

PART I

Chapter 2

Environmental governance and management

Canada has improved the effectiveness of multi-level environmental governance and enhanced the engagement of Indigenous peoples in environmental decision making. However, more needs to be done to build on recent progress in these areas and adopt good international practices in environmental assessment and permitting. This chapter analyses Canada's environmental governance system, including the institutional and regulatory frameworks and measures to ensure compliance with environmental law. It also assesses progress in promoting environmental democracy through public participation, access to information, justice and education.

1. Introduction

Canada is re-evaluating its environmental policies and regulations in light of the more ambitious goals of the current government. This process emphasises strengthening instruments of environmental governance, particularly those related to performance management. The Cabinet Committee on Agenda, Results and Communications chaired by the Prime Minister has embraced the concept of “deliverology” aimed at achieving measurable outcomes in the federal government’s priority policy areas, one of which is climate change. The outcome focus of environmental governance requires progress in information management, compliance assurance and environmental democracy, among other areas.

Improved partnerships with provincial, territorial and municipal governments are one of the key priorities of the federal government in the field of environment (PMO, 2017). The latest example of a successful concerted inter-jurisdictional effort is the development of the pan-Canadian Framework on Clean Growth and Climate Change, announced by Canadian first ministers in December 2016 (Chapters 3 and 4). Equivalency and other types of agreements between the federal and provincial or territorial governments have addressed many, though not all, issues of overlapping environmental responsibilities. At the same time, many good practices emerging at the sub-national level could be usefully shared with other jurisdictions.

The Prime Minister’s declaration that “no relationship is more important to me and to Canada than the one with Indigenous peoples” (PMO, 2017) reflects a dramatic policy change with respect to Canada’s First Nations, Inuit and Métis communities. For many years, Indigenous peoples have felt that they have had no opportunity to meaningfully participate in environmental decision making. They have also felt subject to “environmental racism”: damage to Indigenous communities from natural resource development projects vastly exceeded the benefits. With Canada’s adherence to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the implementation of Indigenous peoples’ rights has become key to enhancing the country’s environmental democracy, particularly with respect to land use.

2. Institutional framework for environmental governance

Canada, the second largest country in the world in terms of land area, is a federation composed of ten provinces and three territories. While provinces exercise constitutional powers in their own right, territories exercise delegated powers under the authority of the Parliament of Canada.

The Canadian Constitution defines the exclusive powers of federal parliament and provincial legislatures. The environment, which is not specifically listed in the division of powers in the Constitution, is an area of concurrent jurisdiction. A particular pollution problem may fall within the jurisdiction of both the federal and provincial/territorial levels of government. Each may view the problem from a different perspective or choose to adopt differing instruments of control.

Provinces have the leading role in environmental protection. They regulate air emissions, water and wastewater treatment and discharges, waste management (with the exception of transboundary movement of waste), land use, development of natural resources and protection of wildlife. However, the federal government's constitutional authority over criminal law, fisheries, shipping and navigation has been used to justify federal environmental legislation in many areas. Responsibility for the environment in the territories varies between jurisdictions. In Yukon and the Northwest Territories, land, water and resource management falls under the responsibility of the territorial government, whereas the federal government has this responsibility in Nunavut. There are several areas of duplication between federal and provincial responsibilities, including environmental assessment, water quality management and biodiversity protection. This duplication leads to occasional tensions between the two levels of government and may need further clarification. For example, some projects can be subject to environmental assessment under both federal and provincial law.

Municipalities are vested with powers by the provinces and hold only an indirect relationship with the federal government. Municipalities are generally responsible for providing environmental services (water supply, sanitation and waste management). However, many are also becoming active in such matters as development of contaminated land and regulating effluent discharge into municipal sewage systems. Still, municipalities collect only a small share (less than 10%) of the total tax revenue. This raises the issue of “unfunded mandates”, i.e. the gap between the responsibilities and resources available to carry them out.

2.1. National institutions and horizontal co-ordination

The Minister of Environment and Climate Change is accountable to parliament for the administration of the Canadian Environmental Protection Act (CEPA, 1999). In 2014, Environment and Climate Change Canada (ECCC) became responsible for the administration and enforcement of most of the pollution prevention provisions under the Fisheries Act. The Department of Fisheries and Oceans remains responsible for matters related to aquaculture and aquatic invasive species. The Canadian Environmental Assessment Agency (CEAA) promotes, monitors and facilitates compliance with the Canadian Environmental Assessment Act (2012).

Within the federal government, topic-specific interdepartmental committees at the senior management level co-ordinate environmental matters. Among other responsibilities, they provide direction and guidance on key issues associated with the development and implementation of Federal Sustainable Development Strategies (Chapter 3). Similar horizontal co-ordination mechanisms exist at the provincial level. These include the Natural Resource Board of British Columbia, Alberta's Natural Resources Conservation Board and Quebec's Inter-ministerial Committee for Sustainable Development. Not all of them function well, however. For example, Quebec's committee meetings are attended by less than half of its members (Vérificateur Général du Québec, 2017).

2.2. Sub-national institutions and vertical co-ordination

Every jurisdiction has an environmental ministry or agency, but environmental responsibilities can be widely shared within each government. Some jurisdictions (e.g. Quebec, Ontario, New Brunswick) have distinct departments/ministries responsible for some aspects of wildlife management and conservation. As in the federal government, the mandates of other

sub-national departments or ministries can also have a significant environmental component, such as those responsible for natural resources, fisheries or health.

The main federal/provincial/territorial body addressing national environmental issues is the Canadian Council of Ministers of the Environment (CCME). The CCME, comprised of environment ministers from the federal, provincial and territorial governments, is chaired by 1 of the 14 jurisdictions according to a set annual rotation. It traditionally addresses issues related to air, water, waste and contaminated sites and has recently added climate change to its agenda. It has done a great deal to harmonise federal and provincial regulations in these areas. Ministers generally meet in person on an annual basis, whereas the CCME's secretariat (based in Winnipeg) functions continuously. The CCME is supported by numerous topic-specific sub-committees: the Air Management Committee; the Climate Change Committee; the Soil Quality Guidelines Task Group; the Waste Management Task Group; and the Water Management Committee. The collaborative development of the Air Quality Management System (Section 3.2) was the CCME's major recent success.

Other key permanent vertical co-ordination bodies include:

- The annual Energy and Mines Ministers' Conference – a forum for Canada's federal, provincial and territorial governments to collaborate and align efforts on shared energy priorities related to energy innovation, research and development, and the impact of energy development and use on climate change.
- The Canadian Council of Forest Ministers – a mechanism for federal, provincial and territorial ministers responsible for forests to advance shared priorities, including innovation, forest-based Indigenous economic development, forest fire management and climate change.
- The Committee on Health and Environment (CHE) – established in 2003 to enhance strategic collaboration between health and environment sectors across jurisdictions. The CHE was revitalised in 2016 to consider such issues as climate change and environmental assessment.
- The Canadian Council of Resource Ministers – a grouping of ministerial forums for forests, fisheries and aquaculture, parks, endangered species and wildlife. Following a long period of inactivity in 2006-15, an ad hoc committee of ministers responsible for conservation, wildlife and biodiversity has recently resumed its work.

Federal environmental authorities also enter into various types of agreements (substitution and equivalency agreements, memoranda of understanding, administrative agreements and collaboration agreements) with their provincial and territorial counterparts. A main objective of such agreements is to reduce duplication of environmental management responsibilities between the two jurisdictions (see Chapter 5 for a discussion of equivalency agreements for urban wastewater management). Alberta, British Columbia, Manitoba, Newfoundland and Labrador, Ontario, Quebec, Saskatchewan and Yukon have entered into co-operation agreements with the federal government that provide for a single, co-operative environmental assessment process where both federal and provincial/territorial statutes require such an assessment of a proposed project. However, the elaboration of such agreements requires substantial time and resources. The PCF is a prominent recent example of an issue-specific inter-jurisdictional agreement that commits all actors to work together towards common targets, but recognises that sub-national governments will use different approaches to achieve them. Another example is the 2014 agreement between the federal government and Ontario on the management of the Great Lakes, with annexes on the engagement of Indigenous peoples.

Canada has a unique relationship with its Indigenous peoples (First Nations, Inuit and Métis), which is reflected in its Constitutional Act. Canada implements 26 modern treaties – Comprehensive Land Claim Agreements – and 4 self-government agreements signed with Indigenous peoples since 1973, covering over 40% of the country.¹ These constitutionally protected treaties are negotiated between an Indigenous group, the federal government and the province or territory. They are implemented through legislation and provide certainty for all parties about the ownership, use and management of land and natural resources. They address issues such as harvesting and sub-surface rights, resource revenue sharing and environmental management. These agreements have established new governance regimes that have significantly enhanced Indigenous communities' influence over land, wildlife and resource decisions.

In addition, the federal governments of Canada and the United States have implemented over 40 international agreements for the management and protection of environmental quality and ecosystems in the border area. These include the Great Lakes Water Quality Agreement (1972, last amended in 2012) and the Air Quality Agreement (1991). There are over 100 additional such agreements between American states and Canadian provinces. They include the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement between eight states and two provinces signed in 2005. Quebec's cap-and-trade system for greenhouse gas (GHG) emissions, introduced in 2012, was linked to that of California in 2014 (Chapter 4). This close and effective cross-border collaboration should be preserved and encouraged.

