Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada

Report 7

Canadian Net-Zero Emissions Accountability Act—2024 Report

Independent Auditor's Report | 2024

Office of the Auditor General of Canada

Bureau du vérificateur général du Canada

Performance audit reports

This report presents the results of a performance audit conducted by the Office of the Auditor General of Canada (OAG) under the authority of the *Auditor General Act* and the *Canadian Net-Zero Emissions Accountability Act*.

A performance audit is an independent, objective, and systematic assessment of how well government is managing its activities, responsibilities, and resources. Audit topics are selected on the basis of their significance. While the OAG may comment on policy implementation in a performance audit, it does not comment on the merits of a policy.

Performance audits are planned, performed, and reported in accordance with professional auditing standards and OAG policies. They are conducted by qualified auditors who

- establish audit objectives and criteria for the assessment of performance
- gather the evidence necessary to assess performance against the criteria
- report both positive and negative findings
- conclude against the established audit objectives
- make recommendations for improvement when there are significant differences between criteria and assessed performance

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At a Glance

Overall message

Implementation of measures in the 2030 Emissions Reduction Plan remains insufficient to meet Canada's target of reducing greenhouse gas emissions by 40% to 45% below 2005 levels by 2030. According to the federal government's data for 2022, emissions have been reduced by 7.1% since 2005. This does not include accounting contributions from the land use, land-use change, and forestry sector.

This is our second report under the *Canadian Net-Zero Emissions Accountability Act*, and it focuses on the progress made to date in implementing climate change mitigation measures and our related recommendations and on the transparency of the federal government's first progress report under the act. Overall, the federal government had advanced a variety of mitigation measures to support progress towards a net-zero transition but had still not made sufficient progress to reduce greenhouse gas emissions to meet its 2030 target. Only 6 years remain for the majority of reductions to take place.

When we looked at 20 measures from the government's 2030 Emissions Reduction Plan, we found that measures were being implemented too slowly to meet their intended emissions reductions in a timely manner. The federal organizations' estimates of expected emissions reductions from their measures were often overly optimistic, and assessments of the value for money they delivered to Canadians were varied. However, the implementation of some measures was on track—for example, in the delivery of funding for zero-emission vehicles.

We also assessed federal organizations' progress on implementing 41 recommendations from 7 reports on climate change that our office has published since 2021. Federal organizations had made progress in implementing actions to advance our recommendations. However, they had missed their set deadlines for some recommendations.

Environment and Climate Change Canada issued its first progress report in December 2023 as required by the act. The department could have improved reporting by better portraying progress made on measures and by providing more detailed information on the elements included in the department's national emissions projections.

Our body of work on Canada's commitments to reduce greenhouse gas emissions has indicated that the stakes grow ever higher each year and that the window of opportunity to reduce emissions and meet the 2030 and 2050 targets is rapidly closing. The federal government must pick up the pace in implementing effective measures.

Key facts and findings

- There are 6 years left to achieve the 2030 greenhouse gas emissions target of 40% to 45% below 2005 levels. Emissions data showed that as of 2022, Canada reduced its greenhouse gas emissions by 7.1% (not including land use, land-use change, and forestry accounting contributions).
- In 2023, the federal government published its first progress report on the 2030 Emissions Reduction Plan under the act, and it reported on 149 measures to support greenhouse gas emissions reductions.
- Of the 20 measures we audited that were being developed or implemented by the federal government, only 9 were on track, 9 were facing challenges, and 2 had significant barriers, such as facing delays in meeting milestones.
- For 41 recommendations from our past audits on climate change, since 2021, we found that federal organizations had undertaken actions to implement 16 recommendations, 22 recommendations were in progress, and 3 had not been implemented.
- With its first progress report on Canada's 2030 Emissions Reduction Plan, Environment and Climate Change Canada missed opportunities to enhance transparency, such as publishing milestones and timetables for implementing each measure.

See **Recommendations and Responses** at the end of this report.

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Introduction

Why we did this audit

Take urgent action to combat climate change and its impacts

Source: United Nations

7.1 Climate change is a defining issue of our time. Canada and over 190 parties have committed to action through the United Nations' Paris Agreement, 2030 Agenda for Sustainable Development, and Sustainable Development Goal 13 on urgent action to combat climate change and its impacts. These commitments call on countries to integrate climate change measures into national policies, strategies, and planning (Sustainable Development Goal target 13.2).

7.2 The Government of Canada has committed to reducing greenhouse gas emissions by 40% to 45% below 2005 levels by 2030 and to reach net-zero emissions by 2050. In 2022, Canada's total greenhouse gas emissions were 708 megatonnes of carbon dioxide equivalent (Mt CO_2 eq), not including the land use, land-use change, and forestry accounting contributions. This represented a decrease of 7.1% (54 Mt CO_2 eq) from 2005 but an increase of 16% from 1990 (Exhibit 7.1).

7.3 To meet the 2030 target, the greatest share of emissions reductions will need to occur in the next 6 years. Canada remains the worst performer among all member countries of the Group of Seven since 1990 and 2005 (Exhibit 7.2).

