

ACHIEVING A **SUSTAINABLE FUTURE** WINTER 2021 UPDATE



**A Federal Sustainable Development Strategy
for Canada 2019 to 2022**



Government
of Canada

Gouvernement
du Canada

Canada

Cat. No.: En4-136/2021-1E-PDF
ISBN: 978-0-660-38029-2
EC8004.04

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Introduction

The Federal Sustainable Development Strategy (FSDS) sets out the Government of Canada's environmental sustainability priorities, establishes goals and targets and identifies actions to achieve them. For the 2019 to 2022 FSDS, the government committed to providing updates to the electronic version of the strategy (the "e-strategy"), found at www.fds-sfdd.ca.

This Winter 2021 update to the FSDS brings together the actions that departments and agencies have included in their [2020 to 2023 Departmental Sustainable Development Strategies](#) (DSDS). This update shows how the Government of Canada is taking action to advance the goals of the 2019 to 2022 FSDS with a focus on contributing actions.

Effective Action on Climate Change

Contributing actions

Use legislation and regulations to limit greenhouse gas emissions

Establish and implement legislation and regulations to address climate change and meet our commitments—including, for example:

- implementing the federal carbon pollution pricing system in 2019 in provinces and territories that request it or do not have systems in place that align with the federal standard; direct proceeds collected under the federal system will be returned to the jurisdiction of origin:
 - for jurisdictions that have requested the federal system, proceeds will be returned directly to the governments of these jurisdictions
 - for jurisdictions whose systems do not meet the federal standard for reducing carbon pollution, Climate Action Incentive payments will return the bulk of direct proceeds from the fuel charge to individuals and families through their personal income tax returns; the remaining proceeds will support particularly affected sectors in those provinces
- implementing amended coal-fired electricity regulations to accelerate the phase out of traditional coal-fired electricity generation by 2030
- implementing new performance standards imposing emissions limits on natural-gas-fired electricity generation
- implementing regulations to reduce methane emissions from the oil and gas sector by 40-45% by 2025
- implementing updated *Energy Efficiency Regulations* to remove the lowest-performing energy-using products from the market
- developing a Clean Fuel Standard to reduce Canada's greenhouse gas emissions through the increased use of lower-carbon fuels and alternative technologies

Departmental actions

Environment and Climate Change Canada

- Take regulatory action on emissions from the transportation sector, including:
 - strengthening regulations to limit greenhouse gas emissions from post-2018 heavy-duty trucks
 - implementing regulations amending the Heavy-Duty Vehicle and Engine Greenhouse Gas Emission Regulations
 - finalizing and publishing Canada's midterm evaluation on standards for model years 2022 to 2025 under the light-duty vehicle greenhouse gas regulations
- Continue to implement regulations to phase down hydrofluorocarbon consumption in line with the Kigali Amendment to the Montreal Protocol and to prohibit the import and export of certain products that contain or are designed to contain hydrofluorocarbons
- Continue to implement Canada's Strategy on Short-lived Climate Pollutants by:
 - publishing a progress report on commitments under the Short-lived Climate Pollutants Strategy
 - continuing to advance domestic and international work to reduce short-lived climate pollutant emissions
- Continue to take action on carbon pollution, including by implementing pan-Canadian pricing of carbon pollution, working with provinces and territories

- Take action on coal-fired electricity emissions from electricity generation, including by:
 - accelerating the phase out of traditional coal-fired electricity units, and proposing regulations to reduce methane emissions in the oil and gas sector
 - implementing amended coal-fired electricity regulations to accelerate the phase out of traditional coal-fired electricity generation by 2030
 - Implementing new performance standards imposing emissions limits on natural-gas-fired electricity generation
- Take action on emissions from the oil and gas sector by:
 - continuing to implement regulations reducing the release of methane and certain volatile organic compounds from the upstream oil and gas sector that aim to reduce methane emissions
 - implementing amendments to coal-fired electricity generation regulations that will reduce greenhouse gas emissions, as well as natural gas-fired electricity generation regulations
 - implementing new performance standards imposing emissions limits on natural-gas-fired electricity generation
 - implementing regulations to reduce methane emissions from the oil and gas sector by 40–45% by 2025
- Develop a Clean Fuel Standard to reduce Canada’s greenhouse gas emissions through the increased use of lower-carbon fuels and alternative technologies
- Publish proposed regulations for liquid fuels class in 2020, and intent to bring liquid class regulations into force in 2022, followed by regulations for the gaseous and solid classes in 2023

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- Incorporate, where applicable, specific greenhouse gas emission reduction programs into contracts and purchase carbon credits to offset residual greenhouse gas emissions

National Research Council Canada

- Update and publish the National Energy Code for Buildings to help Canada reduce energy use in buildings in collaboration with Natural Resources Canada and through the Canadian Commission on Building and Fire Codes

Transport Canada

- Address, under the Aviation Sector Regulatory Initiative, greenhouse gas emissions from aviation by supporting the International Civil Aviation Organization's development of new international standards and recommended practices and through the development and implementation of new domestic standards

Canada will be implementing the Carbon Dioxide Emissions Standard for airplanes, which targets domestic and international emissions, and the Carbon Offsetting and Reduction Scheme for International Aviation, which targets international emissions only

- Address, under the Marine Sector Regulatory Initiative, greenhouse gas and other air emissions from maritime shipping by working with the International Maritime Organization in the development of new international standards and recommended practices for marine vessels, as well as through the implementation of new Canadian regulations

- Support, under the Support for Vehicle Greenhouse Gas Emissions Regulations, Environment and Climate Change Canada's development and implementation of greenhouse gas emission regulations for light-duty vehicles and heavy-duty vehicles under the *Canadian Environmental Protection Act, 1999*
- Conduct research to generate technical evidence required to support legislative and regulatory approaches to reducing greenhouse gas and air pollutant emissions, and to promote the adoption of clean technologies across several modes of transportation, including:
 - eTV: Supporting projects under the ecoTECHNOLOGY for Vehicles Program to address greenhouse gas emissions from the road sector through its testing of advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards to ensure that new technologies are introduced in Canada in a safe, secure and timely manner

Provide support and funding for climate resilience

Provide funding for First Nations, Inuit communities and the Métis Nation to develop:

- climate change risk and adaptation strategies through the Climate Change Preparedness in the North Program and the First Nation Adapt Program
- community-based climate change data through the Indigenous Community-Based Climate Monitoring Program
- community and regional health adaptation plans through the Climate Change and Health Adaptation Program

Support adaptation projects in various sectors to improve training, build capacity, support evaluation and promote information sharing, with a focus on northern transportation infrastructure.

Departmental actions

Crown-Indigenous Relations and Northern Affairs Canada

- Provide funding to First Nations communities to assess climate change risks, develop adaptation plans and develop flood plain maps
- Provide funding to Northern and Indigenous communities to assess climate change risks, develop adaptation plans and implement adaptation actions
- Provides funding to help Indigenous peoples monitor climate and environmental changes in their communities/traditional lands

Health Canada

- Provide funding to support the health sector in preparing and adapting to the impacts of climate change

Indigenous Services Canada

- Provide direct funding, through the First Nations Infrastructure Fund, to support First Nations communities, band councils, tribal councils and Indigenous organizations

The First Nations Infrastructure Fund supports First Nations communities in their efforts to have reliable and sustainable infrastructure by providing funding to plan, design, construct, and acquire community infrastructure assets and facilities. This includes the delivery of structural mitigation projects, which will reduce the impacts of natural disasters on First Nations communities (e.g. construction of dykes)

- Make funding available to First Nations communities through the Emergency Management Assistance Program to support emergency preparedness activities, including the development of risk assessments; the FireSmart program on reserve; flood protection studies; and developing, updating, and exercising emergency management plans
- Indigenous communities take measures to reduce the health effects of climate change

Provide funding for community-driven projects in First Nations communities south of the 60th parallel, and northern First Nations and Inuit communities. Funding will support the development of adaptation plans and actions that identify and prioritize the health impacts of climate change

Natural Resources Canada

- Build capacity for decision-making on climate resilience
- Increase uptake and use of climate change mitigation, resilience and adaptation tools and information by decision-makers

Parks Canada

- From 2020 to 2023:
 - work with partner organizations and specialists to develop and consistently use tools and approaches, policies and tools to better understand and support climate change adaptation across the Agency's protected heritage sites
 - administer internal funding programs to support conservation and restoration, conservation planning, asset protection and adaptation efforts that address climate resiliency at protected heritage places
 - secure capital funding to support the Agency's conservation strategy for cultural heritage resources, and asset recapitalization and replacement efforts for built assets and infrastructure to address climate resiliency at protected heritage sites

Transport Canada

- Support through the Northern Transportation Adaptation Initiative the research, development and testing of innovative adaptation technologies, and capacity-building efforts (for example, through adaptation outreach and engagement activities), with the goal of increasing capacity to adapt existing and future northern transportation infrastructure and operations to climate change
- Continue on-going implementation of the National Trade Corridors Fund, which is investing \$2.3 billion to strengthen the resiliency and efficiency of the transportation system

Work with partners on climate change

Work closely with provincial, territorial, municipal, and Indigenous partners as well as businesses, non-governmental organizations, academics, experts, Canadians, and stakeholders to meet our climate change objectives. This includes:

- working with provinces and territories to ensure carbon pollution pricing applies to a broad set of emission sources across Canada with increasing stringency over time
- continuing to work with transportation stakeholders to reduce greenhouse gas emissions through voluntary mechanisms such as the Memorandum of Understanding with the Railway Association of Canada for Reducing Locomotive Emissions and Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation

- engaging and collaborating with Indigenous peoples on policies, programs and other priorities, including through distinctions-based bilateral tables with First Nations, Inuit, and the Métis Nation
- supporting the provinces and territories in implementing measures to protect Canadians from heat events, such as the Heat Alert and Response Systems
- working in collaboration with partners and stakeholders to prepare for and protect Canadians from climate-driven infectious diseases through the Infectious Disease and Climate Change Fund
- continuing to build resilience and understand risks for vulnerable coastal regions
- supporting students, youth, Indigenous peoples, and small and medium-sized businesses to increase climate change awareness through the Climate Action Fund
- convening Canada's Climate Change Adaptation Platform, a national, multi-stakeholder forum that addresses shared priorities for advancing adaptation and building resilience to climate change across Canada
- working with the provinces through the Building Regional Adaptation Capacity and Expertise Program to help build capacity for Canadian decision makers to take adaptation action
- working with provinces and territories that have adopted the Pan-Canadian Framework on Clean Growth and Climate Change to help them deliver on leadership commitments to reduce greenhouse gas emissions, including those outlined in the framework, through the Low Carbon Economy Leadership Fund
- supporting the Pan-Canadian Expert Collaboration's new independent institute focused on clean growth and climate change to generate, communicate, and mobilize trusted information, policy advice, and best practices for Canadians, governments, and stakeholders
- establishing the Advisory Council on Climate Action, which will help identify further opportunities to reduce carbon pollution in the transportation and building sectors, building on the commitments in Canada's national climate plan, in a manner that creates opportunities for businesses and workers and leverages sustainable finance

Departmental actions

Crown-Indigenous Relations and Northern Affairs Canada

- Support capacity building and engagement and support the distinctions-based bilateral Pan-Canadian Framework tables with First Nations, Inuit, and the Métis Nation

Environment and Climate Change Canada

- Work closely with provincial, territorial, municipal, and Indigenous partners as well as businesses, non-governmental organizations, academics, experts, Canadians, and other stakeholders to meet Environment and Climate Change Canada's climate change objectives, including:
 - engaging and collaborating with Indigenous peoples on policies, programs and other priorities, including distinctions-based bilateral tables with First Nations, Inuit, and the Métis Nation
 - working with other partners, including international organizations, to address greenhouse gas emissions from the transportation sectors
 - supporting the Canadian Institute for Climate Choices, an independent non-profit organization focused on clean growth and climate change to generate, communicate, and mobilize trusted information, policy advice, and best practices for Canadians, governments, and stakeholders
 - providing support through the Climate Action Incentive Fund for projects and measures undertaken by small and medium enterprises, municipalities, universities, schools and hospitals, and not for profit organizations

- working with partners to implement projects that reduce greenhouse gas emissions through the Low Carbon Economy Fund
- leading Government-wide efforts to develop a plan to achieve a prosperous net-zero emissions future by 2050 and set legally binding, five-year emissions-reduction milestones
- Engage partners, in particular the Canadian private sector, in projects that advance the role of clean technology in addressing emissions of air pollutants and/or greenhouse gases, including by:
 - collaborating with provinces and territories to improve the consistency of emission data across Canadian jurisdictions
 - expanding the collection of facility data to enable integration in the national greenhouse gas inventory
 - working with provinces and territories to ensure carbon pollution pricing applies to a broad set of emission sources across Canada with increasing stringency over time
- Work with provinces and territories to publish the Annual Synthesis Report on progress made toward Pan-Canadian Framework implementation
- Support students, youth, Indigenous peoples, and small and medium-sized businesses to increase climate change awareness through:
 - the Climate Action Fund
 - the Climate Action Incentive Fund
- Provide climate change policy coordination, including engagement with provinces and territories, Indigenous peoples and federal partners on climate change issues and support for Pan-Canadian Framework interdepartmental governance. This includes work with provinces and territories that have adopted the Pan-Canadian Framework on Clean Growth and Climate Change to help them deliver on leadership commitments to reduce greenhouse gas emissions, including those outlined in the framework, through the Low Carbon Economy Leadership Fund
- Implement the Low Carbon Economy Fund to support projects to mitigate climate change and support Canada's transition to a low carbon economy, including:
 - Low Carbon Economy Fund - Leadership Fund, (up to \$1.4 billion) for bilateral funding agreements with provinces and territories to help them deliver on their commitments to reduce greenhouse gas emissions
 - Low Carbon Economy Fund - Challenge Fund, (approximately \$500 million) for the Champions stream, the provinces and territories, municipalities, Indigenous communities and organizations, businesses and not-for-profit organizations, and for the Partnerships stream of Indigenous communities and their organizations, small and medium-sized businesses, not-for-profit organizations and small municipalities
- Continue laying the groundwork towards Canada's zero-emission vehicle targets of 10% light-duty vehicle sales by 2025, 30% by 2030 and 100% by 2040, in collaboration with Innovation, Science and Economic Development Canada, Natural Resources Canada and Transport Canada

Fisheries and Oceans Canada

- Collect ocean data (temperature and salinity) through Canada's network of Argo ocean array floats and advance commitments made during Canada's 2018 G7 presidency, including up to \$5.6 million to support the Argo ocean array

Health Canada

- Increase knowledge, capacity and tools to support evidence-based adaptation measures to protect health from extreme heat as a result of climate change

Indigenous Services Canada

- Engaging and collaborating with Indigenous peoples on policies, programs and other priorities, including through the Indigenous Centre for Cumulative Effects

Innovation, Science and Economic Development Canada

- Co-lead along with Transport Canada, Canada's approach to increasing the adoption of zero-emission vehicles. Budget 2019 made significant investments for purchase incentives, charging infrastructure, and to pursue voluntary zero-emission vehicle sales targets with automotive manufacturers

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- Collaborate with professional services firms specializing in climate change
- Collaborate with universities and research groups (e.g. Ouranos, Interdisciplinary Research Laboratory in Life Cycle Assessment and Circular Economy (Université de Sherbrooke), International Reference Center for Life Cycle of Products, Services and Systems (Polytechnique Montréal), National Research Council Canada, Harvard University, McGill University, Polytechnique Montréal)
- Collaborate with municipal, provincial and federal project authorities and asset managers (e.g. Ministère des Transports du Québec, Société de transport de Montréal, Montreal Port Authority, TransLink, Metrolinx, ViaRail Canada, Transport Canada)

Natural Resources Canada

- Advance clean growth and energy innovation research, development and demonstration in Canada's natural resources and other sectors, particularly the built environment, industry, transportation and electricity

Transport Canada

- Address greenhouse gas emissions from aviation through Canada's Action Plan. This voluntary plan identifies key on-going and planned initiatives to reduce greenhouse gases and includes a fuel efficiency target. The Action Plan is expected to be renewed by 2021
- Address greenhouse gas emissions under the Heavy-Duty Vehicle Retrofit Requirements Program by working with other federal departments, provinces, territories and industry to explore the challenges and barriers to adopting fuel-saving retrofits on heavy-duty trucks, informing the development of future strategies to reduce greenhouse gas from this sector
- Address greenhouse gas emissions from the rail sector by enhancing collaboration with the Railway Association of Canada
- Collaborate with provincial and territorial governments through the Federal-Provincial-Territorial Zero-Emission Vehicle Working Group to advance the uptake of zero-emission vehicles in Canada. Environment and Climate Change Canada, Innovation, Science and Economic Development Canada and Natural Resources Canada are also members of this working group

Take a leading role in international agreements and initiatives on climate change

Continue to demonstrate a strong commitment to international leadership on clean growth and climate change, including by:

- delivering on the 2015 pledge to provide \$2.65 billion in climate finance between 2016 and 2021 to help developing countries transition to a low-carbon, climate-resilient economy
- continuing to push forward the global momentum to identify and reduce inefficient fossil fuel subsidies through the G20 process, including by undergoing a peer review in partnership with Argentina
- promoting the global reduction of greenhouse gas emissions through the Powering Past Coal Alliance, co-founded by Canada and the United Kingdom
- implementing recommendations of the Arctic Council's Expert Group on Black Carbon and Methane to contribute to the achievement of the collective goal on black carbon
- joining Mexico, Chile, Colombia, Costa Rica and 2 US states through the Declaration on Carbon Markets in the Americas to enhance collaboration on carbon pricing
- implementing the Sendai Framework for Disaster Risk Reduction to create a safer and more resilient Canada
- continuing to collaborate with partners at the International Civil Aviation Organization and International Maritime Organization to ensure continued action on climate change and greenhouse gas emission reductions
- promoting substantive climate change provisions in Canada's free trade agreements

Departmental actions

Environment and Climate Change Canada

- Continue to demonstrate a strong commitment to international leadership on clean growth and climate change, including by:
 - leading Canada's participation in the United Nations Framework Convention on Climate Change with the aim of strengthening global efforts to implement the Paris Agreement
 - continuing to engage internationally to advance ambitious and inclusive climate action, including through ensuring Indigenous peoples are engaged in developing international climate policy, and by promoting gender equality and the role of women in climate action around the world, as well as continuing efforts to ensure that international market mechanisms are guided by a robust set of rules and operate with environmental integrity
 - leading Canada's participation in the Montreal Protocol, while promoting ratification and global implementation of the Kigali Amendment on the phase-down of hydrofluorocarbons
 - promoting Canadian climate and environmental objectives in regional trade agreements and international fora such as the G7, G20, Organisation for Economic Co-operation and Development, Francophonie, Commonwealth, the World Meteorological Organization and in other Ministerial meetings
 - leading Canada's participation as a convening country of the Global Commission on Adaptation, which runs from 2018 to 2021, and providing leadership of the nature-based climate solutions action track during the Global Commission on Adaptation's Year of Action (2020)
- Deliver on the 2015 pledge to provide \$2.65 billion in climate finance between 2016 and 2021 to help developing countries transition to a low-carbon, climate-resilient economy, including by:
 - continuing collaboration with Global Affairs Canada, through multilateral financial mechanisms: Green Climate Fund and Global Environment Facility

- funding sectors such as clean technology and renewable energy, climate-smart agriculture and forest management, and risk insurance and capacity building, with special consideration for the poorest and most vulnerable developing countries. Canada's climate finance is consistent with its feminist international assistance policy to promote gender equality and help empower all women and girls
- supporting Nature-based Solutions to achieve multiple environmental benefits by addressing climate change and biodiversity loss together
- Continue to push forward the global momentum to identify and reduce inefficient fossil fuel subsidies through the G20 process, including by working with Finance Canada to have Canada undergo a peer review in partnership with Argentina
- Advance priorities and climate change-related commitments with the United States and contributing expertise and advancing Canada's environmental priorities through bilateral partnerships with Mexico, Chile, China and the European Union
- Seek to include provisions in Canada's free trade agreements that support Canada's leadership role on climate change
- Promote the global reduction of greenhouse gas emissions through the Powering Past Coal Alliance, co-founded by Canada and the United Kingdom
- Implement recommendations of the Arctic Council's Expert Group on Black Carbon and Methane to contribute to the achievement of the collective goal on black carbon, including by:
 - providing expertise, leadership and climate finance contributions, including for the reduction of Short-Lived Climate Pollutants, through key partnerships such as with the Climate and Clean Air Coalition, the Arctic Council, the Global Methane Initiative, the United Nations Economic Commission for Europe, the World Bank, the International Maritime Organization
 - updating and publishing comprehensive inventories of air pollutant, greenhouse gas and black carbon emissions according to established timelines to fulfill domestic needs and international commitments
 - ongoing implementation of Canada's Strategy on Short-Lived Climate Pollutants, including publication of a progress report on commitments under the Short-Lived Climate Pollutants Strategy

Global Affairs Canada

- Work with Environment and Climate Change Canada to play a leadership role and provide policy and legal advice to support the negotiation and implementation of international environmental agreements and initiatives on climate change, including the United Nations Framework Convention on Climate Change and the Paris Agreement
- Deliver on Canada's pledge to provide \$2.65 billion in climate financing to support transition by developing countries to low-carbon, climate-resilient economies, in line with Canada's feminist international assistance policy priorities

Develop a solid base of scientific research and analysis on climate change

Continue to track Canada's greenhouse gas emissions, collect emissions data, provide information to support policy development and help Canadians make climate-related decisions.