The Council of the Federation is the premier-led sub-national intergovernmental forum on areas of mutual concern, including environmental issues; the federal government does not participate. In 2015, the Council adopted the Canadian Energy Strategy to enable a co-operative approach to sustainable energy development. This includes support for clean energy technology and innovation, and enhancing energy efficiency policies and mechanisms. Municipalities participate in sub-national forums to discuss matters of shared concern, including cross-border environmental issues, but are usually not part of federal-provincial co-ordination mechanisms. Several provinces (e.g. Alberta) have horizontal collaboration between smaller municipalities on environmental matters in the form of "regional commissions" on water (shared water supply services or wastewater treatment plants) and waste management.

The federal government provides funding for about half of capital investments into municipal environmental infrastructure (water supply, sanitation, waste management) and contributes to its operating costs. There is also endowment funding to support sustainable community development through the Green Municipal Fund (GMF) under the Federation of Canadian Municipalities. The GMF disburses grants to develop plans and conduct feasibility studies, as well as low-interest loans, usually in combination with grants, to implement capital projects in the fields of land remediation and development, energy, transportation, waste and water (GMF, 2017). However, municipalities widely regard the GMF disbursement process as administratively heavy and time- and resource-consuming.

Information sharing across jurisdictions is an important challenge. Reporting arrangements that are part of collaborative mechanisms between levels of government (e.g. under the Air Quality Management System, Section 3.2) improve data collection and use, even though they sometimes involve complex administrative procedures. Improving standardisation of both data collection and management, and inter-jurisdictional exchange of information, is important to better support decision making in Canada's multi-level governance context.

3. Regulatory requirements

The Canadian Environmental Protection Act (CEPA, 1999) is the principal federal environmental statute. It governs a variety of environmental activities falling within federal jurisdiction such as the regulation of toxic substances, inter-provincial and international movement of hazardous wastes and hazardous recyclable materials, cross-border air and water pollution, and disposal into the sea. CEPA also contains specific provisions for the regulation of activities on lands under the jurisdiction of federal agencies, as well as Indigenous lands. For example, CEPA allows the federal government to develop administrative and equivalency agreements with provincial and territorial governments, as well as with Indigenous governments that have environmental regulatory authority.

The Federal Sustainable Development Act (FSDA, 2008) requires the development, every three years, of a Federal Sustainable Development Strategy (FSDS). The FSDS represents all of government, with Departmental Sustainable Development Strategies contributing to its objectives (Chapter 3). Other federal environmental statutes include the Canadian Environmental Assessment Act, Fisheries Act and Oceans Act (Table 2.1).

Table 2.1. **Main federal environmental acts**

Products	Emissions and effluents	Conservation and natural resource management
Canadian Environmental Protection Act		
Hazardous Products Act		
Canada Consumer Product Safety Act		
Transportation of Dangerous Goods Act		
Canadian Environmental Assessment Act		
Canada Water Act		
Fisheries Act		
Species at Risk Act		
Canada Wildlife Act		
Canada National Parks Act Oceans Act		
Migratory Birds Convention Act		
Federal Sustainable Development Act		
Environmental Enforcement Act		

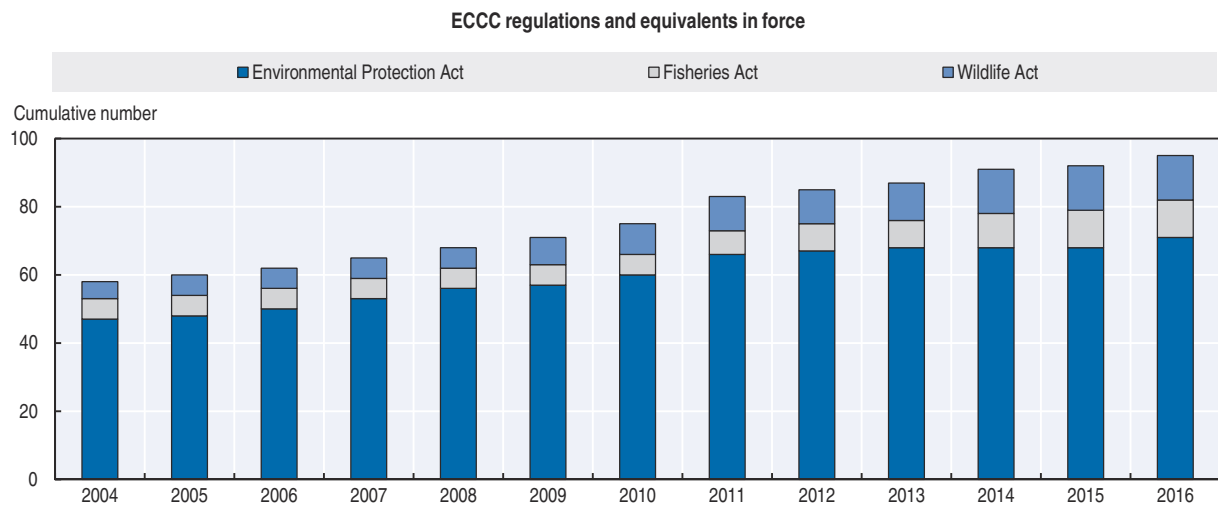
Source: Country submission.

ECCC's regulatory portfolio has increased significantly since 2004 (Figure 2.1). The number of regulations under CEPA, the Fisheries Act and the Wildlife Act grew by more than 50%. This has strengthened the federal government's role in environmental regulation and, at the same time, increased its administrative burden. It is unclear whether the increase has helped to harmonise regulations across provinces and territories.

3.1. Regulatory and policy evaluation


Regulatory impact analysis

In 1999, the government of Canada mandated that regulatory impact analysis (RIA) assess the potential impacts of regulatory proposals on the environment, workers, businesses, consumers and other sectors of society. As part of RIA, cost-benefit analysis is conducted for all significant regulatory proposals on the basis of the Canadian Cost-Benefit Analysis Guide. These include all new and amended regulations under CEPA. For example, RIA was conducted in 2016 for amendments to Prohibition of Certain Toxic Substances Regulations. RIA takes into account the 2012 Cabinet Directive on Regulatory Management,

Figure 2.1. **The federal government's environmental regulatory portfolio has grown**

Note: "Equivalents" includes orders and amendments to regulations and schedules.

Source: Country submission.

StatLink  <http://dx.doi.org/10.1787/888933565431>

which stipulated the “One-for-One” Rule (a new regulation should replace at least one old one), evaluation of impact on small businesses and other measures to monitor and control the administrative burden.

RIA may also require a performance measurement and evaluation plan for the regulatory programme, including timelines for follow-up. Its results are presented to decision makers and the public in a non-technical Regulatory Impact Analysis Statement, which is published in the Canada Gazette. Similar provisions exist at the provincial level (e.g. in Quebec).

Strategic environmental assessment

In accordance with the 2010 Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals, strategic environmental assessment (SEA) must be conducted when a proposal may result in important positive or negative environmental effects. Departments and agencies assess the importance of potential environmental effects based on considerations such as frequency and duration of the effect, location and magnitude, timing, risk (for example, to human health), irreversibility and potential for cumulative effects. However, the required coverage of SEA is ambiguous in terms of the types of documents to be assessed and the importance of potential environmental impact. The adoption of the Federal Sustainable Development Act had a direct impact on the SEA system, as FSDS goals and targets have become criteria for the examination of environmental implications of federal government policies, programmes and plans.

These steps demonstrate progress in implementing the 2004 *Environmental Performance Review* (EPR) recommendation to develop and expand the use of SEA. The Commissioner of the Environment and Sustainable Development found that the Department of Justice, Parks Canada, and Public Services and Procurement Canada applied the SEA Cabinet Directive to most of their proposals. However, overall the reviewed federal departments applied the directive to only 23% of the 243 policy, plan and programme proposals submitted for approval to Cabinet in 2013-15. Furthermore, sometimes SEA was conducted too late in the approval

process (OAG, 2016). There are few SEA requirements at the provincial level. Quebec introduced SEA for oil and gas development and transportation activities in 2014 and expects to generalise the requirements in accordance with the 2017 Environmental Quality Act.

In addition to the use of SEA, Health Canada's Climate Change and Innovation Bureau champions the importance of climate change and health vulnerability assessments conducted by public health officials at the local and regional levels. Such assessments identify opportunities to incorporate climate change information into existing policies and programmes designed to manage health risks associated with weather and climate. They also inform development of new programmes where necessary to reduce current risks to health and the severity of future impacts. For example, Ontario published the Climate Change and Health Toolkit, which includes climate change and health vulnerability and adaptation assessment guidelines for public health units in the province (MoH, 2016).

Ex post evaluation

Evaluation plays a key role in supporting the federal government's commitment to ensuring value for money in the delivery of its programmes. Tracking and reporting progress, as well as assessing the effectiveness of federal agencies' work, is a high political priority (PMO, 2017). The previous Treasury Board's Policy on Evaluation and the supporting Directive on the Evaluation Function and Standard on Evaluation for the Government of Canada were repealed in 2016. They will be replaced in 2017 with a new policy that emphasises result-oriented Departmental Plans and that would include performance information profiles.

Provincial environmental authorities have also developed performance measures as part of routine planning. For example, the Ministry of Environment of British Columbia measures environmental outcomes (GHG emissions, sound waste management practices), as well as outcomes of compliance assurance activities (MoE, 2015, 2016).

Routine programme evaluation is also conducted under the auspices of the Office of the Auditor General of Canada, whose mandate extends to the environment and sustainable development. The Commissioner of the Environment and Sustainable Development, appointed by the Auditor General, carries out this charge. Every year, the commissioner monitors and reports on how well selected federal departments and agencies have contributed to meeting the targets and goals set out in the FSDS.