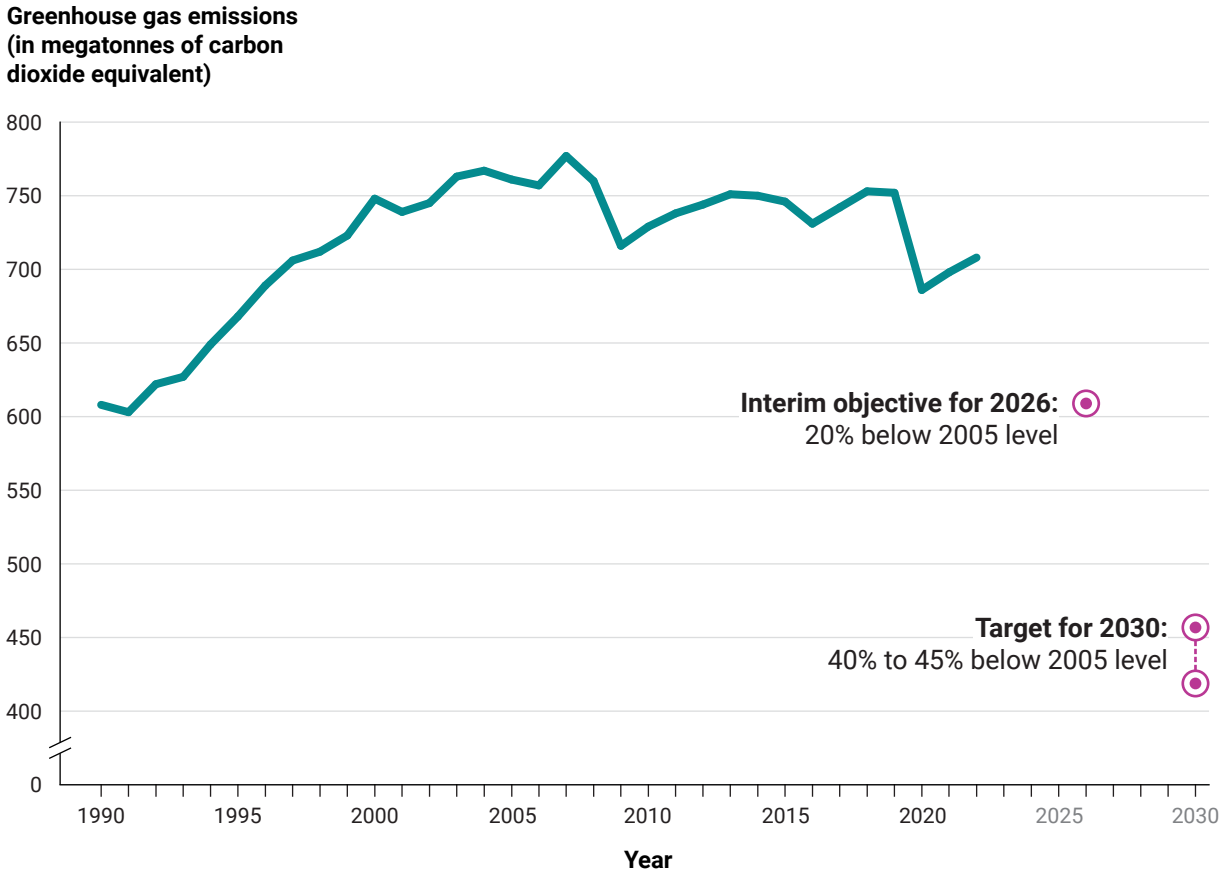
7.4 The *Canadian Net-Zero Emissions Accountability Act* came into force in 2021. It promotes transparency and accountability in the federal government's efforts to ensure Canada achieves net-zero greenhouse gas emissions by 2050.

7.5 In March 2022, the Minister of Environment and Climate Change published the 2030 Emissions Reduction Plan. This first plan under the act outlined the **measures**[1] that the federal government intends to take to achieve Canada's 2030 target. Our office published a report on the 2030 Emissions Reduction Plan in November 2023, which concluded that missing and inconsistent information, delays in launching important measures, and a lack of reliability in projections hindered the credibility of the plan. The plan had not been updated since that audit.

7.6 In December 2023, the minister published the first progress report on the 2030 Emissions Reduction Plan. The document reports on 149 measures and sub-measures across 11 economic sectors and categories. The implementation of these measures is led by 20 federal organizations. The report stated that measures will reduce emissions by 36.2% below 2005 levels by 2030. It acknowledged that Canada had work to do and that additional actions will be needed to meet its 2030 emissions reduction commitment.

1 **Measures**—Government actions described in the climate change plan and designed to help Canada achieve its greenhouse gas emissions targets. Measures can be legislative, regulatory, fiscal, or supporting programs.

Exhibit 7.1—Canada's greenhouse gas emissions, projections, objective, and target



Note: The land use, land-use change, and forestry accounting contributions were not included because those values had not yet been published.

Source: Based on data from the National Inventory Report 1990–2022: Greenhouse Gas Sources and Sinks in Canada, Environment and Climate Change Canada, 2024

Exhibit 7.1—Canada's greenhouse gas emissions, projections, objective, and target—Text description

This graph shows Canada's greenhouse gas emissions from 1990 to 2022. In 2022, Canada's total greenhouse gas emissions were 708 megatonnes of carbon dioxide equivalent, down from 761 megatonnes in 2005 but up from 608 megatonnes in 1990. The specific amounts from 1990 to 2022 are as follows.

In 1990, Canada's greenhouse gas emissions were 608 megatonnes of carbon dioxide equivalent. In 1991, emissions fell to 603 megatonnes. In 1992, they rose to 622 megatonnes. In 1993, they rose to 627 megatonnes. In 1994, they rose to 649 megatonnes. In 1995, they rose to 668 megatonnes. In 1996, they rose to 689 megatonnes. In 1997, they rose to 706 megatonnes. In 1998, they rose to 712 megatonnes. In 1999, they rose to 723 megatonnes.

In 2000, emissions rose to 748 megatonnes. In 2001, they fell to 739 megatonnes. In 2002, they rose to 745 megatonnes. In 2003, they rose to 763 megatonnes. In 2004, they rose to 767 megatonnes. In 2005, they fell to 761 megatonnes. In 2006, they fell to 757 megatonnes. In 2007, they rose to 777 megatonnes. In 2008, they fell to 760 megatonnes. In 2009, they fell to 716 megatonnes.

Exhibit 7.1—Text description continued

In 2010, emissions rose to 729 megatonnes. In 2011, they rose to 738 megatonnes. In 2012, they rose to 744 megatonnes. In 2013, they rose to 751 megatonnes. In 2014, they fell slightly to 750 megatonnes. In 2015, they fell to 746 megatonnes. In 2016, they fell to 731 megatonnes. In 2017, they rose to 742 megatonnes. In 2018, they rose to 753 megatonnes. In 2019, they fell slightly to 752 megatonnes.

In 2020, emissions fell to 686 megatonnes. In 2021, they rose to 698 megatonnes. Finally, in 2022, they rose to 708 megatonnes.