This includes:

- supporting the Canadian Centre for Climate Services, an important part of the Pan-Canadian Framework and the official source for reliable climate information, data and tools, training and user support to help increase climate resilience across Canada
- collaborating with subject-matter experts to develop Canada in a Changing Climate: Advancing our Knowledge for Action, the next national assessment of how Canada's climate is changing; the impacts of these changes on our communities, environment, and economy; and how we are adapting
- conducting scientific research, modelling and analysis to build knowledge of climate change and its impacts, including enhanced monitoring of the health impacts of climate change
- working with partners both nationally and internationally to advance research projects to better understand the impacts of heat on human health to inform risk assessments, communication and adaptation actions
- translating scientific information and Indigenous Knowledge into action
- preparing Canada's annual National Inventory Report on Greenhouse Gas Sources and Sinks in Canada and submitting it to the United Nations Framework Convention on Climate Change

Departmental actions

Agriculture and Agri-Food Canada

- Continue to fund the Agricultural Greenhouse Gases Program until March 31, 2021 for projects that conduct research and increase knowledge on mitigating greenhouse gas emissions in four key priority areas: livestock systems, cropping systems, agricultural water use efficiency, and agroforestry
- Conduct targeted research to increase knowledge of climate change relative to agriculture

Environment and Climate Change Canada

- Continue to track Canada's greenhouse gas emissions, collect emissions data, support academic research, provide information to support policy development and help Canadians make climate-related decisions, including by:
 - ensuring public access to information and research findings pertaining to sustainable development and environmental governance
 - providing key economic analysis to assess incremental impacts of regulatory proposals that combat climate change and reduce greenhouse gas emissions and meet national emissions-reductions targets
- Support and continue to implement the Canadian Centre for Climate Services, an important part of the Pan-Canadian Framework and the official source for reliable climate data, information, tools, training and user support to help increase climate resilience across Canada
- Conduct targeted scientific and engineering studies to quantify greenhouse gas emissions and associated costs by technology, equipment type, fuel, and operating conditions, including by:
 - maintaining comprehensive greenhouse gas emission and air pollutant inventories that are up-to-date, informative, and relevant to all Canadian jurisdictions

- conducting climate research and analysis to develop climate data and scenarios, which will inform mitigation actions and effective adaptation planning and support active participation in the Intergovernmental Panel on Climate Change
- Conduct greenhouse gas science, modelling and long-term monitoring of atmospheric greenhouse gases to understand sources and sinks in support of domestic legislation and international commitments
- Prepare Canada's annual National Inventory Report on Greenhouse Gas Sources and Sinks in Canada and submitting it to the United Nations Framework Convention on Climate Change
- Support a coordinated and strategic government-wide approach to adaptation and climate resilience

Note: The Canadian Centre for Climate Services will provide technical support for climate resilience.

Fisheries and Oceans Canada

- Conduct scientific research, modelling and analysis to build knowledge of climate change and its impacts.
- Collect data through the Department's ocean chemistry monitoring activities

Health Canada

- Conduct climate change and health research and analysis with a broad range of partners, and disseminate information regarding the risks of climate change to the health of Canadians and the health system

Infrastructure Canada

- Research and Knowledge Initiative:
 - supports projects in research, knowledge-sharing, collaborations and partnerships to deepen understanding of infrastructure needs, challenges, and opportunities relevant to Canadians
 - enhances evidence base and strengthens knowledge on infrastructure and communities contributions to robust policies and strategic decision-making that support long-term economic growth, a low carbon and green economy, and inclusive communities

Innovation, Science and Economic Development Canada

- Continue to fund and support third-party science and research organizations in Canada working on climate change, including on resilience, mitigation and adaptation efforts (organizations include Genome Canada and Canadian Institute for Advanced Research)
- Continue to fund third-party science and research organizations in Canada, such as the Canada Foundation for Innovation, that support climate change and environmental sustainability goals

Natural Resources Canada

- Enhance logistical support through the Polar Continental Shelf Program for scientific research conducted in the Canadian Arctic

- Support the development of technologies to reduce energy consumption and a reliance on diesel in mining and milling operations
- Develop datasets of key national and regional environmental indicators from Earth observation data
- Provide access to data and science with Canadian agencies and circumpolar countries to address a changing Arctic
- Provide access to, archive and disseminate authoritative geospatial data to support climate change action and decision-making

Public Health Agency of Canada

- Contribute to the implementation of the adaptation pillar of the Pan-Canadian Framework on Clean Growth and Climate Change by developing and advancing the Infectious Disease and Climate Change Program, including a Grants and Contributions Fund to prepare for and protect Canadians from climate-driven infectious diseases that are zoonotic (diseases that can be transmitted from animals and insects to humans), food-borne or water-borne

Support businesses and Canadians in taking action to reduce greenhouse gas emissions

Continue to support Canadian communities, businesses and stakeholders in reducing emissions and increasing resilience, including through increased energy efficiency. This will include:

- setting and updating vehicle emission standards and improving the efficiency of vehicles and transportation systems through technological and other solutions
- developing and implementing technology roadmaps for high efficiency heating products in Canada with provinces, territories, academia, and private sector stakeholders
- supporting a shift to lower-emitting transportation, including by investing in infrastructure and through tax measures
- supporting decision making through benchmarking tools and energy-efficiency certifications and labels for equipment, appliances, industrial facilities and buildings
- delivering the Champions (\$450 million) and Partnerships (\$50 million) streams of the Low Carbon Economy Challenge to support businesses in reducing greenhouse gas emissions and driving clean economic growth

Departmental actions

Agriculture and Agri-Food Canada

- Work with provinces and territories through the Canadian Agricultural Partnership to build the capacity of Canada's agriculture, agri-food and agri-based products sector to encourage all aspects of the sector to adopt sustainable agricultural practices and beneficial management practices at farm and regional levels, with the central focus of reducing greenhouse gas emissions and the effects of climate change

Environment and Climate Change Canada

- Deliver the Champions (approximately \$450 million) and Partnerships (\$50 million) streams of the Low Carbon Economy Challenge to support businesses in reducing greenhouse gas emissions and driving clean economic growth
- Deliver the Climate Action Incentive Fund to support projects and measures to reduce energy usage, save money and reduce carbon pollution. For example, the Small and Medium Enterprise Project stream and the Municipalities, Universities, Schools and Hospitals Retrofit stream support eligible applicants in undertaking energy efficiency retrofit projects

Finance Canada

- Oversee the fuel charge component of the federal carbon pollution pricing system that applies in provinces and territories upon request, and in provinces and territories that do not have in place a carbon pricing system that meets the federal stringency requirements
- Allow businesses to immediately expense investments in eligible zero-emission vehicles

Indigenous Services Canada

- Through the First Nation Infrastructure Fund, provide funding to First Nations on reserves for infrastructure projects, such as planning and skills development, energy systems and structural mitigation

Innovation, Science and Economic Development Canada

- Fund firms that are committing to reduce greenhouse gas emissions through the Strategic Innovation Fund
- Subject to an increase of targeted funding, Measurement Canada in collaboration with other departments is involved in the Zero-Emission Vehicle Strategy, will develop its technical expertise for the approval of new trade measurement technologies as well as implement a new inspection program for these devices to protect the interest of all Canadians

Transport Canada

- Support increased adoption of zero-emission vehicles by Canadians and Canadian businesses through Transport Canada's Incentive for Zero-Emission Vehicles program

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Agriculture and Agri-Food Canada

- Continue to implement the Agricultural Greenhouse Gases Program, promoting environmentally responsible agriculture and supporting the development of approaches and tools that assist the agriculture sector in mitigating greenhouse gas emissions
- Develop a departmental climate action plan that outlines measures to mitigate climate change risks to department operations and programs, as a follow-up to the departmental climate change risk assessment completed in 2019. The action plan will address the following priority actions:
 - assess climate change risks to departmental assets by 2021
 - further incorporate climate change into departmental processes through future risk management process and develop indicators for sector climate resilience in collaboration with partners
 - continue to assess climate change impacts on business risk management programs
 - enhance staff communication related to departmental climate risks

National Research Council Canada

- Conduct research and analyses of wildland-urban interface fires and their impacts on buildings and infrastructure, to develop scientific knowledge

- Evolve the National Research Council's current activities in Bioenergy to focus on the conversion of low-value waste feedstocks for the production of low-carbon fuels. This will help reduce greenhouse gas emissions in the energy sector by switching out conventional fossil fuels for low-carbon intensity fuels

Transport Canada

- Address, under the Core Clean Transportation Research, Development and Demonstration – Aviation, Marine and Rail Transportation Program, greenhouse gas and air pollutant emissions from aviation, marine and rail transportation through targeted research on emerging technologies and innovative practices

Aviation: High quality research projects are selected for funding by Transport Canada in the current priority areas of: emissions contributing to climate change, air pollutant emissions and aviation fuels. These research areas are selected in accordance with current identified priorities of the Department and within the industry in general

Rail: Support projects to address greenhouse gas emissions from the rail sector by testing advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards, in order to ensure that new technologies can be introduced in Canada in a safe, secure and timely manner

Marine: Support projects to address greenhouse gas emissions from the marine sector by testing advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards, in order to ensure that new technologies can be introduced in Canada in a safe, secure and timely manner

Greening Government

Contributing actions

Real property
<ul style="list-style-type: none">• All new buildings and major building retrofits will prioritize low-carbon investments based on integrated design principles, and life-cycle and total-cost-of-ownership assessments which incorporate shadow carbon pricing• Minimize embodied carbon and the use of harmful materials in construction and renovation• Departments will adopt and deploy clean technologies and implement procedures to manage building operations and take advantage of programs to improve the environmental performance of their buildings• In all new domestic office leases and lease renewals for space more than 500 square metres, landlords must report building energy and water usage and waste generated using ENERGY STAR Portfolio Manager

Departmental actions

Departments will take action to reduce emissions from buildings. Some examples could include:

- Departments that have the highest greenhouse gas emissions may undertake a strategic evaluation of their real property portfolios to determine the most cost-effective pathway to achieve low-carbon operations
- All new federal buildings (including build-to-lease and public-private partnerships), starting at the latest in 2022, should be constructed to be net-zero carbon unless a lifecycle cost benefit analysis indicates net-zero carbon ready construction

Organizations that own real property may take action by requiring:

- Specification of low embodied carbon materials in construction and construction contracts
- Substitution of low embodied carbon materials in construction and renovation projects

Departments may identify and report the primary clean technologies they have adopted to improve the environmental performance of their buildings

For all new domestic office leases and lease renewals awarded after April 1, 2025, where the federal government is the majority tenant, market conditions permit and a competitive environment exists, preference will be given to buildings with the highest available ENERGY STAR Portfolio Manager score

Mobility and fleet
<ul style="list-style-type: none">• Fleet management will be optimized including by applying telematics to collect and analyze vehicle usage data on vehicles scheduled to be replaced• The potential use of alternative energy options in national safety and security-related fleet operations will be examined

Departmental actions

Departments are optimizing their fleets and will ensure:

- 75% of annual purchases of new light-duty unmodified administrative fleet vehicle will be zero-emission vehicles or hybrids
- All new executive vehicle purchases will be zero-emission vehicles or hybrids
- By 2030, at least 80% of the administrative fleet will be comprised of zero-emission vehicles

Additional actions could include:

- Developing a strategic approach and taking actions to decarbonize fleets (including on-road, air, and marine)
- Using telematics analysis to right-size fleet
- Promoting behavior change – e.g. anti-idling campaigns, driver training, car sharing initiatives

For organizations with national safety and security-related fleet operations, actions could include:

- The use of sustainable fuels, with appropriate greenhouse gas lifecycle assessment
- The use of hybrid or electric vehicles
- Developing a strategic approach and take actions to decarbonize their fleets (including on-road, air and marine)

The Greening Government Strategy also includes a commitment to track and publicly disclose national safety and security related emissions

Adaptation to climate change

- Increase training and support on assessing climate change impacts, undertaking climate change risk assessments and developing adaptation actions to public service employees, and facilitate sharing of best practices and lessons learned
- By 2021, adopt climate-resilient building codes being developed by National Research Council Canada

Departmental actions

The Greening Government Strategy includes:

- By 2021, departments will take action to understand the wide range of climate change impacts that could potentially affect federal assets, services and operations across the country
- By 2022, in response to the impact assessment, departments will develop measures to reduce climate change risks to assets, services and operations

Additional actions could include:

- Developing responses to climate change impacts in business continuity planning, departmental risk planning or equivalent processes
- Taking future climate change conditions into program design and delivery
- Developing departmental adaptation plans or strategies
- Climate change impacts and adaptation inform investment planning
- Key officials incorporate the Federal Adaptation Policy Framework in their performance evaluations

All major real property projects will integrate climate change adaptation into the design, construction and operation aspects

Additional actions could include:

- Inclusion of climate change adaptation in the design, construction and operation aspects of real property or engineered asset projects
- Construction of buildings conforming to the climate-resilient building codes being developed by National Research Council Canada

Procurement

- Departments will use environmental criteria to reduce the environmental impact and ensure best value in government procurement decisions
- Departments will adopt clean technology and undertake clean technology demonstration projects
- Support for green procurement will be strengthened, including guidance, tools and training for public service employees

Departmental actions

Departments will take action to reduce the environmental impact and ensure best value in government procurement decisions. Some examples could include:

- Using criteria that address carbon reduction, sustainable plastics and broader environmental benefits into procurements for goods and services that have a high environmental impact
- Integrating environmental considerations into procurement management processes and controls
- Incorporating environmental considerations into the development of any common-use procurement instruments
- Ensuring key officials include contribution to and support for the Policy on Green Procurement objectives in their performance evaluations
- Setting departmental targets to reduce the environmental impact of specific goods or services

Department could work to use and test clean technology. Examples may include:

- Undertaking or commissioning research and development for innovative clean technologies
- Addressing specific departmental needs or increase operational efficiency by testing state-of-the-art innovations not yet available in the marketplace
- Leading by example as an early adopter of clean technology innovations
- Developing operational innovation proposals for the Greening Government Fund
- Creating departmental set-asides or targets for procurement of clean technology goods and services
- Incorporating life-cycle assessments and outcomes-based approaches into procurement practices to ensure innovative approaches are considered

Ensure decisions makers, material management and specialists in procurement have the necessary training and awareness to support green procurement

Performance measurement

Publicly disclose detailed environmental performance information on government operations—in particular, a complete inventory of federal greenhouse gas emissions and energy use—on the Greening Government website each year

Departmental actions

The Centre for Greening Government at Treasury Board of Canada Secretariat is responsible for delivering on this contributing action. Organizations owning real property or more than 50 vehicles in a fleet must provide a detailed inventory report to Treasury Board of Canada Secretariat - Centre for Greening Government. This information is available on the Greening Government website and the Open Government Portal

Additional actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Departments will take actions to report and address non-hazardous operational waste, including:

- Tracking and disclosing waste diversion rates by 2022
- Eliminating the unnecessary use of single-use plastics in government operations, events and meetings
- When procuring products that contain plastics, departments will promote the procurement of sustainable plastic products and the reduction of associated plastic packaging waste

In regions with carbon emitting electricity generation, organizations that own real property will at a minimum produce or purchase megawatt hours of renewable electricity equivalent to that produced by the high-carbon portion of the electricity grid. This includes the use of renewable electricity generated on-site or purchased off-site

When possible departments will endeavor to buy electricity in the province or territory in which it is consumed

Clean Growth

Contributing actions

Invest in clean technologies

Support the development, demonstration, commercialization, deployment, adoption and export of technologies that reduce environmental impacts by implementing clean technology commitments in the Innovation and Skills Plan and the Pan-Canadian Framework on Clean Growth and Climate Change.

This work will leverage regional strengths and help to improve competitiveness and environmental performance in sectors such as energy, mining, building, and waste management.