3.2. Key regulatory requirements

Toxic substance control

CEPA provides the federal government with "cradle to grave" regulatory authority over toxic substances. It established a national inventory of chemical and biotechnical substances – the Domestic Substances List – and requires the assessment of "new" substances not included on this list. The act also instructs importers and manufacturers to notify the federal government of a new substance before it enters the Canadian market.

If the government determines that a substance may present a danger to human health or the environment, it may add the substance to the Toxic Substances List. Currently, the list contains over 100 toxic substances or groups of substances. Within two years of a substance being added to the list, ECCC is required to take action with respect to its management. Such actions may include preventive or control measures, such as securing voluntary agreements, requiring pollution prevention plans or issuing restrictive regulations that may provide for phasing out or outright banning of a substance.

Air quality and emission standards

As part of the Air Quality Management System (AQMS) introduced in 2012,² Canadian Ambient Air Quality Standards (CAAQSs) have been established for sulphur dioxide (SO₂), fine particulate matter (PM_{2.5}) and ozone. The CAAQSs are more stringent than the respective US National Ambient Air Quality Standards. However, they are slightly less stringent than the World Health Organization's Air Quality Guidelines. Work is underway to establish a standard for nitrogen dioxide (NO₂). Provinces and territories delineate and manage air zones within their jurisdiction to ensure air quality improvement and prevent exceedance of the standards (CCME, 2012). The federal government facilitates discussion of air quality issues in airsheds that span several jurisdictions.

While the provinces manage most air emissions, there are a number of industry-specific federal air pollution regulations. The Multi-Sector Air Pollutants Regulations adopted in 2016 became the first-ever mandatory federal air emission standards. They cover boilers, heaters and engines, as well as the cement sector, and are focused on NO_x, SO₂, volatile organic compounds and particulate matter. The regulations are based on best practice industrial emission requirements inside or outside Canada. Other federal regulations limit emissions of asbestos, lead, mercury and vinyl chloride. The provinces and territories have the right to go beyond these standards and introduce more stringent requirements. Guide values for air emissions from several other industrial sectors and equipment types have been developed as non-regulatory instruments (e.g. codes of practice for the aluminium, iron and steel sectors adopted in 2016, Section 4.4).

With respect to mobile sources, the federal government has the lead responsibility for regulating and implementing emission and fuel standards for new vehicles and engines, as well as emissions from ships, aviation and rail transport. In 2015, Canada introduced stringent air pollution emission standards for new cars and light trucks, aligned with those of the United States. However, regulating the existing vehicle fleet remains a challenge. Provinces and territories may enact further measures to reduce emissions from mobile sources, particularly with regulating the in-use fleet, but so far have not done so.

Water quality and effluent standards

The CCME has issued Canadian Environmental Quality Guidelines (EQGs). With respect to water resources, these include Guidelines for Canadian Drinking Water Quality, Recreational Water Quality Guidelines and Aesthetics, Canadian Water Quality Guidelines for the Protection of Aquatic Life, Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses and Canadian Sediment Quality Guidelines for the Protection of Aquatic Life. They are defined as numerical concentrations or narrative statements, recommending levels that should result in negligible risk to biota and the designated water uses they support.

Although the EQGs are nationally endorsed, provincial and territorial jurisdictions may develop their own science-based criteria, guidelines, objectives and standards. For example, the Environmental Quality Guidelines for Alberta Surface Waters (2014) have several functions. They are used to design site-specific water quality objectives, to evaluate and report on the condition of surface water quality throughout the province, and to develop water quality-based approval limits for wastewater discharges.

The Water Quality-based Effluent Limits Procedures Manual provides guidance on setting effluent limit values for point-source discharges so that they do not exceed water

quality standards in receiving water bodies. Provinces such as Alberta increasingly use total load management to improve surface water quality – an approach successfully used by Korea since 2004 (OECD, 2017a). Federal Wastewater Systems Effluent Regulations, in effect since 2015, establish specific effluent quality standards for wastewater treatment plants (Chapter 5).

Hazardous waste regulations

A number of regulations under CEPA address the movement of hazardous waste and hazardous recyclable material in, out of and across the country. Notification requirements include information on the nature and quantity of the waste or material involved; addresses and sites of exporters, importers and carriers; the proposed disposal or recycling operations; proof of written contracts between the exporters and importers; and insurance coverage. With this information, ECCC can determine whether the proposed shipment complies with regulations for the protection of human health and the environment. There is a tracking system, based on a prescribed waste manifest, for the movement of hazardous waste and hazardous recyclable material between provinces and territories, in line with best international practices. Waste disposal and movement within provincial and territorial boundaries is regulated by the respective governments.

3.3. Environmental assessment

The responsibility for federal environmental assessment (EA) rests with the Canadian Nuclear Safety Commission for nuclear power projects; the National Energy Board (NEB) for projects it regulates, such as international and interprovincial pipelines and transmission lines, and offshore oil and gas; and the CEAA for all other designated projects. Under the Canadian Environmental Assessment Act (2012), there are two types of assessment: an EA can be conducted either by the responsible authority or, for projects with greater potential for significant environmental effects or subject of public concerns, by a review panel (a group of independent experts).

An EA decision statement is issued at the end of the process with due public participation (Section 5.1). It includes the determination of whether the project is likely to cause significant adverse environmental effects and sets out conditions with respect to mitigation measures and a follow-up programme that the project proponent must comply with. The CEAA enforces these conditions in collaboration with provincial and territorial EA authorities.

Overall, the Canadian Environmental Assessment Act has resulted in a dramatic reduction in the number of projects subject to formal EA at the federal level. Many projects were either judged not to have a significant environmental impact to merit an EA or were deemed appropriate to be assessed by sub-national jurisdictions (OAG, 2014). The 2012 amendments to the National Energy Board Act introduced a standing test for public participation and limited the assessment procedure to 15 months. These changes made the EA process for energy projects less transparent. For example, the Trans Mountain Pipeline Expansion Project assessed under the new rules provoked significant public opposition: its approval in 2016 is being challenged by several First Nations, as well as Vancouver and Burnaby municipalities.

In 2016, the Minister of Environment and Climate Change established an expert panel to review federal environmental assessment processes. The review sought to restore public confidence in the credibility of EA and enhance the role of Indigenous peoples in it. In its

March 2017 report, the panel recommended the creation of a single authority in charge of all federal-level EA (the panel suggested changing the name of EA to “impact assessment”). It also detailed specific measures to strengthen co-operation among jurisdictions, integrate Indigenous considerations into decision making and ensure meaningful public participation (Box 2.1).

As part of the review of the NEB’s structure, role and mandate initiated by Natural Resources Canada (NEB, 2017), environmental groups also support transferring the federal EA functions of the NEB and the Canadian Nuclear Safety Commission to a reformed federal EA body (Flanagan et al., 2017). However, the NEB review panel recommended replacing the NEB with a Canadian Energy Transmission Commission and creating a joint hearing panel between this new commission and the CEAA for environmental assessment and licensing of all major energy projects.

Box 2.1. The federal government’s expert panel recommends changes to the environmental assessment process

The Minister of Environment and Climate Change mandated an expert panel to review federal environmental assessment (EA) processes. The panel suggested referring to EA as “impact assessment” to signify the vision of moving beyond the effects on bio-physical environment. It offered a range of recommendations on co-operation between the federal and provincial/territorial governments, integration of Indigenous considerations, public participation and use of scientific evidence. Among other measures, the panel recommended that:

- EA occur early in project development before design elements are finalised
- criteria and methodology be established to account for climate change impacts within the scope of EA
- a single authority conduct and decide upon EAs on behalf of the federal government
- substitution of the federal EA process by its provincial equivalent be available on the condition that the highest standard would apply
- Indigenous peoples be included in decision making at all stages of EA, and a funding programme be developed to provide long-term EA capacity building that responds to specific needs of diverse Indigenous groups
- the participant funding programme for EA be commensurate with the costs associated with meaningful participation in all phases of EA, including monitoring and follow-up
- EA decision statements use outcome-based conditions that set clear and specific standards of performance.

In addition, the panel suggested a tiered approach to EA, whereby regional and strategic impact assessments complement project EA. Regional assessments would address cumulative impacts within an airshed, watershed or other area on federal lands or in marine areas. Strategic assessments proposed by the panel (not to be confused with SEA) would look at implications of existing federal plans, programmes and policies for project or regional EAs.

Source: Expert Panel (2017).

All provinces have EA processes required by provincial legislation. In the territories, the EA process is governed by federal statutes (e.g. the Yukon Environmental and Socio-Economic Assessment Act, the Nunavut Planning and Project Assessment Act). Each province and territory also maintains its own regulatory regime for approving energy-related

projects (provincial pipelines, wells, etc.). In provinces such as Alberta, British Columbia and Ontario, an energy regulator conducts EA similar to the federal level. In provinces such as Quebec, EA is performed by an environmental assessment authority along with activities in other sectors. Co-operative agreements between the federal and provincial or territorial governments (Section 2.2) are intended to minimise duplication of EA efforts. For example, British Columbia and the federal government have agreed to substitute the provincial regulatory process for the federal process for several major projects that trigger both federal and provincial environmental assessment reviews (EAO, 2016).

3.4. Permitting

Environmental permitting at the federal level is based on individual statutes. For example, ECCC issues permits governing the disposal of substances at sea, activities in protected areas, import and export of hazardous wastes, and hunting of migratory birds.

