's International Climate Finance[xxiii] website.

Canada is taking other concrete steps beyond its climate finance commitment in support of the Paris Agreement and climate action in developing countries. Notably, Canada co-led with Germany the development of a Climate Finance Delivery Plan to demonstrate how and when developed countries are going to meet the collective US$100 billion per year goal. Canada and Germany have now committed to preparing a Climate Finance Delivery Plan Progress Report to demonstrate continued progress towards the goal in the lead up to COP27.

Reflecting clean growth and climate change in free trade agreements

Canada included ambitious, comprehensive, and enforceable environmental provisions in its free trade agreements (FTAs). This includes obligations to maintain robust environmental governance as trade and investment are liberalized, and commitments on a range of global environmental issues, including illegal wildlife trade, sustainable fisheries and forestry management, climate change, and clean technology. These commitments are being implemented as part of Canada's FTAs and other bilateral and regional cooperation instruments with key trading partners, including the United States, Mexico, the European Union and countries party to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Commitment to Experimentation: Behavioural science to promote climate action

This was a key year in setting up the Program of Applied Research on Climate Action[xxiv] (PARCA), a partnership with Privy Council Office and Natural Resources Canada to apply behavioural science to programs, policies and communications to find ways to make our interactions with Canadians more impactful. Behavioural science is all about testing and experimentation to produce stronger calls to action and real, measurable results. In 2021-22, the resources, plans and processes were put in place to support PARCA, with the first two of eight waves of a longitudinal stud fellows starting to come on board to identify incentives and barriers to climate action through online and then real-world tests and experiments

Gender-based analysis plus

It is well understood that Canada's changing climate exacerbates existing challenges and health stressors for Indigenous peoples 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 continued to consider the impacts of its climate change policies and programs in order to avoid, as much as possible, further negative impacts on affected populations and led whole-of-government coordination of the development of Canada's strengthened climate plan, which included the publication of GBA Plus[xxv] analytical results from the initial policy development phase. The Government will continue to conduct additional GBA Plus analysis for each policy and program to maximize positive benefits 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 the most returned through a household rebate system to keep costs down for low-income and vulnerable Canadians, ensuring that most Canadians are better off. An additional 10 percent top-up on these payments is given to households in rural and smaller communities. Proceeds support key sectors including small businesses, Indigenous groups, 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, including its ability to exacerbate existing inequalities and compound risks among already impacted populations, ECCC continued engagement in 2021-22 with a diverse and inclusive set of partners to inform development of the National Adaptation Strategy. The strategy contributes to advancing reconciliation and social equity and inclusion as guiding principles. ECCC also continued its ongoing engagement with First Nations, Métis Nation, and Inuit partners through senior-level bilateral tables to support self-determination and enable Indigenous-led climate solutions. ECCC also released *Carbon Pollution Pricing: Considerations for Facilitating Indigenous Participation in the Federal GHG Offset System*[xxvi] outlining considerations related to addressing potential barriers and increasing opportunities for participation by Indigenous peoples in the Federal GHG Offset System.

On the international front, GBA plus considerations were integrated into bilateral environmental cooperation activities with international partners. For example, as part of the 2021-2022 Work Program under the Canada-Chile Agreement on Environmental Cooperation, ECCC and Chile's Ministry of the Environment held a virtual dialogue on gender-based climate policies in January 2022 to highlight the importance of incorporating a gender perspective in climate action; present and promote the exchange of experiences, perspectives and lessons learned from good practices in this area; and, explore possible paths of further cooperation. In addition, Canada continued to support the implementation of the Gender Action Plan adopted under the United Nations Framework Convention on Climate Change, which aims to increase women's participation and leadership in climate action and to better integrate gender considerations in national climate plans and policies. Further, Canada's climate finance commitment is delivered as part of the Feminist International Assistance Policy's (FIAP) Environment and Climate Action Area, to help the most vulnerable countries make the transition to low-carbon, climate-resilient economies. Under the FIAP, the actions towards climate mitigation and adaptation must integrate gender equality and empowerment of women and girls. In line with this, Canada's $5.3 billion climate finance program will ensure that 80 percent of its projects integrate gender equality considerations.

Key risks (mitigation)

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 the private and non-profit sectors, and civil society. This reliance can give rise to risks associated with the Department's external relationships and partnerships if efforts are not well aligned and coordinated.

To ensure a coordinated implementation of Canada's climate plans and deliver results to Canadians, the Department sustained and built strategic relationships with federal, provincial, territorial and Indigenous counterparts. The Department facilitated bilateral and multilateral cooperation demonstrating international leadership on climate change adaptation. ECCC also continued to facilitate bilateral and

multilateral virtual cooperation and targeted studies to keep on driving international leadership and advance commitments, and explore new means of planning and conducting consultations in a coordinated fashion. For example, ECCC and Mexico's Secretariat of Environment and Natural Resources, in collaboration with the Organization of American States and the United Nations Environment Programme, virtually held a *Regional Workshop on Climate Change and the Electrification of Transportation* in March 2022 that brought together government representatives and subject-matter experts from across the Americas.

In light of increasing frequency of extreme weather events due to climate change, risks also exist that relate to the Department's capital and technology infrastructures, such as facilities requiring ongoing investment to maintain integrity. To address this risk, the Department continued to maintain its infrastructure through 2021-22. Additionally, ECCC played an important role in supporting efforts by the Government of Canada to adapt to the impacts of changing climate realities. To enable the resilience and continuation of departmental operations and services in the face of a changing climate, ECCC finalized a Departmental Adaptation Plan and identified priority actions to address climate risks.

United Nations' 2030 Agenda[3] and Sustainable Development Goals[xxvii]

In defining a whole of government view of federal environmental sustainability commitments and actions, the 2019-2022 Federal Sustainable Development Strategy[xxviii], 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 associated regulations will comprehensively and directly combat climate change and its impacts by reducing greenhouse gas emissions and stimulating investments in clean innovation (Goal 7[xxix] and Goal 13[xxx]), while initiatives such as climate action incentives and partnership funding will promote inclusive and sustainable economic growth (Goal 8[xxxi]) and make cities safer and more sustainable (Goal 11[xxxii]). Supporting resilient infrastructure and innovative and inclusive approaches to industrial development will be achieved through LCEF incentives (Goal 9[xxxiii]), which will also foster sustainable business, employment and consumption practices (Goal 12[xxxiv]). Canada's climate finance commitment[xxxv] 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[xxxvi]). Canada's climate finance commitment aligns with its Feminist International Assistance Policy[xxxvii], and has an inclusive approach with 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 UN Declaration Act (UNDA) 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[xxxviii].

[3] 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.

Results achieved

Departmental Result: Canadian greenhouse gas and short-lived climate pollutant emissions are reduced					
Performance indicator	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
GHG emissions from light duty vehicles	27% improvement in performance vs 2011 standard (measured by CO2e g/mile) for manufacturer model year 2019 reporting	December 2020 [2019 model year]	17% improvement [2017 model year]	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.
GHG emissions from heavy duty vehicles	Reporting for 2020 Model Year: Percentage improvement in GHG emissions performance for manufacturer model year 2018–20 reporting relative to the 2010 model year: •13%: heavy-duty pick-up trucks and vans •11%: combination tractors •5%: vocational vehicles	December 2021	•12.2%: heavy-duty pick-up trucks and vans •19.1%: combination tractors •8.5%: vocational vehicles [2018 model year]	•13%: heavy-duty pick-up trucks and vans •20%: combination tractors •9%: vocational vehicles [2019 model year]	•15%: heavy-duty pick-up trucks and vans •19%: combination tractors •9%: vocational vehicles [2020 model year]
Black carbon emissions, as reported in Canada's Black Carbon Emissions Inventory	25% decrease from a baseline of national emissions in 2013	December 2025	31Kt in 2018 (16% reduction from baseline)	31Kt in 2019 (16% reduction from baseline)	29Kt in 2020 (22% reduction from baseline)
Hydrofluorocarbon (HFC) emissions	10% reduction in consumption relative to calculated Canadian HFC baseline of 18,008,795 tonnes of CO2e	December 2021	13.76% below baseline for calendar year 2019	23% below baseline for calendar year 2020	38.5% below baseline for calendar year 2021

Reduced methane emissions from the oil and gas sector	Annual decrease towards a 40–45% reduction as measured in 2025, relative to 2012 levels	December 2025	Results not available.		45% reduction (32 MT CO2e), estimated based on 2020 compliance actions.[4]
Emissions reductions are being achieved under the Clean Fuel Standard building on the *Renewable Fuels Regulations*	Over 20 Mt annual GHG emissions reduction in 2030	December 2030	Results not yet available. Draft regulations for the liquids class were published on December 19, 2020, with those for gaseous and solid classes to come in 2021.		Results not available.[5]
Percentage of coal-fired electricity generation units meeting their regulated GHG emissions intensity performance requirement	100%	December 2021	Results not yet available. Complete reporting will be available in 2021-22.[6]	Results not yet available. Complete reporting will be available in 2021-22.[7]	100%
Carbon pollution pricing systems are in place in Canada	13 Provinces and Territories have in place a price on carbon pollution that meets the benchmark or federal system applies	As of September 1, 2019, this target has been met.	As of March 31, 2019, all 10 provinces had in place carbon pollution pricing that aligns with the federal benchmark (either a provincial system or the federal backstop). The federal backstop applied in Nunavut and Yukon beginning July 1, 2019. The Northwest Territories' carbon pollution pricing system came into force on September 1, 2019.	13 Provinces and Territories have carbon pollution pricing systems in place that align with the federal benchmark or the federal system applies. ECCC annually verifies provincial and territorial carbon pricing systems continue to meet the minimum national stringency standards.	13 Provinces and Territories have carbon pollution pricing systems in place that align with the federal benchmark or the federal system applies. ECCC annually verifies provincial and territorial carbon pricing systems continue to meet the minimum national stringency standards.
GHG emissions from ECCC operations are reduced	40% GHG emissions reduction relative to	2031	35.2%	42%.	40.4% reduction has been achieved since

[4] 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.
[5] This indicator cannot be measured and has been retired.
[6] As of July 2020, of the nine units required to meet the performance standard by January 1, 2020: two have shut down, three have until 2021 to provide a report demonstrating compliance with the regulation and four are subject to equivalency agreements with specific provinces.
[7] 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.

	21,549[8] tonnes of CO2e in 2005–06[9]				the baseline year of 2005-2006

Departmental Result: Indigenous peoples are engaged in clean growth and climate change					
Performance indicator	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 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	These indicators are developed by the target date.	March 31, 2021	In 2019-20, ECCC held a number of meetings of the senior-level bilateral tables with First Nations and the Métis. These meetings led to productive discussions on issues related to clean growth and climate change that matter most to the Indigenous groups, including carbon pollution pricing and the administration of federal programming.	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 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**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 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).
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	Results not available[10]	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.

[8] Baseline numbers have changed as a result of the methodology used to calculate the baseline.
[9] This is an interim target, established by Treasury Board Secretariat (TBS) in its Greening Government Strategy, towards a full 80 percent reduction below 2005 levels by 2050.
[10] Some of the key initiatives under the $2.65B climate finance were not operational during 2019-20 as they had not been initiated yet; therefore no update was reported on the cumulative results.

Cumulative number of people in developing countries who benefited from Canada's adaptation finance	Higher cumulative number of people in each consecutive year, reaching at least 10M people by 2030.	December 2030	Results not available	A cumulative estimate of 5.9M people with increased resilience is expected from Canada's $2.65B climate finance commitment to date	A cumulative estimate of 6.6M people with increased resilience are expected from Canada's $2.65B climate finance commitment to date.
Departmental Result: Canadian communities, economies and ecosystems are more resilient					
Performance indicator	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Number of individuals, businesses, and governments accessing climate services and using that information to inform decision-making	Increase from baseline	For annual reporting: Annually in March For reporting every 5 years: March 2028	180,390 visits where users accessed climate services	201,272 users accessed climate services via the Portals supported by the Canadian Centre for Climate Services and inquiries received via the support desk	262,812 users accessed climate services (via the Portals supported by the Canadian Centre for Climate Services CCCS and inquiries received via the support desk)

Budgetary Financial Resources [dollars]*

The following table shows, for Taking Action on Clean Growth and Climate Change, budgetary spending for 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending [authorities used]	2021–22 Difference [actual minus planned]**
540,359,130	540,359,130	586,980,025	381,382,505	-158,976,625

* All figures, throughout the document, are net of re-spendable revenues.
** The actual spending for 2021-22 is lower than the 2021-22 planned spending, mainly due to a re-profile of funds to future years to reflect when spending is expected for the Low Carbon Economy Fund.

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 2021–22.

2021–22 Planned FTEs	2021–22 Actual FTES	2021–22 Difference [actual minus planned]
570	744	174

* 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 in the GC InfoBase[xxxix].

Preventing and Managing Pollution

Description[11]

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

Moving to zero plastic waste through a circular economy

Addressing plastic pollution remained a priority for the Government of Canada and for countries around the world. Reducing plastic pollution and investing in Canadian innovation are part of the Government of Canada's overall plan to protect the environment and build a stronger economy and healthier communities, and is part of sustainable recovery from the COVID-19 pandemic.

Since 2018, Canada has spearheaded the Ocean Plastics Charter[xl], which remains the only global framework to take a comprehensive approach to addressing marine plastic pollution by encouraging ambitious action and cooperation by governments, businesses and organizations. In support of the Charter, Canada has delivered $100M to address plastic waste in developing countries, spark innovation to beat plastic pollution, and support innovative private-public partnerships. As of June 2022, the Charter is supported by almost 30 governments and more than 75 businesses and organizations domestically and globally.

In February 2022, the Prime Minister joined other world leaders at the One Ocean Summit[xli] to announce that Canada joined international partnerships and initiatives toward reducing plastic pollution and protecting our oceans. These partnerships and initiatives 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[xlii], 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 through a full life cycle approach across the entire value chain of plastics.
- Supporting ocean health through the development of a new, government-wide Blue Economy Strategy[xliii].

In Canada, ECCC 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[xliv]. 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. Over 2021-22, federal, provincial and territorial CCME members worked on the following Action Plan deliverables:

- a roadmap to strengthen the management of single-use and disposable plastics,
- guidance on consistent Extended Producer Responsibility policies,
- a compendium of recyclability guidelines, and
- guidance on the use of such labels and terms as "compostable" and "recyclable". Reducing plastic pollution and investing in Canadian innovation are part of the Government of Canada's overall plan to protect the environment and build a stronger economy and healthier communities.

[11] Preventing and Managing Pollution description is being updated to reflect the evolution of Canada's environmental policy landscape and the provision of recent authorities. Changes will only be reflected in 2023-24.

Proposed Single-Use Plastics Prohibition Regulations

The Government of Canada published the proposed Single-Use Plastics Prohibition *Regulations*[xlvi] *(December 2021) in Canada Gazette, Part I*. This was a major step in the regulatory process to bring Canada closer to delivering on its commitment to ban certain harmful single-use plastics.

The regulations would prohibit the manufacture, import, and sale of six categories of single-use plastics (SUPs) (i.e. checkout bags, cutlery, food service ware made from or containing problematic plastics, ring carriers, stir sticks, and straws). 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.

The proposed 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, the Government published draft *Guidance for Selecting Alternatives to the Single-Use Plastics in the Proposed Single-Use Plastics Prohibition Regulations*[xlvii] (December 2021), which outlines best practices for reducing the use of SUPs as well as choosing less-impactful plastics or non-plastic alternatives to the six categories of SUPs in the proposed regulations.

Canada's approach to banning harmful single-use plastics
The Government of Canada's approach to banning harmful SUPs is based on evidence, facts and rigorous science. The proposed regulations are grounded in the findings of the Science Assessment of Plastic Pollution[xlv] (October 2020), which confirmed that plastic pollution is everywhere in the environment and that it has harmful environmental impacts.
Once implemented, it is estimated that the regulations would prevent more than 22,000 tonnes of plastic pollution from entering the environment over a ten-year period—the equivalent of one million garbage bags of litter.

Plastics Innovation Challenge

The Canadian Plastics Innovation Challenge has invested nearly $19 million since 2018 to support Canadian innovative solutions that address plastic waste from such sources as food packaging, construction, and the separation of plastics for recycling, among other challenges, as a means of moving Canada toward a zero plastic waste future. In 2021-22, one prototype and four proof of concepts were developed through ECCC-sponsored Canadian Plastics Innovation Challenges. Solutions being developed by small and medium-sized enterprise (SME) funding recipients include a fully recyclable multi-layer barrier film for food packaging, a lightweight, strong and durable cinder-block incorporating over 7 percent in recycled polyvinyl chloride (PVC), and a reduced graphene oxide reinforced recycled paper products as a proposed sustainable alternative to plastic packaging.

In 2021–22, ECCC helped build the evidence base, and engaged industry and communities to make progress on reducing plastic waste and pollution:

- Through the Zero Plastic Waste Initiative, Environment and Climate Change Canada invested over $1 million to support 14 projects that prevent and reduce plastic pollution and support the transition to a circular economy. These projects removed over 46,000 kg of litter, reached over 1.2 million Canadians, advanced community science and developed about 90 best practices or tools to help reduce plastic waste and pollution.