Departmental actions

Atlantic Canada Opportunities Agency

- Support economic development projects that foster the development, commercialization, export and adoption of clean technologies. Where appropriate, the Atlantic Canada Opportunities Agency will collaborate with regional and provincial stakeholders, including post-secondary institutions, businesses, not-for-profit organizations, Indigenous communities and research centres, when making these investments

Canada Economic Development for Quebec Regions

- Support the development and adoption of clean technologies with a view to fostering sustainable development and clean economic growth
- Support the development of clean technologies for export

Environment and Climate Change Canada

- Deliver the Low Carbon Economy Fund and the Climate Action Incentive Fund for projects that deploy and adopt clean technologies to reduce energy use, reduce greenhouse gas emissions and generate clean growth

Federal Economic Development Agency for Southern Ontario

- Strategically invest in 2020-2021 up to \$22 million in projects that support: southern Ontario firms adoption of clean technology and more productive and sustainable processes, clean technology clusters and/or commercialization platforms, and clean growth in communities. Through these targeted investments, Federal Economic Development Agency for Southern Ontario fosters clean growth across southern Ontario, supporting Canada's transition to a low carbon economy and helping deliver on the FSDS clean growth target

Global Affairs Canada

- Promote investment in Canadian clean technology companies through the work of the Clean Technology Joint Account Management memorandum of understanding between Export Development Canada, Business Development Bank of Canada, Sustainable Development Technology Canada, Canadian Commercial Corporation and the Trade Commissioner Service

Innovation, Science and Economic Development Canada

- Fund projects with a significant clean tech adoption or development component through the Strategic Innovation Fund

- Support projects with a clean tech adoption or development component through the Innovative Superclusters Initiative
- Support projects with a significant clean tech adoption or development component through the Innovative Solutions Canada program
- Support through Innovative Solutions Canada, together with 20 federal departments/agencies, the scale-up and growth of small and medium-sized enterprises by funding proposed solutions of early-stage and pre-commercial prototypes, through two funding streams:
 - Challenge Stream: Departments and agencies have the opportunity to issue research and development challenges to address market gaps, or seek innovative solutions based on desired outcomes rather than known products or process. The Challenge stream is open to Canadian businesses with fewer than 500 employees and awards grants and research and development contracts
 - Testing Stream: Competitive first-purchase stream providing the ability to test and sell pre-revenue technologies to the Government of Canada. Provides companies with an important first reference sale of their pre-commercial technology, and federal organizations access to technology with the potential to help them meet their mandates. Awards research and development contracts
- Support Canadian companies in their efforts to develop and demonstrate new environmental technologies that address environmental issues such as climate change, clean air, clean water or clean soil through Sustainable Development Technology Canada's SD Tech Fund
- Federal Economic Development Initiative for Northern Ontario will support businesses in Northern Ontario to develop and adopt clean technology solutions, and support communities to adopt and implement clean growth initiatives

National Research Council Canada

- Continue to implement the Industrial Research Assistance Program on Clean Technology. As a division of the National Research Council, the Industrial Research Assistance Program provides advice, connections, and funding to help Canadian small and medium-sized businesses increase their innovation capacity and take ideas to market
- Support Canada's Mission Innovation pledge by contributing to scientific and research activities in Innovation Challenge 6: Clean Energy Materials, including the establishment of a collaboration centre with the University of Toronto on Green Energy Materials to support collaborative research between the University of Toronto and the National Research Council on new clean energy materials

Natural Resources Canada

- Invest in initiatives on clean energy research, development and demonstration through Mission Innovation, in collaboration with partners
- Continue to implement the Clean Growth Hub's mandate to support clean technology stakeholders navigate federal innovation programs and services

Western Economic Diversification Canada

- Continue to support, and make strategic investments in clean technology and clean resources.

Collaborate with stakeholders to support the growth of clean technology in Canada

Work with provinces, territories, Indigenous communities, business, industry, technology producers, and academia to support the growth of clean technology, including by:

- making strategic investments in clean technologies, including those that reduce greenhouse gas emissions and improve air quality
- including clean technology solutions in a strategy to reduce plastic waste in Canada
- supporting technology development and demonstration through clean technology programs, and promoting the adoption of clean technologies
- collaborating on strategies to advance socio-economic development through clean energy projects in rural and remote communities and reduce dependence on fossil fuel for heat and electricity
- improving and modernizing the regulatory system to enable investment and innovation

Departmental actions

Environment and Climate Change Canada

- Deliver a series of Canadian Plastics Innovation Challenges to support the growth of clean technologies that reduce plastic waste

Global Affairs Canada

- Continue collaboration with federal government stakeholders and partners through the Trade Commissioner embedded in the Clean Growth Hub, a whole-of-government focal point for clean technology focused on supporting companies and projects, coordinating programs and tracking results. Since January 2018, the Clean Growth Hub advances the Clean Technology and Innovation pillar of the Pan-Canadian Framework on Clean Growth and Climate Change, and is part of the Government of Canada's Innovation and Skills Plan

Innovation, Science and Economic Development Canada

- Sustainable Development Technology Canada will continue to work with partners to amplify support for Canadian clean technology companies
- Continue to implement the Clean Growth Hub's mandate to support clean technology stakeholders navigate federal innovation programs and services
- Continue to implement the Post-Secondary Institutions Strategic Investment Fund which aims at improving the environmental sustainability of the built environment at research and innovation related post-secondary institutions and colleges
- The Standards Council of Canada will continue to develop and implement national sectoral standardization strategies, as identified by Canada's Clean Technology Economic Strategy Table

Promote Canadian firms as world leaders in clean technologies

Collaborate with provincial and territorial governments to support Canadian clean technology.

Continue to promote Canadian companies through the new International Business Development Strategy for Clean Technology.

Departmental actions

Global Affairs Canada

- Help Canadian clean technology firms become world leaders and capitalize on growing opportunities in the global market through Budget 2017's \$15 million Clean Technology

International Business Development Strategy for the Trade Commissioner Service (2017 to 2021)

Innovation, Science and Economic Development Canada

- The Standards Council of Canada will continue to work with Canadian clean technology companies to help them commercialize and/or gain market access by influencing the standards development process and supporting the adoption and implementation of those standards. Support includes guiding, facilitating, funding, and collaborating with innovators to advance national and/or international standardization; exercising Canadian leadership as Secretariat of International Organization for Standardization technical committee, 207 Environmental Management; and developing conformity assessment schemes such as Environmental Technology Verification to help innovators unlock market access

Collaborate with international partners in the transition to clean energy, low-carbon future

Demonstrate international leadership to support the growth of clean technology—for example, by continuing to meet Canada's Mission Innovation commitments.

Actions through Mission Innovation include, for example:

- collaborating with other countries to accelerate global clean energy innovation by participating in all 8 innovation challenges, including co-leading the Sustainable Biofuels Challenge and the Clean Energy Materials Challenge
- encouraging greater levels of private-sector investments, while doubling federal investments in clean energy research and development

Departmental actions

Global Affairs Canada

- Advance an inclusive approach to trade, including integrating robust environmental provisions into trade agreements, and supporting clean technology exports

Innovation, Science and Economic and Development Canada

- Collaborate with the World Intellectual Property Organization GREEN network to promote innovation and the diffusion of green technologies

Develop our understanding of the clean technology landscape in Canada

Develop our understanding of the impacts and benefits of clean technology on the Canadian economy through the Clean Technology Data Strategy, which provides the foundation for measuring the economic, environmental and social impacts of clean technology in Canada and includes action in 3 areas:

- producing macro economic indicators on the clean technology economy
- leveraging firm-level data to establish a common set of indicators across industries to allow for better understanding of challenges and opportunities faced by clean technology companies
- leveraging administrative data to better measure the efficiency and improve government programs to meet clean technology objectives

Departmental actions

Innovation, Science and Economic Development Canada

- Advance the administrative data component of the Clean Technology Data Strategy through the development of tools to enable a more consistent approach in environmental outcomes data collection by programs that support clean technology

- Advance the authoritative data component of the Clean Technology Data Strategy by updating national clean technology statistics (e.g. gross domestic product, employment, exports, etc.) in collaboration with Statistics Canada and Natural Resources Canada
- Develop a robust patent search strategy to track the evolution of patented inventions by Canadian researchers and corporate institutions operating in Canada in the field of clean technologies to align with the National Research Council's Materials for Clean Fuels Challenge Program and clean technology (as defined by the European Patent Office via its Y-Cooperative Patent Classification codes)

National Research Council Canada

- Conduct an analysis of inventions by Canadian and global researchers and corporate institutions in the field of clean technologies as it aligns with the National Research Council's Materials for Clean Fuels Challenge program

Natural Resources Canada

- Advance the administrative data component of the Clean Technology Data Strategy through the development of tools that would enable a more consistent approach in data collection by programs that support clean technology

Support voluntary action to reduce environmental impacts

Encourage businesses, provinces and territories, and Canadians to take action to reduce environmental impacts such as greenhouse gas and air pollutant emissions—for example, by supporting and providing accreditation and verification for clean technology solutions to reduce greenhouse gas and air pollutant emissions.

Departmental actions

Innovation, Science and Economic Development Canada

- Promote the patenting of green technologies by providing for accelerated patent examination with no additional fees
- Promote, through the Office of Consumer Affairs, sustainable consumption practices by continuing to work with key partners to ensure that consumers have the information and tools needed to protect their interests

Support skills and training in clean technology

Help re-skill existing workers and create opportunities for youth in highly-skilled trades and science, technology, engineering and mathematics. This includes:

- implementing the Science Horizons Youth Internship Program (part of the Youth Employment Strategy) which supports green jobs for youth by providing wage subsidies to eligible employers to hire interns in environmental and clean technology sectors
- supporting capacity building, training, education and skills development in various natural resources fields to ensure Indigenous communities have the necessary human capital to be successful long-term, through programs such as the Indigenous Forestry Initiative, Clean Energy for Rural and Remote Communities Program and the Impact Canada Indigenous Off-Diesel Initiative

Adopt fair and flexible approaches that help Canadian workers and businesses realize opportunities in the clean-growth economy. This includes responding to recommendations of the Task Force on Just Transition for Canadian Coal Power Workers and Communities by:

- creating worker transition centres that will offer skills development incentives and economic and community diversification activities in western and eastern Canada

- working with those affected to explore new ways to protect wages and pensions
- creating a dedicated infrastructure fund to support priority projects and economic diversification in impacted communities

Departmental actions

Innovation, Science and Economic Development Canada

- Continue to implement the Computers for Schools Plus Program
- Continue to support the creation of green jobs, through the Computers for Schools Intern program as part of the Youth Employment and Skills Strategy
- Continue to fund and support third party organizations such as Mitacs, who advance work-integrated learning opportunities focussed on innovative research and development, including investments in clean technologies
- Increase the awareness and effective use of intellectual property by Canadian innovators and businesses through targeted intellectual property literacy initiatives

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Atlantic Canada Opportunities Agency

- Deliver funding and support through the Canada Coal Transition Initiative to assist Atlantic Canadian communities affected by the phase out of coal-fired electricity. This five-year initiative started in 2018 to 2019.

Innovation, Science and Economic Development Canada

- Develop a greenwashing campaign that uses social media and other public outreach tools (e.g. guidance messages) to proactively raise awareness about greenwashing and promote compliance with the *Competition Act*

National Research Council Canada

- Build a new facility in Mississauga focused on accelerating the discovery, development, and scale-up of new materials with an emphasis on clean energy materials. This facility will be an accelerator hub between industry and academia. It is also home to the 7-year \$57 million Materials for Clean Fuels Challenge program – a collaborative research program focused on discovering high-risk high-reward technologies to sustainably transition Canada's energy and chemical sectors to a low-carbon economy

Transport Canada

- Address, under the Core Clean Transportation Research, Development and Demonstration – Aviation, Marine and Rail Transportation Program, greenhouse gas and air pollutant emissions from aviation, marine and rail transportation through targeted research on emerging technologies and innovative practices

Aviation: High quality research projects are selected for funding by Transport Canada in the current priority areas of: emissions contributing to climate change, air pollutant emissions and aviation fuels. These research areas are selected in accordance with current identified priorities of the Department and within the industry in general

Rail: Support projects to address greenhouse gas emissions from the rail sector by testing advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards, in order to ensure that new technologies can be introduced in Canada in a safe, secure and timely manner

Marine: Support projects to address greenhouse gas emissions from the marine sector by testing advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards, in order to ensure that new technologies can be introduced in Canada in a safe, secure and timely manner

Western Economic Diversification Canada

- Deliver funding and support through the Canada Coal Transition Initiative to assist western Canadian communities affected by the phase out of coal-fired electricity

Modern and Resilient Infrastructure

Contributing actions

Work with partners on green infrastructure

Advance collaboration with provinces, territories, municipalities, Indigenous peoples and others to improve water and wastewater infrastructure, as well as support actions to reduce greenhouse gas emissions, improve air quality and strengthen climate resilience, including by:

- ensuring that communities have more reliable water and wastewater systems so that both drinking water and effluent meet legislated standards—for example, by providing funding through integrated bilateral agreements with provinces and territories
- requiring that proponents for certain infrastructure projects assess how their projects will contribute to or reduce carbon pollution and to consider climate change risks in the location, design, and planned operation of projects
- helping municipalities adapt to the impacts of climate change, reduce greenhouse gas emissions and integrate climate change considerations in their asset management practices—for example, by providing funding, training and resources through the Municipalities for Climate Innovation Program
- improving the capacity, quality, safety and accessibility of public transit infrastructure throughout Canada to support the transition to a low-carbon economy and reduce air pollution and greenhouse gas emissions
- demonstrating innovative wood-based building products and systems that support greenhouse gas emissions reductions
- providing innovative financing strategies for projects that reduce greenhouse gas emissions, deliver clean air and safe water, and promote renewable power

Departmental actions

Indigenous Services Canada

- Invest in waste management infrastructure and programming on reserve
- Work with First Nations to develop solid waste management approaches that meet individual community needs, including:
 - diverting waste from reserve whenever possible
 - supporting recycling, composting, and hazardous waste diversion programming
 - increasing community awareness
 - constructing landfills when appropriate
- Provide funding through the First Nation Infrastructure Fund to First Nations on reserves for infrastructure projects, such as planning and skills development, energy systems and structural mitigation
- Provide funding through the Lands and Economic Development Services Program and budget investments to First Nations for land use planning towards building healthy and sustainable communities

Infrastructure Canada

- Amend Integrated Bilateral Agreements with the Provinces and Territories to temporarily expand eligibility under 3 of 4 original streams to continue delivering the Investing in Canada Plan in response to pandemic. Two of the changes are targeting green infrastructure:
 - Transit & Green: Pathways and active transportation infrastructure.

- Provide funding for large-scale infrastructure projects supporting mitigation of natural disasters and extreme weather events and strengthened climate resilience
- Ensure communities have more reliable water and wastewater systems so that both drinking water and effluent meet legislated standards
- Support communities with the development and implementation of asset management practices that support evidence-based decision-making
- Support municipalities as they prepare for and adapt to climate change, and as they reduce greenhouse gas emissions

National Research Council Canada

- Reduce environmental impact of waste treatment in the North by demonstrating a bioelectrochemical wastewater treatment system (a system that combines wastewater treatment with energy generation and resource recovery) at an operational facility, which can treat challenging, high carbon-loading wastewater to meet the relevant environmental standards while producing biogas suitable for renewable energy production

Support low-carbon, resilient infrastructure

As part of implementing the Pan-Canadian Framework, continue to support projects in various sectors that help reduce greenhouse gas emissions and build climate resilience. This includes:

- ensuring that from 2016 to 2024 a coast-to-coast network of more than 1000 electric vehicle fast chargers along Canada's highways, 22 natural gas stations along key freight corridors, and 15 hydrogen stations in metropolitan areas will be built under the Electric Vehicle and Alternative Fuel Infrastructure Initiative
- implementing the Standards to Support Resilience in Infrastructure Program, which supports the development of standardization guidance on weather data, climate information and climate change projections
- updating existing standards to ensure infrastructure across Canada is climate-ready and investing in new standards that support northern infrastructure
- making buildings more energy efficient by developing with provinces and territories model building codes by 2022 and labelling / disclosure as early as 2019 through Build Smart: Canada's Buildings Strategy with the goal that provinces and territories adopt increasingly stringent codes beginning in 2020, and reaching net-zero energy ready construction by 2030

Departmental actions

Innovation, Science and Economic Development Canada

- The Standards Council of Canada will continue to fund and facilitate the development and updating of standards, guidance, and tools, and pursue other standardization-related projects, to improve the climate resilience and environmental performance of Canadian infrastructure

National Research Council Canada

- Collaborate with United Kingdom Catapult Centres to develop satellite-based structural health monitoring technologies to increase infrastructure resiliency

Natural Resources Canada

- Install additional charging and refueling stations along Canada's highly travelled routes

- Deploy new zero-emission vehicle infrastructure in public places, on-street, at apartment buildings, retail outlets, and the workplace, and other strategic projects
- Support demonstration projects in order to identify problems and create innovative solutions related to the implementation of electric and hydrogen vehicle infrastructure
- Support demonstration projects in order to identify problems and create innovative solutions related to the implementation of energy efficient and net-zero energy building technologies

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Innovation, Science and Economic Development Canada

- Continue to deliver programs that support projects to bring reliable, high-speed Internet to Canadians, especially in more rural and remote areas, to help businesses grow, create new jobs and connect more people to the resources, services and information they need to build a better future

National Research Council Canada

- Transfer knowledge from Climate Resilient Buildings and Core Public Infrastructure Initiative to designers, owners and operators of buildings and infrastructure assets through scientific publications, standards and guidelines, the National Master Construction Specification, and the 2020 National Building Code of Canada

Clean Energy

Contributing actions

Invest in clean energy technologies

Invest in research, development and promotion of clean technologies for electric power generation as well as for cleaner fuels, energy efficiency, reduced emissions from the oil and gas sector, electric vehicle charging infrastructure, smart grid and energy storage technologies. This will include:

- the Impact Canada Initiative, which uses outcomes-based funding (for example, prize-based challenges) for breakthrough technology solutions
- the Clean Growth Program, which supports research, development and deployment of clean technologies in the energy, mining and forestry sectors
- the Energy Innovation Program, which supports projects to reduce greenhouse gas emissions from electricity generation, buildings, transportation and industry

Promote collaboration and work with partners on clean energy infrastructure

Work with other governments and the private sector to improve the development and deployment of clean and renewable energy. This includes working in partnership with provinces and territories, northern, remote and Indigenous communities, governments, organizations and industry to deliver programs such as:

- the Clean Energy for Rural and Remote Communities Program, which aims to reduce diesel dependency in rural and remote communities by deploying and demonstrating renewable energy
- the Emerging Renewable Power Program, which supports emerging renewables such as geothermal, tidal and offshore wind
- the Smart Grid Program, which supports the demonstration and deployment of smart grid integrated systems projects by utilities, electricity system operators, transmission owners and operators
- the Energy Efficient Buildings Program, which aims to reduce energy use and emissions in the building sector through the development, demonstration and adoption of cost-effective, highly-efficient “net zero energy ready” building codes and standards, technologies and practices
- the Electric Vehicle and Alternative Fuel Infrastructure Program, which supports the establishment of a coast-to-coast network of electric vehicle fast chargers, natural gas refuelling stations along key freight corridors and hydrogen stations in metropolitan areas, as well as demonstrations of next-generation electric vehicle infrastructure and the development of enabling codes and standards for low-carbon vehicles and refuelling infrastructure
- the Northern Responsible Energy Approach to Community Heat and Electricity Program, which aims to reduce the North's reliance on diesel by supporting clean energy projects and capacity building initiatives in northern and Indigenous communities

Explore the potential for small modular reactors—a type of nuclear fission reactor—to provide safe, reliable and clean energy in the future.