Many provinces have introduced integrated environmental permits. For example, British Columbia has waste discharge authorisations under the Environmental Management Act, which defines “waste” to include air contaminants, litter, effluent and refuse, as well as biomedical and hazardous waste. Quebec is introducing environmental authorisations that cover all environmental impacts as part of a major revision of its Law on Environmental Quality. Ontario’s Environmental Compliance Approval covers emissions and discharges related to air, noise, waste or wastewater. However, Alberta and Saskatchewan have separate permits and approvals under different issue-specific regulations.

Where integrated permitting exists, the integration is mostly procedural. It does not provide for holistic management of environmental impacts through application of best available techniques (BAT). Cumulative effects are seldom taken into account in setting permit conditions. Furthermore, environmental permitting in many provinces is not linked to EA; Quebec’s effort to integrate the two instruments for high-risk economic activities is a notable exception. Conditions set in permits and EA decisions are enforced separately. This potentially leads to duplication of compliance assurance efforts.

A number of provinces have introduced diversification of regulatory regimes based on relative risk of regulated activities. In Ontario, for example, low-risk facilities are not required to have a permit. They can simply declare conformity to general environmental requirements. A similar arrangement is being put in place in Quebec in the framework of its environmental permitting reform. Further expanding the use of sector-based standardised requirements (general binding rules) would help reduce the administrative burden both on regulators and the regulated community, particularly small and medium-sized enterprises.

3.5. Land-use planning

About 89% of Canada’s land area is public “Crown land”: 41% is federal Crown land and 48% is provincial Crown land. The remaining 11% is privately owned. Only 4% of land in the provinces is federally controlled, largely as national parks, First Nations reserves or military bases. Indigenous peoples own, control or have access to over 65 million hectares (ha) of land. This represents approximately 6.5% of Canada’s land mass, not including traditional territories.

Most federal Crown land is in the Northwest Territories, Nunavut and Yukon. Devolution of powers from the federal government to the territorial governments and land claim agreements have substantially changed the administration of land and natural resources

and land ownership in the Canadian Arctic. Resource administration is shared between the federal government represented by Indigenous and Northern Affairs Canada (INAC), territorial governments (except for Nunavut) and Indigenous organisations. Their mandates address defined aspects of decision making regarding impact review, impact assessment, land-use planning and use, water use, wildlife management and surface rights (INAC, 2008).

Land-use planning is under the jurisdiction of provinces and territories, all of which have their own land-use planning systems. Although they are broadly comparable, important differences exist. Provinces and territories with few inhabitants tend to centralise land-use planning. In contrast, provinces with a large number of inhabitants tend to delegate more power to local governments. This is partly due to a different legislative framework: land-use planning in the territories is embedded in northern land claims agreements, which favours centralisation. Another factor is differences in administrative capacity at the local level, reflecting the varying population sizes and resources available in the provinces. For example, in Ontario, public authorities and consulting firms employ some 4 300 professional planners; the corresponding figure for Prince Edward Island is 10-15 professional planners (OECD, 2017b).

Each province or territory has at least one regional land-use plan. Typically, regional plans contain high-level objectives and policies for growth management, environmental protection, regional-scale infrastructure and economic development. For example, Alberta's Land-use Framework for regional planning is a comprehensive strategy to better manage public and private lands and natural resources. It uses a cumulative effects approach to achieve long-term economic, environmental and social goals (Box 2.2).

Formally, municipalities in all provinces have similar powers. They can prepare and adopt different types of land-use plans as by-laws and use them to regulate development on their territory. Community plans – the main instruments for stakeholder engagement in land-use planning – are prepared for the entire administrative territory of a municipality. District plans cover specific parts of cities and towns and provide more detail than community plans. They are used to guide new developments or the redevelopment of existing neighbourhoods, but may also be created for special-purpose areas such as downtowns, educational nodes, recreational land or significant parts of the transport network. Municipalities issue planning permissions and building permits. However, their institutional capacity largely determines how these powers are exercised. Local land-use plans have historically well accounted for natural heritage and biodiversity considerations and are starting to integrate climate change adaptation concerns. However, they are weaker in incorporating other environmental concerns such as impact of transport and urban sprawl. Local plans must follow the provincial government's general policy directions, but are not subject to SEA. A legal requirement to conduct SEA of land-use plans would help make this process more systematic and comprehensive. It would also help better evaluate and address cumulative environmental effects of different activities.

Indigenous peoples' rights are a major issue in land use. Land and environmental management issues vary according to the level of their legal jurisdiction and administrative control over that land. The greatest authority is exercised under modern treaties. Indigenous communities insist on the concept of "free prior and informed consent" (FPIC) – the right to give or withhold consent to proposed projects that may affect the lands they customarily own, occupy or otherwise use. The principle of FPIC is most clearly stated in the UNDRIP (2007). In a 2014 landmark decision (SCC 44), the Supreme Court of Canada established

Box 2.2. Alberta land-use planning takes account of cumulative environmental effects

Alberta has seven regions, delineated along watershed boundaries. Under the Alberta Land Stewardship Act (2009) and the Alberta Land-use Framework, each region is subject to a separate regional plan based on its particular environmental, economic and social needs. A cumulative effects approach is used to manage the combined impacts of existing and new activities within the region. The types of cumulative effects considered include, among others, water withdrawals, air emissions, land-based environmental impacts and overall habitat degradation. Development decisions are considered holistically in light of the overall impacts on a region. Environmental management frameworks for different domains (e.g. air quality, water quality, biodiversity) include impact indicators and thresholds and respective monitoring, modelling and reporting arrangements.

Regional plans are binding and may be viewed as top-down policy directives governing the interpretation and implementation of all legislation in Alberta, including statutes whose primary focus is not the environment. They are developed through extensive consultations led by the Land Use Secretariat with the involvement of Indigenous communities and approved by cabinet, forming part of the government's policy for the region. Local land-use plans must be aligned with the regional ones.

The process of developing regional plans has been slow. As of early 2017, regional plans have been adopted only for two regions: Lower Athabasca in 2012 (the plan has since been reopened to address concerns by Indigenous communities) and South Saskatchewan in 2014. In three regions, the planning process has not even started. SEA was piloted in the development of the Lower Athabasca regional plan. However, it has not been institutionalised as part of land-use planning across the province.

Source: Alberta Environment and Parks (2016).

Aboriginal land title for the Tsilhqot'in First Nation in British Columbia. As a result of this decision, provinces cannot claim a right to engage in clear-cut logging on lands protected by Aboriginal title; they must gain approval for such action from the title holder before proceeding. However, despite Canada's recent adherence to the UNDRIP, it has not yet established a formal process to implement FPIC.

Indigenous communities sometimes engage in land-use planning. However, unlike regular community plans, plans in Indigenous communities have no legal status. As a result, they do not give Indigenous peoples grounds to oppose natural resource development projects on their land. This contradicts FPIC and often leads to conflicts. The federal and provincial governments encourage development companies to negotiate so-called impact-benefit agreements with Indigenous peoples to settle financial compensation, provision of jobs and eventual environmental restoration (Quebec, for example, has developed guidelines on such agreements). However, companies are under no obligation to do so, the government is not a party to the agreements, and the agreements seldom result in changes to the project itself. Typically, most such agreements require that Indigenous peoples either support the project or refrain from opposing it in environmental assessment or judicial proceedings.

4. Compliance assurance

Compliance assurance covers the promotion, monitoring and enforcement of compliance, as well as liability for environmental damage. In Canada, federal, provincial and territorial authorities undertake compliance assurance under their respective legislation.

Canadian municipalities have environmental enforcement powers with respect to their bylaws (e.g. on sewerage and solid waste management).

4.1. Environmental inspections

ECCC conducts most of its inspections and investigations (in case of suspected violations) under CEPA. The compliance monitoring programme is made up of priority and risk-based targeted inspections (about 40%) and random checks (20%), with the rest conducted in response to accidents and complaints. Factors that influence the identification of priority regulations for compliance monitoring include the nature of regulatory provisions, operational complexity and capacity, and domestic and international commitments. In addition, new regulations brought into effect are identified as priorities within ECCC's inspection programme. The schedule of inspections is determined by the risk that the regulated substance or activity presents to the environment or human health, and by the compliance record of the regulated entity. ECCC launched a new national enforcement case management system in February 2017. It also expanded its software-supported analytical capabilities in the field of compliance assurance.

Several provincial authorities also use risk-based targeting of environmental inspections. In British Columbia, for example, the Ministry of Environment's inspection policy dictates the frequency of inspections for high-, medium- and low-risk sites. Newly regulated sectors or segments of the regulated community where non-compliance trends have been detected may be inspected more frequently. Almost three-quarters of inspections are proactive, which is quite high by international standards, while the rest respond to incidents or complaints (MoE, 2016).

British Columbia also demonstrates good practice with regard to interagency collaboration in compliance monitoring. Its Ministry of Environment co-ordinates its inspections with the Ministry of Energy and Mines; Ministry of Forests, Lands and Natural Resource Operations; Department of Fisheries and Oceans; provincial work safety and health authorities; and ECCC and local governments. Officers from all these agencies provide environment ministry inspectors with information about activities they observe as part of their respective duties, and vice versa (MoE, 2016).

4.2. Enforcement tools

Criminal sanctions

Canada has traditionally relied on criminal penalties for environmental enforcement. Most laws impose sanctions on company officers who authorise or accept an offence, whether or not the company itself is prosecuted. Maximum fines are doubled for subsequent offences and can be levied for each day an offence continues. When imposing penalties, courts are required to consider specified aggravating factors to ensure that penalties reflect the gravity of the offence.³ These penalties do not yet account for the economic benefit of non-compliance. However, ECCC has been exploring ways to use the experience of the US Environmental Protection Agency, which has been demonstrating good practice in this area for over 30 years.