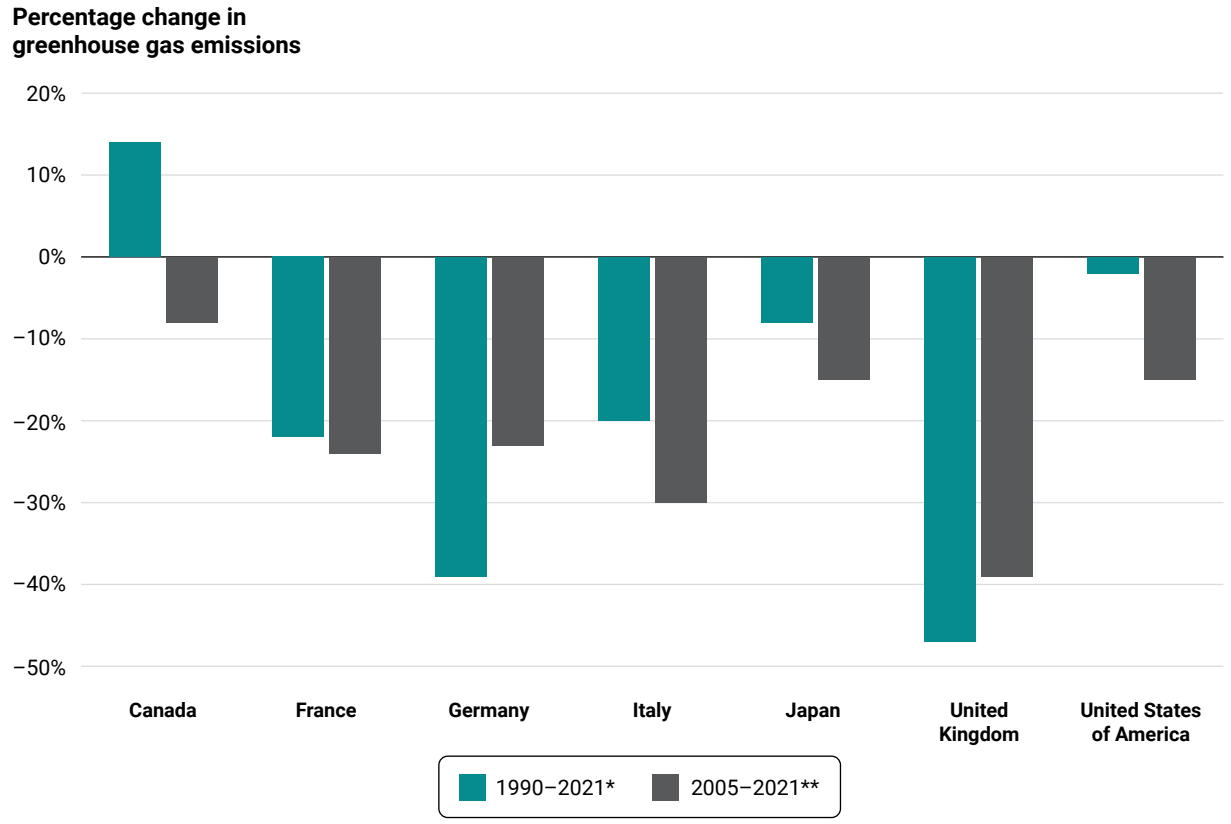
The graph also shows the interim objective for 2026, which is 20% below the 2005 level. This means that Canada's greenhouse gas emissions would need to be 609 megatonnes of carbon dioxide equivalent by 2026.

Finally, the graph shows the target for 2030, which is 40% to 45% below the 2005 level. This means that Canada's greenhouse gas emissions would need to be between 419 and 457 megatonnes of carbon dioxide equivalent by 2030.

Note: The land use, land-use change, and forestry accounting contributions were not included because those values had not yet been published.

Source: Based on data from the National Inventory Report 1990–2022: Greenhouse Gas Sources and Sinks in Canada, Environment and Climate Change Canada, 2024

Exhibit 7.2—Performance of Group of Seven countries in reducing greenhouse gas emissions



* The baseline year for reporting emissions and assessing progress under the United Nations Framework Convention on Climate Change is 1990.

** The baseline year chosen by Canada for its 2030 target under the Paris Agreement is 2005.

Source: National inventory reports for 1990–2021 for the above countries

Exhibit 7.2—Performance of Group of Seven countries in reducing greenhouse gas emissions—Text description

This graph compares Group of Seven countries' greenhouse gas emissions reductions in 2 periods: 1990 to 2021 and 2005 to 2021. The baseline year for reporting emissions and assessing progress under the United Nations Framework Convention on Climate Change is 1990. The baseline year chosen by Canada for its 2030 target under the Paris Agreement is 2005.

Canada was the worst performer among the Group of Seven countries for both time periods. The percentage changes in greenhouse gas emissions for the 7 countries are as follows.

For Canada, the percentage change was plus 14% from 1990 to 2021 and minus 8% from 2005 to 2021. For France, the percentage change was minus 22% from 1990 to 2021 and minus 24% from 2005 to 2021. For Germany, the percentage change was minus 39% from 1990 to 2021 and minus 23% from 2005 to 2021. For Italy, the percentage change was minus 20% from 1990 to 2021 and minus 30% from 2005 to 2021. For Japan, the percentage change was minus 8% from 1990 to 2021 and minus 15% from 2005 to 2021. For the United Kingdom, the percentage change was minus 47% from 1990 to 2021 and minus 39% from 2005 to 2021. Finally, for the United States of America, the percentage change was minus 2% from 1990 to 2021 and minus 15% from 2005 to 2021.

Source: National inventory reports for 1990–2021 for the above countries

7.7 In 2021, the Commissioner of the Environment and Sustainable Development published the Lessons Learned from Canada's Record on Climate Change report. The report outlines 8 lessons that can be drawn from Canada's consistent failures to meet its targets to reduce greenhouse gas.

7.8 Since 2021, the Commissioner of the Environment and Sustainable Development has published 15 reports related to climate change measures. These reports examined 11 measures included in the 2030 Emissions Reduction Plan. In these audits, our office had similar findings on the implementation of these measures (Appendix A), including

- delays in implementation
- lack of direction from federal government in emerging areas
- unreliable emissions reduction estimates
- lack of value-for-money assessments of measures for emissions reductions
- lack of transparency on emissions reductions and projections
- issues related to the equity of measures for vulnerable groups and Indigenous peoples

7.9 Our audit work on climate change is contributing to a global project called ClimateScanner, which is an initiative of the International Organization of Supreme Audit Institutions' Working Group on Environmental Auditing being led by the Supreme Audit Institution of Brazil. The project will provide a global overview of national

governmental climate action based on an assessment of information provided by participating national audit offices. For more information, please see this report's landing page on our website.