Departmental actions

Atlantic Canada Opportunities Agency

- Facilitate the development of the region's renewable energy capacity through the convening of partners and the development of a common knowledge base (e.g. undertaking research, convening partnerships) between governments and the private sector. This would support, among other key policy priorities, the Clean Power Roadmap for Atlantic Canada and include evaluating options, forecasting demand, identifying projects and fostering clean energy opportunities to support Atlantic industry development and national clean energy objectives.

Crown-Indigenous Relations and Northern Affairs Canada

- Support Northern communities, governments, and organizations to plan and construct renewable energy and energy efficiency projects that reduce diesel use for electricity and heating

Indigenous Services Canada

- Provide direct funding support to First Nations communities to plan and implement projects that reduce dependence on diesel-powered electricity on reserve

National Research Council Canada

- Utilize smart grid facility at the National Research Council to de-risk clean technologies and train local operators for subsequent deployment in remote and indigenous communities, which will stimulate economic growth and reduce energy costs

Natural Resources Canada

- Support the use of renewable and non-emitting energy sources for electrification of upstream gas and liquefied natural gas production to displace higher-emitting fuels in Canada and abroad
- Advance research, development, and demonstration for clean energy technologies
- Continue to invest in the deployment of smart grid integrated systems and the demonstration of next generation smart grid technologies, in collaboration with partners
- Invest in emerging renewable energy projects, such as geothermal, tidal and next generation solar

Reduce energy costs and work with partners to increase energy efficiency

Work with partners across the country to increase energy efficiency in Canada. This will include:

- investments delivered through the Federation of Canadian Municipalities' Green Municipal Fund to increase energy efficiency in residential, commercial and multi-unit buildings
- working with the Canadian Industry Partnership for Energy Conservation to promote innovative energy management, including more energy-efficient practices
- working with Efficiency Canada, a new organization that provides a voice and evidence-based analysis for the promotion of energy efficiency in Canada

Departmental actions

Environment and Climate Change Canada

- Investments delivered through the Federation of Canadian Municipalities' Green Municipal Fund to increase energy efficiency in residential, commercial and multi-unit buildings

- Deliver the Climate Action Incentive Fund and the Low Carbon Economy Fund, which provides funding for projects and initiatives that decrease energy usage, save money and reduce carbon pollution. These programs support projects undertaken by a range of partners such as private enterprises, municipalities, universities, schools, hospitals and not for profit organizations

National Research Council Canada

- Update and publish the National Energy Code for Buildings to help Canada reduce energy use in buildings in collaboration with Natural Resources Canada and through the Canadian Commission on Building and Fire Codes

Natural Resources Canada

- Improve energy efficiency in the industrial sector using energy management systems such as ISO 50001, the Superior Energy Performance program, and the ENERGY STAR® or other industry programs
- Improve energy efficiency in new and existing buildings by enhancing the National Energy Code of Canada for Buildings by 2020 to include net zero-energy-ready tiers through 2030 and extending the application of the Code to existing buildings; as well as certifying high-performing commercial and institutional buildings through the ENERGY STAR® Portfolio Manager
- Improve the energy efficiency of Canadian homes (through the EnerGuide, ENERGY STAR® and R-2000 home labelling initiatives)
- Enhance energy efficiency with increasingly stringent minimum energy performance standards under the Energy Efficiency Regulations and promote increased energy efficiency through the voluntary Energy Star appliances program

Support voluntary action to reduce greenhouse gas and air pollutant emissions through clean energy generation and consumption

Encourage businesses to adopt clean energy technologies through the accelerated capital cost allowance for clean energy generation and by supporting clean energy generation. The 2018 Fall Economic Statement announced that equipment that would otherwise be eligible for the accelerated capital cost allowance will be eligible for immediate expensing in the year it is put in use in the business.

Departmental actions

Finance Canada

- Provide an incentive for investment in clean energy equipment available through the accelerated capital cost allowance for clean energy and energy conservation equipment (Class 43.1/43.2). Equipment that qualifies for Class 43.1 or 43.2 currently receives immediate expensing treatment

Natural Resources Canada

- Continue to advance the generation of energy from renewable sources in rural and remote communities

Improve Canadian energy information

Establish a virtual Canadian Centre for Energy Information, to be delivered by Statistics Canada. The centre will compile energy data from several sources into a single easy-to-use website. It will also support ongoing research by Statistics Canada to identify data gaps that would improve the overall quality of energy information available to Canadians.

Play a leading role in international agreements and initiatives involving clean energy

Demonstrate leadership in innovation and clean energy by participating in international initiatives that are paving the way to a lower carbon future, including:

- co-leading and participating in several initiatives under the Clean Energy Ministerial—for example, the Clean Energy Education and Empowerment Initiative, which promotes gender equality in the clean energy sector
- being a member of the International Renewable Energy Agency, the largest global intergovernmental organization promoting the deployment of renewable energy

Continue our bilateral collaborative mechanisms with various global partners, including the US, Mexico, European countries, China, India, South Korea and Japan, in support of clean energy objectives in areas such as clean technology research and development; renewable energy; energy efficiency; oil and gas; carbon capture, use and storage; nuclear energy; and smart grid.

Seek to include provisions in Canada's free trade agreements that promote the use of products and services related to clean and renewable energy.

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Environment and Climate Change Canada

- Promote the global reduction of greenhouse gas emissions through the Powering Past Coal Alliance, co-founded by Canada and the United Kingdom

Healthy Coasts and Oceans

Contributing actions

Protect and manage marine and coastal areas

Adopt an integrated management approach for ocean activities such as marine spatial planning. This will include:

- initiating collaborative marine spatial planning processes in 5 areas to achieve ecological, economic and social objectives
- continuing to work with Indigenous peoples, provinces, territories, and stakeholders to develop conservation networks which will guide future conservation efforts in the bioregions, including the selection of appropriate conservation measures
- continuing to establish and manage *Oceans Act* Marine Protected Areas, National Marine Conservation Areas, marine national wildlife areas, other federal protected areas with marine components, and other effective area-based conservation measures, in accordance with Canada's rights and jurisdiction under international law

Departmental actions

Environment and Climate Change Canada

- Continue to establish and manage marine National Wildlife Areas as well as the marine portion of other National Wildlife Areas and migratory bird sanctuaries, and track national progress toward national targets

Fisheries and Oceans Canada

- Continue to work with Indigenous peoples, provinces, territories, and stakeholders in pursuit of future marine conservation targets:
 - design conservation networks
 - establish and manage new *Oceans Act* Marine Protected Areas and Other Effective Area-Based Conservation Measures
 - establish new and maintain existing mechanisms for Federal / Provincial / Territorial, Indigenous and stakeholder collaboration to support ocean management and marine conservation activities, including the Canadian Council of Fisheries and Aquaculture Ministers and the Oceans Management Contributions Program

Parks Canada

- From 2020 to 2023:
 - continue work with provincial, territorial and Indigenous governments towards the establishment of National Marine Conservation Areas in eastern James Bay, southern Strait of Georgia, and Imappivut (Northern Labrador), and Marine Protected Areas in Iles de la Madeleine and Tuvaijuittuq (Arctic Basin)
 - initiate work on additional National Marine Conservation Area proposals in unrepresented marine regions

Transport Canada

- Implement the Oceans Protection Plan – Pillar I: A State-of-the-Art Marine Safety System
Pillar 1 - Initiatives involved in enhancing the prevention of marine incidents include:
 - new information-sharing systems - the Government of Canada will work with Indigenous and coastal communities to design new information-sharing systems and platforms so they have access to real-time information on marine shipping activities to support safer navigation in local waters

- pilot project to enhance marine weather services to support marine traffic operations and improve safety in higher-risk areas
- Proactive Vessel Management - allow those involved in the marine safety system – governments, communities, Indigenous groups – to inform local traffic management
- safer resupply in Arctic communities – funding new tools and equipment to unload essential goods in northern communities
- stronger polluter-pay principle – remove the per-incident limit of liability on Canada's Ship-Source Oil Pollution Fund to provide unlimited compensation to responders and victims of a ship-source oil spill
- places of refuge: Pre-identifying potential coastal locations where a ship in need of assistance can take action to stabilize the condition of the vessel in order to protect human life and the environment. The department is revising its National Places of Refuge Contingency Plan based on the results of engagement activities, research and the addition of new regional annexes
- Anchorages Initiative - Research and analyze the environmental, economic, social, safety and security impacts of anchorages
- Seamless Regime Response – develop a broad and integrated framework for preparedness and response to all spills beyond ship-source oil

Initiatives involved in strengthening of responses to marine incidents include:

- a stronger Canadian Coast Guard - The Canadian Coast Guard's command systems will be strengthened where gaps have been identified. The Coast Guard will be given greater power to intervene directly to prevent marine incidents, such as where ship operators have been reluctant to act
 - increased emergency response: 24/7 response capacity will be established to effectively manage marine incidents; and baseline environmental data on British Columbia's North Coast will be collected
 - enhanced capacity for Environment and Climate Change Canada's to enforce wildlife and environmental laws for the east and west coasts, and expand set of 3D ocean products and enhance service by making it available 24/7
 - increased towing capacity - towing kits will be added to major Canadian Coast Guard vessels on the East and West to improve the capability to take swift action. Two new vessels will be leased with the ability to tow large commercial ships in distress
 - alternative response measures – research and policy on alternative response measures – such as dispersants and in-situ burning – that could be used only when there is an environmental benefit to do so
- Implement the Oceans Protection Plan – Pillar II: Preservation and Restoration of Marine Ecosystems
 - Pillar 2 - Preservation and Restoration of Marine Ecosystems initiatives include:
 - collection of baseline data and cumulative effects assessment - working closely with Indigenous and coastal communities, the Government of Canada will create a pilot baseline program to better understand the cumulative effects of shipping on coastal ecosystems
 - protect aquatic ecosystems - new measures will be funded that implement a real-time whale detection system to alert mariners to the presence of whales, which will help them avoid interactions and vessel strikes
 - address abandoned and wrecked vessels - the Government is implementing a national strategy that focuses on the prevention and removal of these problem vessels
 - Support the protection and recovery of Canada's endangered whale populations through management measures

Build our knowledge of coastal ecosystems, marine protected areas and fisheries

Conduct scientific research and analysis to build knowledge of Canada's coasts, oceans and fisheries. This will include:

- continuing to increase our knowledge of potential impacts of marine accidents on the Arctic environment
- developing and implementing monitoring protocols for Marine Protected Areas
- providing evidence-based advice to decision makers on marine ecosystems and environmental stressors
- improving our knowledge of fisheries resources, their productivity and factors affecting them to support sustainable fisheries management
- supporting and conducting science on sources, fate, distribution and impacts of marine litter, including plastic litter and microplastics
- investing in technologies that support better understanding of coastal ecosystems, such as listening stations to monitor underwater noise

Departmental actions

Environment and Climate Change Canada

- Improve knowledge of fisheries resources, their productivity and factors affecting them to support sustainable fisheries management
- Support and conduct science on sources, fate, distribution and impacts of marine litter, including plastic litter and microplastics
- Participate in and contribute to international discussions, negotiations and reviews on plastic waste and marine litter
- Amend the Convention to control plastic waste, updating guidelines related to managing plastic waste, and launching a partnership composed of governments, industry, and non-governmental organizations, with the goal to improve and promote the environmentally sound management of plastic waste and reduce plastic waste generation
- Conduct targeted education, outreach, and engagement with key sectors and stakeholders

Fisheries and Oceans Canada

- Conduct scientific research and monitoring and provide science advice to support marine conservation
- Conduct scientific assessments (biophysical and ecological overviews) to:
 - move forward with the establishment of existing Areas of Interest as *Oceans Act* Marine Protected Areas
 - identify Areas of Interest that will progress to *Oceans Act* Marine Protected Area establishment
- Advance Other Effective Area-based Conservation Measures based on science-based guidance and advice.
- Develop State of the Ocean Reports for each of Canada's three oceans
- Conduct scientific monitoring and research activities for aquatic species
- Measure the state and extent of ocean acidification in Canadian waters

- Establish baselines for Underwater Radiated Noise for Coast Guard vessels

Parks Canada

- From 2020 to 2023:
 - Continue efforts to protect and conserve National Marine Conservation Areas and contribute to effective area-based conservation measures by advancing knowledge of coastal and marine areas

Transport Canada

- Implement the Oceans Protection Plan – Pillar II: Preservation and Restoration of Marine Ecosystems
 - Pillar 2 - Preservation and Restoration of Marine Ecosystems initiatives include:
 - collection of baseline data and cumulative effects assessment - working closely with Indigenous and coastal communities, the Government of Canada will create a pilot baseline program to better understand the cumulative effects of shipping on coastal ecosystems
 - protect aquatic ecosystems - new measures will be funded that implement a real-time whale detection system to alert mariners to the presence of whales, which will help them avoid interactions and vessel strikes
 - address abandoned and wrecked vessels - the Government is implementing a national strategy that focuses on the prevention and removal of these problem vessels
- Implement the Oceans Protection Plan – Pillar IV: A Stronger Evidence Base and Increased Community Participation and Public Awareness
- Support the protection and recovery of Canada's endangered whale populations through research and monitoring

Use legislation and regulations to protect coasts and oceans

Continue to improve laws and regulations and implement those already in place to protect coasts and oceans and ensure fisheries are sustainable. For example:

- supporting the passage of amendments to the *Oceans Act* that provide the Minister of Fisheries, Oceans and the Canadian Coast Guard authority to designate interim protection of marine protected areas and modernize enforcement provisions
- supporting the passage of amendments to the *Fisheries Act* that provide protection and long-term sustainability of our marine resources, including measures to rebuild depleted fish stocks
- enhancing enforcement of pollution prevention provisions of the *Canada Shipping Act, 2001* that prohibit the release of pollutants from ships
- strengthening vessel owner responsibility and liability; enabling proactive federal intervention on hazardous vessels; and addressing irresponsible vessel management through implementation and enforcement of the *Wrecked, Abandoned or Hazardous Vessels Act*
- enhancing the ability to regulate marine traffic in order to protect the marine environment, including the impacts of shipping on marine mammals through the *Canada Shipping Act, 2001*
- lowering risks posed by aquatic invasive species to Canada's coastal ecosystems through updates to Canada's Ballast Water regulations, giving effect to the International Ballast Water Convention in Canada

Departmental actions

Environment and Climate Change Canada

- Lower risks posed by aquatic invasive species to Canada's coastal ecosystems through updates to Canada's Ballast Water regulations, giving effect to the International Ballast Water Convention in Canada
- Assess and deliver permits for disposal at sea and Antarctic expeditions in accordance with the *Canadian Environmental Protection Act* and the *Antarctic Environmental Protection Act* and their regulations, based on the latest scientific and technical information and public and indigenous consultations, as appropriate
- Meet Canada's international obligations under the London Convention and Protocol to prevent marine pollution
- Administer, promote compliance and implement a risk-based approach to enforcing federal environmental laws

Fisheries and Oceans Canada

- Continue to improve and use relevant laws and regulations to protect Canada's coastal and ocean territory and to ensure fisheries are sustainable
 - use the amendments to the *Fisheries Act* that provide protection and long-term sustainability of our marine resources, including measures to rebuild depleted fish stocks and new regulatory tools to provide long-term protection to marine biodiversity
 - develop Marine Spatial Plans in five marine areas to better coordinate how we use and manage marine spaces to achieve ecological, economic, and social objectives
- Implement limit reference points and harvest control rules for major fish stocks
- Prescribe major stocks in regulation, thus making them subject to the new Fish Stocks provisions (s. 6.1-6.3) in the recently amended *Fisheries Act*

Transport Canada

- Implement the Oceans Protection Plan – Pillar I: A State-of-the-Art Marine Safety System
Pillar 1 - Initiatives involved in enhancing the prevention of marine incidents include:
 - new information-sharing systems - the Government of Canada will work with Indigenous and coastal communities to design new information-sharing systems and platforms so they have access to real-time information on marine shipping activities to support safer navigation in local waters
 - pilot project to enhance marine weather services to support marine traffic operations and improve safety in higher-risk areas
 - Proactive Vessel Management - allow those involved in the marine safety system – governments, communities, Indigenous groups – to inform local traffic management
 - safer resupply in Arctic communities – funding new tools and equipment to unload essential goods in northern communities
 - stronger polluter-pay principle – remove the per-incident limit of liability on Canada's Ship-Source Oil Pollution Fund to provide unlimited compensation to responders and victims of a ship-source oil spill
 - places of refuge: Pre-identifying potential coastal locations where a ship in need of assistance can take action to stabilize the condition of the vessel in order to protect human life and the environment. The department is revising its National Places of Refuge Contingency Plan based on the results of engagement activities, research and the addition of new regional annexes

- Anchorages Initiative - Research and analyze the environmental, economic, social, safety and security impacts of anchorages
- Seamless Regime Response – develop a broad and integrated framework for preparedness and response to all spills beyond ship-source oil

Initiatives involved in strengthening of responses to marine incidents include:

- a stronger Canadian Coast Guard - The Canadian Coast Guard's command systems will be strengthened where gaps have been identified. The Coast Guard will be given greater power to intervene directly to prevent marine incidents, such as where ship operators have been reluctant to act
 - increased emergency response: 24/7 response capacity will be established to effectively manage marine incidents; and baseline environmental data on British Columbia's North Coast will be collected
 - enhanced capacity for Environment and Climate Change Canada's to enforce wildlife and environmental laws for the east and west coasts, and expand set of 3D ocean products and enhance service by making it available 24/7
 - increased towing capacity - towing kits will be added to major Canadian Coast Guard vessels on the East and West to improve the capability to take swift action. Two new vessels will be leased with the ability to tow large commercial ships in distress
 - alternative response measures – research and policy on alternative response measures – such as dispersants and in-situ burning – that could be used only when there is an environmental benefit to do so
- Implement the Oceans Protection Plan – Pillar II: Preservation and Restoration of Marine Ecosystems
 - Pillar 2 - Preservation and Restoration of Marine Ecosystems initiatives include:
 - collection of baseline data and cumulative effects assessment - working closely with Indigenous and coastal communities, the Government of Canada will create a pilot baseline program to better understand the cumulative effects of shipping on coastal ecosystems
 - protect aquatic ecosystems - new measures will be funded that implement a real-time whale detection system to alert mariners to the presence of whales, which will help them avoid interactions and vessel strikes
 - address abandoned and wrecked vessels - the Government is implementing a national strategy that focuses on the prevention and removal of these problem vessels
 - Set the legal and regulatory frameworks through domestic legislation and international conventions that govern the protection of the marine environment from pollution, and advance Canadian positions on reducing and managing global marine pollution from ships
 - Contribute to reducing pollution from vessels by monitoring compliance of marine transportation firms with Canadian legislation, such as the *Canada Shipping Act, 2001*, through the National Aerial Surveillance Program, inspections, audits, monitoring and enforcement
 - Update the regulatory framework for protecting the marine environment from the introduction and spread of aquatic invasive species by ships' ballast water, giving effect to the international Ballast Water Convention, to which Canada is party
 - Monitor marine transportation firms and vessels for compliance with the *Ballast Water Control and Management Regulations*, and as amended

- Monitor the compliance of vessels arriving from overseas and bound for the Great Lakes with current ballast water requirements, as well as cooperative enforcement with the U.S. in accordance with Annex 5 of the Great Lakes Water Quality Agreement

Implement policies for sustainable fisheries

Continue to implement Canada's Sustainable Fisheries Framework policies. The framework provides the foundation for an ecosystem approach to fisheries management.