- Working with a range of industry sectors, ECCC supported the following studies and pilot projects to better understand how to reduce sector-specific plastic waste streams:
    - Plastic waste in hospitals: A circular economy model to personal protective equipment from hospitals and medical single-use plastic waste to keep them out of the environment (Canadian Coalition for Green Healthcare)
    - Creating a Non-Fragmented Circular Plastics Economy for Canada: A research-based convening platform to inform Canada's transition to a circular plastics economy through two published reports (Bagging Capital: Attracting Private Investments in Canada's Plastic Recycling Industry and Banking on a Dual Transition: Sustainable Finance for Petrochemical Plastic Producers) and a forum Aligning Fragments: A Forum on Canada's Circular Plastics Economy, at which the Minister of ECCC provided opening remarks (Conference Board of Canada)

        - Feasibility of reuse: Sustainable re-use solutions available to inform the development/expansion of re-use programs by Scout Environmental that includes a website (www.reuserefill.ca)
    - Infrastructure needs for plastic waste management: Assessment of diversion infrastructure capacity and investment conditions needed to reach zero plastic waste (Dillon & Oakdene Hollins)
    - Plastic use and waste generation in grocery store operations: Flow of Plastic Packaging in Business to Business Operations: How do Grocery Stores in Canada Manage Plastic Waste? (Dillon Consulting)
    - Plastic waste and recycling in the Construction, Renovation, and Demolition industry: Plastic Waste Management in the Construction, Renovation, and Demolition Industry in Canada (Cheminfo Services Inc.)
    - Automotive recycling: Roadmap to Increase Recycling of Auto Plastics from End-of-Life Vehicles in Canada (Automotive Recyclers of Canada)
    - Demonstration of mechanical textile recycling in Canada: Mechanical Textile Recycling Pilot (Fashion Takes Action).

In addition to the proposed *Single-Use Plastics Prohibition Regulations*, the Department published the following:

- An order adding "plastic manufactured items" to Schedule 1 of the *Canadian Environmental Protection Act (CEPA), 1999* (May 2021). This provides the government with authorities to enact regulations and other risk management instruments under CEPA to manage plastic manufactured items at key stages in their lifecycle. This is an important step toward setting the conditions for a circular economy for plastics.
- A *What we heard* report (August 2021) that summarizes the feedback received on the *Proposed integrated management approach to plastic products*[xlviii] *(October 2020)*, which outlines initiatives to overcome the systemic challenges standing in the way of a circular economy for plastics, including developing regulations under the provisions of the *CEPA, 1999*.
- A Notice of Intent[xlix] and technical issues paper[l] on new measures to require certain plastic items be made of at least 50 percent recycled content by 2030 (February 2022). Establishing recycled content standards will drive demand for recycled plastics, reduce the amount of plastic waste that ends up in landfills, incinerators, and that enters the environment as pollution, and decrease greenhouse gas emissions associated with plastic production.

Reducing global plastic pollution

Canada participates in global efforts to reduce plastic pollution. Work includes implementing Canada's obligations under several binding international agreements that help prevent waste and litter (e.g., Basel Convention, MARPOL, London Convention/Protocol) and participating in global campaigns, such as the United Nations Clean Seas Campaign and the Global Ghost Gear Initiative. Canada works with international partners, including the G7, G20 and various bodies under the United Nations, to strengthen policy, advance research, and exchange information and best practices. For example, Canada is a steering board member of the World Economic Forum's Global Plastic Action Partnership (GPAP) governing council and co-chairs' the Global Partnership on Marine Litter steering committee. Canada, with Mexico and the United States through the Commission for Environmental Cooperation[li], brings together communities and decision-makers to build local solutions and raise awareness of marine litter in North America. In 2021-22, Canada, as a co-facilitator, alongside Ghana, and in our national capacity, worked to reach consensus at the United Nations Environment Assembly, on launching the historic outcome to establish an intergovernmental negotiating committee (INC) with a mandate to develop an international legally binding instrument on plastic pollution. Canada is committed to continue playing a leadership role throughout these negotiations and advancing an ambitious agreement to end plastic pollution.

Hosting the World Circular Economy Forum

The World Circular Economy Forum is a global event that brings together leaders, policymakers, experts and enthusiasts from around the world to explore the key actions and systemic changes needed to advance the global transition to a circular economy. Canada hosted the World Circular Economy Forum 2021[liii] (WCEF2021) as a virtual event from September 13-15, 2021. The WCEF 2021 was co-organized by ECCC and the Finnish Innovation Fund Sitra in collaboration with partner organizations. Held for the first time in North America, WCEF2021[liii] brought new voices to the global dialogue on the circular economy to discuss the game-changers needed to accelerate the circular transition in the next five years. WCEF2021 featured 95 speakers representing 27 countries, and attracted over 4,000 live participants from 134 countries. 84 percent of participants reported that their knowledge of the circular economy increased after participating in WCEF2021.

Protecting Canada's oceans

Canada's Oceans Protection Plan[liv] (OPP) is a $1.5 billion action plan to build a world-leading marine safety system and strengthen Canada's stewardship of the country's oceans and coasts. Led by Transport Canada, ECCC is a key partner in this national approach, together with the Canadian Coast Guard and Fisheries and Oceans Canada. In addition to providing ongoing scientific expertise and environmental and weather data on a 24/7 basis to support effective responses to environmental emergencies, the Department contributed to research on the physical and chemical properties and environmental behaviour of spilled bitumen, including the use of alternative response measures. ECCC will also participate in the upcoming horizontal evaluation of the OPP with other federal partners.

Broadening the base of shellfish safety in Canada

The Canadian Shellfish Sanitation Program is a federal food safety program jointly administered by the Canadian Food Inspection Agency, ECCC, and Fisheries and Oceans Canada. Aimed at minimizing the health risks associated with the consumption of contaminated bivalve molluscan shellfish, such as mussels, oysters and clams, the Program implements controls to verify that only shellfish that meets food safety and quality standards reach domestic and international markets.

Under the Program, ECCC monitors marine water quality, identifies and assesses pollution sources in adjacent coastal watersheds, and makes informed recommendations to regulators on harvest area classification.

Restoring Hamilton Harbour
ECCC continued to collaborate with the Ontario Ministry of the Environment, Conservation and Parks, Stelco, Hamilton Oshawa Port Authority, City of Hamilton, City of Burlington, and Halton Region to clean up this Great Lakes Area of Concern. Work to dredge and contain contaminated sediments within a six-hectare, double walled engineered containment facility was completed. The project is scheduled for completion in 2024. Once completed, the site will be turned over to the Hamilton Oshawa Port Authority, which will maintain the facility in perpetuity and use the site as valuable port lands.

Protecting and conserving 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.

ECCC's stewardship activities targeted a number of important freshwater resources across Canada, including:

The Great Lakes — Canada and Ontario are committed to strong, ongoing collaboration with their partners to protect and restore the Great Lakes.

The new Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health[lv] came into force on June 1, 2021. It sets out specific actions each government will take over the next five years to protect and restore the Great Lakes, such as preventing toxic and nuisance algae, improving wastewater and storm water

management, reducing plastic pollution and excess road salt application, restoring native species and habitats, and increasing resilience to climate change.

This is the ninth agreement between the two governments and 2021 marked the 50th anniversary of the signing of the first Canada-Ontario Agreement in 1971. The agreement includes a renewed commitment to completing environmental clean-up actions with an emphasis on completing actions required to restore water quality and ecosystem health in six historically degraded areas[lvi], conserving key habitats around the Great Lakes, and continuing to prevent toxic and nuisance algae in Lake Erie. It also includes a new focus on protecting Lake Ontario from a nutrients perspective, supporting nature-based recreation opportunities, and strengthening First Nation and Métis engagement in the implementation of the agreement.

In 2021, ECCC invested more than $3.1 million over three years in new projects funded under the Great Lakes Protection Initiative[lvii]. The projects will address priorities to restore water quality and ecosystem health in Areas of Concern, prevent toxic and nuisance algae, and enhance engagement with Indigenous peoples and the public. Newly funded projects include:

- $240,000 over three years to support the Raisin Region Conservation Authority in its efforts to restore and protect the coastal wetland of the Bainsville Bay Marsh, which will sustain fish and wildlife habitat in the St. Lawrence River Area of Concern.
- $425,000 over two years to support the Royal Botanical Gardens' Wetlands Rehabilitation Program, which will restore wetlands in the Hamilton Harbour Area of Concern.
- $150,000 over two years for Wasauksing First Nation to work with local communities along the shores of Lake Huron and Lake Superior to create and promote community-specific fish consumption advisories.

The funded projects build on previous and ongoing initiatives that support the governments' commitment to take active steps to protect and clean up the Great Lakes and other large lakes.

An evaluation of the Great Lakes Protection Initiative[lviii] completed in 2021 led the program to take steps to enhance and strengthen Indigenous engagement, in order to review grants and contribution monitoring tools to further incorporate quantitative performance indicators where applicable.

Lake Winnipeg Basin—Building upon a previous ten-year agreement between the Government of Canada and Manitoba, the Memorandum of Understanding (MOU) (2021-2026), signed in August 2021, will support a cooperative and coordinated approach to understand and protect the water quality and ecological health of Lake Winnipeg and its basin, including reducing nutrient loading. The MOU will also support engagement of Indigenous peoples to advance reconciliation and mutual priorities related to water quality and the ecological health of Lake Winnipeg.

As part of the $25.7 M commitment through Budget 2017, ECCC's efforts to restore water quality in Lake Winnipeg and its basin included $520,000 in 2021-22 for 10 new projects under Lake Winnipeg Basin Program to support stakeholder and partner-driven action to reduce excessive nutrients, increase Indigenous engagement and strengthen collaboration.

An evaluation of Lake Winnipeg Basin Program[lix] completed in 2021 prompted the program to begin working with partners to identify options to ensure the continuing operations of the Lake Winnipeg Research Consortium vessel research platform and continue to identify and target actions on priority watersheds.

St. Lawrence River Basin—To continue to support integrated management with numerous partners, ECCC coordinated joint Canada-Québec science-based projects to improve water quality, conserve biodiversity, and promote the sustainable use of the St. Lawrence River and its basin. ECCC continued to collaborate with governmental and non-governmental organizations to obtain scientific data through the *State of the St. Lawrence River Monitoring Program* and to fund community projects to protect this important water resource.

Atlantic Canada—Various Atlantic initiatives in 2021-22 included investing approximately $1 million in six new projects to directly address water quality issues in two priority ecosystems in Atlantic Canada: the Wolastoq/Saint John River watershed, and the southern Gulf of St. Lawrence watershed. Funded projects aim to improve the assessment, monitoring, modelling, and/or mitigation of multiple stressors and their cumulative effects on water quality, with a focus on specific stressors such as nutrients, bacteria, and/or micro plastics, and to encourage strong relationships among all watershed partners.

Fisheries Act - managing pollution releases to fresh water

The Government of Canada takes water pollution very seriously and continues to work hard to protect and conserve Canada's water resources for future generations. A big part of this effort is applying Canada's laws that control pollution, such as the *Fisheries Act*. ECCC is the lead for the administration and enforcement of the pollution prevention provisions of the *Fisheries Act*, which prohibits the release of pollution in waters frequented by fish. These provisions are some of the federal government's strongest tools for reducing pollution to water. ECCC manages these responsibilities both by developing regulations that set strict requirements on any releases to water and by applying and enforcing this prohibition where there are no regulations.

To further protect Canada's freshwater resources, ECCC advanced amendments to the Pulp and Paper Effluent Regulations and the Wastewater Systems Effluent Regulations that will strengthen protections. ECCC also published a discussion document for consultation in January 2022 on the latest proposed approach for Coal Mining Effluent Regulations. Additionally, ECCC launched a Crown-Indigenous Working Group to examine the accumulation of tailings ponds in the oil sands. A potential outcome is the development of a new Oil Sands Effluent Regulation.

Canada Water Agency

In 2021-22, ECCC continued to develop options to establish a 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. To inform this work, ECCC completed public consultations in spring 2021, synthesized input in a What We Heard[lx] report (published in June 2021), engaged provinces and territories, and continued discussions with Indigenous groups across Canada.

Advance the modernization of the Canada Water Act

In December 2021, the Minister of Environment and Climate Change was directed through his mandate letter to "Following the establishment of a Canada Water Agency, to advance the modernization of the *Canada Water Act* to reflect Canada's freshwater reality, including climate change and Indigenous rights".

Additionally, the Department secured funding in 2021 for a Canada Water Agency Transition Office to establish and operationalize the future agency.

Enforcing Canada's environmental laws and regulations

ECCC is committed to protecting Canadians' health, safety, and environment, including by enforcing laws that protect Canada's air, water, and natural environment. The Department is responsible for the administration and enforcement of several important statutes, including the *Canadian Environmental Protection Act*, 1999 (CEPA, 1999), pollution prevention provisions of the *Fisheries Act* and has joint responsibility for administration and enforcement of the *Greenhouse Gas Pollution Pricing Act, 2018*. Since March 2020, the COVID-19 pandemic impacted ECCC's enforcement operations. ECCC's Enforcement Branch implemented a Business Continuity Management Plan (BCMP), which remained in effect throughout 2021-22, highlighting the critical services that officers continued to provide during the pandemic.

Enforcement actions in 2021–22 include several prominent cases, such as:

- On September 15, 2021, Canadian National Railway Company (CN Rail) pleaded guilty in Prince Rupert Provincial Court to a charge of violating subsection 36(3) of the *Fisheries Act,* in relation to the deposit of pesticides in or around waters frequented by fish. The company was fined $2.5 million, which will be directed to the Government of Canada's Environmental Damages Fund.
- On February 11, 2022, Atlantic Mining NS Inc. (previously Atlantic Mining NS Corp.), a subsidiary of Australian mining company St. Barbara Limited, was fined $125,000 after earlier pleading guilty to one count of contravening the *Fisheries Act*. The charge related to sedimentation and erosion issues at the Touquoy mine site near Middle Musquodoboit, Nova Scotia in 2018 and 2019.
- Participating in Operation Demeter VII. Enforcement officers, working with the Canada Border Services Agency, stopped the export of a total of 15 containers containing approximately 196,000 kilograms of plastic waste and 101,000 kilograms of other wastes.

ECCC maintained efforts to prevent environmental pollution. Enforcement activities carried out by enforcement officers included 2,257 inspections under the *Canadian Environmental Protection Act, 1999* and the *Fisheries Act*. These inspections initiated 11 new investigations under pollution regulations, and resulted in the implementation of 361 enforcement measures, consisting of Administrative Monetary Penalties (AMPs), compliance orders, tickets, warnings, and alternative measures. Investigations led to 4 convictions and 8 new prosecutions. In 2021-22, a total of $3.11 million in penalties resulted from prosecutions. Additionally, monetary penalties resulting from AMPs issued totalled to $161,000.

Fines imposed under environmental legislation are credited to the Environmental Damages Fund (EDF) which helps ensure that environmental good follows environmental harm by supporting projects in Canadian communities with measurable outcomes. Monies paid to the EDF are invested in projects that focus on environmental restoration, environmental quality improvement, research and development, and education and awareness.

Strengthening the Canadian Environmental Protection Act, 1999 *(CEPA, 1999)*

Over the past several decades, science on the risks associated with harmful chemicals and pollutants has evolved. In order for CEPA, 1999 to continue to protect Canadians and their environment from harmful substances, the Government of Canada will continue to take steps to strengthen the Act in line with science, and in recognition of Canadians' right to a healthy environment.

In April 2021, the Government of Canada introduced Bill C-28, *Strengthening Environmental Protection for a Healthier Canada Act* to modernize CEPA, 1999. While the Bill died on the Order Paper when federal elections were called in the summer of 2021, it was re-introduced in Parliament as Bill S-5 in February 2022.

The proposed changes would strengthen protections for Canadians and the environment by:

- Recognizing the right to a healthy environment for every individual in Canada—a first in a federal statute in Canada.
- Assessing real life exposure based on the cumulative effects of a substance in combination with exposure to other substances, and better-protecting populations most at risk due to greater susceptibility or potential exposure to harmful substances.
- Implementing a new regime for toxic substances that pose the highest risk.
- Supporting the shift to less harmful chemicals through the establishment of a Watch List of substances capable of meeting the CEPA criteria of being considered a risk if, for example, there should be an increase in exposure.
- Creating a new Plan of Chemicals Management Priorities, which will address the assessment and management of substances, and support activities such as research, monitoring, information-gathering and risk communication.
- *Amending the Food and Drugs Act* (FDA) to provide the ability to develop a regulatory framework under the FDA to assess and manage the environmental risks of new drugs.

The proposed amendments represent the first major reform to CEPA, 1999, which was last updated more than 20 years ago.

Protecting Canadians and the environment from harmful substances

To protect the environment and Canadians from harmful substances, ECCC continued to deliver Canada's Chemicals Management Plan[lxi] (CMP) in collaboration with Health Canada. As of March 31, 2022, the two departments had addressed 4,139 of 4,363 chemicals identified in 2006 as priorities for attention, with 591 deemed toxic under CEPA 1999. The remaining established priority chemicals will be addressed in subsequent years as required. The pace and volume of this risk assessment work was identified as a noteworthy accomplishment in a recent evaluation of the CMP[lxii], in particular when compared to other agencies involved in chemical regulation around the globe.

Since the launch of the CMP in 2006, there has been a doubling of risk management measures for toxic substances: from about 200 in 2006, to over 400 in 2022. In 2021-22, ECCC and HC published 7 risk management actions under the CMP, including regulations, guidelines and other provisions for toxic substances. Under the Whales Initiative, ECCC monitored the habitats of certain endangered whales for contaminants that are particularly harmful to them, and developed the Pollutants Affecting Whales and their Prey Inventory Tool[lxiii] to track these contaminants.