What we audited

7.10 This audit focused on whether

- selected federal organizations made progress in implementing selected measures to reduce Canada's greenhouse gas emissions
- selected federal organizations made progress in implementing our related recommendations
- Environment and Climate Change Canada had reported on progress in a transparent manner

We assessed the organizations' performance using a range of expectations. These expectations were based on, but not limited to, the *Canadian Net-Zero Emissions Accountability Act* and the *Auditor General Act*.

7.11 This audit examined progress made by 7 federal organizations to implement 20 measures aimed at reducing emissions, based on 7 criteria. These criteria were selected based on findings from our past audits as well as international best practices from the Intergovernmental Panel on Climate Change and other relevant international authorities. The individual measures can have differing objectives and use different policy instruments or ranges in scale, making comparisons difficult. Therefore, the report assesses all measures against a common set of criteria, which include

- timeliness
- reliability of estimated emissions reductions
- changes in design
- systems for measuring and monitoring results
- assessment of value for money
- multi-jurisdictional challenges
- **gender-based analysis plus**[2] and considerations of Indigenous peoples

7.12 We also examined progress made by 4 federal organizations in advancing 41 recommendations that we made in 7 of our past climate change reports (Exhibit 7.3). This audit also examined the 2023 Progress

2 **Gender-based analysis plus**—An analytical process that provides a rigorous method for the assessment of systemic inequalities and a means to assess how diverse groups of women, men, and gender-diverse people may experience policies, programs, and initiatives. The "plus" acknowledges that gender-based analysis goes beyond biological (sex) and socio-cultural (gender) differences and considers many other identity factors, such as race, ethnicity, religion, age, and mental or physical ability.

Source: Adapted from Women and Gender Equality Canada

Report on the Emissions Reduction Plan. More details on the selected federal organizations and the approach are in the **About the Audit** section of this report.

Exhibit 7.3—Federal organizations included in the audit

Organizations	Measures	Recommendations from past audits
Environment and Climate Change Canada	5	23
Natural Resources Canada	8	15
Housing, Infrastructure and Communities Canada (formerly Infrastructure Canada)	3	6
Canada Infrastructure Bank	3	-
Crown-Indigenous Relations and Northern Affairs Canada	2	-
National Research Council Canada	1	-
Transport Canada	1	-
Privy Council Office	-	2

Note: The total number of measures and recommendations do not match the numbers provided in paragraphs 7.11 and 7.12 because some measures and recommendations involved multiple federal organizations.

Findings and Recommendations

Federal organizations made progress but faced challenges in effectively implementing measures to reduce greenhouse gas emissions by 2030

What we found

7.13 We examined 20 mitigation measures that were being developed or implemented by the federal government as part of the 2030 Emissions Reduction Plan. These measures varied from regulations to funding programs to national standards. We found that federal organizations had made some progress in the effective implementation of the mitigation measures we examined. However, we found deficiencies in the implementation of many measures that hinder Canada's ability to meet the 2030 greenhouse gas emissions reduction target.

7.14 Of the 20 we examined, we found that 9 measures were on track, 9 were facing implementation challenges, and 2 had significant barriers hindering effective emissions reductions by 2030 (Exhibit 7.4). Our observations are presented in paragraphs 7.17 to 7.33. A full list of examined measures and our assessment are presented in Appendix B.

Exhibit 7.4—Challenges in effective implementation of measures hinder Canada's ability to meet the 2030 greenhouse gas emissions reduction target

Measures that have 0.5 megatonnes or more of expected greenhouse gas emissions reductions by 2030

Facing significant implementation barriers	Facing implementation challenges	Implementation on track
• Oil and gas emissions cap	• New regulations to reduce landfill methane emissions • National model building codes	• Smart Renewables and Electrification Pathways Program • Clean Power priority investment area • Green Infrastructure priority investment area • Regulated zero-emissions vehicle sales mandate • Oil and gas methane regulation

Measures that have less than 0.5 megatonnes of expected greenhouse gas emissions reductions by 2030

Facing significant implementation barriers	Facing implementation challenges	Implementation on track
• Indigenous Off-Diesel Initiative	• Active Transportation Fund • Zero Emission Transit Fund • Canada Green Buildings Strategy • Clean Energy for Rural and Remote Communities program • Rural Transit Solutions Fund • Small Modular Reactor Action Plan • Clean Electricity Regulations	• Federal Incentive for Zero-Emission Vehicles Program • Public Transit priority investment area • Northern Responsible Energy Approach for Community Heat and Electricity program • Canada Greener Homes Grant

7.15 The following observations support this finding:

- Federal organizations had advanced a variety of measures. **Read more.**
- Implementation of key measures was too slow. **Read more.**
- Funding measures were not expected to reduce emissions as initially estimated. **Read more.**
- Value-for-money assessments were varied. **Read more.**
- Federal organizations considered the impact of measures on various groups, but delivery for Indigenous peoples had not progressed as intended. **Read more.**