The 2018 Fall Economic Statement provided \$107.4 million over 5 years, starting in 2019-2020, and \$17.6 million per year ongoing, for the rebuilding fish stock provision in the *Fisheries Act*.

Departmental actions

Fisheries and Oceans Canada

- Take concrete steps to implement an ecosystem approach to fisheries management through refined advice to take account of environmental factors in stock assessments and the continued implementation of the Sustainable Fisheries Framework policies in Canada's fisheries
- Continue to develop Sustainable Fisheries Framework policies, where required

Work with partners to protect and restore coastal ecosystems

Provide opportunities for ongoing collaboration and work with domestic and international partners to protect and restore coastal and marine ecosystems. This will include ongoing implementation of the Oceans Protection Plan—for example:

- creating opportunities, through funding mechanisms and training, for Indigenous communities to participate and play an active role in responsible shipping and the marine safety regime
- contributing to risk-based response planning, enhanced marine weather forecasting and alternative response measures, and strengthening the prevention of and responses to marine incidents
- providing funding support to eligible groups and harbour authorities to assist in the assessment, removal and disposal of abandoned or wrecked vessels in Canadian waters

Departmental actions

Fisheries and Oceans Canada

- Support the development of novel solutions to reduce plastic pollution

Natural Resources Canada

- Conduct science to improve the knowledge of diluted bitumen fate, behaviour, and natural degradation end-points when spilled into aqueous environments as part of the Oceans Protection Plan
- Advance marine geoscience information to support marine spatial planning with federal, provincial and territorial partners
- Conserve 25% of coastal and marine areas through networks of protected areas and other effective area-based conservation measures
- Continue to undertake science activities to support Canada's continental shelf submissions in the Atlantic Ocean and Arctic Ocean beyond 200 nautical miles

Transport Canada

- Implement the Oceans Protection Plan – Pillar I: A State-of-the-Art Marine Safety System
Pillar 1 - Initiatives involved in enhancing the prevention of marine incidents include:
 - new information-sharing systems - the Government of Canada will work with Indigenous and coastal communities to design new information-sharing systems and platforms so they have access to real-time information on marine shipping activities to support safer navigation in local waters
 - pilot project to enhance marine weather services to support marine traffic operations and improve safety in higher-risk areas
 - proactive vessel management - allow those involved in the marine safety system – governments, communities, Indigenous groups – to inform local traffic management
 - safer resupply in Arctic communities – funding new tools and equipment to unload essential goods in northern communities
 - stronger polluter-pay principle – remove the per-incident limit of liability on Canada's Ship-Source Oil Pollution Fund to provide unlimited compensation to responders and victims of a ship-source oil spill
 - places of refuge: Pre-identifying potential coastal locations where a ship in need of assistance can take action to stabilize the condition of the vessel in order to protect human life and the environment. The department is revising its National Places of Refuge Contingency Plan based on the results of engagement activities, research and the addition of new regional annexes
 - Anchorages Initiative - Research and analyze the environmental, economic, social, safety and security impacts of anchorages
 - Seamless Regime Response – develop a broad and integrated framework for preparedness and response to all spills beyond ship-source oil

- Initiatives involved in strengthening of responses to marine incidents include:
 - a stronger Canadian Coast Guard - The Canadian Coast Guard's command systems will be strengthened where gaps have been identified. The Coast Guard will be given greater power to intervene directly to prevent marine incidents, such as where ship operators have been reluctant to act
 - increased emergency response: 24/7 response capacity will be established to effectively manage marine incidents; and baseline environmental data on British Columbia's North Coast will be collected
 - enhanced capacity by Environment and Climate Change Canada' to enforce wildlife and environmental laws for the east and west coasts, and expand set of 3D ocean products and enhance service by making it available 24/7
 - increased towing capacity - towing kits will be added to major Canadian Coast Guard vessels on the East and West to improve the capability to take swift action. Two new vessels will be leased with the ability to tow large commercial ships in distress
 - alternative response measures – research and policy on alternative response measures – such as dispersants and in-situ burning – that could be used only when there is an environmental benefit to do so

- Implement the Oceans Protection Plan – Pillar III: Indigenous Partnerships
The Government will create opportunities for Indigenous communities to participate and play an active role in responsible shipping and the marine safety regime

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Environment and Climate Change Canada

- Continue to implement Environment and Climate Change Canada's initiatives contributing to Canada's Oceans Protection Plan, such as enhanced 24/7 response capacity, integrated risk-based response planning, enhanced marine weather forecasting and alternative response measures, to strengthen 24/7 emergency response capacity to ensure the environment is protected in the event of an oil spill
- Improve guidance for permit applicants for the Disposal at Sea program and the Antarctic program, including the development of a revised set of internal monitoring guidance, strategies, policies and site management plans

Fisheries and Oceans Canada

- Address hydrographic information gaps in the North through enhanced modern hydrography and charting to improve electronic navigational chart coverage of areas that have not yet been sufficiently surveyed within the proposed Low Impact Shipping Corridors in the Arctic
- Conduct highly intensive modern hydrographic surveying and charting activities to generate Electronic Navigation Charts for highly critical areas (near-shore, high risk coastal and inland water zones) across the country, including 23 of Canada's highest priority commercial ports and waterways

Pristine Lakes and Rivers

Contributing actions

Work with partners on water quality and ecosystem health

Collaborate with other governments, Indigenous peoples and regional stakeholders, in an integrated watershed management approach, to improve water quality and restore key aquatic ecosystems, including through:

- the Canada-US Great Lakes Water Quality Agreement
- the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health
- the Canada-Ontario Lake Erie Action Plan
- the Canada-Manitoba Memorandum of Understanding Respecting Lake Winnipeg and the Lake Winnipeg Basin
- the St. Lawrence Action Plan
- the Atlantic Ecosystems Initiatives
- the Gulf of Maine Initiative

Work with Ontario to renew the Canada-Ontario Agreement on Great Lakes Water Quality.

Continue to work with partners to complete the implementation of Remedial Action Plans to clean up and restore beneficial uses in Great Lakes Areas of Concern. Priority areas for de-listing include 5 Areas of Concern: Nipigon Bay, Peninsula Harbour, Niagara River, Bay of Quinte, and St. Lawrence River (Cornwall).

Partner with Indigenous peoples to increase collaboration in major basins. For example, we have signed a Saint John River/Wəlastəkw Interim Statement of Cooperation with the US federal government and Maliseet First Nations/Tribal Nation. This is a nation-to-nation commitment to cooperate in the restoration of the watershed and ecosystem.

Departmental actions

Environment and Climate Change Canada

- Work to protect Canada's freshwater and priority ecosystems such as the Great Lakes through sound science and regulatory tools and in collaboration with Indigenous and other partners across Canada

Collaborate with other governments, Indigenous peoples and regional stakeholders, in an integrated watershed management approach, to improve water quality and restore key aquatic ecosystems, including through:

- the Canada-US Great Lakes Water Quality Agreement
- the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health
- the Canada-Ontario Lake Erie Action Plan

Finalize a new Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (2020) that will align with Canada's commitments under the Great Lakes Water Quality Agreement to address key challenges in the Lakes (such as algae in Lake Erie)

Provide application-based funding to support partner-led projects to advance efforts to address priority areas under the Great Lakes Protection Initiative

Continue to collaborate with the United States to restore and protect the Great Lakes and their environmental and economic benefits to both countries, under the Great Lakes Water Quality Agreement

Continue to work with partners to complete the implementation of Remedial Action Plans to clean up and restore beneficial uses in Great Lakes Areas of Concern

- Provide information, data and expertise for domestic and international water boards to support efforts to regulate lakes and river basins through:
 - collaboration with the provinces, by way of agreements
 - collaboration with the U.S. through the international Joint Commission
 - participation in targeted studies focus on improving inter-jurisdictional water management
 - partner with Indigenous peoples to increase collaboration in major basins

Contribute to the effective management of other boundary and transboundary waters

- Work to protect Canada's freshwater and priority ecosystem, such as the Lake Winnipeg Basin, through sound science and regulatory tools and in collaboration with Indigenous and other partners across Canada

Collaborate with other governments, Indigenous peoples and regional stakeholders, in an integrated watershed management approach, to improve water quality and restore key aquatic ecosystems, including through the Canada-Manitoba Memorandum of Understanding Respecting Lake Winnipeg and the Lake Winnipeg Basin

Continue to support nutrient-reduction efforts in Lake Winnipeg through the Lake Winnipeg Basin Program, through basin-wide collaboration and engagement of Indigenous peoples on freshwater issues, and through the renewal of the Canada-Manitoba Memorandum of Understanding Respecting Lake Winnipeg and the Lake Winnipeg Basin

- Provide information, data and expertise for domestic and international water boards to support efforts to regulate lakes and river basins through:
 - collaboration with the provinces, by way of agreements
 - collaboration with the United States through the international Joint Commission
 - participation in targeted studies focus on improving inter-jurisdictional water management
 - partner with Indigenous peoples to increase collaboration in major basins

Contribute to the effective management of other boundary and transboundary waters

- Work to protect Canada's freshwater and priority ecosystems such as the St. Lawrence River and other major river basins in Atlantic, Western, and Northern ecosystems, through sound science and regulatory tools and in collaboration with Indigenous and other partners across Canada

Collaborate with other governments, Indigenous peoples and regional stakeholders, in an integrated watershed management approach, to improve water quality and restore key aquatic ecosystems through:

- the Canada-Quebec Agreement 2011–2026 and the St. Lawrence Action Plan (including to publish 21 water quality indicators in 2020-21)
- the Atlantic Ecosystems Initiatives

- the Saint John River/Wəlastəkw initiative (Freshwater Action Plan, Other Major Basins)
- Provide information, data and expertise for domestic and international water boards to support efforts to regulate lakes and river basins such as the Mackenzie River Basin and the Pacific Drainage Basin through:
 - collaboration with the provinces, by way of agreements
 - collaboration with the U.S. through the international Joint Commission
 - participation in targeted studies focus on improving inter-jurisdictional water management
 - partnership with Indigenous peoples to increase collaboration in major basins

Contribute to the effective management of other boundary and transboundary waters

The Jacques Cartier and Champlain Bridges Incorporated

- Continue current collaboration with Fisheries and Oceans Canada to share information and knowledge relevant to the execution of work in the water

Provide support and funding for projects

Support projects to improve water quality and help restore ecosystems in the Great Lakes, the St. Lawrence River, and the Lake Winnipeg Basin. This work will include actions to:

- reduce nutrient pollution
- restore water quality and ecosystem health of Great Lakes Areas of Concern
- reduce releases of harmful chemicals
- increase public engagement through citizen science
- engage Indigenous peoples
- enhance research and monitoring capacity essential to the restoration of the watersheds
- enhance collaboration to protect freshwater quality throughout the watersheds

Departmental actions

Environment and Climate Change Canada

- Support projects to improve water quality and help restore ecosystems in the Great Lakes including action to:
 - reduce nutrient pollution
 - restore water quality and ecosystem health of Great Lakes Areas of Concern
 - reduce releases of harmful chemicals
 - increase public engagement through citizen science
 - engage Indigenous peoples
 - enhance research and monitoring capacity essential to the restoration of the watersheds
 - enhance collaboration to protect freshwater quality throughout the watersheds
- Support projects to improve water quality and help restore ecosystems in the Lake Winnipeg Basin, including action to:
 - reduce nutrient pollution
 - reduce releases of harmful chemicals
 - increase public engagement through citizen science
 - engage Indigenous peoples
 - enhance research and monitoring capacity essential to the restoration of the watersheds
 - enhance collaboration to protect freshwater quality throughout the watersheds

- Support projects to improve water quality and help restore ecosystems in the St. Lawrence River including action to:
 - reduce nutrient pollution
 - reduce releases of harmful chemicals
 - increase public engagement through citizen science
 - engage Indigenous peoples
 - enhance research and monitoring capacity essential to the restoration of the watersheds
 - enhance collaboration to protect freshwater quality throughout the watersheds
- Fund projects through the Atlantic Ecosystems Initiatives to improve water quality, to conserve biodiversity, and to improve capacity to adapt to climate change
- Implement the Eco-Action Community Funding Program which provides up to 50% in matching funding to not-for-profit and non-government organizations to undertake local projects that will help protect freshwater quality
- Apply payments received by the Environmental Damages Fund to projects that restore damaged natural environments and improve the environmental quality of natural environments

Fisheries and Oceans Canada

- Support external scientific research and monitoring activities to better understand freshwater ecosystems

Better understand lake and river ecosystems

Conduct scientific research and analysis to better understand lake and river ecosystems, monitor their health, and provide information to support stakeholder decision making and help Canadians monitor the state of lakes and rivers. For example, reports will be released on:

- groundwater science
- the fate and effect of metals associated with regulated mining discharge into lakes and rivers
- the state of the Great Lakes (a joint Canada-US report targeted for release in June 2019)
- the state of Lake Winnipeg (a joint Canada-Manitoba publication targeted for release in June 2019)
- the state of the St. Lawrence River (expected by 2020)

Departmental actions

Environment and Climate Change Canada

- Conduct targeted research studies and national water quality monitoring programs for chemicals to inform decision-making for the preservation and protection of Canadian freshwater quality, including through the release of reports on:
 - groundwater science
 - the fate and effect of metals associated with regulated mining discharge into lakes and rivers
 - the state of the Great Lakes
- Conduct targeted research studies and national water quality monitoring programs for chemicals to inform decision-making for the preservation and protection of Canadian freshwater quality including through release of reports on:
 - groundwater science

- the fate and effect of metals associated with regulated mining discharge into lakes and rivers
- the state of Lake Winnipeg
- Conduct targeted research studies and national water quality monitoring programs for chemicals to inform decision-making for the preservation and protection of Canadian freshwater quality including through release of reports on:
 - groundwater science
 - the fate and effect of metals associated with regulated mining discharge into lakes and rivers
 - the state of the St. Lawrence River
- Focus scientific efforts to proactively understand, track and provide water quality and quantity information relating to Canada's freshwater resources
- Provide analysis, guidance and economic advice and develop and provide economic models to enable environmental effects to be factored into decisions
- Provide quality assured water quantity information (river flow and level) to various stakeholders to assist them in water management, planning and related decision-making

Fisheries and Oceans Canada

- Conduct scientific research and analysis to better understand lake and river ecosystems, monitor their health, and provide information to support stakeholder decision making and help Canadians monitor the state of lakes and rivers

The Jacques Cartier and Champlain Bridges Incorporated

- Carry out analyses of the biodiversity present on The Jacques Cartier and Champlain Bridges Incorporated territory
- Carry out regular water quality analyses near The Jacques Cartier and Champlain Bridges Incorporated's contractors' worksites

Natural Resources Canada

- Support addressing research gaps in water mapping, measurement and modelling
- Advance research to combine knowledge of groundwater aquifers and their links with surface water systems to build integrated models of water systems for sound, comprehensive water management by the provinces and territories

Parks Canada

- Many National Parks and freshwater National Marine Conservation Areas contain lakes and rivers, and Parks Canada's conservation work contributes to their protection and conservation

Use legislation and regulations to protect lake and river ecosystems

Implement legislation and regulations that protect lake and river ecosystems from pollution and other threats. For example, administer regulations under the *Fisheries Act* to reduce risks from wastewater and industrial effluent.

Departmental actions

Environment and Climate Change Canada

- Administer, promote compliance with and enforce and implement a risk-based approach to enforcing federal environmental laws, including:
 - the *Fisheries Act* pollution prevention provisions and associated regulations, including the Wastewater Systems Effluent Regulations, the Pulp and Paper Effluent Regulations, and the Metal Mining Effluent Regulations
 - the Environment Effects Monitoring requirements under the Pulp and Paper Effluent Regulations and Metal Mining Effluent Regulations
 - the Experimental Lakes Area regulations

Fisheries and Oceans Canada

- Administer the fish and fish habitat protection provisions of the Fisheries Act to minimize or avoid impacts to freshwater aquatic ecosystems

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- Put in place an audit system to ensure compliance, during the work, with applicable laws and regulations, including the *Species at Risk Act* and the *Fisheries Act*, in order to safeguard the fauna and flora of the St. Lawrence River

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

The Jacques Cartier and Champlain Bridges Incorporated

- Contain and pump Polychlorinated biphenyl-contaminated hydrocarbons in the East Sector of the Bonaventure Expressway between the Champlain and Victoria Bridges
- Contain and treat contaminated groundwater in the West Sector of the Bonaventure Expressway (in partnership with the Ministry of Environment and Fight Against Climate Change of Quebec)

Transport Canada

- Update the regulatory framework for protecting the marine environment from the introduction and spread of aquatic invasive species by ships' ballast water, giving effect to the international Ballast Water Convention, to which Canada is party
- Monitor marine transportation firms and vessels for compliance with the *Ballast Water Control and Management Regulations*, and as amended
- Monitor the compliance of vessels arriving from overseas and bound for the Great Lakes with current ballast water requirements, as well as cooperative enforcement with the United States in accordance with Annex 5 of the Great Lakes Water Quality Agreement

Sustainably Managed Lands and Forests

Contributing actions

Better understand lands and forests

Continue to conduct scientific research to better understand protected areas and managed forests and support decision making, including forest management plans. This will include:

- increasing understanding of forest conditions and changes in response to natural disturbances, climate change, and forest management practices
- working with partners under the National Forest Pest Strategy to help assess the threat to Canada's forest posed by the mountain pine beetle and identify effective mitigation and adaptation options
- assessing the cumulative effects of natural resource development on Canada's forests
- developing statistical infrastructure on land cover and land use to monitor changes in the extent of key ecosystem types, including those disturbed by fires, pests and invasive alien species
- developing more refined spatial analysis of the managed forest to improve understanding of forest carbon, especially as it relates to climate change
- conduct science and research related to parks and protected areas—including, for example, to better understand and promote ecological connectivity between protected areas, increase understanding of the effects of land cover and use on wildlife and ecosystems, and better incorporate Indigenous Knowledge into management decisions

Departmental actions

Environment and Climate Change Canada

- Increase understanding of forest conditions and changes in response to natural disturbances, climate change, and forest management practices by:
 - developing an inventory of conserved lands to support a multi-species approach to conservation and to deliver on the Fully Accounting for Canada's Conservation Lands initiative
 - maintaining and improving the Conservation Areas Reporting and Tracking System in cooperation with the Canadian Council on Ecological Areas and Environment and Climate Change Canada's Private Conservation Lands database, and enable tracking gains made towards Canada's 2020 Biodiversity Target #1 and FSDS goals
 - maintaining and improving the Canadian Wildlife Service Geospatial Knowledge Management Initiative database to ensure availability of geo-referenced information for conservation planning and implementation
 - developing the Canadian Environmental Sustainability Indicators program Wetlands Extent Indicator, including methodology for indicators of the rate and intensity of change in wetlands, and providing wetlands statistical data analysis and geospatial datasets
- Increase understanding of the effects of land cover and use on wildlife and ecosystems by incorporating Indigenous knowledge into management decisions

Natural Resources Canada

- Develop innovative forest products and decision tools that strengthen knowledge of forest ecosystems and contribute to the environmental sustainability of Canada's forests
- Advance science and technology on forest health protection

Build capacity and provide support

Provide support and funding for sustainably managed lands and forests and to increase Indigenous communities' participation in Canada's forest sector. For example, under the Indigenous Forestry Initiative, Canada invests \$1 million each year to support Indigenous forestry and related natural resources projects. In support of the Softwood Lumber Action Plan, announced in June 2017, we committed to invest an additional \$10 million over 3 years in the initiative to encourage continued innovation, diversification and resiliency of Canada's forest sector.