ECCC also undertook CMP monitoring and surveillance activities for air, birds, fish, water, sediments, wastewater and biosolids in support of risk assessment and risk management activities. Some of these activities were limited in space and time due to the progressive resumption of fieldwork in the context of the pandemic. Substances measured in samples collected included polybrominated diphenyl ethers (PBDEs) and other flame retardants, per- and polyfluoroalkyl substances (PFAS), metals, bisphenols, chlorinated alkanes, and more.

Research activities were also conducted under the CMP as part of 21 projects. These projects were either new projects or a continuation of existing projects that had been delayed by the pandemic. Research topics related to the fate, bioaccumulation and effects of CMP priority substances such as flame retardants, perfluoroalkyl substances, rare earth elements and nanomaterials, to name a few. 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 in order to assess, and manage where needed, their potential risks to the environment.

Action plan to protect firefighters

Fighting fires is essential and dangerous work. In addition to the physical hazards faced by firefighters, some household products become more dangerous when they burn. In particular, firefighters can be exposed to toxic substances, such as certain harmful flame retardants in upholstered furniture, mattresses, and electronic devices when responding to a fire. The Government of Canada has heard concerns from firefighters and stakeholders and is taking action to protect these first responders in their lifesaving work.

The Government of Canada has developed a comprehensive action plan to protect firefighters from harmful chemicals released during household fires. The plan includes actions to:

- ban harmful chemical flame retardants;
- support the development and use of safe flame retardants, including less harmful alternatives to chemical flame retardants in household products;
- conduct research and monitoring to assess levels of exposure;
- identify practices for firefighters to reduce harm, such as improvements to personal protective equipment; and
- share information and raise awareness.

Cleaning up federal contaminated sites

Across all 17 FCSAP custodians, assessment activities took place at 121 sites (of which 53 site assessments were completed), and remediation activities were conducted at 678 sites (of which 58 site remediations were completed)[12]. In 2021-22, ECCC assessed four sites and conducted remediation activities at 22 sites where the Department is responsible.

In collaboration with other expert support departments, ECCC also conducted 75 site classification reviews to confirm eligibility for funding, reviewed 47 technical documents from federal custodians, developed 15 guidance documents, and delivered four training and four consultation sessions to support custodian departments in managing their contaminated sites. In addition to supporting these FCSAP activities, ECCC provided expert support to non-FCSAP sites.

Improving air quality

ECCC's Air Quality Program continued to focus on domestic and international work to improve the quality of ambient air and reduce the adverse effects of outdoor pollution on human health and the environment. The Program helps to inform Canadians of the health risks of outdoor pollution and encourages personal actions to reduce these risks. An evaluation completed in 2021 found that ECCC, Health Canada, and National Research Council activities in relation with air quality are relevant and led to a number of key accomplishments, including the ongoing implementation of the Air Quality Health Index (AQHI) across Canada. Among other results, the evaluation found that a considerable volume of quality information and analysis on air quality and air pollution is produced and used to inform decision-making by a range of internal and external stakeholders – at the same time, there remains a need to improve communications and outreach with partners, stakeholders and the public.

ECCC continued to collaborate with provinces through the Canadian Council of Ministers of the Environment[lxiv] (CCME) to implement Canada's Air Quality Management System (AQMS), which includes the Canadian Ambient Air Quality Standards (CAAQS), to drive local air quality improvements, industrial emissions requirements, provincial air zones, inter-jurisdictional airsheds, and reporting to Canadians.

The Department also continued, together with Health Canada, to develop, implement and maintain the Air Quality Health Index[lxv] (AQHI), which reached 1.37 million individuals sensitive to the health effects of air pollution in 2021–22. ECCC also continued to report on air quality and emissions, including in Canada's Air Pollutant Emissions Inventory[lxvi], to meet international reporting obligations.

Internationally, ECCC continued to demonstrate environmental leadership, actively participating 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 (in particular, its amended Protocol to Abate Acidification, Eutrophication and Ground-level Ozone [Gothenburg Protocol[lxvii]] which entered into force in 2019). Most recently, Canada achieved its 2020 emission reduction commitments under the Gothenburg Protocol, addressing key air pollutants including nitrogen oxides, sulphur dioxides, volatile organic compounds and fine particulate matter.

[12] Federal Contaminated Sites Inventory, 2022

Multi-Sector Air Pollutants Regulations, Volatile Organic Compounds Regulations, Fuel Quality Regulations and other measures

ECCC continued to develop, administer and amend, where appropriate, regulations to reduce air pollutant emissions from industrial sources, vehicles, engines and fuels, and consumer and commercial products. The Department administered the:

- *Multi-sector Air Pollutants Regulations* (MSAPR), as well as various non-regulatory instruments that address air pollutant emissions from industrial sectors; and
- *Regulations Respecting Reduction in the Release of Volatile Organic Compounds (Petroleum Sector)*, published in November 2020, which will reduce air pollution from petroleum refineries, upgraders and certain petrochemical facilities.

ECCC will develop regulations to reduce VOC emissions from petroleum storage tanks and loading operations and will continue to assess options to reduce air pollution from other sources in the oil and gas sector. In addition, ECCC will administer the *Off-Road Compression-Ignition (Mobile and Stationary) and Large Spark-Ignition Engine Emission Regulations*, published in December 2020.

Table X – List of Federal Fuel Quality Regulations in Force as of 2021-2022

Benzene in Gasoline Regulations

Contaminated Fuel Regulations

Fuels Information Regulations, No. 1

Gasoline Regulations

Gasoline and Gasoline Blend Dispensing Flow Rate Regulations

Sulphur in Gasoline Regulations

Sulphur in Diesel Fuel Regulations

Renewable Fuels Regulations

Regulations Prescribing Circumstances for Granting Waivers Pursuant to Section 147 of the Act

ECCC continued to administer fuel quality regulations (see sidebar), and to implement the enhanced verification project for fuels, along with a pilot project regarding lead in gasoline used for competition vehicles.

In December 2021, the Department published the proposed *Regulations Amending Certain Regulations Made Under the Canadian Environmental Protection Act, 1999* (proposed Amendments) in the *Canada Gazette*, Part I. The proposed Amendments were published in response to the U.S. EPA's publication of the *Improvements for Heavy-Duty Engine and Vehicle Test Procedures, and Other Technical Amendments*. The proposed Amendments would make modifications to the *Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations*, the *On-Road Vehicle and Engine Emission Regulations*, and the *Marine Spark-Ignition, Vessel and Off-road Recreational Vehicle Emission Regulations* to maintain alignment with the U.S. EPA. The proposed Amendments would make modifications such as updating definitions, regulatory text, and references to U.S. emission regulations for the three aforementioned regulations. The proposed Amendments would also make modifications to the *Off-road Compression-Ignition (Mobile and Stationary) and Large Spark-Ignition Engine Emission Regulations* to correct a regulatory misalignment with the U.S. EPA regulations, including definitions, labeling, and maintenance instructions for certain large spark-ignition engines. The stringency of emission standards was not affected in any of the modified regulations.

In January, 2022, the Department published the *Volatile Organic Compound Concentration Limits for Certain Products Regulations*[lxviii], which establish maximum VOC concentration limits and emission potentials for the manufacture and import of over 130 categories and subcategories of products. The regulations prohibit the manufacture and import of products with VOCs in excess of their respective category-specific limits, unless a permit is obtained. These products include personal care, automotive and household maintenance products, adhesives, adhesive removers, sealants and caulks, and other miscellaneous products.

Federal Sustainable Development Strategy and Canadian Environmental Sustainability Indicators

First passed in 2008 and amended in 2020, the *Federal Sustainable Development Act* makes decision-making related to sustainable development more transparent and accountable to Parliament. With 99 federal organizations required to contribute to the Federal Sustainable Development Strategy and develop their own Departmental Sustainable Development Strategies, this legislation establishes a whole-of-government approach to federal sustainable development policy in the Government of Canada.

In 2021, ECCC tabled the federal government's Progress Report on the 2019-2022 Federal Sustainable Development Strategy[lxix] (FSDS). Forty-three federal departments and agencies contributed to the report, which presents Canadians with results from 13 goals, 32 targets, and more than 50 contextual indicators. Using a scorecard approach, the report assessed federal progress on its medium-term targets. Results from this report will inform ongoing and future federal plans for sustainable development.

The consultation period for the draft 2022-2026 Federal Sustainable Development Strategy[lxx] was launched in March 2021. All Canadians were invited to comment, including the Minister's Sustainable Development Advisory Council, the Commissioner of the Environment and Sustainable Development, and Parliament.

ECCC released 28 environmental indicators in 2021–22, including two new indicators on greenhouse gas concentrations and land-use change. The Canadian Environmental Sustainability Indicators[lxxi] program provides data and information to track Canada's performance on issues including climate change, air quality, water quality and availability, and nature protection. Environmental indicators are the primary instrument to measure progress of the FSDS and to report to Canadians on the state of the environment.

Commitment to Experimentation: Using behavioural insights to improve key aspects of reporting by dry cleaners

This experiment is using behavioural insights (BI) to try to improve reporting by dry cleaners under the Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations. A randomized controlled trial (RCT) is comparing interventions that may increase the number of reports completed on time and decrease the number of errors in reports.

Some packages provided to regulatees in February 2021 included a self-addressed, stamped envelope, to see if this would affect the timeliness and number of reports completed. COVID-19 caused delays to the project and reports on the RCT were finalized in December 2021. Data that became available for analysis in January and February 2022 continues to be assessed for quality of reporting, including the number and type of errors and whether there is a measurable difference between those who received the pre-stamped envelopes and the control group. The complete analysis will be done in 2022-2023 and will compare results with those from the previous year and analyze the data by region as well as nationally.

Commitment to Experimentation: Stakeholder Engagement to Advance Supply Chain Transparency for Chemicals in Products

This experiment is applying a policy lab approach to engaging Canadian stakeholders in ways to enhance supply chain transparency and to improve labelling for chemicals in products. Consultations were officially launched on March 4, 2022 via a press release[lxxii] and a notice[lxxiii] published on the Consulting with Canadians[lxxiv] and Chemsubs[lxxv] websites. More than 200 stakeholders and citizens have participated in webinars, live polls, surveys, and virtual workshop events, helping to inform the policy lab activities and evaluation. Policy solutions are being co-developed and tested in virtual events in May, June, and September 2022, and a final report is anticipated in January 2023, including recommendations to enhance supply chain transparency as well as lessons learned on the policy lab approach.

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 2021-22, the Department continued to ensure that more vulnerable 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 water quality initiatives in key freshwater ecosystems, including in the Great Lakes, Lake Winnipeg, the St. Lawrence River watershed and the Wolastoq/Saint John River Watershed. Projects were aimed at addressing communities' concerns, increasing the participation of Indigenous peoples in decision-making and governance in 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 vulnerable 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.

Key risks (mitigation)

To prevent and manage pollution across Canada, the Department addressed uncertainties and challenges – such as working around COVID-19 restrictions, narrowing fieldwork and limiting capacity to conduct laboratory analysis – that could have hindered the collection and leverage the quality of data needed to support the prevention and management of pollution. The development and implementation of environmental standards, guidelines, regulations and other risk management instruments have contributed to the reduction of released contaminants in air, water and soil. These tools have allowed for the monitoring of levels of pollution and promoted and enforced compliance with environmental laws and regulations.

ECCC also collaborated extensively with various partners, including private businesses, non-governmental organizations, municipalities, provinces, territories and Indigenous communities as an essential component of the Department's efforts to address potential misalignment and coordination issues that could have challenged the delivery of its mandate (e.g., on plastic waste, air pollution, oil sands monitoring, and protecting Canada's freshwater resources). ECCC continued to collaborate with industry (e.g., agricultural, textiles, healthcare, automotive and packaging for groceries) and other partners to achieve Canada's ambitious goals of 100 percent reusable, recyclable or recoverable plastics by 2030, and increasing recycled content in plastic products by at least 50 percent by 2030. For example, the Department sought

public comments on the *Technical issues paper: Recycled content for certain plastic manufactured items Regulations*[lxxvi] and hosted virtual engagement sessions with stakeholders and interested parties to inform and seek feedback on the development of proposed regulations. The Department also sustained its work with the provinces and territories to implement the Canada-Wide Strategy on Zero Plastic Waste.

Additionally, ECCC continued to support partnerships, both domestic and international by maintaining alignment of these partnerships with key government-wide objectives, and exploring new means of planning and conducting consultations in a coordinated fashion. The Department also leveraged membership in international fora in order to deliver programming designed to manage transboundary air pollution.

United Nations' 2030 Agenda and Sustainable Development Goals[lxxvii]

The diverse programs and strategies under ECCC's core responsibility for Preventing and Managing Pollution will 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 the chemicals and waste multilateral environmental agreements, and advancement of regulations to protect air and water quality and promote clean fuels, will support healthy lives and well-being for all (Goal 3[lxxviii]). These will also advance the sustainable management of water and sanitation (Goal 6[lxxix]), promote sustainable production and consumption practices (Goal 12[lxxx]), and fight climate change (Goal 13[lxxxi]).

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[lxxxii]) and promote inclusive approaches to sustainable development, industrialization, and urbanization (Goal 8[lxxxiii], Goal 9[lxxxiv], Goal 11[lxxxv], and Goal 15)[lxxxvi]. ECCC will also continue to be an active partner and leader in global action on pollution prevention and management (Goal 17[lxxxvii]).

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 UN Declaration Act (UNDA) 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 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[lxxxviii].

Results achieved

Departmental Result: Canadians have clean air					
Performance indicator	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Percentage of Canadians living in areas where air quality standards are achieved	85%	December 2030	77% for the 2015-17 data period	68% for the 2016-18 data period[13]	Result not yet available[14]
Departmental Result: Canadians have clean water					
Performance indicator	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Percentage of wastewater systems where effluent quality standards are achieved	100%	December 2040	74%	77%	Results not yet available[15]
Departmental Result: The Canadian environment is protected from harmful substances					
Performance indicator	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Percentage of substances that are added to Schedule 1 of the CEPA (toxic substances list) because they pose a risk to the environment that have controls in place within legislated timelines[16]	100%	March 31, 2021	100%	87.5%[17]	86%[18]

[13] The decline in results from 2019-20 to 2020-21 reporting can be attributed to large wildfires that negatively affected air quality in Alberta and British Columbia.
[14] The analysis methodology for data from 2017-19 is currently under review. Results will be made available once the methodology has been finalized.
[15] Results expected late fall 2022. Data from 2021 were received by ECCC in the first half of 2022 and are still undergoing analysis.
[16] This is a new indicator and replaces the previous indicator: Number of substances assessed, identified as toxic, and for which control measures were put in place. The new indicator is a more meaningful annual performance indicator that will measure the extent to which risk management actions are taken in a timely manner to reduce the potential for exposure of the environment to existing harmful substances.
[17] Delays in publications of control mechanisms were due to the Covid-19 pandemic.
[18] Delays in the release of certain control measures were related to the impact of the Covid-19 pandemic, which delayed the development of analytical methods.

Budgetary Financial Resources (dollars)

The following table shows, for Preventing and Managing Pollution, budgetary spending for 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending [authorities used]	2021–22 Difference [actual minus planned]*
356,702,104	356,702,104	428,022,534	380,061,047	23,358,943

* The actual spending for 2021-22 is higher than the 2021-22 planned spending, mainly due to new funding related to Youth Employment and Skills Strategy, Canada's chemicals management regime, offset by a decrease of actuals for the Federal Contaminated Sites Action Plan and enhancing and improving the enforcement program and to implement the federal leadership towards zero plastic waste in Canada.

Human Resources (FTEs)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for 2021–22.

2021–22 Planned FTEs	2021–22 Actual FTES	2021–22 Difference [actual minus planned]
2,089	2,229	140

Financial, human resources and performance information for ECCC's program inventory is available in the GC InfoBase[lxxxix].

Conserving Nature

Description[19]

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

Nature Legacy

Budget 2021 provided an additional $2.3 billion in the Nature Legacy Initiative over five years. This funding, combined with the funding provided for the Nature Legacy[xc] Initiative in Budget 2018, represents the largest investment in nature conservation in Canada's history. This Enhanced Nature Legacy[xci] initiative supports more ambitious targets for protected and conserved areas, the protection and recovery of species at risk, and engagement of Indigenous peoples in conservation. ECCC continues 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.

Conserve 25 percent of Canada's lands and oceans

The 2020 Speech from the Throne committed Canada to conserve 25 percent of its lands and oceans by 2025, working towards 30 percent by 2030. ECCC continued to work with Parks Canada Agency, the Department of Fisheries and Oceans, other federal departments, all levels of government and Indigenous peoples on an ambitious plan to achieve these targets that is grounded in science, Indigenous Knowledge and local perspectives.

Combining sustainable grazing with species protection
The Governments of Canada and Saskatchewan forged an agreement to exchange lands so governments can work with the ranching community to conserve the Govenlock, Nashlyn and Battle Creek pastures of prairies grasslands in southwestern Saskatchewan, in ways that will conserve species at risk and migratory birds while continuing sustainable cattle grazing in ways that mimic traditional patterns of plains bison.

The Government of Canada is investing $225.4 million over five years to ensure the successful expansion and/or establishment and ongoing management of new terrestrial NWAs, focused on 36 existing opportunities for new or expanded NWAs already identified across Canada. ECCC also received $23.6 M in new funding over five years for Marine Conservation Targets to establish five marine National Wildlife Areas and to further explore partnerships and identify future opportunities for marine conservation. Expanding conserved and protected natural areas is one of the most important actions that countries can take to curb the ongoing loss of biodiversity. Protected areas are key to protecting habitat for species at risk, and healthy ecosystems help nature and people adapt to climate change.