Why this finding matters

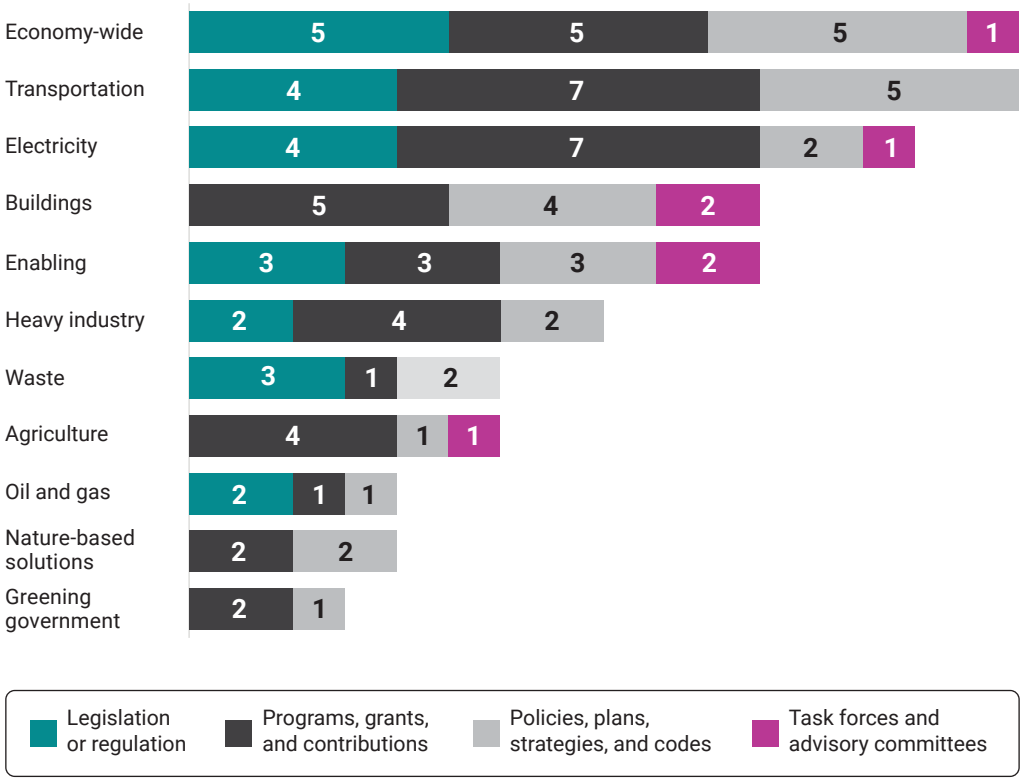
7.16 This finding is important because making progress on implementing effective mitigation measures is crucial for Canada to significantly and rapidly reduce its greenhouse gas emissions to avoid the severe effects of climate change. Given Canada's track record, it is important to keep the Government of Canada accountable for its commitments and actions and to track the progress it has made on implementing measures to achieve its emissions targets.

Federal organizations had advanced a variety of measures

Findings

7.17 The 2023 Progress Report on the Emissions Reduction Plan reported on a variety of measures and their sub-measures that aim to directly contribute to reducing greenhouse gas emissions or enable other measures to do so. These include over 40 funding programs; 20 policies, plans, strategies, and codes; 20 legislative and regulatory instruments; and at least 7 working groups and committees (Exhibit 7.5). For example, the Clean Electricity Regulations aim to directly reduce emissions by regulating emissions from the electricity sector, while the Smart Renewables and Electrification Pathways Program aims to support utility-scale electricity generation projects like solar panels and wind turbines to decarbonize the electricity system.

Exhibit 7.5—Federal organizations advanced a variety of measures



Source: Based on information from the 2023 Progress Report on the 2030 Emissions Reduction Plan, Environment and Climate Change Canada

Exhibit 7.5—Federal organizations advanced a variety of measures—Text description

This chart shows, in descending order, the number of measures advanced by federal organizations, organized by 11 sectors, as follows.

There were the following 16 economy-wide measures: 5 pieces of legislation or regulations; 5 programs, grants, and contributions; 5 policies, plans, strategies, and codes; and 1 task force or advisory committee.

In the transportation sector, there were the following 16 measures: 4 pieces of legislation or regulations; 7 programs, grants, and contributions; and 5 policies, plans, strategies, and codes.

In the electricity sector, there were the following 14 measures: 4 pieces of legislation or regulations; 7 programs, grants, and contributions; 2 policies, plans, strategies, and codes; and 1 task force or advisory committee.

In the buildings sector, there were the following 11 measures: 5 programs, grants, and contributions; 4 policies, plans, strategies, and codes; and 2 task forces and advisory committees.

There were 11 enabling measures: 3 pieces of legislation or regulations; 3 programs, grants, and contributions; 3 policies, plans, strategies, and codes; and 2 task forces and advisory committees.

In the heavy industry sector, there were the following 8 measures: 2 pieces of legislation or regulations; 4 programs, grants, and contributions; and 2 policies, plans, strategies, and codes.

Exhibit 7.5—Text description continued

In the waste sector, there were the following 6 measures: 3 pieces of legislation or regulations; 1 program, grant, or contribution; and 2 policies, plans, strategies, and codes.

In the agriculture sector, there were the following 6 measures: 4 programs, grants, and contributions; 1 policy, plan, strategy, or code; and 1 task force or advisory committee.

In the oil and gas sector, there were the following 4 measures: 2 pieces of legislation or regulations; 1 program, grant, or contribution; and 1 policy, plan, strategy, or code.

There were the following 4 nature-based-solutions measures: 2 programs, grants, and contributions and 2 policies, plans, strategies, and codes.

Finally, there were the following 3 greening-government measures: 2 programs, grants, and contributions and 1 policy, plan, strategy, or code.

Source: Based on information from the 2023 Progress Report on the 2030 Emissions Reduction Plan, Environment and Climate Change Canada

7.18 Since our report last year on the 2030 Emissions Reduction Plan, Environment and Climate Change Canada had made progress in developing key regulations. For example, in December 2023, Environment and Climate Change Canada published a draft regulation to strengthen the existing oil and gas methane regulations. However, emissions reductions from this measure will only begin once these regulations are finalized and implemented.

7.19 We found that 10 of the 12 federal funding programs intended to incentivize emissions reductions had met their set milestones. For example, the Canada Greener Homes Grant, delivered by Natural Resources Canada, received a high number of applicants, and the program was fully committed in 2024, before its expected end date of 2027. We also found that investments in the transportation sector had made progress in their implementation, such as the Public Transit priority investments by the Canada Infrastructure Bank.

7.20 Enhancing the design and delivery of existing measures is an effective and efficient way for federal organizations to increase the potential for emissions reductions. We found that some existing measures were being strengthened or expanded such as the recent proposed amendments to the regulations to reduce methane from the oil and gas sector and the Canada Infrastructure Bank's Clean Power priority investment area. The progress report had identified additional measures such as those related to zero-emission vehicles in the transportation sector that could be enhanced.