The Environmental Enforcement Act (EEA, 2010) introduced a new fine regime to be applied by courts following a conviction under nine federal environmental statutes. Under the new regime, designated offences involving direct harm or risk of harm to the environment, or obstruction of authority, are subject to minimum fines and an increased

range of fines for a first offence: from CAD 100 000 to CAD 6 million for corporations. Other offences carry a maximum fine of CAD 500 000 (ECCC, 2016a). The EEA also authorises suspension or revocation of the offender's licences or permits upon conviction of an environmental crime.

Enforcement data gathered under different federal environmental laws are often inconsistent, incomplete and hard to access. Limited information identifying environmental offenders, incident location and the exact nature of the violation is disclosed to the public (Amos et al., 2011).

Environmental Protection Alternative Measures (EPAMs) offer an alternative to court prosecution for a violation of CEPA. An agreement, negotiated with the accused by the Department of Justice in consultation with ECCC, specifies measures the violator must take to restore compliance. These measures could include clean-up of environmental damage or pollution prevention and control. Once conditions of the EPAM agreement are met, the charges are dropped.

Administrative sanctions

The federal Environmental Violations Administrative Monetary Penalties Act (2009) authorised administrative monetary penalties. These provide an alternative to other enforcement measures, such as written warnings and prosecution, which may not always be effective or appropriate. The administrative fines may be up to CAD 5 000 for individuals and up to CAD 25 000 for legal entities. Similarly, Quebec and British Columbia introduced administrative monetary penalties for moderate offences (e.g. failure to submit a report or minor non-compliance with permit conditions) in 2011 and 2014, respectively. In Quebec, these fines range up to CAD 2 000 for physical persons and up to CAD 10 000 for legal entities. British Columbia's administrative monetary penalties in the natural resource sector range from CAD 2 000 to CAD 100 000 depending on the gravity of the violation. This good practice merits replication in other provinces and territories.

Management of enforcement activities

Different Canadian jurisdictions have introduced good practices with respect to enforcement policies, disclosure of enforcement records and measurement of enforcement outcomes. For example, both environmental enforcement authorities in British Columbia have produced guidance on the application of different enforcement measures (Box 2.3).

At the same time, there is evidence of "regulatory capture" in enforcement against powerful industries. A recent report by British Columbia's Auditor General concluded that neither the Ministry of Environment nor the Ministry of Energy and Mines conducts effective compliance monitoring and enforcement in the province's mining sector. In many cases, operators who violate the law are given repeated warnings and opportunities to return to compliance, but never face real sanctions, even for clear and dangerous violations. Furthermore, neither ministry has adequately evaluated the effectiveness of its compliance assurance efforts (BC Auditor General, 2016).

The federal EEA requires a publicly disclosed registry of corporations convicted under certain environmental and wildlife laws. The registry contains convictions of corporate offenders obtained over the past five years under environmental legislation enforced by ECCC and Parks Canada. Public disclosure of enforcement information is also widely practised at the provincial level. In British Columbia, the Ministry of Environment and the

Box 2.3. **British Columbia provides guidance on proportionate enforcement decisions**

The Environmental Assessment Office of British Columbia monitors compliance with legally binding conditions of environmental assessment certificates. It has developed a risk-based tool for assessing the factors that can influence the selection of enforcement measures – the Enforcement Decision Matrix. The matrix is intended to be a guidance tool used by compliance officers at their discretion when considering the context and specifics of individual cases of non-compliance.

On one axis, the matrix ranks the nature of non-compliance (minor, moderate or major) depending on the actual or potential harm from the violation. On the other, it measures the likelihood of achieving compliance (high, moderate or low). The probability that the operator will respond appropriately to the enforcement action depends on several factors. These include technical challenges in restoring compliance, the operator's compliance history, voluntary disclosure of the violation, and the presence of wilful or negligent non-compliant behaviour. Based on these factors, the enforcement officer would choose from a menu of enforcement tools (from a warning to a compliance agreement, a minister's compliance order or prosecution).

Among its activities, British Columbia's Ministry of Environment conducts compliance monitoring under the provincial Environmental Management Act. It uses a similar tool (Non-Compliance Decision Matrix), which takes into account the same factors, but with five categories for both the likelihood of compliance and the extent of actual or potential harm.

Source: EAO (2015b); MoE (2014).

Ministry of Forests, Lands and Natural Resource Operations jointly publish quarterly Environmental Enforcement Summaries. These list all cases of enforcement actions (orders, administrative penalties and court convictions) against companies and individuals. They also maintain an Environmental Violations Database.

Over the last decade, federal and provincial authorities have tried to develop outcome indicators of environmental enforcement and attribute results to individual instruments (Box 2.4). So far, these efforts have been inconclusive. However, they do show the increased focus on performance management of compliance assurance and should be pursued, based on the still limited but growing international experience in this area (Mazur, 2010).

Box 2.4. **Measuring enforcement outcomes: A challenge**

ECCC introduced an Environmental Enforcement Improvement Index in 2010. The index was intended to measure the mass of regulated substances reduced through enforcement actions, in equivalent metric tonnes of reduced substance. It was expected to gradually integrate the releases of over 40 air and water pollutants weighted in accordance with their toxicological impact (using the inverse values of respective ambient environmental quality standards as coefficients). Specific coefficients were also set for global-impact pollutants (such as greenhouse gases and ozone-depleting substances) that do not have toxicity-related standards.

Essentially, the initiative was designed to first account for reductions of individual regulated pollutants as a result of compliance assurance activities and then tried to aggregate these reductions into a composite measure of their environmental impact. Data

Box 2.4. Measuring enforcement outcomes: A challenge (cont.)

had to be obtained during enforcement activities and recorded in the ECCC enforcement database. However, ECCC found it difficult to argue convincingly for a causal link between enforcement activities and environmental outcomes. This was particularly the case in trying to make a claim about preventing potential or real environmental harm via some enforcement action. Overall, this complex approach proved excessively costly and was abandoned shortly after its introduction.

Since 2010, ECCC has conducted a pilot project to measure rates of dry cleaners' compliance with toxic substances regulations in order to establish a compliance baseline and assess the value of inspections. It has also carried out a Targeted Outcome Project on compliance with regulations for underground storage tanks for petroleum products (EC, 2015). However, these efforts remain sporadic.

British Columbia's Ministry of Environment uses binary compliance rates (the share of facilities being in or out of compliance). The Ontario Ministry of the Environment and Climate Change attempted to introduce more comprehensive compliance rates in 2008. Its compliance index was a weighted sum of violations of legislative provisions and permit ("certificate of approval") conditions by individual facilities. It assigned individual weights to approximately 1 300 legislative provisions. Each violation was to be classified as one of four "contravention categories" (reporting and recordkeeping, operating standards, monitoring and sampling, or exceedance of emission/discharge limits) and assigned a corresponding weight. These weights would distinguish between procedural and substantive non-compliance. In this way, they would reflect to some extent the level of potential environmental impact from the offence (higher weights represent a larger impact). However, the compliance index has not been implemented. This is due both to its complexity and the need for an expensive random sample approach to inspection planning to collect supporting data.

Source: IEC (2010); EC (2015); Mazur (2010); MoE (2016).

4.3. Environmental liability***Liability for damage to the environment***

Canada has several strong environmental liability regimes under federal and provincial law. Physical and legal entities are liable for causing an adverse effect on the environment, including plants and animals, or for causing nuisance, loss of enjoyment or harm to human health or safety. For example, all Canadian environmental regulators can require a polluter to clean up water pollution, typically through some form of administrative order. The Supreme Court of Canada endorsed the principle of monetary compensation to the public for harm to environmental resources in *British Columbia v. Canadian Forest Products Ltd.* (2004). Many provinces have statutory rights for the government to recover costs from polluters for cleaning up and restoring the environment. In Ontario, even municipalities have a right to order a polluter to pay costs incurred in responding to a release of harmful substances (Willms and Shier, 2007).

Liability provisions with respect to remediating past pollution are generally applied to contaminated land, but not to damage to water bodies and ecosystems. Under provincial environmental laws, liability for clean-up of contaminated land is typically imposed on current and previous owners and occupiers. In some cases, liability may be imposed upon producers of the substances that cause the contamination.

In most provinces, liability is strict, which means operating within permit limits is not a defence against financial responsibility for the clean-up. However, some court decisions have taken compliance into account. Most relevant legal provisions impose joint and several liability on all potentially liable parties. This means that damages may be recovered from any of the defendants regardless of their individual share of the liability. However, civil courts typically apportion liability based on fault when there are multiple liable parties (Tidball et al., 2016).

Federal and provincial governments require the use of financial assurance instruments in several sectors, including mining and energy, to avoid spending taxpayer money on clean-up and remediation. For example, Alberta's Licensee Liability Rating programme ensures that companies have adequate assets to deal with abandonment, remediation and reclamation of their liabilities (AER, 2014). Absolute liability limits are also used in certain sectors to limit or cap the total amount that an operator may be liable for if an incident occurs, without proof of fault. Assurance can be provided in the form of letters of credit, trust funds, guarantees and insurance coverage.