An evaluation of the Canada Nature Fund[xcii] completed in 2021 prompted a review of the existing governance structure, to improve the clarity and the accessibility of the requirements related to the CNF Call for Proposal and to better support Indigenous communities in participating in CNF funding opportunities.

[19] Conserving Nature description is being updated to reflect the evolution of Canada's environmental policy landscape and the provision of recent authorities. Changes will only be reflected in 2023-24.

Through the Canada Nature Fund's Target 1 Challenge initiative, ECCC helped to advance protected areas work in a total of 151,094 km^2 across Canada and made progress on Indigenous protected and conserved areas. With the goal of building a well-connected network of protected and conserved areas and natural ecosystems in every province and territory across Canada, ECCC made important strides in 2021–22, including:

- An investment of $32,827,238 under Target 1 Challenge to support 34 Indigenous-led and 15 non-Indigenous-led projects for the planning and establishment of protected/conserved areas across Canada; including Indigenous Protected and Conserved Areas (IPCAs). Examples of initiatives funded, in part, through this investment include:
    - An additional investment of $2,049,556 over two years to support further establishment activities undertaken by the Province of Prince Edward Island.
    - An investment of $5,350,000 over four years to support the expansion of the Kitaskino Nuwenëné Wildland Park in Northern Alberta by 1,438 km2; a project undertaken in partnership with the Mikisew Cree First Nation and the Government of Alberta.

ECCC continued work to establish new National Wildlife Areas. For example, the Department is currently working on establishing the Edehzhie National Wildlife Area in the Northwest Territories and the designation of Isle Haute, Country Island, and Saint Paul Island in Nova Scotia as National Wildlife Areas through regulatory processes. Additional islands in Nova Scotia are being acquired in the area islands noted above to create the new Atlantic Archipelago National Wildlife Area. Progress is also being made in the negotiation of an agreement with the Department of Fisheries and Ocean for the creation of the St. Lawrence Islands' future National Wildlife Area in Québec, expected in winter 2024. Furthermore, designation of Big Glace Bay Lake National Wildlife Area located in Nova Scotia, and the expansion of the Prince Edward Point National Wildlife Area in Ontario, are currently posted in Canada Gazette I. Acquisition for additional expansions is currently progressing.

Protection and conservation of Lands and fresh water through nature agreements

Nature agreements have been established as a new tool to advance conservation in Canada, with an investment of $210 million over five years. They will be collaboratively developed with provinces and territories to establish coordinated and aligned approaches, targeted initiatives, and cost-shared investments to contribute towards conserving nature, habitat/ecosystem protection, species at risk protection and recovery, migratory bird conservation and management, 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.

During the 2021-22 reporting period, representatives from the Governments of Canada and British Columbia began negotiations towards an Umbrella Agreement and its supporting annexes. Negotiations were productive and ongoing at the end of the reporting period and the Agreement will be finalized in summer 2022 and the annexes concluded latter in 2022 or early 2023.

Transforming species at risk conservation

The Nature Legacy for Canada Initiative[xciii] sets out a roadmap to protect Canada's biodiversity through protection of lands and waters, and conservation for species at risk. With this initiative and support from the Canada Nature Fund, the *Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada*[20] *for priority places, species, sectors and threats*[xciv] (Pan-Canadian Approach) facilitates collaborative conservation efforts focused on a set of shared priority places, species, sectors and threats across Canada. This approach largely shifts from independent actions on single species, to multi-species and ecosystems-based actions, developed in partnership with federal, provincial, and territorial governments, Indigenous peoples, and other stakeholders. In addition to supporting Canada's obligations under the *Species at Risk Act* (SARA), it enables conservation outcomes for species at risk, migratory birds, and other wildlife, while providing co-benefits for biodiversity and ecosystems in general.

Key accomplishments include:

- An investment of $1,080,000 over two years in the Western Boreal Initiative with the Dene Nation. The Western Boreal Initiative is a collaboration between provinces, territories, and First Nations governments to evaluate the cumulative effects of wildfire, predation, key pests, human disturbances, and climate change on the Western Boreal Forests of Canada. A $3,510,000 investment in two projects, one with Comox Valley Land Trust, and one with the Government of British Columbia to support: land acquisition; standardizing and developing foundational base mapping datasets; and land use planning and resource management across all types of valuable habitats in the province of British Columbia. These projects will support the ongoing discussions and negotiations between the Government of British Columbia and Environment and Climate Change Canada regarding a Nature Agreement that will help to attain the federal target of achieving the protection of 25 percent of Canada's lands and freshwater by 2025.

- The Indigenous Partnerships Initiative (IPI) focuses on enabling Indigenous leadership in conservation by supporting projects that advance the implementation of the Pan-Canadian Approach and SARA in a manner that reflects the unique priorities, rights and knowledge of First Nations, Inuit and Métis Peoples. In 2021, IPI invested over $12.7 million in 33 projects. These include targeted habitat restoration, monitoring, and threat management actions to accelerate the recovery of Boreal and Southern Mountain Caribou; expanding an innovative approach to meeting the consultation and cooperation obligations under SARA across Canada.

- Work has progressed substantially in all priority sectors, in including supporting innovative projects within the sector, creating mechanisms for collaboration, and developing sector-based conservation action plans for species at risk. In 2021, federal financial investments totaling $1.2 million supported 10 multi-year projects.

- In 2021, the federal government invested up to $26.4 million in 135 priority places projects across the country. In addition to advancing foundational work (establishing governance frameworks, engagement of partners and stakeholders and conservation action planning), significant gains have been made in data collection to fill information gaps, education and outreach to raise awareness and encourage species at risk conservation in priority places, and to support direct action through activities including habitat stewardship and restoration. Furthermore, three new Community Nominated Priority Places were established in the north thorough an open call.

[20] Québec has not signed the Accord for the Protection of Species at Risk and has its own Act on Threatened and Vulnerable Species. It actively collaborates with the federal government on the conservation of endangered species of common interest through the Canada-Québec Agreement on Species at Risk. For example, Québec does not participate in the development of Canada-wide policies and mechanisms for the conservation of species at risk, and as such, will not implement the proposed Pan-Canadian approach. Québec intends to use existing mechanisms to complement the work of the federal government in setting priorities for the recovery of species in precarious situations.

In continuing to deliver on its obligations and commitments under the *Species at Risk Act,* ECCC continued work to transform its approach to terrestrial species at risk conservation through advancing the implementation of the Pan-Canadian Approach, and related policy and program improvements, including providing advice to processes under the *Impact Assessment Act* that reflect species at risk considerations. This advice was developed in collaboration with other federal impact assessment decision bodies and included guidance on the application of SARA[xcv] section 79, the use of biodiversity offsets to address impacts to listed species at risk, and applying the fundamentals of risk assessment and management to decisions related to the conservation of listed species at risk during impact assessments.

In 2021-22, ECCC engaged with provinces, territories, Indigenous peoples, as well as scientists, industry and other stakeholders in the delivery of SARA activities. ECCC made the following strides in implementing SARA.

- Final listing decisions were made for 29 terrestrial species via 3 orders published in the Canada Gazette, Part II in April, August and September of 2021. These orders added 19 species to Schedule 1 and changed the status of 9 species.
- Following the advice of the Minister of Environment and Climate Change, the Government of Canada put in place an emergency order to protect the Western Chorus Frog in Longueil, Quebec. The order covers 20 hectares of Western Chorus Frog critical habitat and prohibits activities that could harm the species.

The Department continued to enhance compliance promotion and enforcement capacities and methods by building computer forensics capacity to assist with investigations, modernizing officer training and equipment, and recertifying officers to ECCC standards through an internal *National Use of Force Team*.

Indigenous Guardians pilot

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. 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. Indigenous Guardians are a key part of Canada's Nature Legacy. As of 2021-22, the Indigenous Guardians Pilot has funded over $25 million in more than 90 initiatives across Canada.

Learning from Indigenous Partners

Indigenous Guardians rely on the experience and traditional knowledge of Indigenous partners from across the country to ensure that lands and waters are protected for generations to come. For example, in June 2021 ECCC announced funding for 10 new Guardians initiatives that will enable First Nations to monitor ecological health, maintain cultural sites and protect sensitive areas and species, while creating jobs.

With the Enhanced Nature Legacy investment, Indigenous Guardians is moving out of the Pilot phase. An evaluation process continues to be underway for the Indigenous Guardians Pilot to inform decision-making and a long-term approach for Indigenous Guardians across Canada. Individual evaluations of the First Nations, Inuit and Métis portions of the Pilot have been completed, and the overall evaluation plan for the Pilot is in development. First Nations, Inuit and Métis partners provided input into the strategy laid out for the evaluation to ensure it remains culturally meaningful to Indigenous peoples.

- Inuit Guardians Committee: The Inuit portion of the Indigenous Guardians is governed by the Inuit Guardians Committee, which is comprised of representatives from the four Inuit regions (Inuvialuit Settlement Region, Nunavut, Nunavik and Nunatsiavut) and is co-Chaired by ECCC and Inuit Tapiriit Kanatami (ITK). The Committee has set evaluation methods, measurements and timelines for the Inuit portion of the Pilot's evaluation. In 2021-2022 the Committee also hosted a series of virtual technical workshops, in partnership with Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), for Inuit communities and guardians.

- First Nations Guardians: The First Nations portion of the Indigenous Guardians is governed by the First Nations-Federal Joint Working Group on Guardians (JWG). Since 2019, the JWG has recommended more than 570 First Nations Guardians initiatives, including 10 initiatives in 2021-22 to support First Nations communities seeking to develop new Guardians initiatives and create meaningful jobs for their community members. In 2021-2022, the First Nations initiated the development of a First Nations National Guardians Network that will eventually take on the role of third party program delivery for the Guardians.

- Métis Guardians: The Métis portion of the Indigenous Guardians is governed bilaterally with Métis partners, including the Métis National Council (MNC) and its four governing members, the Manitoba Métis Federation (MMF), the Métis Settlements General Council (MSGC), and the Northwest Territories Métis Nation (NWTMN). In January 2021, a joint Métis Indigenous Protected and Conserved Areas and Guardians Gathering was held with more than 60 participants, and provided a valuable forum to share best-practices and lessons learned, and discuss the future of Métis IPCAs and Guardians.

In addition, as part of the Enhanced Nature Legacy initiative, over $166 million will support Indigenous Protected and Conserved Areas (IPCAs), which are lands, waters, and ice where Indigenous leadership is a defining attribute in the decisions and actions that protect and conserve an area. These new investments will build on the success of recent efforts. To date, fifty-two Indigenous communities across the country have received funding to either establish IPCAs or undertake early planning and engagement work that could result in additional IPCAs.

This funding is a vital next step in the process to safeguard Canada's lands and inland waters. Indigenous-led conservation will play a central role in implementing the Government of Canada's commitment to protect biodiversity and conserve 25 percent of land and inland waters and 25 percent of marine and coastal areas by 2025, working toward 30 percent by 2030.

Enforcing wildlife protection

Again, this year, the COVID-19 pandemic impacted the ability of ECCC's wildlife enforcement officers to conduct normal field operations. However, wildlife enforcement officers continued to conduct inspections and investigations, including illegal wildlife trade, patrols in deferral protected habitats, and responding to the deposit of harmful substances in wildlife habitats, critical habitats, and protected areas.

These activities included:

- In 2021-2022, ECCC's wildlife enforcement officers responded to multiple complaints and tips received from the public concerning habitat and wildlife destruction. Enforcement officers also conducted inspections, enforcement activities and hunter checks, and led a series of border crossing blitzes to identify evidence of illegal exports of Canadian species, and illegal imports of exotic species.

- During the month of October 2021, ECCC wildlife enforcement officers participated in INTERPOL's Operation Thunder 2021, an international enforcement effort in collaboration with the World Customs Organization, aimed at cracking down on wildlife crime including smuggling, poaching and trafficking. This operation involved 118 countries worldwide, focusing on identifying the illegal import and export of wildlife products at ports of entry, and resulted in 1,000 seizures of illegally traded specimens listed by CITES.

- In recent years, enforcement activities have been initiated by multiple agencies collaboratively and in joint partnerships, which has resulted in more effective use of resources, especially during the pandemic. ECCC maintained close relationships with several stakeholders to improve and increase planning of enforcement activities, and in 2021-2022, finalized agreements with the Canada Food Inspection Agency and Parks Canada.

- In 2021-2022, ECCC increased its intelligence program's capacity to enable greater monitoring of illegal activity related to WAPPRIITA.

ECCC maintained ongoing efforts to protect wildlife species and their habitat from actions by businesses and individuals. Enforcement activities carried out by officers included conducting 3,131 inspections and initiating 121 new investigations under relevant wildlife legislation and implementing 391 enforcement measures consisting of Administrative Monetary Penalties (AMPs), compliance orders, prosecutions, tickets, warnings, and alternative measures.

Investigations led to nine convictions and initiated five new prosecutions. A total of $520,100 in penalties resulting from enforcement efforts were directed to the Environmental Damages Fund. Items confiscated include medicinal composites, finished products, dead specimens, live specimens, and hunting trophies. With a value of $99,600, 114 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*.

Impact assessment

Under the *Impact Assessment Act* (IAA), ECCC continued to provide expertise and advice to 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 published the final Technical Guides Related to the Strategic Assessment of Climate Change (SACC), which was published in 2020. 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. This will allow proponents to be better prepared for impact assessments, which may in turn result in a more timely assessment process. In addition, the SACC provides Canadians with a clear link between impact assessment and national objectives on climate change. The Department published a draft of the first technical guide in August 2021 for public comment, and a draft of the second in March 2022. Both final technical guides are planned for late 2022 or early 2023.

Impact of coal projects

While coal projects that produce over 5,000 tonnes a day automatically trigger an impact assessment, smaller mines also have the potential to release selenium into waterways. Selenium is a natural element that washes out of piles of coal-mining waste rock. It can be toxic to fish populations by moving up the food chain to cause deformities and ruin their ability to reproduce. New and expanded coal mines of any size that could contaminate water with selenium will now automatically undergo a federal impact assessment, under new rules announced in 2021.

Meeting Canada's international commitments for nature

In September 2020, Prime Minister Justin Trudeau joined 75 heads of state, government representatives and biodiversity stakeholders to launch the Leaders Pledge for Nature, a ten-point plan to put nature and biodiversity on a path to recovery by 2030. Successfully addressing the biodiversity loss crisis demands concerted international effort and commitment, leaders committed to actions such as placing biodiversity, climate and the environment at the heart of COVID-19 recovery efforts, implementing an ambitious post-2020 global biodiversity framework, transitioning to sustainable patterns of production and consumption, and sustainable food systems. Recognizing this, ECCC continued to play a leading role in the international negotiation of a new Global Biodiversity Framework for 2021–2030, with the aim of developing an ambitious plan that covers all aspects of nature conservation and sustainable use in order to achieve a full recovery for nature by 2050. The post-2020 global biodiversity framework is expected to be adopted at the 15th Conference of the Parties to the Convention on Biological Diversity later in 2022.

The Government of Canada has made significant investments in nature and nature-based climate solutions to address climate change and biodiversity loss, including by setting an ambitious target to protect 25 percent of our lands and oceans by 2025, while working toward 30 percent by 2030. As a member of the High Ambition Coalition for Nature and People and the Global Ocean Alliance, Canada is leading the way to build support for a 30 percent target internationally.

Commitment to 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 2021-22. 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 algorithms were also used successfully to detect polar bears in aerial photographs, and study designs were developed to test AI approaches for counting cliff-nesting seabirds in photographs of colonies.

Gender-based analysis plus

In 2021-2022, 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 reduce the impact of consultation fatigue and repeated gathering of Indigenous 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 Canadians, 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 vulnerable populations and all Canadians.

Key risks (mitigation)

The effective management of information assets is critical to the Department's ability to conserve nature. Conservation efforts must be grounded in scientific data, including Indigenous Knowledge. Many areas of uncertainty existed in 2021-22 that could have impeded the effective collection and leveraging of this data. The effect of COVID-19 restrictions and the coordination challenges complicate collaboration efforts with external partners and the technical work needed to monitor populations and establish protected and conserved areas.

To address these uncertainties, ECCC continued to leverage its scientific data and partnerships with Indigenous Knowledge Holders. The department adapted its approaches and programming on climate change and enforcement of legislation that facilitates conservation. ECCC is also co-delivering the Indigenous Guardians Pilot with Inuit, Métis and First Nations.

ECCC continued to leverage available sources of information to support evidence-based decision-making, and developed a strategic approach to investments in information management systems, infrastructure, and tools that enable the appropriate management and sharing of information. The Canadian Wildlife Service initiated the development of its first Information and Data Management Strategy, reflecting its vision for information and data management for the next three years.

United Nations' 2030 Agenda and Sustainable Development Goals[xcvi]

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[xcvii], combined with ongoing action for wetlands protection, habitat stewardship and wildlife conservation, will 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 and protect species at risk and their habitats contribute to the UN Sustainable Development Goals (SDGs) of sustainable cities and communities (Goal 11[xcviii]), life below water (Goal 14[xcix]), and life on land (Goal 15[c]).

ECCC also contributes to Goal 17[ci], 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 in order 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 federal UN Declaration Act (UNDA) 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[cii].