Conserve natural spaces

Through Nature Legacy funding, secure private land, expand national wildlife areas and migratory bird sanctuaries, increase our capacity to manage protected areas, and establish a coordinated network of conservation areas.

Establish and manage new protected areas and other effective area-based conservation measures, including privately protected areas supported by new investments announced in Budget 2018 and tax incentives for donation of private lands or partial interest in lands to charitable land trust organizations or government bodies under the Ecological Gifts Program. These actions will be guided by a renewed federal, provincial, territorial and Indigenous government approach to land and water conservation in Canada.

Through a \$74.75 million investment between 2018 and 2023, work in partnership with the Atlantic provinces and the forest industry to test an innovative intervention strategy aimed at preventing the spread of spruce budworm, one of the most damaging pests to spruce trees in Canada.

Continue to monitor the ecological integrity of national park ecosystems, to restore impaired ecosystems and to recover species at risk through the national Conservation and Restoration Program and other national park-based initiatives.

Departmental actions

Environment and Climate Change Canada

- Secure private land, expand National Wildlife Areas and Migratory Bird Sanctuaries, increase our capacity to manage protected areas, and establish a coordinated network of conservation areas, through:
 - implementation of the Nature Legacy Initiative
 - management and expansion of Environment and Climate Change Canada's protected areas network
 - supporting on-the-ground wetland restoration and enhancement projects in Canada
 - conservation planning and actions related to Protected Areas including the development of national policies, identification of Candidate Sites, and implementing sites' user services and site management
- Develop and advance the Ecological Gifts Program to increase the amount of ecologically sensitive land or rights in land donated by Canadians

Parks Canada

- From 2020 to 2023:
 - complete negotiations with provincial and Indigenous governments for the establishment of two new national park reserves in the South Okanagan, Similkameen (British Columbia) and in the coastal barrier islands of the Sandhills, Hog Island area (Prince Edward Island)

- continue to work with provinces and territories and Indigenous organizations to identify and assess additional national parks with an emphasis on unrepresented and poorly represented regions, and natural areas of importance to Indigenous communities
- update the National Park System Plan
- continue to monitor the ecological integrity of park ecosystems, to restore impaired ecosystems and to recover species at risk on a priority basis through the national Conservation and Restoration program and other park-based initiatives

Use legislation and regulations to manage the spread of invasive alien species

Manage the spread and introduction of invasive alien species by promoting compliance and carrying out enforcement activities. Design, develop and implement pre-, at- and post-border initiatives to limit the introduction and spread of invasive alien plants and pests to Canada's environmental resources, such as forests and agricultural lands.

Work with domestic and international partners

Provide opportunities for collaboration with stakeholders, Indigenous communities and organizations, and work with domestic and international partners to implement joint initiatives. Manage risks to natural resource sectors, infrastructure and human health by regulating pests and the pathways through which they can be introduced and spread, by providing scientific knowledge and by working with the provinces and territories through the Canadian Council of Forest Ministers and by advancing Canada's Wildland Fire Strategy, National Forest Pest Strategy, An Invasive Alien Species Strategy for Canada, Plant and Animal Health Strategy for Canada and Emergency Management Framework for Agriculture.

Departmental actions

Natural Resources Canada

- Support sustainable management of Canada's forests, in collaboration with provinces and territories

Work with Indigenous peoples

Work with Indigenous peoples to protect and conserve lands and waters, including through the pilot Indigenous Guardians Program. This initiative facilitates opportunities for Indigenous peoples to connect with and manage traditionally used lands and waters through, for example, monitoring ecological health, maintaining cultural sites, and protecting sensitive areas and species.

Departmental actions

Environment and Climate Change Canada

- Work with Indigenous peoples to protect and conserve lands and waters by:
 - supporting the establishment of Indigenous Protected and Conserved Areas
 - developing management plans for Environment and Climate Change Canada National Wildlife Areas and Migratory Bird Sanctuaries in Nunavut as part of the Inuit Impact and Benefit Agreement
 - consulting with Indigenous peoples and the Government of the Northwest Territories with respect to the long-term conservation of additional sites
 - progressing on officially replacing existing names of northern protected areas with Indigenous names
 - implementing the terms of the renewed Inuit Impact and Benefit Agreement for Environment and Climate Change Canada's conservation areas in the Nunavut Settlement Area with Inuit parties to the agreement

Parks Canada

- From 2020 to 2023:
 - collaborate with Indigenous governments, organizations and communities to identify candidate national parks, to undertake feasibility assessments including consultations, and to negotiate agreements to establish new national parks that include a collaborative governance structure and, maintain traditional use of natural and sacred areas
 - contribute to the Government of Canada's priority on reconciliation, and continue to participate in the Indigenous Guardians Program

Healthy Wildlife Populations

Contributing actions

Work with partners to implement the Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada

Through the Nature Legacy and Canada Nature Fund (Species Stream), the government has committed up to \$155 million over 5 years, starting in 2018 to 2019, to help implement the Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada. Most of this funding will be directed to major initiatives for the priority places, species, and sectors.

With our partners, strategically focus efforts and resources on shared priority places, species and threats to enable ecosystem-based approaches with multi-species and biodiversity conservation benefits.

Departmental actions

Environment and Climate Change Canada

- Implement the Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada with the collaboration of provinces and territories, Indigenous peoples, and stakeholders, and through the following actions, enabled by investments under the Canada Nature Fund:
 - partner and stakeholder engagement, cooperative conservation action planning, and the implementation of on-the-ground actions for species at risk for 11 Federal-Provincial-Territorial priority places
 - funding for 15 Community-Nominated Priority Places where multiple partners will take action together to protect and recover species at risk
 - participation in collaborative conservation action planning initiatives for the six priority species identified by federal, provincial and territorial governments
 - co-creation of conservation action plans with the agriculture, forest, and urban development sectors

Fisheries and Oceans Canada

- With our partners, strategically focus efforts and resources on shared priority places, species and threats to enable ecosystem-based approaches with multi-species and biodiversity conservation benefits

Work with partners to implement a Pan-Canadian Approach to Wildlife Health

Through a new Wildlife Health Advisory Committee, work with partners to develop management and policy recommendations to implement A Pan-Canadian Approach to Wildlife Health. This forum will enable us to focus efforts and resources on shared priorities and address discrepancies in capacity across Canada, particularly in rural and northern regions, and for emerging threats related to climate change.

Departmental actions

Environment and Climate Change Canada

- Develop management and policy recommendations to implement a Pan-Canadian Approach to Wildlife Health through Environment and Climate Change Canada's participation in the Wildlife Health Advisory Committee

Implement, innovate and modernize the regulatory and policy framework and tools to protect species at risk and migratory birds

Implement legislation, regulations and tools that support the new priority-based approach to protecting species at risk and migratory birds. This will include, for example:

- continuing to assess and list species and develop timely recovery strategies and action plans under the Species at Risk Act
- protecting critical habitat essential for the survival or recovery of species at risk, such as where they give birth, hatch, feed or raise their young
- working in partnership with Indigenous peoples to protect, conserve and recover species at risk
- promoting compliance with the Migratory Birds Convention Act, 1994
- implementing Parks Canada site-based action plans for species at risk
- developing tools to assess and protect habitat for species at risk, such as Woodland Caribou (boreal population)

Departmental actions

Environment and Climate Change Canada

- Implement legislation, regulations and tools that support a priority-based approach to protecting species at risk and migratory birds through:
 - protection of critical habitat of species as identified in recovery strategies and action plans under the *Species at Risk Act*
 - development of policies, standard operating procedures and/or guidance in accordance with the strategic *Species at Risk Act* policy framework and plan
 - engagement with provinces, territories, Indigenous communities, scientists, industry and other stakeholders to evaluate the effectiveness of the existing *Species at Risk Act* and assess the need for modernizing the Act
 - partnerships with Indigenous peoples to protect, conserve and recover species at risk
 - development of tools to assess and protect habitat for species at risk, such as woodland caribou (boreal population) and polar bear
 - provision of expert advice related to wildlife during assessments of human activities under the *Canadian Environmental Assessment Act*, the *Impacts Assessment Act* and the undertaking of a Strategic Assessment of Biodiversity
 - implementation of the Pan-Canadian Approach and a prioritized approach for action on species at risk, and seek ways to further; advance innovative approaches
 - implementation of an improved risk-based approach to enforcing federal wildlife laws that protect species at risk, protected areas, migratory birds and wild plants and animals in international and interprovincial trade
- Promote compliance with the *Migratory Birds Convention Act*, 1994 by
 - providing key economic analysis in support of the *Migratory Birds Convention Act* and regulations
 - collaborating with partners at home and internationally, and continue to monitor the status of and conduct research on migratory birds and their habitats

Fisheries and Oceans Canada

- Identify critical habitat, either partially or completely, for the survival or recovery of species at risk in recovery documents

Parks Canada

- Contribute, from 2020 to 2023, to the protection and recovery of species at risk by implementing actions from new and existing site-based, multi-species action plans (and species-specific plans) in coordination with key partners

Deliver enhanced conservation action

Make significant, targeted and sustained investments under the new Canada Nature Fund that drive partnerships, co-investment, innovation and improved conservation outcomes, with a focus on priority places, species and threats. This will include continuing to support projects in communities that are bringing people together to protect species at risk through the Canada Nature Fund for Aquatic Species at Risk and the Community-Nominated Priority Places for Species at Risk fund.

Departmental actions

Fisheries and Oceans Canada

- Promote and enable stewardship actions of partners/stakeholders in species at risk protection and recovery activities through the Habitat Stewardship Program for Aquatic Species at Risk; Aboriginal Fund for Species at Risk; and, Canada Nature Fund for Aquatic Species at Risk

Work with partners to enhance foundational knowledge of species, habitats and ecosystems

Carry out research and share information to protect and recover wildlife species—for example:

- develop decision support tools and promote evidence-based practices for agriculture, forestry, fisheries and urban development to identify and address common threats to multiple species
- conduct research to advance protection and recovery action for priority species at risk and migratory birds, including through the co-application of western science and Indigenous Knowledge
- collaborate with provinces, territories and other partners on national studies and analyses related to priority invasive alien species and pathways
- continue to participate in the National Aquatic Invasive Species Committee, a federal-provincial-territorial committee that provides a forum for planning, coordination, and information exchange
- develop inventories and characterizations of lands in order to improve knowledge of ecosystems

Departmental actions

Environment and Climate Change Canada

- Advance protection and recovery action for priority species at risk and migratory birds by conducting research, including co-application of western science and Indigenous knowledge by:
 - collaborating with stakeholders and Indigenous partners via *Species at Risk Act*-mandated and -enabled advisory bodies (including the Species at Risk Advisory Committee, the National Aboriginal Council on Species at Risk and the First Nation Advisory Committee on Species at Risk, and others)
 - collaborating with provinces, territories and other partners on national studies and analyses related to priority invasive species pathways
 - developing inventories and characterizations of lands to improve knowledge of ecosystems
 - participating in the National Aquatic Invasive Species Committee

- informing recovery planning and action for listed species at risk and priority species, including caribou, polar bear and listed migratory birds
 - conducting collaborative research with stakeholders and partners
 - ensuring Species at Risk information is available to partners and the public through publication of recovery documents on the public Species at Risk Registry
- Work in partnership with Indigenous peoples to protect, conserve and recover species at risk by:
 - working to renew nation-to-nation relationships with Indigenous peoples as part of the implementation of the Pan-Canadian Approach to Transforming Species at Risk Conservation and the *Species at Risk Act*
 - establishing mechanisms, including the Boreal Caribou Knowledge Consortium and others, to support co-application of Indigenous knowledge and western science
 - partnering with First Nations, Inuit, and Métis under the Canada Nature Fund, recognizing and enabling Indigenous leadership, knowledge, and interests in land and resource management
 - engaging Indigenous peoples for species and priority places, including in species assessment, recovery planning, recovery implementation (protection measures, stewardship and other actions)
 - negotiating of modern treaties and reconciliation agreements, including implementation of obligations, engagement with Indigenous peoples, and application of Indigenous knowledge
- Continue to monitor the status of and conduct research on migratory birds and their habitats by:
 - conducting research to understand the impacts of environmental change on species protection and conservation, including long-term and targeted research to assess key threats of climate change, habitat loss and anthropogenic activities, and through collaboration with Indigenous communities to design and implement research projects (Ongoing)
 - monitoring and assessing the status and trends of populations and landscapes, modelling the cause mechanisms and effects of population changes, establishing measurable population and habitat goals and conservation priorities, and identifying conservation actions in consultation with stakeholders—in support of developing regulations
 - enabling the implementation of Bird Conservation Regions Strategies by finding mechanisms and developing partnerships to disseminate information on the Strategies

Fisheries and Oceans Canada

- Publish recovery or management documents on the public-facing Species at Risk Public Registry

Parks Canada

- Advance, from 2020 to 2023, protection and recovery action for priority species at risk through the co-application of western science and Indigenous Knowledge in Conservation and Restoration projects, based on methodology developed in February 2020 with Indigenous partners

Build capacity and promote education
<p>Build capacity to protect, conserve and restore species and their habitat—for example, by:</p> <ul style="list-style-type: none"> ● administering the Habitat Stewardship Program, which supports conservation projects that engage Canadians in conservation actions to benefit wildlife

- administering the Aboriginal Fund for Species at Risk, which supports the active participation of Indigenous peoples in implementing the *Species at Risk Act*
- administering the Canada Nature Funds (Species Stream) to support partnerships with Indigenous peoples for the protection and recovery of species at risk
- investing \$2.25 million over 3 years, starting in 2018-2019, in programs for Engaging Canadian Kids in Wildlife Conservation, to be delivered across Canada
- providing the Baitfish Primer, an app that helps recreational fishers ensure that the bait they are using is neither an invasive species that could damage the ecosystem, nor a species at risk
- maintaining an online aquatic species at risk map that lets Canadians know where aquatic species at risk and their critical habitat are located across Canada
- co-leading, with the International Union for Conservation of Nature, the global #NatureForAll initiative, which is bringing together more than 50 partner organizations in Canada and more than 350 worldwide to scale up programming that connects people with nature and inspires broad-based public and cross-sectoral support and action for conservation

Departmental actions

Environment and Climate Change Canada

- Build capacity to protect conserve and restore species and their habitat through:
 - support projects under the Habitat Stewardship Program for Species at Risk and the Community-Nominated Priority Places for Species at Risk that engage Canadians in conservation actions to benefit wildlife
 - support projects under the Aboriginal Fund for Species at Risk that engage Indigenous recipients in conservation
 - the development of research capacity in Indigenous and Northern communities to support community-based monitoring and education
 - the investment of \$2.25 million over 3 years in programs for Engaging Canadian Kids in Wildlife Conservation

Fisheries and Oceans Canada

- Maintain an online aquatic species at risk map that lets Canadians know where aquatic species at risk and their critical habitat are located across Canada

Uphold international commitments related to wildlife

Work with international partners to protect and conserve species at risk and fulfill Canada's obligations under international agreements—for example:

- the Convention for the Protection of Migratory Birds in the United States and Canada
- the Convention on International Trade in Endangered Species of Wild Fauna and Flora
- the United Nations Convention on Biological Diversity

Departmental actions

Environment and Climate Change Canada

- Work with international partners to protect and conserve species at risk and fulfill Canada's obligations under international agreements by:
 - fulfilling Canada's obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora
 - implementing the Wild Animal and Plant Protection Regulation of International and Interprovincial Trade Act
 - working with international partners to implement a Circumpolar Action Plan for Polar Bears in accordance with the 1973 Agreement on the Conservation of Polar Bears

- fulfilling Canada's obligations under the United Nations Convention on Biological Diversity
 - tracking and coordinating actions in support of the Canadian Biodiversity Strategy and initiatives to advance the 2020 Biodiversity Goals and Targets for Canada, including by participating in and leading Canadian delegations at international meetings in support of biodiversity
 - coordinating Canada's participation with the U.S. and Mexico in the Trilateral Committee for Wildlife and Ecosystem Conservation and Management, and supporting the trilateral working group to conserve the Monarch butterfly migration, as per the 2016 North American Leaders Summit commitment
 - implementing the Ramsar Convention in Canada to promote the wise use of wetlands and support partners in the nomination of any new proposed Ramsar Sites
 - implementing an improved risk-based approach to enforcing federal wildlife laws that protect species at risk, protected areas, migratory birds, and wild plants and animals in international and interprovincial trade
 - working closely with foreign law enforcement agencies and intergovernmental organizations to protect domestic species and exotic species in Canadian commerce
 - participating in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
 - seeking to include provisions in Canada's free trade agreements that support Canada's leadership role in combatting illegal wildlife trade and protecting species at risk
- Work with international partners to protect and conserve species at risk (including relevant migratory bird species) and fulfill Canada's obligations under international agreements by:
 - taking actions for migratory bird conservation (under the auspices of the Commission for Environmental Cooperation), and delivering projects for seabird conservation in Chile (under the Canada-Chile Agreement on Environmental Cooperation) and for shorebird monitoring in Panama (under the Canada-Panama Environment Agreement)
 - implementing the Ramsar Convention in Canada to promote the wise use of wetlands and support partners in the nomination of any new proposed Ramsar Sites
 - collaborating with international partners, including to implement the *Migratory Birds Convention Act*, and continuing to monitor the status of and conduct research on migratory birds and their habitats
 - implementing an improved risk-based approach to enforcing federal wildlife laws that protect species at risk, protected areas, migratory birds, and wild plants and animals in international and interprovincial trade

Fisheries and Oceans Canada

- Support work undertaken with international partners to protect and conserve species at risk in particular as it relates to furthering species recovery as defined under Target 2 of the Convention on Biological Diversity

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Canada Border Services Agency:

- Develop and deliver a training module to border service officers regarding aquatic watercraft inspections to intercept invasive aquatic species at the border

Canadian Food Inspection Agency

- Promote compliance with import and domestic phytosanitary requirements including cargo and facility inspections and audits of alternative service delivery programs
- Develop and implement regulatory options for new invasive plants, plant pests, and pathways to limit the impact of invasive plants and plant pests on Canada's environmental resources, such as forests and agricultural lands
- Consult Canadians on regulatory options for new invasive plants, plant pests, and pathways

Environment and Climate Change Canada

- Advance the Migratory Birds Strategy, by providing a risk-based approach to enforcement of and compliance promotion with federal legislation such as the *Migratory Bird Convention Act*, 1994 and the *Species at Risk Act* to ensure an increase in population growth amongst migratory bird species

National Defence

- Implement a centralized geographic information system tool for species at risk information and capture 40% of historic data by 2023

Clean Drinking Water

Contributing actions

Work with partners on drinking water quality

Work with provinces and territories to develop and update the Guidelines for Canadian Drinking Water Quality.