Environmental risks are most commonly covered by insurance, and Canadian insurers offer several environmental insurance products. Pollution legal liability coverage, which generally applies to new pollution but may cover unknown pre-existing conditions, is relatively easy to obtain. Cost cap insurance for environmental remediation projects is more expensive and more difficult to get. The cost of environmental insurance premiums may be prohibitive. Typically, it includes the cost incurred by the insurer to retain an environmental consultant to investigate the risk (Tidball et al., 2016). However, such risk assessment serves as an incentive for operators to reduce their risk by engaging in pollution prevention activities.

Contaminated sites

The management of past contamination is primarily the responsibility of sub-national governments. The circumstances under which a regulator can require investigation and remediation of contaminated land vary from jurisdiction to jurisdiction. Several provinces have specific regulatory regimes for the assessment and remediation of contaminated sites. Some, such as Ontario, maintain a special fund to pay for the clean-up of contaminated land where no financially solvent liable party can be identified. Alberta, which has tens of thousands of ownerless abandoned oil wells, established an Orphaned Well Clean-up Fund with revenues from levies imposed on existing well operators. The levy amount is based on the estimated cost of reclamation activities for the upcoming fiscal year. Similarly, it created a Tailings Management Fund of CAD 500 million (funded by current operators) to address environmental problems (including groundwater contamination) of historic oil sands tailings.

Ontario's Ministry of the Environment and Climate Change can issue orders requiring remediation of land contaminated by current or past activities. Some orders require a comprehensive remediation plan, involving expensive studies before implementation of remediation measures. In Quebec, the Environmental Quality Act contains a framework for managing contaminated sites. If a site assessment indicates that the soil or groundwater quality standards are exceeded, the operator is required to provide the Ministry of Sustainable Development, Environment and Climate Change (MSDCC) with a remediation plan and execution timetable for approval. Once the remediation plan is approved by the MSDCC, it must be carried out, and a remediation report prepared and certified by a MSDCC-recognised expert (Blakes, 2012). Other provinces have similar arrangements.

The federal government maintains a public inventory of contaminated sites for which it is responsible. The 2005 Federal Contaminated Sites Action Plan allocated more than CAD 4.5 billion to assess and remediate federal contaminated sites. On federal lands in the territories, INAC manages abandoned contaminated sites through the Northern Contaminated Sites Program. These sites were contaminated by private sector mining, oil and gas activities, as well as by government military activity that occurred over half a century ago. This federal programme aims to reduce and eliminate, where possible, risks to human and environmental health, giving priority to sites posing the highest risk. According to changes in accounting rules in 2015, governments must include remediation costs for contaminated properties they own on their balance sheets. This represents an incentive for both the federal and provincial governments to accelerate the clean-up of contaminated sites.

4.4. Promotion of compliance and green practices

Government promotion of compliance and green practices can reduce costs for businesses by allowing them to achieve and maintain compliance as efficiently as possible. It may also reduce regulatory costs by increasing the efficiency of compliance monitoring and enforcement. Providing advice and guidance is particularly effective when targeted at SMEs (defined in Canada as having fewer than 500 employees). Federal and provincial environmental authorities increasingly recognise the importance of compliance promotion. They also use voluntary agreements and green public procurement to advance the adoption of green business practices.

Compliance promotion

Federal compliance promotion efforts focus on geographically dispersed and hard to reach SMEs, Indigenous communities and federal agencies. In 2014-15, ECCC worked on compliance strategies and compliance promotion plans for 24 different subject areas. It uses multiple outreach tools, including workshops, information sessions, information package e-mails and mail-outs, as well as Twitter and web banner advertising. Many of these activities are carried out in collaboration with provincial and territorial governments, as well as with non-governmental organisations (NGOs).

At the provincial level, the Ministry of Environment of British Columbia recently issued technical guidance for sound environmental practices in the mining sector, as well as promotional materials in the concrete, agricultural and hazardous waste management sectors. These were accompanied by workshops for sector representatives (MoE, 2016). Provincial authorities published numerous guidance documents online to guide project proponents through the environmental assessment process.

Voluntary agreements and codes of practice

In line with the 2004 EPR recommendation to continue to develop cost-effective voluntary approaches with industry, ECCC uses performance agreements that commit participating sectors or companies to specific measures or performance levels. Performance agreements are voluntary, non-statutory instruments that allow parties with common objectives to address a particular environmental issue. Performance agreements typically set quantitative objectives such as a maximum limit on the release of a substance, but may also include qualitative targets such as implementing activities within a code of practice, or restricting the sale or availability of a product by a certain date. Every agreement requires verification of results through audits, inspections, interviews or other means.

Since the adoption of the federal Policy Framework for Environmental Performance Agreements in 2001, ECCC has signed 14 such agreements with different industries, including chemicals, transportation, metal processing, consumer products, forestry and printing. In addition to industry associations, signatories have included three federal departments (Health Canada, Industry Canada and Transport Canada) and two provincial governments (Ontario and Alberta). Eleven agreements have been completed (with objectives achieved by most of them⁴), and three are still in effect (Box 2.5). Most agreements have had objectives related to improving air quality (ECCC, 2017). Transport Canada also manages voluntary agreements with industry. These include an action plan to reduce GHGs from aviation and an agreement with the Railway Association of Canada to report emissions of GHGs and other key air pollutants.

Box 2.5. Environmental performance agreements aim to minimise release of harmful substances

Vinyl industry (2015-20): This agreement, signed by ECCC, the Vinyl Institute of Canada and participating companies, seeks the full implementation of the Guideline for the Environmental Management of Tin Stabilizers in Canada by all vinyl compounding facilities to prevent the release of toxic tin stabilizers into the environment.

Refractory ceramic fibre industry (2013-18): This agreement between ECCC and five companies from the refractory ceramic fibre (RCF) industry maintains the maximum allowable concentration limits established in previous agreements for RCF in ambient air and maintains reporting requirements for RCF. It promotes inspection and maintenance of pollution control equipment and confirms the commitment of the RCF industry to maintain the existing Product Stewardship Program.

Paper recycling companies (2013-17): This agreement between ECCC and 13 paper recycling companies was designed to initiate action by paper recycling mills to minimise the risk of environmental impacts from effluent releases of Bisphenol A (BPA) to the greatest extent practicable. BPA, used as a colour developer and in certain varieties of ink, is present as a contaminant in recycled paper. It may be released in effluents by some paper recycling mills.

Source: ECCC (2017).

Under CEPA, the federal Minister of Environment and Climate Change or the Minister of Health can issue codes of practice. These can be either the sole risk management instrument or part of a mix of instruments to address pollution by one or several toxic substances from certain activity sectors. They are typically used when it is difficult to establish numerical restrictions and when the regulated community is receptive to implementing a code of practice (ECCC, 2016b). Recent codes of practice have targeted reductions in the following areas: residential wood burning appliances (2012), emissions of fine particulate matter (PM_{2.5}) from the aluminium sector (May 2016), fugitive emissions of total particulate matter and volatile organic compounds from the iron, steel and ilmenite sector (May 2016) and from end-of-life lamps containing mercury (February 2017).

Greening public procurement and eco-labelling

The federal and most provincial governments actively use public procurement to support green business practices. The federal government established a Policy on Green Procurement in 2006. Further, the 2016-19 FSDS includes a target to “promote public

procurement practices that are sustainable, in accordance with national policies and priorities". As a result, all 26 departments bound by the Federal Sustainable Development Act consider environmental performance in their procurement decisions. Green procurement plans for federal agencies have been established for over 30 goods and services categories, including information technology and audio-visual equipment, vehicles, office furniture, printers and paper, and business travel. Green scorecards identify environmental considerations in procurement decisions for each product or service, as well as future plans for incorporating environmental criteria in federal government purchases. The provinces have similar practices (Box 2.6).

Box 2.6. Provincial governments use public procurement to promote green business practices

British Columbia Guidelines for Procurement of Environmentally Responsible Products and Services are designed to encourage ministries to consider environmentally responsible products and services as part of their purchasing decisions. They mandate a life cycle approach to setting evaluation criteria in procurement solicitation documents. To that end, they focus on the environmental impact of production processes, energy use, and maintenance and disposal requirements.

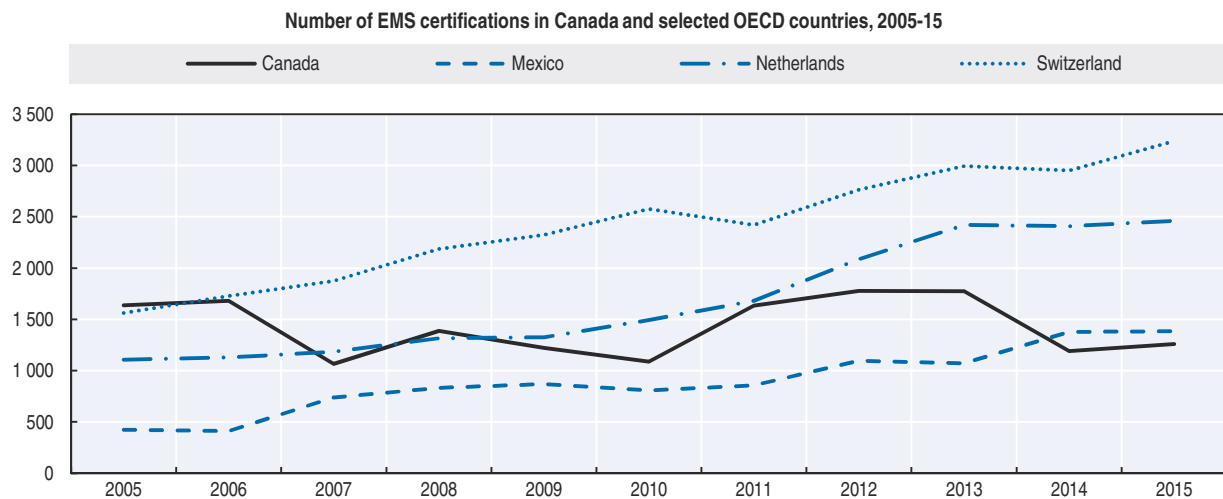
The province of Newfoundland and Labrador developed a Guide for Purchasing Environmentally Preferable Products in collaboration between the Government Purchasing Agency and the Office of Climate Change and Energy Efficiency. It contains fact sheets for 15 green product categories, as well as on greening of procurement of buildings. Albeit nonbinding, the guide provides recommendations on integrating environmental considerations into institutional processes related to public procurement. These are accompanied by worksheets on selecting green issues for the tender, defining green procurement terms, using green labelling, reporting, etc.