Results achieved

Departmental Result: Canada's wildlife and habitat are conserved and protected					
Performance indicator	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Percentage of migratory bird species that are within target population ranges	60%	December 2021	57%	Results not yet available	Not yet available[21]
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)	2022	12.1%	12.5%	13.5%[22]

[21] Results for 2020-21 and 2021-22 will be available in December of 2023.
[22] Establishing protected areas takes time, requiring negotiation with many partners. Work is ongoing towards achieving the Canadian target of 25% by 2025.

Departmental Result: Canada's species at risk are recovered					
Performance indicators	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Percentage of species at risk for which changes in populations are consistent with recovery objectives	60%	May 2025	41%	42%	41%[23]
Departmental Result: Indigenous peoples are engaged in conservation					
Performance indicators	**Target**	**Date to achieve target**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Percentage of Indigenous peoples engaged with ECCC who indicate that the engagement was meaningful	61%	April 2022	69%	64%	70%

Budgetary Financial Resources (dollars)

The following table shows, for Conserving Nature, budgetary spending for 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending [authorities used]	2021–22 Difference [actual minus planned]*
325,886,137	325,886,137	457,496,907	413,663,898	87,777,760

* The actual spending for 2021-22 is higher than the 2021-22 planned spending mainly due to new funding to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature and to implement natural climate solutions in Canada, offset by a decrease in the funding profile for the conservation of the Central Group of Southern Caribou in British Columbia and the impact assessment and regulatory system.

Human Resources (FTEs)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for 2021–22.

2021–22 Planned FTEs	2021–22 Actual FTES	2021–22 Difference [actual minus planned]
1,192	1,302	110

Financial, human resources and performance information for ECCC's program inventory is available in the GC InfoBase[ciii].

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[23] 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.

Predicting Weather and Environmental Conditions

Description[24]

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

Providing Canadians with environmental and weather information

In 2021–22, ECCC proudly marked the 150th anniversary of the Meteorological Service of Canada (MSC). As one of the nation's longest-standing government institutions, the Service has a long and proud history of serving Canadians with accurate and timely information on weather and environmental conditions to help them make decisions about their health, safety and economic well-being.

In January 2022, the Ministers of Innovation, Science and Industry, Natural Resources, and Environment and Climate Change released a national satellite Earth Observation strategy, titled: Resourceful, Resilient, Ready: Canada's Strategy for Satellite Earth Observation. Satellite data is a critical source of information to guide and support a variety of economic and public safety priorities such as agriculture, health, environmental protection, weather forecasting, security and emergency response. The strategy will guide actions to realize the benefits of investments in space technology and inspire the next generation of Canadians to pursue studies and careers that use earth observation skills.

High performance computing

Computing capacity and scientific innovation are critical to forecast future conditions across a country as vast and diverse in landscape and climate as Canada. Every day, ECCC uses a state-of-the-art High Performance Computing (HPC) system to bring together millions of observations about the atmosphere and environment from domestic and international partners. The HPC is thus the engine behind Canada's weather and environmental forecasts.

Following on the successful planned upgrade of the HPC in January 2020, innovations and improvements from several years of scientific research and prototyping were implemented in all of ECCC's weather and environmental prediction models (e.g., air quality, hydrology, ice-ocean, sea state) in 2021-22. In addition, data from Canada's upgraded radar network are now integrated in real-time into the Canadian national prediction system.

Digital Service Modernization
ECCC is working to expand its computing and analytical capacity with an upgrade to the High Performance Computer infrastructure that will support the evolving needs of the Department to provide accurate and timely information to Canadians. These upgrades are necessary to support the continued delivery level of weather services as demands evolve in the context of a changing climate.

[24] Predicting Weather and Environmental Conditions description is being updated to reflect the evolution of Canada's environmental policy landscape and the provision of recent authorities. Changes will only be reflected in 2023-24.

Altogether, these improvements allow ECCC to fully leverage the upgraded HPC infrastructure so that Canadians can benefit from world-class weather and environmental prediction services. Indeed, ECCC's global prediction model continues to rank among the top three models in the world for forecast accuracy over North America.

Helping Canadians prepare for high-impact weather events

ECCC's state-of-the-art weather forecasting, dissemination, and early warning systems continued to alert Canadians of approaching high impact weather such as severe storms, heatwaves, atmospheric rivers and hurricanes. Meteorologists continued to focus their attention on the storms that have the potential to affect Canada, such as the summer of 2021 heatwave and prolonged periods of heavy rain that affected two Canadian coasts in the fall of 2021, and issue warnings according to a weather event's path, location and intensity. In June 2021, a new warning capability was implemented to broadcast immediate (BI) severe thunderstorm warnings. This allows ECCC to notify the population of a given area on their cell phones of the possibility of a severe thunderstorm. Similar warnings are sent during weather events that may result in tornadoes.

The Department continued to provide interpretative and decision support services to provincial emergency management and public health organizations to ensure broad civil preparedness. Canadians had access to updated forecasts and warnings by visiting ECCC's weather web site[civ], subscribing to ECCC's hurricane e-bulletins[cv], accessing information through the WeatherCAN[cvi] app, and through local media outlets.

ECCC's WeatherCAN app, launched in February 2019, continues to provide access to live weather information and has been downloaded over one million times in its first year of availability. WeatherCAN provides easy-to-understand weather observations and forecasts for virtually every community in Canada, and its unique message centre is used to provide backgrounders and contextual information about weather and climate.

Since fall 2021, Canadians also have access to HELLO WEATHER, a 24/7 toll-free number (1-833-794-3556 (79HELLO) 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. ECCC continues to expand its social media presence and take advantage of Facebook and Twitter platforms to spread messages about the weather and get feedback from the Canadian population. The Twitter account has over 250 000 followers for auto-alerts of significant upcoming weather events.

Upgrades to weather radars and stations

Weather radars are the primary tool used by meteorologists to forecast short-term severe-weather events associated with thunderstorms, tornadoes, ice storms and blizzards. Equipped with state-of-the-art technologies and extended tornado-detection ranges, new radars will provide more frequent data updates and lead to the provision of services that give Canadians greater lead time to take shelter. ECCC remains on track to replace 31 outdated radars with new state-of-the-art radars across the country by 2024. The radar network includes a new training radar near Egbert, Ontario and will also be expanded by one new operational radar to be installed near Fort McMurray, Alberta. Of the 26 new radars installed to date, seven were installed in 2021–22. An additional six new radars will be installed in 2022-23.

Providing Vital Data

ECCC continued to deliver ice service information to the Canadian Coast Guard, as well as meteorological services and products to the Department of National Defence and NAV CANADA. These users depend on mission-critical weather and environmental information for their vital security, surveillance and emergency response operations year-round.

Modernizing nationwide water monitoring

In Budget 2018, the Department received an $89.7 million investment over five years to modernize Canada's water monitoring services. These funds support ongoing work with provinces and territories to generate more timely and accurate information on water flows and water levels across Canada's rivers and lakes, starting with five major basins in Canada (the Saskatchewan, Nelson, Mackenzie, Columbia and Churchill Rivers) and the Great Lakes and St. Lawrence River.

As a result, in 2021-22, the National Hydrological Service's (NHS) professional engineering and technical capacity has been strengthened and the national hydrometric network's stations and infrastructure are being modernized, with infrastructure improvements at over 300 sites. Since the start of the investment, over 200 hydrometric station infrastructure projects have been completed. Investments in innovation have resulted in the testing and application of new hydrometric technologies deployed at over 30 test sites across the country. NHS also developed hydrological prediction products and services that support existing mandates and responsibilities of both internal and external end-users. Among these, NHS has worked with the provinces and territories to launch the Community of Practice (CoP) on Operational Hydrological Prediction in Canada, which provides a structure for broad inter-jurisdictional collaboration and engagement among practitioners.

ECCC continued its co-management relationships with international water boards and committees, as outlined in an International Joint Commission (IJC) Memorandum of Understanding (MOU) and other interprovincial MOUs. ECCC provides data and technical, engineering and communication support to IJC boards and committees and takes part in a total of 17 IJC boards and committees and three (3) non-IJC international committees. Key accomplishments in 2021–22 include:

- collaboration on the completion of two IJC reference studies looking at the causes, impacts, risks, and mitigation associated with flooding in the Lake Champlain-Richelieu River and Souris River basins, including climate change
- the release for public comment of the IJC's Great Lakes-St. Lawrence River Adaptive Management Committee's report Expedited Review of Plan 2014, Phase 1: Informing Plan 2014 Deviation Decisions Under Extreme Conditions[cix].

International Joint Commission

the IJC continually prepares for a changing climate through existing tools and by tracking the science, including Intergovernmental Panel on Climate Change[cvii] reporting. ECCC supports several of the IJC boards (e.g. the St. Croix River and on Osoyoos Lake) to understand how climate change will impact their responsibilities, according to a new Climate Change Guidance Framework (CCGF) Highlights Report[cviii] issued by the IJC.

ECCC takes part in four (4) domestic water management boards, whose accomplishments in 2021-22 include:

- The Ottawa River Regulation Planning Board started to publish bi-monthly basin maps of the amount of water held in the snow cover compared to normal. In addition, the Committee published four bulletins to keep the public informed about basin conditions.
- The Lake of the Woods Control Board continued to regulate water levels and flow according to the treaty and legislation requirements through the most severe drought conditions since the 1930s.
- The Prairie Provinces Water Board (PPWB[cx]) 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 (MRBB[cxi]) 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.

Completing flood maps

ECCC continued to work with Natural Resources Canada (NRCan) and Public Safety Canada (PSC) to strengthen both policy and science related to flood mapping. Budget 2021 proposed to provide $63.8 million over three years, starting in 2021-22, to NRCan, ECCC, and PSC to work with provinces and territories to complete flood maps for higher-risk areas in Canada. With this funding, the Government of Canada's Flood Hazard Identification and Mapping Program will support the development of flood hazard maps for areas at higher risk of flooding, thereby making communities safer and more resilient. In 2021–22, ECCC also engaged with provinces and territories to inform flood mapping engineering methods and approaches to assess flood maps, and to support NRCan in advancing a national flood-mapping standard. ECCC is facilitating the creation of a national community of practice on flood mapping. Work to update the Federal Hydrologic and Hydraulic Procedures for Flood Hazard Delineation has also progressed as planned. In order to better align its alerting system, ECCC works with its partners to better understand risks and vulnerabilities in the coastal flooding zones.

An evaluation of the Weather Observations, Forecasts and Warnings[cxii] completed in 2021 led the program to begin improving services and supports for vulnerable and diverse populations, and to enhancing performance measurement.

Commitment to Experimentation: Upper Air Renewal II

ECCC continues to experiment with new sources of data that can build on and integrate into the upper air monitoring networks to improve weather warnings and forecasts for Canadians. The benefits of Aircraft Meteorological Data Relay (AMDAR) for weather prediction were confirmed and research was done on the use of LiDARs (instruments that use laser light to study the properties of the atmosphere) for improving short-term weather forecasts, particularly where there are gaps in the existing upper air monitoring network.

Gender-based analysis plus

ECCC continued delivering weather forecasts, warnings and expert advice to support the needs of Canadians, including those vulnerable to extreme weather and environmental events (such as floods). In Canada, vulnerable 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 a number of 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 application, 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 results of stakeholder engagement.

Key risks (mitigation)

The Department relies on its capital and technology infrastructure to achieve its mandate and deliver mission-critical services. This infrastructure required maintenance and ongoing investment to prevent the risk of rust-out, to ensure functionality in the face of changing and increasingly complex needs, and to withstand the impacts of climate change. To address these risks, ECCC continued to put in place approaches to enhance its capital planning by proactively identifying capital infrastructure deficits, determining critical infrastructure priorities and funding needs, and establishing robust principles to guide risk-based allocation decisions.

An increasing volume and complexity of internal and external information and data is required to sustain core operations and deliver world-class meteorological, environmental and hydrological information and timely services for Canadians. To address risks associated with the Department's ability to effectively access and manage this increased volume of information, ECCC leveraged scientific expertise, a leading-edge approach to data management and analysis, and innovative information techniques. This includes initiating in 2021 the preparations for a planned upgrade of the High Performance Computing (HPC) system with a goal to complete comprehensive testing in order to successfully transition to the new HPC systems for weather prediction operations in the summer of 2022. With frequent HPC upgrades comes longer and more difficult innovation cycles (the process by which the results of scientific research are integrated into operational weather and environmental prediction models), resulting in increased pressure on IT resources. This is being mitigated through working groups, enhanced governance, and securing expertise within ECCC. The Department also put in place new technologies to gather and analyze weather and water information including the installation of seven new radar systems in communities across Canada, four new automatic weather stations, as well as upgrades on thirty-five automatic weather stations and seventeen precipitation gauges. Together, these upgrades allowed ECCC to give Canadians greater lead-time to protect themselves and their property.

Finally, ECCC continued to implement a strategic approach aimed at enhancing data governance and transparency, empowering people to promote data culture through fostering and enabling data structure, and treating data as a strategic asset. This includes the continued provision of expert advice and recommendations to inter-jurisdictional and international water boards.

United Nations' 2030 Agenda and Sustainable Development Goals[cxiii]

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[cxiv]). 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[cxv]). 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[cxvi]). 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 and advances reconciliation with Indigenous peoples by fully respecting and protecting their rights. In 2021, the federal UN Declaration Act (UNDA) 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 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[cxvii].

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**	**2019–20 Actual result**	**2020–21 Actual result**	**2021–22 Actual result**
Index of the timeliness and accuracy of severe weather warnings on a scale of 0 to 10	At least 8.2 on a scale of 1 to 10	June 2023	8.8 (three-year rolling average 2017-19)	8.8 (three-year rolling average 2018-20)	8.8 (three-year rolling average 2019-21)
Percentage of Canadians that use ECCC information to address water-related impacts on health, safety, economy and environment[25]	80%	May 31, 2022	For annual reporting: 73% For reporting every 4 years: N/A	For annual reporting: 60% For reporting every 4 years: 19.1%	N/A[26] For reporting every 4 years: N/A

Budgetary Financial Resources (dollars)

The following table shows, for Predicting Weather and Environmental Conditions, budgetary spending for 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending [authorities used]	2021–22 Difference [actual minus planned]*
270,383,537	270,383,537	290,488,275	274,731,867	4,348,330

* The actual spending for 2021-22 is higher than the 2021-22 planned spending. This is mainly due to new funding to reduce Canada's greenhouse gas emissions, to increased payments for permanent salary expenditures and retroactive payments in 2021-22 following the ratification and signing of collective agreements, offset by a decrease of spending to adapt Canada's weather and water services to climate change and for the revitalization of Canada's weather services.

Human Resources (FTEs)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for 2021–22.

2021–22 Planned FTEs	2021–22 Actual FTES	2021–22 Difference [actual minus planned]
1,718	1,714	-4

Financial, human resources and performance information for the Environment and Climate Change Canada's Program Inventory is available in the GC's InfoBase[cxviii].

[25] The current indicator will be replaced with the following for 2022-23: Percentage of program partners rating their satisfaction with Environment and Climate Change Canada's hydrological services as 8 out of 10 or higher. This is a more meaningful annual performance indicator as it represents the actual user groups of the program.
[26] As this indicator presented measurement challenges, it was retired and actuals will be available for the replacement indicator in 2022-23.

Internal Services

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

ECCC's 2021–2024 Diversity, Inclusion and Employment Equity (DIEE) Strategy, 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*. The Department's Strategy includes a twenty-point action plan which sets out specific, bold and measurable actions to build a diverse and inclusive workforce by closing 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.

To support a diverse and inclusive workplace, ECCC supported Public Service Pride Week (August 2021). Moreover, ECCC supported employee network initiatives such as the promotion of Black History Month and the Emancipation Day, and the Learning Series on the Black Canadian Experience with Racism from the Black Employees Network (BEN). In addition, specific departmental messages addressing systemic racism and Canadian multiculturalism were sent out in collaboration with The Visible Minorities Network (VMN). ECCC created an assistant ombuds position within ECCC's Respect Bureau to support situations of racism within the Department and a specific departmental commitment was added in the renewed DIEE Strategy for senior management to hold discussions to address anti-racism and unconscious bias.

ECCC has worked toward implementing Action #57 of the Truth and Reconciliation Commission Calls to Action, which calls for cultural competency training and learning opportunities for public servants. Since 2017, ECCC has supported this Call to Action through the Indigenous Awareness team as part of Indigenous and Intergovernmental Affairs. This year, ECCC celebrated Indigenous Awareness Week, National Indigenous History Month, National Indigenous Peoples Day, National Day for Truth and Reconciliation, and numerous other distinction-based celebrations and days of commemoration.

ECCC continued to provide tools and advice to employees to support meaningful inclusion of Indigenous perspectives in the development of policies, programs and legislation, and in the delivery of ECCC evaluations. To facilitate the inclusion of Indigenous perspectives, ECCC's Practical Guide to Indigenous Consultation and Engagement was developed to provide culturally competent and legally sound policy advice to officials regarding consultation and engagement with First Nations, Inuit, and Métis partners.

In its ongoing effort to improve the workplace for employees, with respect as its foundation, ECCC held its 7th Annual Respect Day, which was inaugurated in 2015 as a direct result of ongoing collaboration

between departmental bargaining agents, employees and the employer. It aims to promote and build a healthy, inclusive and respectful workplace, where all employees feel comfortable sharing their views without fear of reprisal.

ECCC celebrated the Government-wide Gender-based Analysis Plus (GBA+) Awareness Week by supporting opportunities for employees to learn more about GBA+ and promoting GBA+ certification of employees.