Implementation of key measures was too slow

Findings

7.21 In our 2023 audit report, we found that 4 regulations were delayed in meeting milestones established by Environment and Climate Change Canada, such as the *Clean Fuel Regulations*. In this audit, we found that the department had still not met its milestones for developing regulations. For example, we found that details on the oil and gas emissions cap were expected to be announced in early 2023 but were not announced until December 2023. The draft regulations were originally expected to be published in December 2023, then revised to mid-2024. As of July 2024, the draft regulations had not been published.

7.22 We also observed that developing a national model building code with energy efficiency requirements for alterations to existing buildings took a long time. The federal government first committed in its 2016 climate plan to develop a model code for existing buildings by 2022. Some provisions for improving the energy efficiency of both new builds and alterations were updated in the 2022 publication. However, details specific to alterations to existing buildings were then planned for the 2025 edition of the codes. As of July 2024, the proposed provisions were awaiting final approval.

7.23 Reducing greenhouse gas emissions requires effort from governments at all levels. We found that 15 of the 20 measures examined faced multi-jurisdictional challenges in their development or implementation. These challenges affected the timeliness of measures in the transportation, oil and gas, electricity, and building sectors. For example, provinces raised concerns with the draft Clean Electricity Regulations, including impacts on costs and rate affordability. The department proposed measures to mitigate these concerns including flexibility in the application of the performance standard. However, some provinces continue to express concerns about the regulation.

7.24 Since the release of the previous projections in 2022 by Environment and Climate Change Canada, there have been no new substantive federal measures included in the modelling. In fact, assumptions for some measures have been revised to reflect their slow implementation status resulting in lower projected emissions reductions than previously expected. The recent decreases to projected 2030 emissions were not due to climate actions taken by governments but were instead because of revisions to the data or methods used in modelling.

Funding measures were not expected to reduce emissions as initially estimated

Findings

7.25 We found that federal organizations used a variety of approaches to estimate emissions reductions when designing their measures. However, as individual measures were being implemented, some of the initial estimates were overestimated because of optimistic assumptions on timeliness and program uptake.

7.26 For the funding measures we assessed, we found that the initial estimates of emissions reductions for 6 out of the 12 measures were higher than revised estimates. For example, emissions estimates for the Canada Greener Homes Grant were revised from 820 to 487 kilotonnes of carbon dioxide equivalent due to homeowners undertaking more costly home retrofits than originally anticipated, such as installing a heat pump rather than updating home insulation, which resulted in fewer overall participants and lower emissions estimates.

7.27 As many measures interact and overlap with each other, some measures fund the same projects or target the same emissions reductions. We found that some organizations were unable to attribute the emissions reduction contributions from their individual measures. For example, the Clean Power priority investments from the Canada Infrastructure Bank and the Smart Renewables and Electrification Pathways Program from Natural Resources Canada fund the same projects and report on the same expected emissions reductions. This can lead to overestimating the measure's contribution to emissions reductions.

Value-for-money assessments were varied

Findings

7.28 We would have expected that federal organizations had assessed the value for money of the measures included in the 2030 Emissions Reduction Plan and that these assessments included emissions reductions. Assessing value for money can be a criterion for determining the effectiveness of mitigation measures. For the 20 measures we examined, 8 undertook a value-for-money assessment that included emissions reductions, 7 undertook assessments that did not include emissions reductions, and 5 had not undertaken any assessments.

7.29 Assessing value for money for emissions reductions can be challenging given the variety of mitigation measures. Some measures have direct emissions reductions whereas others are enabling or capacity-building measures that indirectly contribute to emissions

reductions. However, a common way of assessing the benefits and value derived is important to understand the effectiveness and the cost to Canadians of a measure. The federal government had not established a consistent government-wide approach to assess value for money for all types of emissions reduction measures.

Federal organizations considered the impact of measures on various groups, but delivery for Indigenous peoples had not progressed as intended

Findings

7.30 For the 20 measures we examined, we found that federal organizations had considered the impacts of the measures on various groups, including Indigenous peoples. This is an important step in understanding how climate change and measures to reduce emissions may affect vulnerable groups across Canada. For example, low-income communities and certain rural and coastal areas may face disproportionate risks and effects of climate change.

7.31 We found that organizations made funding available to Indigenous, rural, and remote communities to support efforts to reduce emissions, such as the Indigenous Off-Diesel Initiative, the Clean Energy for Rural and Remote Communities program, and the Northern Responsible Energy Approach for Community Heat and Electricity program. Funding included support for capacity building, project planning, and project implementation. These efforts aligned with the federal government's commitments to advance reconciliation and self-determination as identified in the Indigenous Climate Leadership Agenda.

7.32 However, we found that 5 of the funding programs intended to support the specific needs of Indigenous peoples had not progressed according to their expected timelines and that this hinders their contribution to emissions reductions for the 2030 target. The federal organizations told us that the COVID-19 pandemic, as well as the unique circumstances and the remoteness of communities, impacted the timely delivery of projects as planned. As a result, federal programs had been extended to better meet the needs of participating Indigenous communities.

7.33 We also found that for 14 of 20 measures, federal organizations did not have available disaggregated data (that is, separate data on affected groups) to monitor whether measures were supporting identified vulnerable groups. Without disaggregated data, organizations may not know whether members of these groups were receiving equitable access to program funding.

Recommendation

7.34 To improve the timeliness and effectiveness of the implementation of federal climate change measures to reduce emissions, Environment and Climate Change Canada, together with responsible federal organizations, should

- increase the reliability of greenhouse gas emissions reduction estimates for each measure so that budgetary, planning, and delivery decisions are based on better information
- establish a government-wide approach and guidance for value-for-money assessments of emissions reduction measures and publish the value of emissions reductions for individual measures
- collect and report disaggregated data that tracks access to and delivery of measures for the identified groups

Environment and Climate Change Canada's response. *Partially agreed*.

See **Recommendations and Responses** at the end of this report for detailed responses.

Federal organizations made progress in implementing actions to advance our recommendations, but they were not always timely or fully addressed

What we found

7.35 We examined 41 recommendations from our reports on climate change since 2021 that federal organizations had agreed to implement in whole or in part. We found that federal organizations had implemented actions to advance 16 of these recommendations, 22 were in progress, and 3 were not implemented. We found that 12 recommendations had not met their deadline. We also found that, though organizations had agreed to our recommendations, many of the responses and actions only partly addressed or had not addressed our recommendations.