Work in partnership with First Nation communities, including First Nations technical advisors and leaders to support sustainable First-Nations-led approaches to ensuring that on-reserve water systems are safe.

Departmental actions

Health Canada

- Develop and/or update health-based drinking water quality guidelines and guidance documents in collaboration with federal/provincial/territorial partners

Indigenous Services Canada

- Provide funding and advice to First Nations communities on the planning, procurement, design, construction, commissioning, operation and maintenance of water and wastewater systems
- Assist First Nations in identifying infrastructure needs and submitting capital projects proposals
- In spring 2017, Indigenous Services Canada's Regional Operations Sector created the Strategic Water Management Team to oversee the Department's commitment to eliminate long-term drinking water advisories on public systems financially supported by Indigenous Services Canada. The team coordinates departmental efforts in addressing this commitment and liaises between governmental and non-governmental stakeholders and First Nations communities on issues pertaining to drinking water

Take action to help ensure safe drinking water

Provide health-based guidance to provinces and territories on drinking water contaminants, including through the development of drinking water screening values.

Provide funding and advice to First Nations in the planning, procurement, design, construction, operation and maintenance, and commissioning of their water and wastewater facilities.

Conduct potable water inspections and/or audits on international and interprovincial aircraft, trains, cruise ships and ferries to protect the health and safety of the travelling public, ensuring that critical violations are mitigated in a timely manner.

Departmental actions

Public Health Agency of Canada

- Implement Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations including conducting inspections and assessments on international and interprovincial airplanes, trains, cruise ships, ferries and buses to protect the health and safety of the travelling public, ensuring that critical violations are mitigated in a timely manner

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Indigenous Services Canada

- Support all First Nations communities in ensuring they have ongoing access to a trained community-based drinking water quality monitor or an Environmental Public Health Officer to sample and test the drinking water for potential bacteriological contamination
- Support First Nations communities in on-going monitoring of drinking water quality in order to minimize potential negative health impacts

Sustainable Food

Contributing actions

Use legislation and regulations to ensure sustainable aquaculture

Develop and implement regulations under the *Fisheries Act* to advance aquaculture sustainability. This will include:

- implementing a monitoring program under the *Aquaculture Activities Regulations* to ensure the use of drugs and pesticides in aquaculture does not significantly harm freshwater and marine environments, and annually publishing data collected under the *Aquaculture Activities Regulations* for finfish, freshwater and shellfish operations
- developing a single set of aquaculture regulations which would bring more clarity for industry, stakeholders and the Canadian public about how aquaculture is managed for responsible growth in Canada
- begin developing a new federal act that would continue to ensure that Canada's aquaculture industry is a global leader in producing high-quality products in an environmentally sustainable way

Departmental actions

Canadian Food Inspection Agency

- Continue working with industry to facilitate the implementation of requirements under the *Safe Food for Canadians Regulations* such as:
 - licensing to identify food businesses and take responsive action when non-compliant activities are found
 - preventive controls to mitigate risks and
 - traceability to reduce the time to remove unsafe food from the market
- Support implementation of the requirements across the sectors through targeted outreach, webinars and guidance materials
- Collaborate with partners to promote compliance under the *Health of Animals Act* and the *Feeds Act*

Fisheries and Oceans Canada

- Inspect aquaculture operations to validate licence reporting, and determine compliance with aquaculture licences, conditions of licence, and other applicable legislation

Public Services and Procurement Canada:

- Revise and update the national standard, organic aquaculture (this standard will be referenced in the upcoming *Safe Food for Canadians Act*), to support and facilitate the principles of organic aquaculture

Increase knowledge supporting sustainable agriculture, fisheries and aquaculture

Conduct research on the environmental effects of agriculture and aquaculture and ways these sectors can help the environment (for example, by storing carbon).

Conduct targeted regulatory research on fish pests and pathogens, ecosystem management and interactions with wild fish populations, as well as collaborative research to improve environmental decision making and sustainability of the aquaculture industry.

Departmental actions

Agriculture and Agri-Food Canada

- Conduct research to increase knowledge on the environmental effects of agriculture, including ways the sector can help protect the environment

Fisheries and Oceans Canada

- Conduct targeted regulatory research on fish pests and pathogens, ecosystem management and interactions with wild fish populations, as well as collaborative research to improve environmental decision making and sustainability of the aquaculture industry

Promote innovation and secure our position as a preferred agri-food supplier to high-value markets

Promote innovation and encourage the adoption of sustainable agricultural practices at farm and landscape levels by working with provinces and territories through the Canadian Agricultural Partnership. The Partnership builds on the success of previous policy frameworks and provides a continued focus on environmental sustainability, including climate change mitigation and adaptation. It includes:

- disseminating research and providing new technologies to the sector at an accelerated pace
- promoting the advancement and adoption of agricultural clean technologies
- supporting agricultural research in emerging and transformative areas

Support the development of a world-leading, innovative Canadian agri-food sector, including by:

- supporting the Agri-Food Economic Strategy Table
- through Innovation Canada, providing a single point of contact that connects Canadian businesses and innovators in all sectors, including the agri-food sector, to government programs and services
- advancing the Protein Industries Canada Supercluster
- advancing the science clusters (for example, wheat, organic and pork) under the Canadian Agricultural Partnership's Agri-Science program

Departmental actions

Agriculture and Agri-Food Canada

- Track the value of agriculture and agri-food exports to measure the sector's contribution to Canada's economic growth
- Accelerate the demonstration, commercialization, and/or adoption of innovative agri-based products, technologies, processes, or services that increase the competitiveness and sustainability of the agriculture and agri-food sector, by continuing to fund the AgrilInnovate Program
- Build the capacity of Canada's agriculture, agri-food, and agri-based products sector to promote innovation through the generation and commercialization of new technologies
- Provide programming support to the provinces and territories through the Canadian Agricultural Partnership to build the capacity of Canada's agriculture, agri-food, and agri-based products sector to promote innovation by bringing awareness to new market opportunities through the development and dissemination of market intelligence

Provide a food subsidy

Continue to provide a subsidy, including through Nutrition North Canada, to increase access to perishable, nutritious food for Northerners living in isolated communities.

Make healthier food choices easier

Continue to implement the multi-year comprehensive Healthy Eating Strategy to support food environments that make healthier food choices easier for all Canadians. This includes improving the nutritional quality of food, protecting vulnerable populations through restrictions on food and beverage advertising marketed to children under 13 years of age, and providing nutritional information through an updated Canada's Food Guide and improved food labelling to better meet the needs of Canadians. As an integral part of the Strategy, the new Food Guide also promotes food literacy and skills that can support healthy eating, safe food handling and help reduce food waste.

Implement program improvements to Nutrition North Canada as one way to support increased access to and availability of nutritious foods in isolated northern communities.

Departmental actions

Agriculture and Agri-Food Canada

- Deliver the Local Food Infrastructure Fund which supports local food projects, such as those at food banks and community gardens across Canada, to provide at-risk populations, such as the less privileged and isolated communities, with improved access to healthy foods through investments in infrastructure

Health Canada

- Advance core components of the Healthy Eating Strategy, launched in 2016, which include: improving healthy eating information; strengthening labelling and claims, improving the nutrition quality of foods; and protecting vulnerable populations (e.g. marketing to children)

Indigenous Services Canada

- Through the nutrition education component of the Nutrition North Canada program, encourage healthy food choices by increasing the knowledge of healthy eating and the development of skills in selecting and preparing healthy food

Use legislation and regulations to ensure safe food

Implement the new *Safe Food for Canadians Regulations*, a major step forward in safeguarding Canada's food system and enhancing the health and well-being of consumers. The regulations include new requirements related to licensing, traceability of food products, and preventive controls. Requirements are being phased in over 12 to 30 months.

Under the authority of the *Food and Drugs Act and Regulations* continue to implement food safety and nutritional quality regulations and standards for all foods sold in Canada.

Departmental actions

Canadian Food Inspection Agency

- Continue working with industry to facilitate the implementation of requirements under the *Safe Food for Canadians Regulations* such as:
 - licensing to identify food businesses and take responsive action when non-compliant activities are found
 - preventive controls to mitigate risks and
 - traceability to reduce the time to remove unsafe food from the market

- Support implementation of the requirements across the sectors through targeted outreach, webinars and guidance materials
- Collaborate with partners to promote compliance under the *Health of Animals Act* and the *Feeds Act*

Fisheries and Oceans Canada

- Inspect aquaculture operations to validate licence reporting, and determine compliance with aquaculture licences, conditions of licence, and other applicable legislation

Health Canada

- Re-design food regulations to reduce impediments that prevent industry from bringing innovative products to market (e.g. supplemented foods and foods that use new processes and technologies), while protecting the health and safety of Canadians

Work with partners to address invasive alien species

Protect Canada's agricultural sector and natural spaces by working with partners to prevent invasive alien species from being introduced into Canada and limiting their spread. For example, work with the US and other countries to ensure compliance with Canadian phytosanitary regulations and share information on best practices and compliance rates.

Departmental actions

Canadian Food Inspection Agency

- Participate in international fora such as the International Plant Protection Convention, and the North American Plant Protection Organization

Foster partnerships with trading partners, provincial invasive species councils and agricultural, forestry horticultural and transportation stakeholders

Fisheries and Oceans Canada

- Conduct science research, monitoring and provide advice to support the Department and partners in addressing aquatic invasive species

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Agriculture and Agri-Food Canada

- Develop and launch the Food Waste Reduction Challenge to accelerate the implementation of innovative and concrete actions for reducing food waste in Canada
- Establish fora to facilitate strategic industry-government collaboration on key environmental issues facing the sector, such as a Sustainability Table
- Assess and report on the collective environmental impact of the adoption of sustainable agriculture practices by farmers on the Canadian landscape

Canada Border Services Agency

- Develop and deliver a training module to border service officers regarding aquatic watercraft inspections to intercept invasive aquatic species at the border

Crown-Indigenous Relations and Northern Affairs Canada

- Residents in eligible communities have access to nutritious, perishable foods at a subsidized rate
- Provide a subsidy for staple goods (non-perishables and other non-food/essential items shipped by surface transportation)
- Isolated northern communities' nutritional choices and community health are strengthened
- Deliver the Harvesters Support Grant to eligible communities so that they can equip themselves for the harvesting of country foods in support of food sharing activities

Public Services and Procurement Canada

- Revise and update the national standards on organic production systems to support and facilitate the principles of organic agriculture

Connecting Canadians With Nature

Contributing actions

Build capacity for conservation activities

Engage Canadians in stewardship activities to protect and conserve natural space and wildlife species and their habitat by:

- working collaboratively with Indigenous peoples on a wide range of Indigenous protected and conserved areas
- recovering species at risk on a priority basis, including through Parks Canada's Conservation and Restoration Program
- developing strategic partnerships for collaborative activities such as scientific and academic research, conservation efforts, promotional campaigns and outreach activities
- supporting national programming aimed at educating and engaging children aged 6 to 12 in Canadian wildlife conservation

Departmental actions

Environment and Climate Change Canada

- Collaborate with Indigenous peoples on a wide range of Indigenous protected and conserved areas
- Build capacity for conservation activities by:
 - developing strategic partnerships for collaborative activities, such as scientific and academic research, conservation efforts, promotional campaigns and outreach activities
 - working with the Nature Conservancy of Canada to deliver Government priorities, including to accelerate the rate of private land conservation and protect important natural habitat in communities across southern Canada
 - funding the Natural Heritage Conservation Program to assist and support securing of ecologically significant areas across Canada, protect habitat for species at risk (both Committee on the Status of Endangered Wildlife in Canada-assessed and *Species at Risk Act*-listed) and migratory birds, and enhance connections and corridors between protected areas

Invest in the North American Waterfowl Management Plan (\$10 million over two years, as part of the Government's sustained commitment to invest up to \$20 million over four years) and partner with the Nature Conservancy of Canada, Ducks Unlimited Canada, Island Nature Trust, and the Manitoba Habitat Heritage Corporation and others to implement the Plan

Engage with external partners to advance the Migratory Birds Strategy and enforce and promote compliance with federal wildlife legislation that protects plant and animal species, including in interprovincial and international trade

Parks Canada

- From 2020 to 2023:
 - continue working collaboratively with Indigenous peoples on a wide range of Indigenous protected and conserved areas
 - recovering species at risk on a priority basis, including through Parks Canada's Conservation and Restoration Program

- develop strategic partnerships for collaborative activities such as scientific and academic research, conservation efforts, promotional campaigns and outreach activities
- support national programming aimed at educating and engaging children aged 6 to 12 in Canadian wildlife conservation

Promote public participation

Encourage Canadians to visit their national parks and historic places, experience the outdoors and learn more about our environment and history. For example:

- provide opportunities for Canadians to connect with nature through learning, outreach and multi-media initiatives in their communities, and by offering free admission to Parks Canada places for children 17 and under
- work with partners to facilitate specific opportunities for youth, young adults and new Canadians to learn about, experience, and share their encounters with Parks Canada and its network of places
- continue efforts to increase participation in nature-based programs and visitation to national wildlife areas
- support the development of green space in urban areas to increase opportunities for residents to connect with nature

Departmental actions

Environment and Climate Change Canada

- Promote public participation in nature:
 - continue efforts to increase participation in nature-based programs and visits to national wildlife areas
 - implement the Connecting Canadians to Nature initiative in ten National Wildlife Areas by constructing new trails, bridges and exhibits, and promoting a national geocaching program (an outdoor educational game that uses GPS-enabled devices)
 - facilitate access to nature in National Wildlife Areas close to urban centres (for example, free access to Cap Tourmente National Wildlife Area in 2017)

The Jacques Cartier and Champlain Bridges Incorporated

- Organize information sessions and public consultations as part of the planning of development projects for urban and/or natural community sites when relevant

Parks Canada

- From 2020 to 2023:
 - provide opportunities for Canadians to connect with nature through learning, outreach and multi-media initiatives in their communities, and by offering free admission to Parks Canada places for children 17 and under
 - work with partners to facilitate specific opportunities for youth, young adults and new Canadians to learn about, experience, and share their encounters with Parks Canada and its network of places

Conserve Canada's biodiversity

Conserve Canada's biodiversity through the Canada Nature Fund. The fund will provide federal funding of \$500 million over 5 years and will seek to leverage an additional \$500 million in contributions from partners such as provinces, territories, Indigenous communities, philanthropic foundations, private sector companies and non-governmental organizations. It will support provinces, territories, Indigenous peoples and stakeholders in conserving natural areas and helping species at risk recover.

Departmental actions

The Jacques Cartier and Champlain Bridges Incorporated

- Work with biologists to monitor special-status avian and herpetofauna species nesting on the structures and on the ground and install and maintain their habitats (e.g., nesting boxes for peregrine falcons, manmade nesting girders for cliff swallows, hibernacula for the brown snake)

Enhance programs and services for visitors

Foster a connection to nature and culture by expanding and enhancing programs and services that meet the needs of visitors to Parks Canada administered places and facilitate positive and memorable experiences. This includes:

- diversifying accommodation and interpretation programming to encourage exploration and learning
- continuing to innovate, expand and diversify available programs and services and expand the Learn-to Camp Program
- working with Indigenous communities to provide interpretive and storytelling programs rooted in traditional activities and knowledge
- continuing to renew infrastructure that facilitates visitor access to and use of heritage places

Departmental actions

Parks Canada

- From 2020 to 2023:
 - diversify accommodation and interpretation programming to encourage exploration and learning
 - continue to innovate, expand and diversify available programs and services and expand the Learn-to Camp Program
 - work with Indigenous communities to provide interpretive and storytelling programs rooted in traditional activities and knowledge
 - continue to renew infrastructure that facilitates visitor access to and use of heritage places

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Canadian Food Inspection Agency

- Create and deliver communications activities to encourage Canadians to prevent the spread of invasive alien species when out in nature – for example, thoroughly, clean your boots and equipment, don't move firewood, and report any sightings of potential pests to federal and provincial governments

The Jacques Cartier and Champlain Bridges Incorporated

- Develop and put in place a greening plan for the undeveloped natural areas on The Jacques Cartier and Champlain Bridges Incorporated territory in order to promote the creation of a green network
- Explore partnership options with park development and enhancement agencies
- Continue the collaboration notably with *Sentier Urbain*, whose mission is to promote social greening in the city. The Jacques Cartier and Champlain Bridges Incorporated is making a parcel of land available to that organization so that it can create a natural living space in the city through the installation and maintenance of a pollinator garden

Parks Canada

- Maintain or increase visitation to national parks and National Marine Conservation Areas while maintaining the ecological values, integrity and benefits to biodiversity conservation of these places
- Continue to increase visitation to national historic sites

Safe and Healthy Communities

Contributing actions

Better understand air pollutants and harmful substances

Conduct scientific research and analysis to better quantify emissions and understand the sources and effects of outdoor and indoor air pollutants and chemical substances. These activities will focus on:

- better understanding and managing the health risks to Canadians
- assessing the benefits and co-benefits for the environment and human health of existing, planned and proposed measures to reduce emissions
- identifying emerging pollutants and emissions sources of concern, and where the impacts are likely to occur
- identifying and addressing the effects of air pollution on ecosystems and wildlife
- tracking harmful substances in the environment, including contaminant levels in the North through the Northern Contaminants Program

Departmental actions

Crown-Indigenous Relations and Northern Affairs Canada

- Continue research and monitoring related to contaminant levels and their effects in wildlife and people in the Canadian North as part of the Northern Contaminants Program efforts to reduce and, wherever possible, eliminate contaminants in traditionally harvested foods, while providing information that assists individuals and communities to make informed decisions about their food use

Environment and Climate Change Canada

- Monitor the impact of air pollution on ecosystems
- Assess the benefits and co-benefits for the environment and human health of existing, planned and proposed measures to reduce emissions, including by providing air quality monitoring data, expertise, maps and analysis, and modeling to guide implementation of the Air Quality Management System and other measures to reduce air pollutants
- Develop a better understanding and capacity to manage the health and environmental risks of pollutants to Canadians by:
 - continuing to deliver Canada's Chemicals Management Plan with Health Canada, including addressing the remaining 472 priority chemicals by the end of fiscal year 2020–21, continuing to set new directions and objectives for managing chemicals beyond 2020, and supporting greater transparency and public participation in the notification and risk assessments of new substances and organisms through the New Substances Voluntary Public Engagement Transparency Initiative
 - collaborating with Health Canada to strengthen the *Canadian Environmental Protection Act, 1999*
- Better understand harmful substances by conducting scientific assessment to determine the risks to the environment from substances that are already in commerce (existing substances) and substances proposed for use in Canada
- Deliver funding for community-led and citizen science initiatives (Horizontal Management Framework, Federal Leadership towards Zero Plastic Waste Initiative)