ECCC's efforts align with an updated federal Greening Government Strategy[cxix] (March 2022), and with the government's commitment to lead by example by setting new targets for net zero, green and climate-resilient government operations. ECCC continued to pilot the use of the RETScreen Clean Energy Management Software to calculate and report on departmental GHG emissions, ahead of the 2025 target. ECCC also started to report on its non-hazardous operational waste (including plastic waste), water consumption, climate adaptation and resilience actions, and carbon offset credits purchased – all ahead of the 2023 target. In addition, ECCC continued to implement its Department Green Procurement Action Plan, which includes the development of an Advanced Green Procurement training course that will strengthen departmental support for green procurement and contracting responsibilities.

The Department continued to invest considerable effort in keeping employees informed of developments related to government-wide pay challenges. In 2021–22, the change management strategy that included updates to ECCC's Pay and Leave Guide, communications with key stakeholder groups as well as the use of self-service tools was implemented. As a result, the departmental level of awareness for timelines, documentation, and proactive steps to avoid pay issues have improved significantly.

Budgetary Financial Resources (dollars)

The following table shows, for internal services, budgetary spending for 2021–22, as well as spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending [authorities used]	2021–22 Difference [actual minus planned]*
205,816,512	205,816,512	264,930,521	263,049,348	57,232,836

* The actual spending for 2021-22 is higher than the 2021-22 planned spending, mostly due to an increase in information management/information technology spending in support of the department's digital modernization strategy. It is also due to increased spending related to the Pacific Environment Centre (PEC) for the Federal Contaminated Sites Action Plan and to increased payments for permanent salary expenditures and retroactive payments in 2021-22 following the ratification and signing of collective agreements.

Human Resources (FTEs)

The following table shows, in full time equivalents, the human resources the department needed to carry out its internal services for 2021–22.

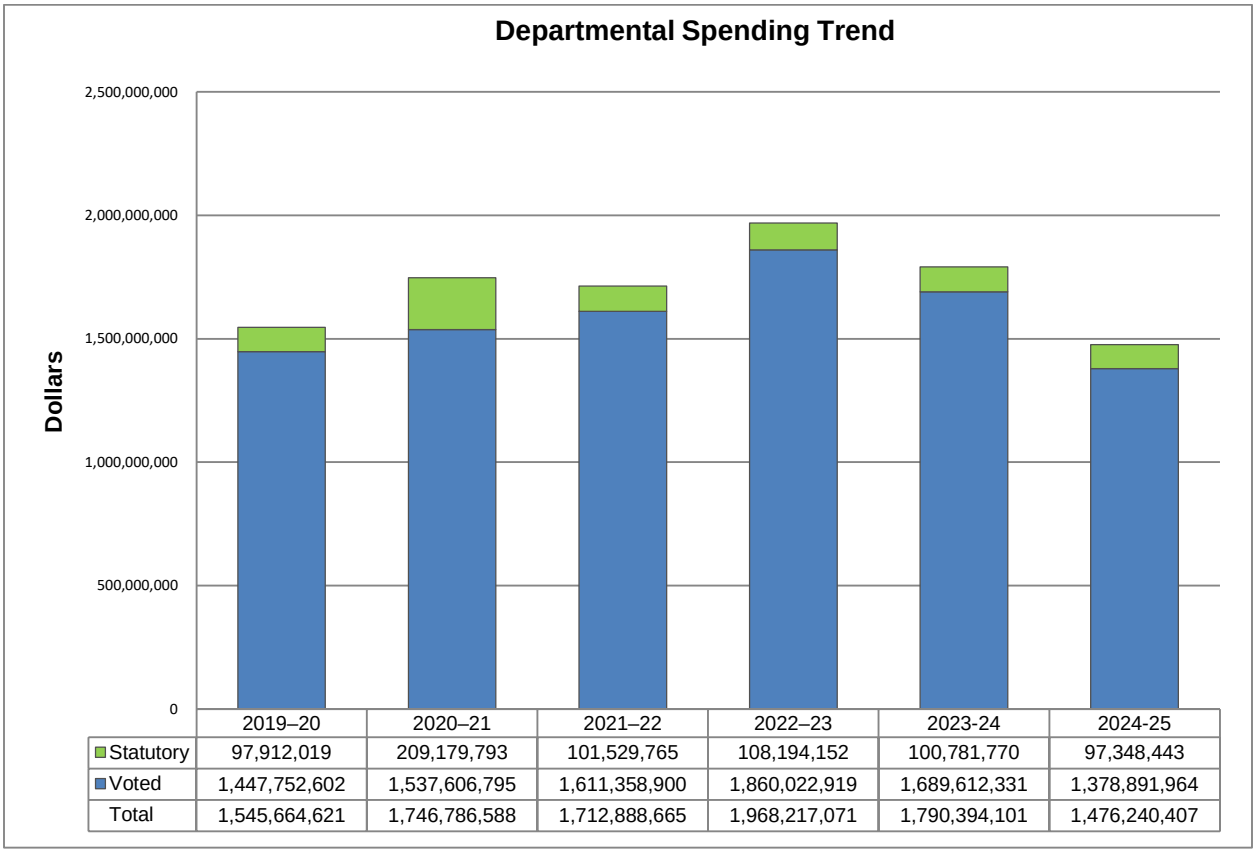
2021–22 Planned FTEs	2021–22 Actual FTES	2021–22 Difference [actual minus planned]
1,602	1,698	96

Spending and human resources

Spending

Spending 2018–19 to 2023–24

The following graph presents planned (voted and statutory spending) over time.



	2019–20	2020–21	2021–22	2022–23	2023-24	2024-25
Statutory	97,912,019	209,179,793	101,529,765	108,194,152	100,781,770	97,348,443
Voted	1,447,752,602	1,537,606,795	1,611,358,900	1,860,022,919	1,689,612,331	1,378,891,964
Total	1,545,664,621	1,746,786,588	1,712,888,665	1,968,217,071	1,790,394,101	1,476,240,407

Environment and Climate Change Canada's actual spending for 2021-22 was $1,712.9 million, a year-over-year decrease of $33.9 million (2 percent) from the 2020-21 actual spending. This decrease is mainly due to a reduction in the funding profile of activities related to temporary initiatives such as: the Climate Action Incentive Fund and the conservation of the Central Group of Southern Mountain Caribou in British Columbia. This decrease is partially offset by new funding received to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature, to implement natural climate solutions in Canada and for the Youth Employment and Skills Strategy.

See the 2020-21 Departmental Results Report[cxx] (DRR) for additional details on year-over-year actual spending variances between 2019-20 and 2020-21.

For 2022-23 to 2024-25, the figures represent total planned spending for the fiscal year, which reflects approved funding by Treasury Board, at the time of the 2022-23 Departmental Plan, to support the departmental core responsibilities. Overall, there is a decrease in planned spending over the 2022−23 to 2024−25 planning horizon presented in the summary table. This is the result of sunsetting 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 whose funding profile will decrease in 2023−24 include:

- the Protecting Canada's Nature, Parks and Wild Spaces initiative;
- the Low Carbon Economy Fund;
- initiatives associated with the revitalization of meteorological services; and
- the impact assessment and regulatory regime implementation.

Major initiatives whose funding profile will decrease in 2024–25 include:

- the Low Carbon Economy Fund;
- the Canada's chemicals management regime;
- strong arctic and northern communities;
- the Trans Mountain expansion pipeline;
- the Federal Contaminated Sites Action Plan; and
- initiatives associated with the revitalization of meteorological services.

See the 2022-23 Departmental Plan[cxxi] (DP) for additional details on year-over-year planned spending variances between 2022-23 and 2024-25.

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	2021–22 Main Estimates	2021–22 Planned Spending	2022–23 Planned Spending	2023–24 Planned Spending	2021–22 Total Authorities Available for Use	2021–22 Actual Spending (authorities used)	2020–21 Actual Spending (authorities used)	2019–20 Actual Spending (authorities used)
Taking action on Clean Growth and Climate Change	540,359,130	540,359,130	478,116,465	445,367,740	586,980,025	391,473,954	495,862,449	381,382,505
Preventing and Managing Pollution	356,702,104	356,702,104	379,219,765	362,762,938	428,022,534	370,747,565	360,265,374	380,061,047
Conserving Nature	325,886,137	325,886,137	609,338,156	547,017,840	457,496,907	293,277,471	366,851,749	413,663,898
Predicting Weather and Environmental Conditions	270,383,537	270,383,537	281,875,508	226,002,859	290,488,275	260,270,783	252,729,020	274,731,867
Subtotal	**1,493,330,908**	**1,493,330,908**	**1,748,549,894**	**1,581,151,377**	**1,762,987,741**	**1,315,769,773**	**1,475,708,592**	**1,449,839,317**
Internal Services	205,816,512	205,816,512	219,667,177	209,242,724	264,930,521	229,894,848	271,077,996	263,049,348
Total	**1,699,147,420**	**1,699,147,420**	**1,968,217,071**	**1,790,394,101**	**2,027,918,262**	**1,545,664,621**	**1,746,786,588**	**1,712,888,665**

The 2021-22 planned spending figures in the Departmental Results Report reflect those that had been published in the 2021-22 DP. It was tabled in Parliament prior to Budget 2022 and therefore does not reflect new funding announced in the Budget.

The 2021-22 Total authorities available for use includes all items approved through the Estimates processes for fiscal year 2021-22. The overall variance of $328.8 million between the 2021-22 Total authorities available for use ($2,027.9 million) and the 2021-22 planned spending ($1,699.1 million) is mainly attributed to the following:

- An increase in authorities to the following initiatives:
    - Conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature;
    - Implement natural climate solutions in Canada;
    - Youth Employment and Skills Strategy to support students and help youth people;
    - Canada's chemicals management regime; and
    - Reduce greenhouse gas emissions in the transportation and methane waste sectors.
- Operating and Capital Budget Carry Forwards from 2020-21.

The overall $315.0 million variance between the 2021-22 Total authorities available for use ($2,027.9 million) and 2021-22 actual spending ($1,712.9 million) is mostly explained by the following:

- A surplus of funds for the Low Carbon Economy Fund, as the Provinces and Territories have been delayed in submitting proposals to access the funding notionally allocated to them. Therefore, less spending than anticipated occurred in 2021-22; a reprofile of funds is being requested to bring funding into future years.

- Additional surplus of funds are being requested to be moved into future years for Enhanced Nature Legacy, Revitalize Canada's Weather Radar Network, Canada Water Agency, Federal Contaminated Sites Action Plan, Trans Mountain Expansion Project, and Net Zero Advisory Body.

- Unspent funds in the Operating and Capital vote being carried forward to 2022-23 to provide the department with the additional flexibility it requires to fund pressures and address strategic investments.

The overall $33.9 million decrease between the 2020-21 actual spending of $1,746.8 million and the 2021-22 actual spending of $1,712.9 million is mainly due to the following variances in funding:

- Taking action on Clean Growth and Climate Change: The actual spending for 2021-22 is lower than the actual spending for 2020-21 mainly due to the sunsetting of the Climate Action Incentive Fund, and a reduction for the Low Carbon Economy Fund (LCEF), and the Assessed contribution to the Commission for Environmental Cooperation (CEC).

- Preventing and Managing Pollution: The actual spending for 2021-22 is higher than the actual spending for 2020-21 mainly due to new funding for the Youth Employment and Skills Strategy to support students and youth people, and to address air pollution. This is offset by decreased spending related to Canada's chemicals management regime, for the repairs of machinery and equipment, and for engineering and architectural services.

- Conserving Nature: The actual spending for 2021-22 is higher than the actual spending for 2020-21 mainly due to new funding received to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature, and to implement natural climate solutions in Canada. This is offset by decreased spending for the conservation of the Central Group of Southern Mountain Caribou in British Columbia.

- Predicting Weather and Environmental Conditions: The actual spending for 2021-22 is higher than the actual spending for 2020-21 mainly due to increased spending for the informatics technology services and engineering consultants, Assessed contribution to the World Meteorological Organization (WMO), funding for strong arctic and northern communities – Eureka weather station refurbishment, and the revitalization of Canada's weather services.

- Internal Services: The actual spending for 2021-22 is lower than the actual spending for 2020-21 mainly due to a decrease in legal expenditures and rental of land for the lease of the Pacific Environment Center Site related to the Federal Contaminated Sites Action Plan, offset by an increase for the Advertising - Nature Legacy Campaign.

2021–22 Budgetary actual gross spending summary (dollars)

The following table reconciles gross planned spending with net spending for 2021–22.

Core Responsibilities and Internal Services	2021–22 Actual gross spending	2021–22 Actual gross spending for specified purpose accounts	2021–22 Actual revenues netted against expenditures	2021–22 Actual net spending (authorities used)
Taking action on Clean Growth and Climate Change	381,382,505	0	0	381,382,505
Preventing and Managing Pollution	391,059,062	0	10,998,015	380,061,047
Conserving Nature	416,669,729	0	3,005,831	413,663,898
Predicting Weather and Environmental Conditions	323,677,660	0	48,945,793	274,731,867
Subtotal	**1,512,788,956**	**0**	**62,949,639**	**1,449,839,317**
Internal Services	264,089,404	0	1,040,056	263,049,348
Total	**1,776,878,360**	**0**	**63,989,695**	**1,712,888,665**

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

- Provinces who receive water quantity monitoring services (Hydrometric);
- NavCan to whom ECCC provides aviation weather services;
- Third parties to whom ECCC provide rental of non-research facilities and scientific and analytical projects;
- Department of National Defense who receive detailed weather services in support of its military operations;
- Canadian Association of Petroleum Producers who fund the Joint Canada-Alberta implementation Plan for Oil Sands;
- Canadian Coast Guard, who receive marine and ice monitoring forecasts and services; and
- Third parties to whom ECCC provides a permit 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	2019–20 Actual full-time equivalents	2020–21 Actual full-time equivalents	2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2022–23 Planned full-time equivalents	2023–24 Planned full-time equivalents.
Taking action on Clean Growth and Climate Change	593	611	570	744	897	896
Preventing and Managing Pollution	2,293	2,232	2,089	2,229	2,220	2,178
Conserving Nature	1,176	1,197	1,192	1,302	1,477	1,304
Predicting Weather and Environmental Conditions	1,706	1,700	1,718	1,714	1,711	1,572
Subtotal	**5,768**	**5,740**	**5,569**	**5,990**	**6,305**	**5,950**
Internal Services	1,645	1,604	1,602	1,698	1,726	1,670
Total	**7,413**	**7,344**	**7,171**	**7,687**	**8,031**	**7,620**

The variance between actual and planned full-time equivalents (FTE) for 2021-22 is mainly due to an increase in salary authorities approved during the fiscal year to continue Canada's chemicals management regime, to support climate change policy capacity, to conserve Canada's land and freshwater, protect species, advance Indigenous reconciliation and increase access to nature, to establish the Canada Water Agency Transition Office, to reduce greenhouse gas emissions in the transportation and methane waste sectors and for the carbon pollution pricing proceeds return. The planned spending presented in the DP 2021-22 did not include the planned FTEs for these initiatives.

Expenditures by vote

For information on Environment and Climate Change Canada's organizational votes and statutory expenditures, please consult the Public Accounts of Canada 2021–22[cxxii].

Government of Canada spending and activities

Information on the alignment of Environment and Climate Change Canada's spending with the Government of Canada's spending and activities is available on the GC InfoBase[cxxiii].

Financial Statements and Financial Statements Highlights

Financial Statements

Environment and Climate Change Canada's (ECCC) unaudited financial Statements for the year ended March 31, 2022, are available on ECCC's transparency page[cxxiv].

Financial Statements Highlights

Condensed Statement of Operations (unaudited) for the year ended March 31, 2022 (dollars)

Financial Information	2021–22 Planned Results	2021–22 Actual	2020–21 Actual	Difference (2021–22 actual minus 2021–22 planned)	Difference (2021–22 actual minus 2020–21 actual)
Total expenses	1,811,536,412	1,801,920,205	1,885,234,296	-9,616,207	-83,314,091
Total revenues	92,001,274	89,206,854	131,984,988	-2,794,420	-42,778,134
Net cost of operations before government funding and transfers	1,719,535,138	1,712,713,351	1,753,249,308	-6,821,787	-40,535,957

ECCC's 2021–22 Future-Oriented Statement of Operations are available on ECCC's transparency page[cxxv].