7.36 The following observations support this finding:

- Actions in response to our recommendations were not always implemented in a timely manner. **Read more.**
- Responses and actions did not always address our recommendations. **Read more.**

Why this finding matters

7.37 This finding matters because recommendations from audit reports aim to address the deficiencies found by our audits that pose significant risk if left uncorrected. Federal organizations commit to specific actions they will take to respond to the recommendations that they have agreed to and to timelines for implementation in their management action plans. These are intended to contribute to better outcomes and value for money for Canadians.

Actions in response to our recommendations were not always implemented in a timely manner

Findings

7.38 We examined whether federal organizations had made progress in implementing actions they proposed in response to the recommendations in our climate change audits. Since 2021, we have published 15 reports on climate change and have made 78 recommendations. We examined whether federal organizations had made progress in advancing 41 recommendations from 7 reports, which had been agreed or partially agreed to by federal organizations. These federal organizations had committed to implementing actions between 2022 and 2029.

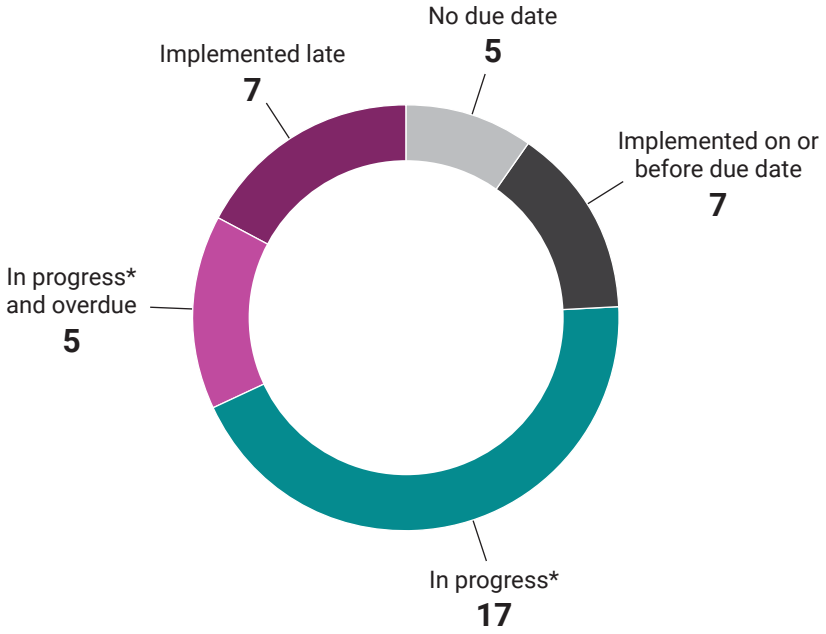
7.39 We found that of the 41 recommendations we examined, federal organizations had implemented actions to advance 16 recommendations, 22 were in progress, and 3 were not implemented. In an example of progress made, Environment and Climate Change Canada advanced key recommendations from our 2023 audit report on net-zero emissions and our 2023 audit report on greenhouse gas regulations as follows. The department

- updated the methodology in the 2024 National Inventory Report to capture all sources of methane emissions 1 year in advance of the anticipated completion date
- began discussions with Statistics Canada to explore the feasibility of developing methods for timelier estimations for greenhouse gas emissions
- engaged with other government departments and agencies on the contents of the climate data hub and began making improvements to its internal reporting tool, such as collecting information on anticipated completion dates, indicators, milestones, and targets

7.40 However, we also found that of the 18 recommendations that were expected to be implemented by the end of our audit period, 5 were overdue according to commitments in the organizations' action plans,

and 7 had been completed late. We also found that 1 was implemented ahead of schedule and that 5 had no due dates. There were 17 remaining recommendations that had actions with expected completion dates between August 2024 and December 2029 (Exhibit 7.6). A list of all recommendations can be downloaded from this report's landing page on our website.

Exhibit 7.6—Progress on advancing our recommendations was not always timely



* Actions were planned or started to address the recommendation but were not completed.

Exhibit 7.6—Progress on advancing our recommendations was not always timely—Text description

This graph shows the timeliness of the actions taken to address our recommendations. Seven recommendations were implemented on or before the due date. Seven recommendations were implemented late. Seventeen recommendations were in progress—that is, actions were planned or started to address the recommendation but were not completed. Five recommendations were in progress and overdue. Five recommendations had no due date.

Responses and actions did not always address our recommendations

Findings

7.41 We also examined whether the actions outlined in the responses and management action plans provided by the organization addressed our recommendations. We found that 20 out of 41 recommendations had planned or taken actions that only partly addressed or did not address our recommendations. As such, actions undertaken by the organizations did not always respond to the concerns raised in the audit findings.

7.42 For example, our 2023 audit of forests and climate change raised concerns about the lack of transparency about emissions from Canada's forestry sector. We recommended that Natural Resources Canada and Environment and Climate Change Canada commission an independent expert review that considered Canada's approach to estimating and reporting emissions related to forests and specifically to logging. While the departments agreed with our recommendation, in our view, their actions did not address the concerns raised by the audit related to improving reporting on emissions from forests and specifically logging. For example, they noted that they would continue to rely on existing consultations and United Nations' expert reviews related to international reporting obligations as opposed to a Canadian independent expert review that would reflect our national circumstances.

Environment and Climate Change Canada's first progress report missed opportunities to enhance transparency

What we found

7.43 We found that the 2023 Progress Report on the 2030 Emissions Reduction Plan published by Environment and Climate Change Canada had met the requirements outlined in the *Canadian Net-Zero Emissions Accountability Act*. However, the department had missed opportunities to implement best practices to enhance the transparency of reporting on progress to meet Canada's emissions target (Exhibit 7.7).