Health Canada

- Conduct research; develop, publish and/or distribute health risk assessments, guidance documents, guidelines and standards; analyze health benefits; and conduct outreach related to the health impacts of outdoor air pollution and actions to improve outdoor air quality
- Assess proposed actions to reduce air pollution for health benefits using the Air Quality Benefits Assessment Tool
- Conduct research, monitoring and surveillance (including biomonitoring) in order to better understand and manage the health risks of harmful substances
- Provide funding for research studies to monitor contaminant levels in wildlife and people in the Canadian North

National Research Council Canada

- Develop new technologies and update standards and guidelines under the Addressing Air Pollution Horizontal Initiative with respect to indoor air quality

Provide information to inform action and decision making

Provide information to help Canadians reduce their exposure to harmful substances and air pollutants. For example:

- help Canadians understand air quality in their area through the Air Quality Health Index and the State of the Air website
- inform Canadians about releases and disposals of pollutants in their communities through the National Pollutant Release Inventory
- support decision making by federal custodians of contaminated sites
- provide the Residential Air Quality Guidelines to inform Canadians about health effects of indoor air contaminants as well as sources, recommended exposure limits and recommendations to reduce exposure
- provide information on testing for indoor radon and actions to reduce radon levels where necessary
- assist provinces and territories by developing the Environmental Quality Guidelines, national benchmarks or indicators of environmental quality intended to protect, sustain and enhance Canada's environment

Departmental actions

Crown-Indigenous Relations and Northern Affairs Canada

- Continue research and monitoring related to contaminant levels and their effects in wildlife and people in the Canadian North as part of the Northern Contaminants Program efforts to reduce and, wherever possible, eliminate contaminants in traditionally harvested foods, while providing information that assists individuals and communities to make informed decisions about their food use

Environment and Climate Change Canada

- Help Canadians understand air quality in their area through the Air Quality Health Index and the State of the Air website

Implement the Air Quality Health Index to provide Canadians with greater access to local air quality information and forecasts to help make informed decisions about their health

- Inform Canadians about releases and disposals of pollutants in their communities through the National Pollutant Release Inventory

- Support decision-making by federal custodians of contaminated sites by providing enhanced oversight, administration and coordination to program partners
- Assist Federal departments and programs, provinces and territories by developing the Environment Quality Guidelines, national benchmarks or indicators of environmental quality intended to protect, sustain and enhance Canada's environment

Health Canada

- Develop, publish and/or distribute health risk assessments, guidance documents, guidelines and standards, and conduct outreach related to the health impacts of indoor air pollution and actions to improve indoor air quality, including information to inform action on indoor radon exposure
- Provide Canadians with access to information that will enable them to take protective action to reduce impacts from outdoor air pollution

Indigenous Services Canada

- Provide funding to the Centre for Indigenous Environmental Resources to continue to support the ClimateTelling web portal, which was established to create awareness about climate change and the impacts on human health facing Indigenous communities in Canada

Use legislation and regulations to address outdoor air pollutant emissions and harmful substances

Develop and implement regulations and non-regulatory instruments to limit emissions of air pollutants, including:

- nitrogen oxides
- sulphur dioxide
- particulate matter
- volatile organic compounds

Manage harmful substances which pose risks, ensure risk management measures are in place for substances identified as harmful, make it easier for organizations to report data, and carry out compliance promotion and enforcement activities.

Work with provinces and territories to minimize and reduce emissions of ozone-depleting substances and alternatives through the National Action Plan for the Environmental Control of Ozone-Depleting Substances and their Halocarbon Alternatives.

Departmental actions

Environment and Climate Change Canada

- Develop, administer, implement, and enforce regulations and non-regulatory instruments to limit emissions of air pollutants, including nitrogen oxides, sulphur dioxide, particulate matter and volatile organic compounds by:
 - continuing to administer regulations aimed at reducing the release of methane and certain volatile organic compounds from the upstream oil and gas sector
 - finalizing regulation of petroleum and refinery air pollutant emissions
 - continuing to administer the *Multi-Sector Air Pollutants Regulations* and various non-regulatory instruments for industrial sectors and equipment
 - finalizing an on-line reporting system for the *Multi-Sector Air Pollutants Regulations* for stationary spark-ignition engines

- continuing to administer various non-regulatory instruments to reduce air pollution from industrial sectors and equipment, such as nitrous oxide guidelines for new stationary combustion turbines and Performance Agreements for the aluminum and the iron ore pellets sectors
 - administering amendments to coal-fired electricity generation regulations;
 - publishing the final *Off-Road Compression-Ignition (Mobile and Stationary) and Large Spark-Ignition Engine Emission Regulations*
 - continuing to implement transportation air pollutant regulations and amending where appropriate to achieve emissions reductions objectives
 - implementing amendments to regulation of on-road vehicles for 2017–2025
 - implementing Tier 3 under the *On-Road Vehicle and Engine Emission Regulations*
 - finalizing the *Volatile Organic Compound Concentration Limits for Certain Products Regulations*
 - proposing amendments to the *Volatile Organic Compound Concentration Limits for Architectural Coatings Regulations*
 - starting the consultation on and publishing the renewal of the federal agenda on the reductions of volatile organic compounds emissions from consumer and commercial products
- Continue to reduce short-lived climate pollutants, many of which are also harmful air pollutants by:
 - continuing to implement Environment and Climate Change Canada's Strategy on Short-lived Climate Pollutants
 - publishing a progress report on commitments under the Short-lived Climate Pollutants Strategy
 - continuing to advance domestic and international work to reduce short-lived climate pollutants emissions
 - Assess the potential for the development of federal measures to address black carbon from new wood-burning appliances and continue implementing measures to reduce black carbon emissions from new stationary diesel engines
 - Manage harmful substances that pose risks, and ensure risk management measures are in place for substances identified as harmful, including through:
 - modelling, analysis and research, and by developing regulatory impact analysis statements to support informed federal decision-making on policy approaches to reduce air and water pollution, including assessments of regulations such as the off-road small spark ignition engines. The analysis will also support the development of air quality standards
 - development, implementation and administration of regulatory and non-regulatory instruments to manage risks from harmful substances
 - administering and promoting compliance and implementing a risk-based approach to enforcing regulations related to chemicals and toxic substances

Health Canada

- Assess and manage, where appropriate, the potential health risks associated with chemical substances, including pesticides

Indigenous Services Canada

- Manage the Environmental Review Process to ensure that projects on reserve do not cause significant adverse environmental effects

- In collaboration with Environment and Climate Change Canada, Indigenous Services Canada works with First Nations to co-develop options to address environmental protection regulatory and capacity gaps

The Jacques Cartier and Champlain Bridges Incorporated

- Develop an action plan to implement an environmental management system based on the best practices in the field

National Research Council Canada

- Develop National Research Council Canada's current PyroLIBS™ technology to optimise the converting processes of smelter operations to reduce the sulphur dioxide emissions

Work with partners on outdoor air quality and chemicals management

Work with provinces, territories and other stakeholders to address air quality through implementation of the Air Quality Management System, which includes ambient air quality standards, base-level industrial emission requirements, provincial air zones and federally managed air sheds, as well as reporting to Canadians.

Participate in joint initiatives to manage risks posed by harmful substances to nature and water, and work with domestic and international partners through programs such as Computers for Schools and reBOOT Canada which help reduce the environmental impact of electronic waste.

Provide leadership and expertise to World Health Organization initiatives on chemicals management and air pollution awareness and reduction strategies.

Departmental actions

Environment and Climate Change Canada

- Work with provinces, territories and other stakeholders to address air pollution through the implementation of the Air Quality Management System
- Complete the review of the Canadian Ambient Air Quality Standards for fine particulate matter and publish new Canadian Ambient Air Quality Standards for fine particulate matter to be met in 2025

Health Canada

- Work collaboratively with provinces, territories and stakeholders to develop and regularly update the Canadian Ambient Air Quality Standards

Take a leading role in international agreements and collaboration on chemicals management and transboundary air pollution

Negotiate on behalf of Canada and implement international agreements related to chemicals management.

Leverage international collaboration to support harmonized regulatory approaches.

Negotiate on behalf of Canada and implement and strengthen agreements to reduce transboundary air pollution. For example, work with the US through the Canada-US Air Quality Agreement and with the US and other countries through the Convention on Long-Range Transboundary Air Pollution.

Seek to include provisions in Canada's free trade agreements that support Canada's leadership role on chemicals management and air quality

Departmental actions

Crown-Indigenous Relations and Northern Affairs Canada

- Continue, through the Northern Contaminants Program, to contribute data, information, leadership and expertise in support of international initiatives under the Arctic Council (e.g. the Arctic Monitoring and Assessment Programme), international agreements and their effectiveness evaluation (e.g., the Stockholm Convention on Persistent Organic Pollutants, the Minamata Convention on Mercury), and other initiatives aimed at efforts to reduce and, wherever possible, eliminate transboundary contaminants that make their way into northern food chains that include traditionally harvested foods

Environment and Climate Change Canada

- Negotiate on behalf of Canada and implement and strengthen agreements to reduce transboundary air pollution through:
 - continuing work with the United States to address transboundary air pollution under the Canada-U.S. Air Quality Agreement
 - implementing the commitments under the Gothenburg Protocol of the United Nations Economic Commission for Europe Convention on Long Range Transboundary Air Pollution and continuing to demonstrate leadership under the Convention
 - seeking to include provisions in Canada's free trade agreements that support Canada's leadership role on air quality
- Negotiate on behalf of Canada and implement and strengthen agreements to reduce transboundary air pollution by engaging in efforts to take action on short-lived climate pollutants and other contaminants under the Arctic Council
- Negotiate on behalf of Canada and implement international agreements related to chemicals management, including through:
 - continuing to advance the implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer, including its Kigali Amendment on hydrofluorocarbons, and by supporting bilateral projects in developing countries
 - continuing to advance the sound management of chemicals and waste through active participation in committees and subsidiary bodies to the Basel, Rotterdam and Stockholm Conventions, supported by domestic action under the Chemicals Management Plan
- Prepare and publish a national report on black carbon and methane every two years in line with an Arctic Council commitment

Health Canada:

- Influence international regulatory approaches by developing and adapting policies and regulatory approaches related to pesticides from work plans in collaboration with international partners

Demonstrate leadership on assessing and remediating contaminated sites

Assess and remediate federal contaminated sites through the Federal Contaminated Sites Action Plan and the Northern Abandoned Mine Reclamation Program.

Departmental actions

Canada Border Services Agency

- Continue to identify, remediate and monitor contaminated sites at all Canada Border Services Agency-owned facilities to prevent negative environmental impacts

Crown-Indigenous Relations and Northern Affairs Canada

- Initiate the Northern Abandoned Mine Reclamation Program to manage eight abandoned mines in the Yukon and Northwest Territories
- Manage the Department's portfolio of contaminated sites under the Federal Contaminated Sites Action Plan

Environment and Climate Change Canada

- Assess and remediate federal contaminated sites through the Federal Contaminated Sites Action Plan at sites for which Environment and Climate Change Canada is responsible

Fisheries and Oceans Canada

- Implement a contaminated sites management plan to enable the Department to meet the Government of Canada's long-term target to bring 95% of the contaminated sites listed in the Federal Contaminated Sites Inventory to the point of closure, or risk management

Health Canada

- Provide human health advice to other federal departments that are responsible for assessing and remediating contaminated sites

The Jacques Cartier and Champlain Bridges Incorporated

- Through the action plan for the management of contaminated sites, develop a strategy for the sustainable remediation of the contaminated sites on The Jacques Cartier and Champlain Bridges Incorporated territory

National Defence

- Reduce National Defence's contaminated sites liability by an average of 10% per year by 2023

National Research Council Canada

- In accordance with the Treasury Board Policy on Management of Real Property and consistent with the Federal approach to contaminated sites as well as to ensure appropriate application of the precautionary principle, the NRC will continue to monitor, risk-manage and/or remediate its identified contaminated sites

Parks Canada

- Contribute to the delivery of Phase IV of the Federal Contaminated Sites Action Plan
- Ensure accurate annual Federal Contaminated Sites Inventory update and attestation

Public Services and Procurement Canada:

- Identify risks and priorities for remediation by completing environmental site assessments
- Implement risk reduction activities (remediation and risk management) to reduce associated liability

Transport Canada

- Implement the Federal Contaminated Sites Action Plan and complete remediation and risk management activities at known high-priority federal contaminated sites owned by Transport Canada

Prevent environmental emergencies or mitigate their impacts

Collaborate with provinces, territories and other partners to protect Canadians and their environment from the effects of emergency pollution incidents by providing science-based expert advice and regulations.

Continue to support provincial and territorial disaster relief and recovery efforts in the wake of large-scale natural disasters through the Disaster Financial Assistance Arrangements Program.

Departmental actions

Health Canada

- Collaborate with other federal partners and provincial authorities to strengthen nuclear emergency preparedness and response

Natural Resources Canada

- Integrate new data streams from the RADARSAT Constellation Mission into production of emergency river ice and flood maps through new automated tools
- Facilitate provision of geospatial data to support national and international emergency management efforts

Parks Canada

- Develop an Environmental Emergency Response Planning Standard and Procedures
- Incorporate disaster preparedness and emergency response procedures into business unit planning

Public Safety Canada

- The Department continues its work such that Canada can effectively mitigate, prepare for, respond to and recover from all-hazards events. This departmental action includes its support of the Emergency Management Strategy for Canada: Towards a Resilient 2030 (approved by Federal/Provincial/Territorial Ministers Responsible for Emergency Management in January 2019) and the intended future development of an Action Plan to facilitate biennial priority setting and reporting

Transport Canada

- Prevention

Transportation of Dangerous Goods policy and regulatory plan seeks to ensure compliance within industry by anticipating/responding to issues related to the transportation of dangerous goods. This includes:

- conducting education, outreach and awareness activities to ensure that the industry knows its legal and regulatory responsibilities
- bringing Canada's regulations in line with international codes, and
- maintaining an effective oversight regime that seeks to guarantee regulatory compliance and carry out enforcement when warranted

- Mitigation

Transportation of Dangerous Goods employs several strategies to mitigate emergencies involving dangerous goods, such as:

- requiring the development of Emergency Response Assistance Plans, to ensure that industry knows what to do in the event of a release or anticipated release of certain higher-risk dangerous goods while in transport
- dispatching Remedial Measures Specialists to the location of dangerous goods emergencies to promote public safety by monitoring remedial measures taken to mitigate the incident

The Canadian Transport Emergency Centre is a national advisory service that assists emergency response personnel in handling dangerous goods emergencies on a 24/7 basis

Additional Actions

Federal departments and agencies have also taken additional actions that support the goal.

Departmental actions

Canada Border Services Agency

- Continue to monitor storage tank compliance through audits and correct deficiencies in all Canada Border Services Agency-owned facilities in accordance with the *Canadian Environmental Protection Act – Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*
- Continue to ensure compliance with Health Canada’s Guidelines for Canadian Drinking Water Quality through the National Potable Water Monitoring Program by means of regular sampling and corrective actions where assessments deem it necessary
- Reduce risk of employee and public exposure to radon gas through continued monitoring and remediation as per Health Canada guidelines
- Track halocarbon containing equipment in all Canada Border Services Agency-owned facilities and take measures to reduce environmental impacts in accordance with the *Federal Halocarbon Regulations*
- Continue to monitor and manage the presence of asbestos in any Canada Border Services Agency-owned facilities in accordance with the *Canadian Environmental Protection Act*

Crown-Indigenous Relations and Northern Affairs Canada

- Identify priority science needs to improve the detection, sampling and analysis of plastics and microplastics in Arctic and Northern ecosystems, and establish baselines for long-term monitoring of trends, through the Northern Contaminants Program. These research and monitoring activities will contribute to Canada’s Plastics Science Agenda, furthering our understanding of how plastics and microplastics are distributed and move through Arctic ecosystems. As plastics science advances, it will better inform policy development and improve the ability to track the effectiveness of actions taken

Health Canada

- Assess the extent to which regulatory decisions and actions are keeping pesticides at acceptable limits in order to protect the health of Canadians and the environment from risks associated with the use of pesticides
- Provide health expertise to support the strategic assessment of proposed major projects (such as pipelines and mines)

National Defence

- Develop a project plan, including costs, timelines and alternative products to eliminate Perfluoroalkylated Substances Class B foam at National Defence locations, by 2023

Transport Canada

- Address, under the Aviation Sector Regulatory Initiative, air pollutant emissions from aviation by supporting the International Civil Aviation Organization's development of new international standards and recommended practices and through the development and implementation of new domestic standards

Canada has domestic regulatory instruments in place for nitrogen oxides, non-volatile particulate matter, carbon monoxide, & unburned hydrocarbons emissions from aircraft engines. Work is ongoing to incorporate a new non-volatile particulate matter mass and number standard into the Canadian Aviation Regulations. These instruments align Canada with the International Civil Aviation Organization's international standards

Piston powered aircraft use aviation gasoline fuel, which contains a low level of lead. There is currently no unleaded fuel option that is approved and safe for use for all piston-powered aircraft operating in Canada. Lead is one of the top ten toxic substances listed in the *Canadian Environmental Protection Act. The Gasoline Regulations*, under the *Canadian Environmental Protection Act*, prohibit the use of lead in fuels, however Canada has an exemption in place to allow for the use of low lead aviation gasoline fuel due to safety issues. Canada is collaborating with others to find a suitable unleaded fuel, such that the exemption can be removed

- Under the Rail Sector Regulatory Initiative, limit criteria air contaminant (or air pollutant) emissions from the rail sector through the *Locomotive Emissions Regulations*
- Address, under the Marine Sector Regulatory Initiative, greenhouse gas and other air emissions from maritime shipping by working with the International Maritime Organization in the development of new international standards and recommended practices for marine vessels, as well as through the implementation of new Canadian regulations
- Conduct research to generate technical evidence required to support legislative and regulatory approaches to reducing greenhouse gas and air pollutant emissions, and to promote the adoption of clean technologies across several modes of transportation, including:
 - eTV: Supporting projects under the ecoTECHNOLOGY for Vehicles Program to address greenhouse gas emissions from the road sector through its testing of advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards to ensure that new technologies are introduced in Canada in a safe, secure and timely manner
- Address greenhouse gas emissions under the Heavy-Duty Vehicle Retrofit Requirements Program by working with other federal departments, provinces, territories and industry to explore the challenges and barriers to adopting fuel-saving retrofits on heavy-duty trucks, informing the development of future strategies to reduce greenhouse gases from this sector