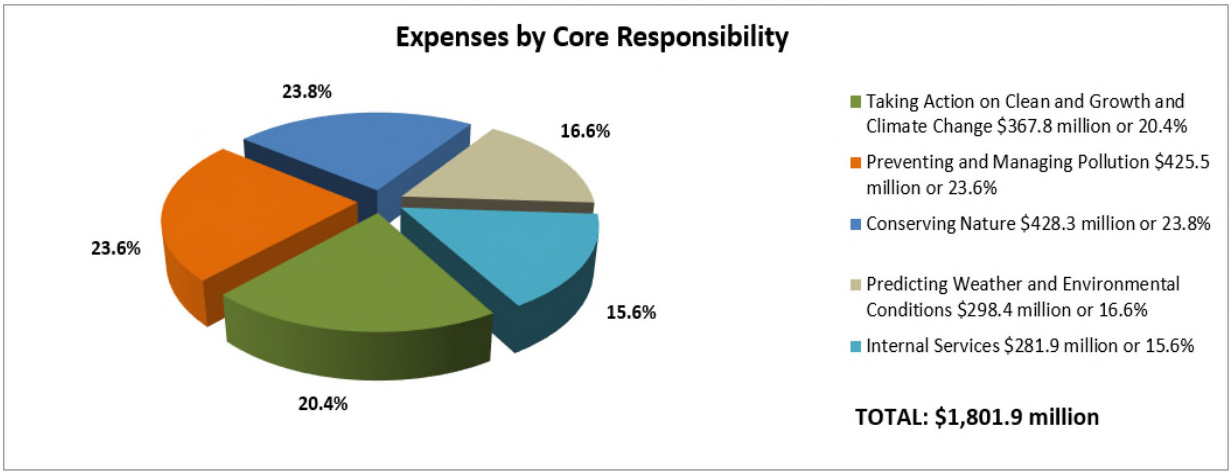
Expenses by Core Responsibility

Total departmental expenses by Core Responsibility amounted to $1,801.9 million for 2021-22 ($1,885.2 million for 2020-21). The decrease of $83.3 million or 4.4 percent in Environment and Climate Change Canada's expenses is mainly attributable to:

- a decrease in Grants and Contributions spending for temporary initiatives such as the Climate Action Incentive Fund, Southern Mountain Caribou and Low Carbon Economy Fund (LCEF).

offset by:

- an increase in Grants and Contributions spending for temporary initiatives such as the Enhanced Nature Legacy, the Natural Climate Solutions in Canada and the Youth Employment and Skills Strategy; and,
- an increase in spending from the Environmental Damages Fund stemming from the Volkswagen AG fine received in 2019-20.



See Note 16 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 $89.2 million for 2021-22 ($132.0 million for 2020-21). This amount excludes $244.7 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 decrease in Environment and Climate Change Canada's revenue is mainly attributable to:

- a $58.0M fine in 2020-21 to Teck Coal Limited for unlawfully depositing a deleterious substance into water frequented by fish.

offset by:

- new fines received in 2021-22 under the Environmental Damages Fund; and
- an increase in the amount invoiced as part of the Joint Canada-Alberta implementation Plan for Oil Sands monitoring.

Condensed Statement of Financial Position (unaudited) as of March 31, 2022 (dollars)

Financial Information	2021–22	2020–21	Difference (2021–22 minus 2020–21)
Total net liabilities	986,819,932	1,016,348,122	-29,528,190
Total net financial assets	643,854,222	635,110,201	8,744,021
Departmental net debt	342,965,710	381,237,921	-38,272,211
Total non-financial assets	612,339,058	558,797,073	53,541,985
Departmental net financial position	269,373,348	177,559,152	91,814,196

Liabilities by Type

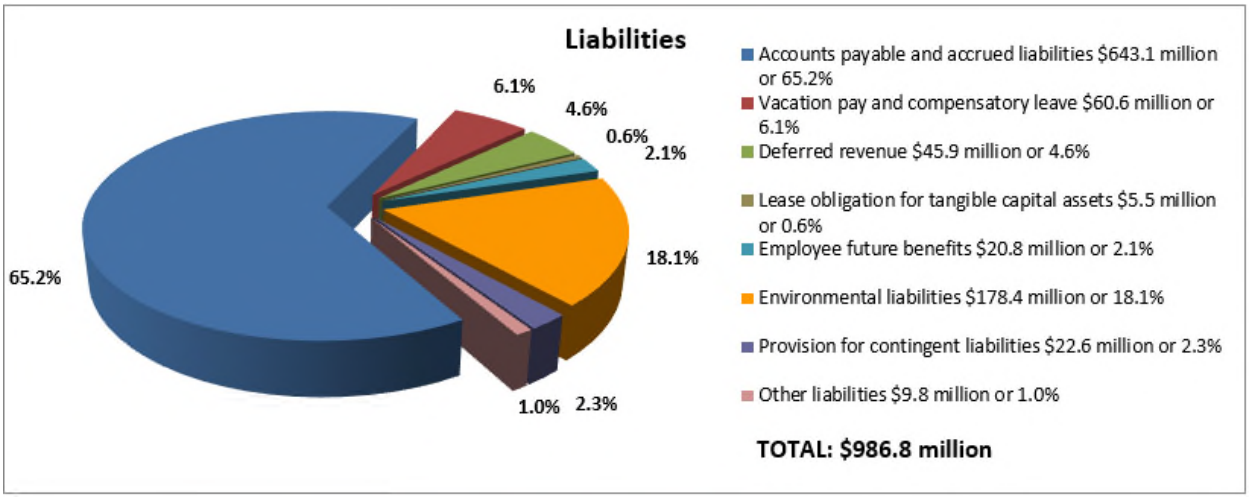
Total liabilities were $986.8 million at the end of 2021-22. This represents a decrease of $29.5 million or 2.9 percent from the previous year's total liabilities of $1,016.3 million. The accounts payable and accrued liabilities ($643.1 million) and the environmental liabilities ($178.4 million) are the largest components of liabilities in 2021-22 and represent 83.2 percent of total liabilities.

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

- a decrease in environmental liabilities mostly related to the Pacific Environmental Centre (PEC);
- a decrease in accounts payable and accrued liabilities mostly resulting from a decrease in payables at year-end in other government departments; and
- a decrease in vacation pay due to the mandatory leave cash-out implementation;

offset by:

- an increase in other liabilities mainly due to the increase in Grants and Contributions holdback.



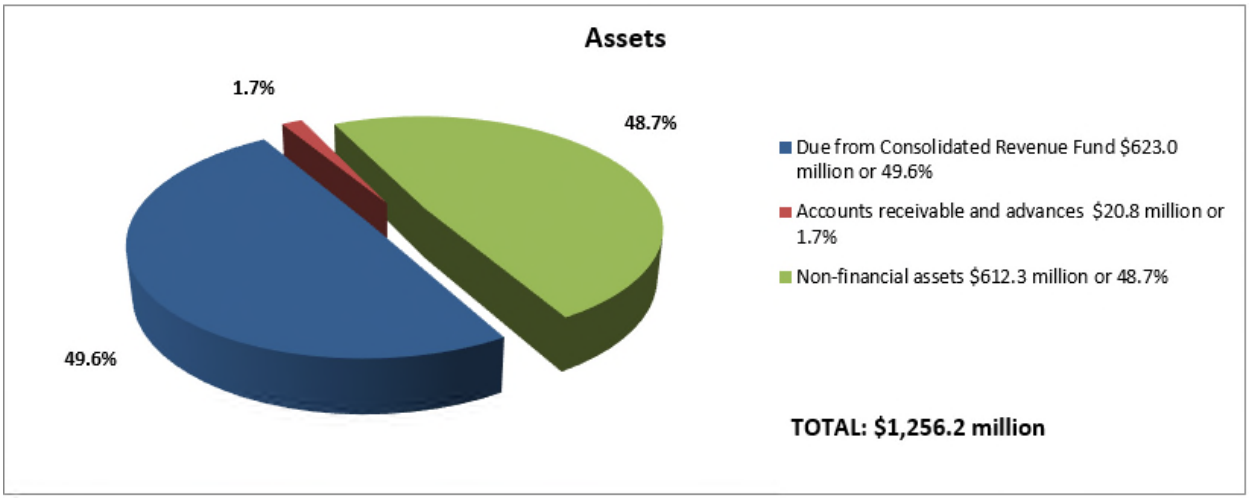
See Notes 4 to 8 and Notes 12 and 13 of the Departmental Financial Statements for more details – Accounts payable and accrued liabilities; Environmental liabilities; Deferred revenue; Lease obligation for tangible capital assets; Employee future benefits; Contractual obligations and contractual rights; Contingent liabilities and contingent assets.

Assets by Type

Total net financial assets ($643.9 million) and non-financial assets ($612.3 million) of $1,256.2 million have increased by $62.3 million or 5.2 percent in 2021-22. The amount due from the Consolidated Revenue Fund represents the largest component of assets at $623.0 million (49.6 percent of total assets) in 2021-22.

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

- an increase in the non-financial asset primarily due to an increase in tangible capital assets; and
- an increase in the financial asset due to external accounts receivable.



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: T. Christine Hogan
Ministerial portfolio: Environment and Climate Change Canada

Enabling instruments:

- *Department of the Environment Act, 1971*[cxxvi]
- *Canadian Environmental Protection Act, 1999*[cxxvii]
- *Fisheries Act, 1985* [cxxviii](administration and enforcement of the Pollution Prevention Provisions)
- *Greenhouse Gas Pollution Pricing Act, 2018*[cxxix] (joint responsibility with Finance Canada)
- *Species at Risk Act, 2004*[cxxx]
- *Manganese-based Fuel Additives Act, 1997*[cxxxi]
- *Antarctic Environmental Protection Act, 2003*[cxxxii]
- *Perfluorooctane Sulfonate Virtual Elimination Act, 2008*[cxxxiii]
- *Canada Wildlife Act, 1985*[cxxxiv]
- *Migratory Birds Convention Act, 1994*[cxxxv]
- *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act, 1992*[cxxxvi]
- *National Wildlife Week Act, 1985*[cxxxvii]
- *Canada Water Act, 1985*[cxxxviii]
- *International River Improvements Act,1985*[cxxxix]
- *Lake of the Woods Control Board Act, 1921*[cxl]
- *Canada Emission Reduction Incentives Agency Act, 2005*[cxli]
- *Weather Modification Information Act, 1985*[cxlii]
- *Canadian Environmental Week Act, 1985*[cxliii]
- *Environmental Enforcement Act, 2010*[cxliv]
- *Environmental Violations Administrative Monetary Penalties Act, 2009*[cxlv]
- *Federal Sustainable Development Act, 2008*[cxlvi]
- *National Strategy for Safe and Environmentally Sound Disposal of Lamps Containing Mercury Act, 2017*[cxlvii]
- *Arctic Waters Pollution Prevention Act, 1985*[cxlviii]
- *Bridge to Strengthen Trade Act, 2012*[cxlix]
- *Canada Foundation for Sustainable Development Technology Act, 2001*[cl]
- *Canada Oil and Gas Operations Act, 1985*[cli]
- *Canada-Newfoundland Atlantic Accord Implementation Act, 1987*[clii]
- *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, 1988*[cliii]
- *Energy Supplies Emergency Act, 1985*[cliv]
- *Income Tax Act, 1985*[clv]
- *Marine Liability Act, 2001*[clvi]
- *Nunavut Planning and Project Assessment Act, 2013*[clvii]
- *Resources and Technical Surveys Act, 1985*[clviii]
- *Yukon Environmental and Socio-economic Assessment Act, 2003*[clix]

Year of incorporation/commencement: 1971

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

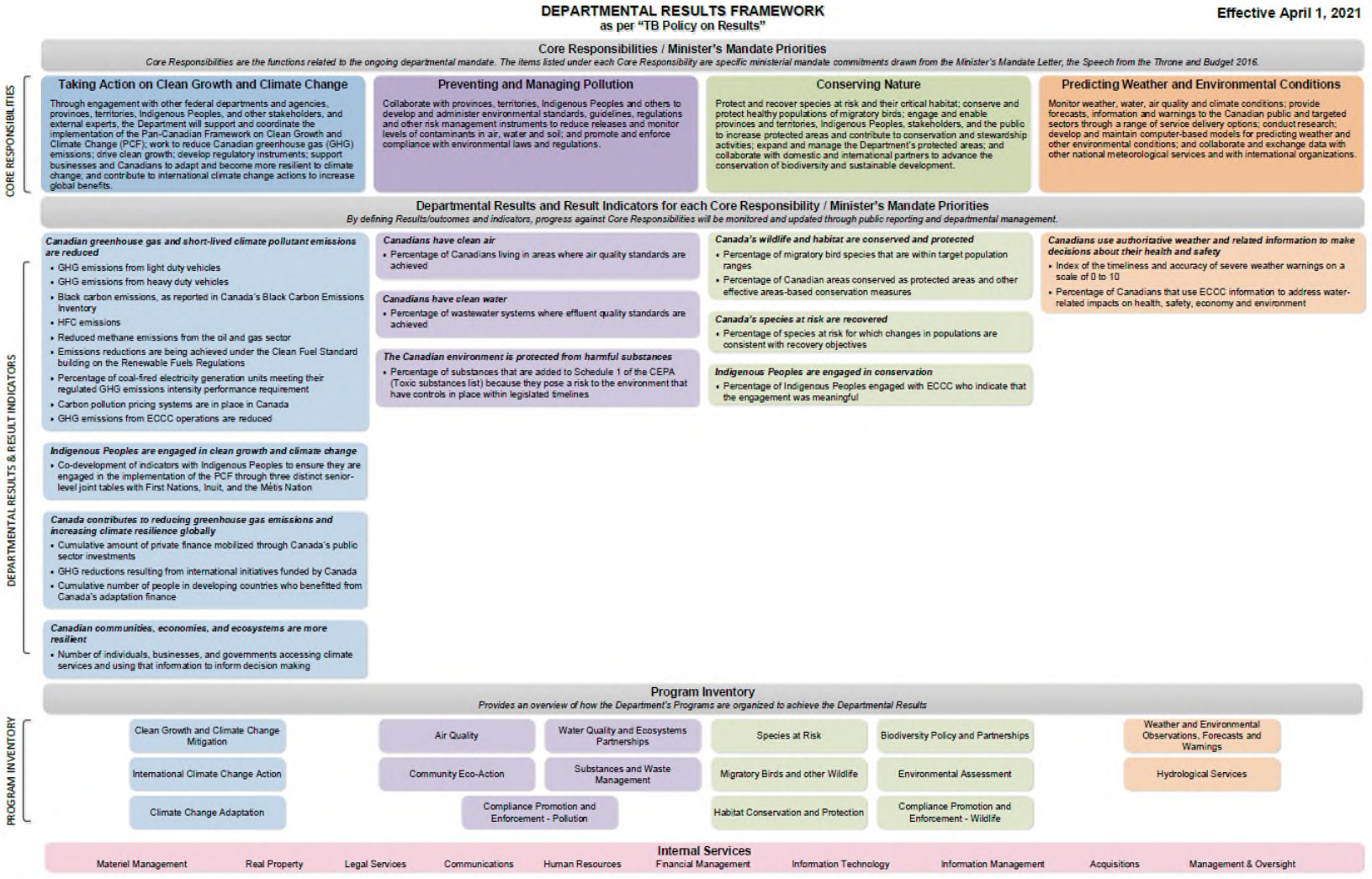
"Raison d'être, mandate and role: who we are and what we do" is available on Environment and Climate Change Canada's website[clx].

Operating context

Information on the operating context is available on Environment and Climate Change's website[clxi].

Reporting framework

Environment and Climate Change Canada's Departmental Results Framework and Program Inventory of record for 2021–22 are shown below.



Supporting information on Program Inventory

Financial, human resources and performance information for Environment and Climate Change Canada's Program Inventory is available in the GC InfoBase[clxii].

Supplementary information tables

The following supplementary information tables are available on Environment and Climate Change Canada's website[clxiii].

- Details on Transfer Payment Programs
- Gender-based analysis plus;
- Horizontal initiatives;
- Response to parliamentary committees and external audits; and
- Up-front multi-year Funding.

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 Federal Tax Expenditures[clxiv]. 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
Inquiry Centre
Tel.: 1-800-668-6767 (in Canada only) or 819-938-3860
Email: enviroinfo@ec.gc.ca

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 conducting 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 2021–22 Departmental Results Report, government-wide priorities refers to those high-level themes outlining the government's agenda in the 2020 Speech from the Throne, namely: Protecting Canadians from COVID-19; Helping Canadians through the pandemic; Building back better – a resiliency agenda for the middle class; The Canada we're fighting for.

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.