Source: Government of Newfoundland and Labrador (2014); Government of British Columbia (2016).


Green public procurement criteria often require purchasing of eco-labelled products. Canada uses 113 national, provincial and international eco-labels (Ecolabel Index, 2017), including the EnerGuide for appliances (Chapter 4). Eco-labelling programmes are administered by government bodies or private sector labelling standards institutions and typically involve certification by independent third-party organisations.

Environmental management system certifications and awards

The number of new certifications to the ISO 14001 environmental management system (EMS) standard in Canada has been declining in recent years. This goes against the trend in almost every other OECD member country. The 1 260 new certifications in 2015 is lower than in 2005. The figure is roughly on par with Mexico's almost 1 400, but much lower than in many European countries (Figure 2.2). This decline is likely caused by lack of market demand for EMS certification; it is not a criterion of green public procurement. However, the absence of regulatory or economic incentives (such as lower inspection frequency or reduced permit fees) from the government may also play a role in the decline. In addition, many smaller businesses establish an EMS, but are not willing to pay the high cost associated with third-party certification.

Figure 2.2. **The number of new EMS certifications is declining**

Source: ISO (2016), *ISO Survey 2015*.

StatLink  <http://dx.doi.org/10.1787/888933565450>

Governments can use positive public relations incentives to promote environmentally friendly business behaviour. While Canadian environmental regulators underuse this potential, the business community has established a number of environmental awards. For example, the Globe Foundation, a Vancouver-based not-for-profit private business foundation, promotes the business case for sustainable development. Among other actions, it offers Globe Awards for Environmental Excellence in five different categories. These awards recognise achievements in corporate environmental stewardship, technology innovation and leadership by improving environmental performance beyond regulatory compliance (Globe, 2016).

5. Promoting environmental democracy

Canada ranked 35th in the world on the Environmental Democracy Index (EDI). Its combined score on access to information, public participation and access to justice was just above the world average.⁵ Canada scored well on the justice pillar, but with lower scores on transparency and participation. The EDI assessment emphasised that broadening federal legal protections for public rights to participate in environmental decision making and lowering financial barriers to justice would enhance support to environmental democracy (WRI, 2016).

5.1. Public participation in environmental decision making

Public consultation and transparency are prominent features of Canadian government decision making. Ontario's Environmental Bill of Rights (1993) and equivalent laws in several other provinces give citizens the right to participate in environmental decision making. Indigenous peoples, stakeholders and the public are consulted before federal or provincial statutes or regulations are passed. Some federal and provincial statutes require pre-posting or consultation for permits or approvals for air emissions, water and wastewater discharges, and waste management and disposal. However, these laws do not require government agencies to account for public comments on environmental decisions (WRI, 2016).

The Pan-Canadian Framework on Clean Growth and Climate Change is the most recent example of broad collaboration and engagement of civil society at different levels. The process has taken the form of working groups involving Indigenous organisations and peoples, and multiple stakeholders, as well as town hall meetings, an interactive website, etc. More than 13 000 comments from the public were received over five months.

Public participation is also a particularly important element of the EA process at the federal and provincial/territorial levels. It is ensured through notification, reasonable timing for public comment, and provision of accessible information and transparent reporting of results. The federal Participant Funding Process helps cover citizen groups' costs of participating in EA. In British Columbia, the environmental assessment process includes two public comment periods: on the draft application and on the accepted one. In addition, the project proponent and/or the British Columbia Environmental Assessment Office (EAO) may hold community information sessions, and substantial project information is made publicly available. The EAO recognises the need to make the information submitted to the public's review more readily accessible to a broad, non-technical audience (EAO, 2015a).

The duty to consult Indigenous groups is a key part of the federal government's activities, in accordance with the Guidelines for Federal Officials to Fulfil the Duty to Consult (2011). The government of Canada signs consultation protocols with Indigenous groups to create a process for consulting on potential adverse effects on Indigenous rights. Since 2008, INAC has supported federal departments and agencies in fulfilling the government of Canada's duty to consult by providing guidelines, training and other tools. ECCC also engages with First Nations, Inuit and Métis via five National Indigenous organisations with associated offices, as well as provincial and territorial Indigenous organisations (Chiefs of Ontario, First Nations of Quebec and Labrador, etc.).

In the environmental domain, such consultations concern policy and regulatory development, EA, licensing and permitting, etc. However, many Indigenous communities feel that the consultation process often starts when a policy or a project has already been designed. As a result, they believe it gives them too little influence over the decision. Several provinces (e.g. Alberta and Quebec) are revising policies for consultation with Indigenous peoples to take account of these concerns and move towards "co-creating" engagement approaches.

Indigenous peoples of Canada would like recognition as right-holders rather than stakeholders in the context of natural resource management and claim a special status in environmental decision making. In the *Tsilhqot'in Nation v. British Columbia* case (Section 3.5), the Supreme Court of Canada ruled in 2014 that the Crown in the future must obtain consent from the Indigenous community rather than just fulfil the duty to consult.

In May 2016, Canada officially removed its objector status to the UNDRIP, almost a decade after the Declaration was adopted. The federal government declared that it intends to fully implement the UNDRIP. Increasingly, Indigenous groups may provide input through expanded Indigenous consultation or general public participation. For example, the CEEA engages Indigenous groups in research, guidance (e.g. technical guidance related to current use of lands and resources for traditional purposes) and training. In 2016, it supported a joint pilot project with the BC First Nations Energy & Mining Council to involve Indigenous leaders in improving environmental assessment practice.

Indigenous peoples have met the federal government's recently enhanced outreach with careful optimism. However, multiple conflicts with respect to specific natural resource

development projects continue (Box 2.7). Indigenous communities are more routinely consulted, but their opinion is essentially sought on the impacts of specific projects, with a view to reach a compensation agreement, but not on the existence and design of those projects. Canada's adherence to the UNDRIP is an important step forward, but it needs to be followed up. An agreement should be reached between the government and Indigenous peoples on the practical definition of consultation. For example, it should define who should be consulted: discussions with community leaders may not reflect a community's opinion, putting implementation at risk. It should also define FPIC, particularly whether the right to oppose a project constitutes a veto. One area of priority practical implementation of FPIC is EA processes at the federal and provincial levels (Papillon and Rodon, 2016). Furthermore, Indigenous communities and organisations need greater capacity to take advantage of these consultation opportunities.

Box 2.7. Indigenous peoples fight for their rights against the Site C Dam project

The Peace River Valley in northeastern British Columbia is a unique ecosystem. It is one of the very few areas in the region that has been so far largely preserved from large-scale resource development. First Nations and Métis families and communities rely on the valley for hunting and fishing, gathering berries and sacred medicine, and holding ceremonies.

Site C is the large hydroelectric dam, worth CAD 8.8 billion, being constructed on the Peace River between Fort St. John and Hudson's Hope, BC. The dam is expected to create 5 100 gigawatt hours of energy each year, enough to power 450 000 homes. However, to create the reservoir, 83 km of river valley will be flooded. This will wipe out 5 550 ha of land, leading to a severe impact on Indigenous peoples. A joint federal-province environmental impact assessment concluded that the dam would "severely undermine" use of the land, make fishing unsafe for at least a generation, and submerge burial grounds and other crucial cultural and historical sites. The BC government approved the project in December 2014, but the West Moberly and Prophet River First Nations have gone to federal court to protect their traditional lands. Their struggle has been supported by the Union of British Columbia Indian Chiefs, the Assembly of First Nations and many others, including local farmers and other landowners in the Peace River Valley.

Source: Amnesty International (2016).

5.2. Access to environmental information

Canada has federal, provincial and municipal access to information legislation that compels disclosure of government information to the public. At the federal level, these rights are provided by the Access to Information Act. Provincial statutes include the Nova Scotia Freedom of Information and Protection of Privacy Act, as well as provincial statutes for municipalities such as Ontario's Municipal Freedom of Information and Protection of Privacy Act. Notably, Ontario's act requires municipal officials to notify the public or affected persons of a grave environmental, health or safety hazard to the public. The federal government is also implementing the 2014 Directive on Open Government, which requires federal data and information to be easily accessible and usable by the public, as the Access to Information Act process is often slow and inefficient.

The Canadian Environmental Sustainability Indicators (CESI) programme measures progress in the FSDS implementation. It provides data and information to track Canada's

performance on key environmental sustainability issues, including climate change and air quality, water quality and availability, and protecting nature. Many new indicators have been developed and published since 2009. The CESI website ensures that federal, provincial, territorial, local and international trends are readily accessible and transparent to all citizens. It presents information through the use of graphics, explanatory text, interactive maps and downloadable data.