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] Paris Agreement: unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
[ii] 2030 Emissions Reduction Plan: www.canada.ca/en/environment-climate-change/news/2022/03/2030-emissions-reduction-plan--canadas-next-steps-for-clean-air-and-a-strong-economy.html
[iii] Climatedata.ca: climatedata.ca/
[iv] Canada's Nature Legacy: www.canada.ca/en/services/environment/conservation/nature-legacy.htm
[v] Enhanced Nature Legacy : www.canada.ca/en/environment-climate-change/services/sustainable-development/strategic-environmental-assessment/public-statements/enhanced-nature-legacy.html
[vi] Canada's Greenhouse Gas (GHG) Offset Credit System: www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system/federal-greenhouse-gas-offset-system.html
[vii] discussion paper: www.canada.ca/en/services/environment/weather/climatechange/climate-plan/oil-gas-emissions-cap/options-discussion-paper.html
[viii] OBPS Proceeds Fund : www.canada.ca/en/environment-climate-change/services/climate-change/carbon-pollution-pricing-proceeds-programming/output-based-pricing-system-proceeds-fund.html
[ix] Price on carbon pollution: www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/putting-price-on-carbon-pollution.html
[x] Adapting to the Impacts of Climate Change in Canada: an update on the National Adaptation Strategy: www.canada.ca/en/services/environment/weather/climatechange/climate-plan/national-adaptation-strategy/report-1.html
[xi] Low Carbon Economy Fund: www.canada.ca/en/environment-climate-change/services/climate-change/low-carbon-economy-fund.html
[xii] Climate Action and Awareness Fund: www.canada.ca/en/services/environment/weather/climatechange/funding-programs/climate-action-awareness-fund.html
[xiii] Strategy on Short-lived climate pollutants: www.canada.ca/en/services/environment/weather/climatechange/climate-action/short-lived-climate-pollutants.html
[xiv] Mid-term evaluation of Canada's light-duty vehicle regulations: www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/mid-term-evaluation-automobile-light-truck-emission.html
[xv] ClimateData.ca: https://climatedata.ca/
[xvi] Climate-related resources for local governments page: www.canada.ca/en/environment-climate-change/services/climate-change/canadian-centre-climate-services/local-government-resources.html
[xvii] Development of climate resilient standards and codes: www.canada.ca/en/environment-climate-change/services/climate-change/canadian-centre-climate-services/basics/developing-climate-resilient-standards-codes.html
[xviii] CLIMAtlantic: climatlantic.ca/
[xix] Climate and Clean Air Coalition (CCAC) Trust Fund: https://climate-change.canada.ca/finance/details.aspx?id=1524
[xx] Climate Risk Early Warning Systems (CREWS): https://climate-change.canada.ca/finance/details.aspx?id=1525
[xxi] Support NDC Implementation in Mexico – Oil and Gas Sector: https://climate-change.canada.ca/finance/details.aspx?id=2570
[xxii] Support NDC implementation in Viet Nam – Waste Sector: https://climate-change.canada.ca/finance/details.aspx?id=2573
[xxiii] Canada's International Climate Finance: www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/climate-finance.html
[xxiv] Program of Applied Research on Climate Action: impact.canada.ca/en/behavioural-science/parca
[xxv] Publication of GBA Plus: https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/healthy-environment-healthy-economy/annex-gender-based-analysis-plus.html
[xxvi] Carbon Pollution Pricing: Considerations for Facilitating Indigenous Participation in the Federal GHG Offset System: www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system/federal-greenhouse-gas-offset-system/considerations-indigenous-participation.html
[xxvii] Sustainable Development Goals: https://www.un.org/sustainabledevelopment/sustainable-development-goals/
[xxviii] 2019-2022 Federal Sustainable Development Strategy: https://2019-2022.fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf
[xxix] Goal 7: https://www.un.org/sustainabledevelopment/energy/
[xxx] Goal 13: https://www.un.org/sustainabledevelopment/climate-change/
[xxxi] Goal 8: www.un.org/sustainabledevelopment/economic-growth/
[xxxii] Goal 11: www.un.org/sustainabledevelopment/cities/
[xxxiii] Goal 9: www.un.org/sustainabledevelopment/infrastructure-industrialization/
[xxxiv] Goal 12: www.un.org/sustainabledevelopment/sustainable-consumption-production/

[xxxv] climate finance commitment: www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/climate-finance.html
[xxxvi] Goal 17: www.un.org/sustainabledevelopment/globalpartnerships/
[xxxvii] Feminist International Assistance Policy: www.international.gc.ca/world-monde/issues_development-enjeux_developpement/priorities-priorites/policy-politique.aspx?lang=eng
[xxxviii] 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
[xxxix] GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
[xl] Ocean Plastics Charter: www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-organizations/ocean-plastics-charter.html
[xli] One Ocean Summit: www.oneplanetsummit.fr/en/events-16/one-ocean-summit-221
[xlii] New Plastics Economy Global Commitment: ellenmacarthurfoundation.org/global-commitment/overview
[xliii] Blue Economy Strategy: www.dfo-mpo.gc.ca/campaign-campagne/bes-seb/index-eng.html
[xliv] Canada-wide Strategy on Zero Plastic Waste: ccme.ca/en/res/strategyonzeroplasticwaste.pdf
[xlv] The Science Assessment of Plastic Pollution: www.canada.ca/content/dam/eccc/documents/pdf/pded/plastic-pollution/Science%20Assessment%20Plastic%20Pollution.pdf
[xlvi] Single-Use Plastics Prohibition Regulations: www.gazette.gc.ca/rp-pr/p1/2021/2021-12-25/html/reg2-eng.html
[xlvii] Guidance for Selecting Alternatives to the Single-Use Plastics in the Proposed Single-Use Plastics Prohibition Regulations: www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/consultations/proposed-single-use-plastics-prohibition-regulations-consultation-document.html
[xlviii] Proposed integrated management approach to plastic products: www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/plastics-proposed-integrated-management-approach.html
[xlix] Notice of Intent: www.gazette.gc.ca/rp-pr/p1/2022/2022-02-12/html/notice-avis-eng.html
[l] Technical issues paper: www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/technical-issues-paper-recycled-content-plastic-manufactured-regulations.html
[li] Commission for Environmental Cooperation: www.cec.org/
[lii] World Circular Economy Forum 2021: www.canada.ca/en/services/environment/conservation/sustainability/circular-economy/world-forum-2021.html
[liii] WCEF2021: www.sitra.fi/app/uploads/2021/10/8017-wcef_finalreport_en.pdf
[liv] Oceans Protection Plan: www.canada.ca/en/transport-canada/news/2017/10/the_oceans_protectionplan.html
[lv] Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health: www.ontario.ca/document/canada-ontario-great-lakes-agreement
[lvi] six historically degraded areas: www.ontario.ca/page/summary-canada-ontario-great-lakes-agreement#aoc-map
[lvii] Great Lakes Protection Initiative: www.canada.ca/en/environment-climate-change/services/great-lakes-protection.html
[lviii] evaluation of the Great Lakes Protection Initiative: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/evaluations/freshwater-action-plan-great-lakes.html
[lix] evaluation of Lake Winnipeg Basin Program: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/evaluations/freshwater-action-plan-lake-winnipeg-basin.html
[lx] What We Heard: www.canada.ca/en/environment-climate-change/services/water-overview/protecting-freshwater/canada-water-agency-stakeholder-public-engagement-what-we-heard.html
[lxi] Chemicals Management Plan: www.canada.ca/en/health-canada/services/chemical-substances/chemicals-management-plan.html
[lxii] Evaluation of the CMP: www.canada.ca/en/health-canada/corporate/transparency/corporate-management-reporting/evaluation/chemical-management-plan.html
[lxiii] Pollutants Affecting Whales and their Prey Inventory Tool: www.canada.ca/en/environment-climate-change/services/wildlife-habitat/conservation-funding-success-stories/reducing-contaminants-threat-southern-resident-killer-whales/polluant-affecting-whales-prey-tool.html
[lxiv] Canadian Council of Ministers of the Environment: www.ccme.ca/en/air-quality-report
[lxv] Air Quality Health Index: www.canada.ca/en/environment-climate-change/services/air-quality-health-index.html
[lxvi] Air Pollutant Emissions Inventory: open.canada.ca/data/en/dataset/fa1c88a8-bf78-4fcb-9c1e-2a5534b92131
[lxvii] Gothenburg Protocol: www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-organizations/gothenburg-protocol-air-pollution.html
[lxviii] Volatile Organic Compound Concentration Limits for Certain Products Regulations: canadagazette.gc.ca/rp-pr/p2/2022/2022-01-05/html/sor-dors268-eng.html
[lxix] Progress Report on the 2019-2022 Federal Sustainable Development Strategy: publications.gc.ca/site/archivee-archived.html?url=https://publications.gc.ca/collections/collection_2021/eccc/En1-46-2021-eng.pdf

[lxx] 2022-2026 Federal Sustainable Development Strategy: www.fsds-sfdd.ca/
[lxxi] Canadian Environmental Sustainability Indicators: www.canada.ca/en/environment-climate-change/services/environmental-indicators.html
[lxxii] Press release: www.canada.ca/en/environment-climate-change/news/2022/03/launching-consultations-on-mandatory-labelling-for-chemicals-in-consumer-products-like-cosmetics-and-cleaning-products-and-better-supply-chain-tran.html
[lxxiii] Notice: www.canada.ca/en/services/environment/pollution-waste-management/managing-substances-environment/supply-chain-transparency-labelling-consultations/notice-to-interested-parties.html
[lxxiv] Consulting with Canadians: www.canada.ca/en/services/environment/pollution-waste-management/managing-substances-environment/supply-chain-transparency-labelling-consultations.html
[lxxv] Chemsubs websites: www.canada.ca/en/health-canada/services/chemical-substances/consulting-future-chemicals-management-canada.html
[lxxvi] Technical issues paper: Recycled content for certain plastic manufactured items Regulations: www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/technical-issues-paper-recycled-content-plastic-manufactured-regulations.html
[lxxvii] Sustainable Development Goals: www.un.org/sustainabledevelopment/sustainable-development-goals/
[lxxviii] Goal 3: www.un.org/sustainabledevelopment/health/
[lxxix] Goal 6: www.un.org/sustainabledevelopment/water-and-sanitation/
[lxxx] Goal 12: www.un.org/sustainabledevelopment/sustainable-consumption-production/
[lxxxi] Goal 13: www.un.org/sustainabledevelopment/climate-change/
[lxxxii] Goal 14: www.un.org/sustainabledevelopment/oceans/
[lxxxiii] Goal 8: www.un.org/sustainabledevelopment/economic-growth/
[lxxxiv] Goal 9: www.un.org/sustainabledevelopment/infrastructure-industrialization/
[lxxxv] Goal 11: www.un.org/sustainabledevelopment/cities/
[lxxxvi] Goal 15: sustainabledevelopment.un.org/sdg15
[lxxxvii] Goal 17: www.un.org/sustainabledevelopment/globalpartnerships/
[lxxxviii] 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
[lxxxix] GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
[xc] Canada's Nature Legacy: www.canada.ca/en/services/environment/conservation/nature-legacy.htm
[xci] Enhanced Nature Legacy: www.canada.ca/en/environment-climate-change/services/sustainable-development/strategic-environmental-assessment/public-statements/enhanced-nature-legacy.html
[xcii] evaluation of the Canada Nature Fund: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/evaluations/canada-nature-fund.html
[xciii] Nature Legacy for Canada Initiative: www.canada.ca/en/services/environment/conservation/nature-legacy.html
[xciv] Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada for priority places, species, sectors and threats: www.canada.ca/en/services/environment/wildlife-plants-species/species-risk/pan-canadian-approach.html
[xcv] SARA: www.laws-lois.justice.gc.ca/eng/acts/S-15.3/
[xcvi] Sustainable Development Goals: www.un.org/sustainabledevelopment/sustainable-development-goals/
[xcvii] Enhanced Nature Legacy initiative: www.canada.ca/en/environment-climate-change/services/sustainable-development/strategic-environmental-assessment/public-statements/enhanced-nature-legacy.html
[xcviii] Goal 11: www.un.org/sustainabledevelopment/cities/
[xcix] Goal 14: www.un.org/sustainabledevelopment/oceans/
[c] Goal 15: sustainabledevelopment.un.org/sdg15
[ci] Goal 17: www.un.org/sustainabledevelopment/globalpartnerships/
[cii] 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
[ciii] GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start
[civ] ECCC's weather web site: weather.gc.ca/
[cv] ECCC's hurricane e-bulletins: weather.gc.ca/hurricane/index_e.html
[cvi] WeatherCAN: www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/weathercan.html
[cvii] Intergovernmental Panel on Climate Change: www.ipcc.ch/assessment-report/ar6/
[cviii] Climate Change Guidance Framework (CCGF) Highlights Report: www.ijc.org/en/climate-change-guidance-framework-highlights-report-2021

[cix] Expedited Review of Plan 2014, Phase 1: Informing Plan 2014 Deviation Decisions Under Extreme Conditions: www.ijc.org/sites/default/files/GLAM_ExpeditedReview_Phase1Report_2021-11-19.pdf
[cx] PPWB: www.ppwb.ca/surface-water-quality-activities
[cxi] MRBB: www.mrbb.ca/
[cxii] evaluation of the Weather Observations, Forecasts and Warnings: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/evaluations/weather-observations-forecasts-warnings-program.html
[cxiii] Sustainable Development Goals: www.un.org/sustainabledevelopment/sustainable-development-goals/
[cxiv] Goal 1: sdgs.un.org/goals/goal1
[cxv] Goal 3: www.un.org/sustainabledevelopment/health/
[cxvi] Goal 13: www.un.org/sustainabledevelopment/climate-change/
[cxvii] 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
[cxviii] GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html
[cxix] Greening Government Strategy: www.canada.ca/en/treasury-board-secretariat/services/innovation/greening-government/strategy.html
[cxx] 2020-21 Departmental Results Report: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report/2020-2021.html
[cxxi] 2022-23 Departmental Plan: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-plans/2022-2023.html
[cxxii] Public Accounts of Canada 2021-22: www.tpsgc-pwgsc.gc.ca/recgen/cpc-pac/index-eng.html
[cxxiii] GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html
[cxxiv] Environment and Climate Change Canada's transparency page: www.canada.ca/en/environment-climate-change/corporate/transparency/finances/financial-statements-unaudited.html
[cxxv] Environment and Climate Change Canada's transparency page: www.canada.ca/en/environment-climate-change/corporate/transparency/finances/financial-statements-unaudited.html
[cxxvi] *Department of the Environment Act*: laws-lois.justice.gc.ca/eng/acts/E-10/index.html
[cxxvii] *Canadian Environmental Protection Act, 1999*: laws.justice.gc.ca/eng/acts/C-15.31/
[cxxviii] *Fisheries Act*: laws-lois.justice.gc.ca/eng/acts/F-14/
[cxxix] *Greenhouse Gas Pollution Pricing Act, 2018*: laws-lois.justice.gc.ca/eng/acts/G-11.55/
[cxxx] *Species at Risk Act*: laws.justice.gc.ca/eng/acts/S-15.3/index.html
[cxxxi] *Manganese-based Fuel Additives Act, 1997*: laws-lois.justice.gc.ca/eng/acts/M-0.5/index.html
[cxxxii] *Antarctic Environmental Protection Act, 2003*: laws-lois.justice.gc.ca/eng/acts/A-11.44/
[cxxxiii] *Perfluorooctane Sulfonate Virtual Elimination Act, 2008*: https://laws-lois.justice.gc.ca/eng/acts/p-8.3/index.html
[cxxxiv] *Canada Wildlife Act, 1985*: laws.justice.gc.ca/eng/acts/W-9/
[cxxxv] *Migratory Birds Convention Act, 1994*: laws.justice.gc.ca/eng/acts/M-7.01/
[cxxxvi] *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act, 1992*: laws.justice.gc.ca/eng/acts/W-8.5/
[cxxxvii] *National Wildlife Week Act, 1985*: laws-lois.justice.gc.ca/eng/acts/W-10/index.html
[cxxxviii] *Canada Water Act, 1985*: laws-lois.justice.gc.ca/eng/acts/C-11/index.html
[cxxxix] *International River Improvements Act, 1985*: laws.justice.gc.ca/eng/acts/I-20/index.html
[cxl] *Lake of the Woods Control Board Act, 1921*: laws-lois.justice.gc.ca/eng/acts/T-10.4/page-1.html
[cxli] *Canada Emission Reduction Incentives Agency Act, 2005:* laws-lois.justice.gc.ca/eng/acts/C-3.8/index.html
[cxlii]*Weather Modification Information Act, 1985:* laws-lois.justice.gc.ca/eng/acts/w-5/index.html
[cxliii] *Canadian Environmental Week Act, 1985*: laws-lois.justice.gc.ca/eng/acts/e-11/index.html
[cxliv] *Environmental Enforcement Act, 2010:* www.canada.ca/en/environment-climate-change/services/environmental-enforcement/acts-regulations/about-act.html
[cxlv] *Environmental Violations Administrative Monetary Penalties Act, 2009:* laws-lois.justice.gc.ca/eng/acts/E-12.5/page-1.html
[cxlvi] *Federal Sustainable Development Act, 2008*: laws-lois.justice.gc.ca/eng/acts/F-8.6/
[cxlvii] *National Strategy for Safe and Environmentally Sound Disposal of Lamps Containing Mercury Act, 2017*: laws-lois.justice.gc.ca/eng/acts/N-16.8/
[cxlviii]*Arctic Waters Pollution Prevention Act, 1985*: laws-lois.justice.gc.ca/eng/acts/A-12/
[cxlix] *Bridge To Strengthen Trade Act, 2012:* laws-lois.justice.gc.ca/eng/acts/B-8.05/FullText.html
[cl] *Canada Foundation for Sustainable Development Technology Act, 2001:* laws-lois.justice.gc.ca/eng/acts/c-5.5/
[cli] *Canada Oil and Gas Operations Act, 1985*: https://laws-lois.justice.gc.ca/eng/acts/o-7/
[clii] *Canada-Newfoundland Atlantic Accord Implementation Act, 1987*: https://laws-lois.justice.gc.ca/eng/acts/C-7.5/

[cliii] *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, 1988*: laws-lois.justice.gc.ca/eng/acts/c-7.8/
[cliv] *Energy Supplies Emergency Act, 1985:* laws-lois.justice.gc.ca/eng/acts/E-9/
[clv] *Income Tax Act, 1985:* laws-lois.justice.gc.ca/eng/acts/i-3.3/
[clvi] *Marine Liability Act, 2001:* laws-lois.justice.gc.ca/eng/acts/m-0.7/
[clvii] *Nunavut Planning and Project Assessment Act, 2013*: laws-lois.justice.gc.ca/eng/acts/N-28.75/
[clviii] *Resources and Technical Surveys Act, 1985*: https://laws-lois.justice.gc.ca/eng/acts/R-7/
[clix] *Yukon Environmental and Socio-economic Assessment Act, 2003*: https://laws-lois.justice.gc.ca/eng/acts/Y-2.2/
[clx] Environment and Climate Change Canada's website: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report.html
[clxi] Environment and Climate Change Canada's website: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report.html
[clxii] GC InfoBase: www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html
[clxiii] Environment and Climate Change Canada's website: www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-results-report.html
[clxiv] Report on Federal Tax Expenditures: www.canada.ca/en/department-finance/services/publications/federal-tax-expenditures.html