The federal government has released a number of reports on the state of the environment. These include The State of Canada's Forests Annual Report and annual Canada's Emissions Trends reports focusing on GHGs. In addition, Statistics Canada's environmental statistics programme produces data series on various components of natural capital (water, ecosystems, sub-soil minerals), natural resource use, as well as data on pollutant releases. However, there are challenges regarding the comparability and timeliness of published information, notably in the area of waste generation and management. Statistics Canada has also begun work to compile data on environmental protection expenditures (Chapter 3).

With regard to environmental information concerning private entities, the National Pollutant Release Inventory (NPRI) established under CEPA provides nationwide, publicly accessible information on annual releases to air, water and land, and disposal and recycling by industrial and commercial facilities. The Canadian Environmental Assessment Registry consists of both an internet site and project files. It was established to ease access to records related to EAs conducted at the federal level. Enforcement databases are also open to the public (Section 4.2).

5.3. Access to justice

Environmental petitions are a unique way for Canadian residents to bring their concerns and questions about environmental issues to the attention of relevant federal ministers and to obtain responses from them. The Commissioner of the Environment and Sustainable Development administers environmental petitions on behalf of the Auditor General of Canada and has issued a guide to the process. The commissioner posts summaries of environmental petitions received and responses given on the Office of the Auditor General of Canada's website. A total of 18 petitions were filed in 2015, covering such issues as climate change adaptation for national parks, implementation of a federal compliance strategy for transboundary waste regulations and concerns about Canada's continued use and import of asbestos (OAG, 2017). In addition, CEPA provides a mechanism through which the public can request an investigation of an alleged offence. If the minister fails to investigate, a member of the public can launch an environmental protection action against the alleged offender in the courts.

The Canadian public has a broad right to appeal decisions that affect the environment. The right of appeal against a permit or approval is specified in the statute authorising such a decision. Historically, many statutes only offered these appeal rights to the issuing agency and the applicant. In recent years, provincial legislatures have authorised third-party appeal rights. These appeals are usually held before administrative tribunals such as Alberta's Environmental Appeals Board or Ontario's Environmental Review Tribunal. In addition, most government decisions are subject to judicial review on issues of jurisdiction, error of law or denial of natural justice. Judicial review can be initiated in federal or provincial courts, depending on the identity of the government official who made the decision that is challenged. Over the last decade, the rights of public interest groups to bring judicial review

suits have expanded significantly. However, unlike the United States, Canada does not have provisions for citizen suits to seek court injunctions for the government to enforce environmental laws.

In all Canadian jurisdictions, an individual can commence a legal action against a polluter, owner or occupier for damages related to pollution. Some NGOs engage in direct action to draw attention to environmental issues. Indeed, NGOs such as Ecojustice and the Canadian Environmental Law Association maintain a complement of staff legal counsel to intervene in significant environmental cases (Tidball et al., 2016). According to the Environmental Justice Atlas, Canada has 21 environmental conflicts, placing it 23rd in the world. These conflicts are mostly related to fossil fuel and mineral ore extraction (EJOLT, 2016).

There are limited mechanisms to reduce significant financial barriers to justice on environmental matters (WRI, 2016). In February 2017, the federal government announced the reinstatement and expansion of the Court Challenges Program discontinued by the previous government in 2006. It will provide up to CAD 5 million of federal funds annually to help Indigenous organisations cover their legal costs in challenging legislation that they feel prejudices their rights (Leblanc, 2017). However, this funding will not be available to environmental NGOs.

5.4. Environmental education

Canada is well-known for actively promoting citizens' awareness in the area of biodiversity conservation. Provincial and local governments support local environmental organisations and volunteer programmes, such as the Conservation Volunteers programme. For example, the widely followed Yukon Biodiversity Awareness Month is one of several educational initiatives available to school children in this territory (Yukon Environment, 2016). In celebration of Canada's 150th birthday, Parks Canada is providing free access to national parks in 2017. ECCC also has a number of community action funding programmes that facilitate collective action and stewardship partnerships. These include the Aboriginal Fund for Species at Risk, which supports projects that protect habitat and contribute to the recovery of species at risk.

The federal government has actively engaged in promoting awareness of climate change impacts on health and provided information to help Canadians adapt. Health Canada's Climate Change and Innovation Bureau has developed a number of educational materials and guidance documents to help communities and individuals prepare for extreme heat events and protect the most vulnerable populations.

Education is a responsibility of sub-national governments. However, the federal government also supports environmental education in schools. For example, environmental statistics adapted for educational needs were published in 2015 as "teacher's kits" for different school levels. The Canadian Network for Environmental Education and Communication (EECOM) plays an important role in co-ordinating these efforts. EECOM is a national charitable network for environmental learning. Its members and associates include provincial, territorial and national environmental learning organisations representing government, NGOs, universities, schools and industry. Many initiatives to integrate environmental and sustainability aspects into school curricula in the provinces also come from civil society (Box 2.8).

About half of Canadian post-secondary education institutions have an environmental or sustainability policy. Quebec and British Columbia have the highest shares (85% and

Box 2.8. **Civil society groups advocate more environmental education in schools**

Environmental Education Ontario (EEON) is an advocacy group of education professionals formed in 2000 to improve the status of environmental education in the province. Its 2003 report “Greening the Way Ontario Learns” led the Ontario Ministry of Education to adopt a new policy framework (2009). It incorporated several environmental science and sustainability courses to the school curriculum, as well as environmental elements into other academic disciplines. EEON sets environmental education benchmarks not only for schools and universities, but also for environmental education at home, at work and in the community.

The Alberta Council for Environmental Education (an NGO established in 2006) created an Education Task Force in 2014. It has produced a Curriculum for Sustainable Future for the province’s elementary and secondary schools. The curriculum outlines key concepts and learning outcomes in different academic subjects that would help make students literate in energy and environmental matters.

Source: ACEE (2016); EEON (2016).

67%, respectively), while only 13% of universities in Saskatchewan have such a policy. Over the past decade, the number of sustainability offices in Canadian universities has increased. These offices have focused primarily on the greening of operations (developing environmentally friendly procurement policies, sustainable transportation and food plans, etc.). However, many have also engaged in educational initiatives. In addition, there have been significant efforts to benchmark Canadian universities in terms of their commitment to, and performance on, sustainability. This includes the Sustainability Tracking Assessment and Rating System developed by the Association for the Advancement of Sustainability in Higher Education (Vaughter et al., 2015).

Recommendations on environmental governance and management

- Enhance institutional collaboration between the federal and provincial/territorial governments to reinforce synergies and reduce duplication of environmental management responsibilities, for example by extending provincial-territorial environmental framework agreements to areas requiring better cross-jurisdictional collaboration such as biodiversity conservation, water management, environmental assessment or land-use planning; expand the involvement of municipalities in vertical policy co-ordination; improve data management to better support decision making.
- Improve implementation of SEA at the federal level and introduce SEA requirements at the provincial level; ensure its application to regional and local land-use plans to better evaluate and address cumulative environmental effects of economic activities; enhance municipal capacity for land-use planning.
- Strengthen environmental assessment at the federal level by increasing transparency of the EA procedure and starting it at the early project design phase; ensure closer integration between EA and permitting at the provincial level.
- Implement integrated environmental permitting in all sub-national jurisdictions; promote the use of best available techniques through a holistic, cross-media approach to setting permit requirements; expand the use of sector-specific standardised requirements and simplified permitting regimes for facilities with low environmental risk.

Recommendations on environmental governance and management (cont.)

- Expand the use of administrative fines (instead of criminal penalties) for minor environmental violations; take account of economic benefit from non-compliance in determining the size of monetary penalties; develop enforcement policies with clear guidance on applying administrative and criminal sanctions proportionately to the seriousness of non-compliance; develop outcome-focused performance measurement of compliance assurance activities; ensure public disclosure of all enforcement data.
- Improve the procedure for consultation with Indigenous communities by starting engagement at the outset of the process; build their capacity to meaningfully participate in environmental decision making, particularly EA; clearly define and implement the concept of Indigenous communities' "free, prior and informed consent" with regard to land use and natural resource management.
- Enhance the quality and timeliness of information provided to the public; expand mechanisms to offer financial support for legal costs to facilitate access to justice on environmental matters; enhance the support for environmental education in secondary schools and universities.

Notes

1. Comprehensive Land Claim Agreements engage the federal, provincial governments and Indigenous peoples in governing natural resources on Indigenous lands. Self-government agreements set out arrangements for Indigenous groups to govern their internal affairs and address the structure and accountability of Aboriginal governments, their law-making powers and financial arrangements. With more than 2 300 identified obligations across all modern treaties in effect, ECCC is one of the primary departments responsible for Canada's implementation of modern treaties with Indigenous peoples.
2. Although Quebec supports the general objectives of AQMS, it does not implement the system since it includes federal industrial emission requirements that duplicate Quebec's Clean Air Regulation.
3. Revenues from federal environmental fines are channelled to the Environmental Damages Fund administered by ECCC. The revenues are spent primarily on environmental restoration projects, but also on research and development and educational activities.
4. The agreements to limit indoor use of 2-butoxyethanol (2007-12), to reduce air emissions from railway locomotives (2007-10) and to achieve verifiable reductions in the use, generation, and release of substances in the automotive parts sector (2002-07) had mixed results (ECCC, 2016a).
5. The EDI assessment, conducted in 2014, was limited to the federal level. It did not assess laws, regulations or practices of Canada's provinces and territories.

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