Exhibit 7.7—Environment and Climate Change Canada missed opportunities to enhance transparency in the progress report

Legislative requirements	Our assessment
Report on requirements in the *Canadian Net-Zero Emissions Accountability Act*	✓

Best practices	Our assessment
Engage with provinces, territories, and Indigenous peoples	✓
Modelling: Provide detail about the government's modelling assumptions	!
Modelling: Conduct a more detailed uncertainty analysis of projections	!
Measures: Track a comprehensive set of leading indicators	!
Measures: Report on United Nations' Sustainable Development Goal 13: Climate Action	!
Measures: Publish timetables for implementation of measures	✗
Measures: Identify and prioritize key measures to meet Canada's targets	✗

✓ Met ! Partially met ✗ Not met

7.44 The following observations support this finding:

- The department consulted and engaged with interested parties. **Read more.**
- The department had not implemented best practices to transparently report on measures. **Read more.**
- Lack of prioritization of measures and fragmented accountability for reducing emissions persisted. **Read more.**

Why this finding matters

7.45 This finding matters because transparency and accountability of federal organizations for the results of their climate change measures are integral to the *Canadian Net-Zero Emissions Accountability Act*.

Transparent reporting ensures that the information presented is clear and complete so that Canadians know whether information about progress to reduce greenhouse gas emissions is reliable and credible.

The department consulted and engaged with interested parties

Findings

7.46 The act requires that the progress report be prepared in consultation with ministers that have duties and functions relating to the measures taken to achieve the emissions reduction target. We found that when preparing the progress report, Environment and Climate Change Canada consulted with all the ministers responsible for organizations that lead measures.

7.47 We also found that the department engaged with provinces, territories, Indigenous peoples, and the Net-Zero Advisory Body. Those engaged provided comments and feedback on the sections of the report relevant to them, which the department used to inform the progress report. The department also engaged with civil society organizations when preparing the progress report.

The department had not implemented best practices to transparently report on measures

Findings

7.48 We found that Environment and Climate Change Canada had not reported on measures in a manner that would allow for a better understanding of progress towards Canada's emissions reduction target. In our 2023 report under the *Canadian Net-Zero Emissions Accountability Act*, we had identified areas of concerns pertaining to the transparency of the 2030 Emissions Reduction Plan. In this audit, we found similar deficiencies—for instance, we found the following:

- The department had not identified and prioritized which measures were key to meet Canada's target. This is important for Canadians to understand which are the key measures that have the greatest potential to avoid emissions and how they are progressing.
- The department had not published milestones and timetables for the implementation of all measures or had not reported on all the existing milestones. With only 6 years to reach the 2030 target, timetables are important for Canadians to understand when the measures will be started and completed.
- The department had not reported on expected emissions reductions for most measures or clearly identified that the measure was not expected to directly reduce emissions.

The department had not reported on progress towards the relevant United Nations' Sustainable Development Goal and target.

7.49 In our previous audit, we had recommended that the department develop a framework that included multiple performance indicators for sectors, with targets and interim milestones. In this audit, we found that the department missed an opportunity to improve transparency by not reporting on progress of key secondary indicators in a consistent and comprehensive manner throughout its progress report. For example, reporting on whether other key secondary indicators—such as zero-emission vehicle uptake—are on track towards their targets could be used to provide early detection of where adjustments may be needed. As Canada aims to decarbonize across the economy, a set of key indicators are essential to track progress over time.

7.50 According to the *Canadian Net-Zero Emissions Accountability Act*, if the projections indicate that the plan's emissions target will not be met, details of any additional measures that could be taken must be included in the progress report. Since the most recent projections estimate a 36.2% emissions reduction, which falls short of the target to reduce emissions by 40% to 45% below 2005 levels by 2030, we expected that additional measures would be proposed. The department published 32 additional measures to the 149 existing measures. However, we found that only 7 of the 32 additional measures were new, while 3 enhanced existing measures and 22 were existing measures that were already reported. For example, 1 measure identified in the report as additional was to "continue to develop the Canada Green Buildings Strategy" even though it was already in the 2030 Emissions Reduction Plan.

7.51 Although the department had included the required content in the report, it had missed opportunities for reporting on the implementation of the federal measures in a transparent manner, such as the following:

- The 149 measures were presented in a static table that does not allow for easy searching for information. The format of information is important for transparency.
- The application of the "ongoing" category to demonstrate the status of federal measures had been applied inconsistently. For example, sectoral strategies such as the National Housing Strategy or Canada's Carbon Management Strategy have been labelled as "ongoing"; however, they do not meet the criteria as described in the progress report.
- The reported results did not always include specific actions that would allow for a better understanding of progress.

The measures were also presented using varying time frames, such as fiscal year or since the start of the program, which do not allow for comparability.

7.52 Our office has repeatedly made similar recommendations pertaining to the lack of transparency of Environment and Climate Change Canada's modelling over the last 20 years and found that the department had not taken significant steps to address them. In this audit, we found the following:

- Although the department made marginal transparency improvements on modelling assumptions for federal measures in the emissions projection report, it still provided insufficient details. Of the 41 measures the department included in the modelling of the plan, it had not provided details on the modelling assumptions for 66%.
- The department had conducted the same limited uncertainty analysis as it had done in previous years, despite experts recommending assessing uncertain assumptions that materially affect the results, such as the future cost of technology or timing of new infrastructure.

This issue of the lack of transparency in the modelling continues to be an ongoing concern, which can undermine the trust and credibility in the reported progress.

Recommendation

7.53 To improve the transparency of future progress and associated projection reports, Environment and Climate Change Canada should

- in collaboration with other federal organizations, provide consistent and comparable updates on the implementation of federal measures, including expected deadlines for subsequent implementation milestones, and results achieved
- in collaboration with other federal organizations, report progress on a comprehensive set of key sector-level secondary indicators relevant to emissions reductions
- provide more detailed information on the assumptions of federal measures included in the modelling, such as the assumed stringency and coverage
- perform uncertainty analysis for the projections that test the emissions pathway with key variables, such as those related to technology and timing of new infrastructure

Environment and Climate Change Canada's response. *Agreed.*

See **Recommendations and Responses** at the end of this report for detailed responses.

Lack of prioritization of measures and fragmented accountability for reducing emissions persisted

7.54 Our examination of 20 measures this year further highlights some of our findings from our 2023 report under the *Canadian Net-Zero Emissions Accountability Act*. In our 2023 report, we found that less than half of the measures in the plan had a direct impact on emissions reductions and that the department had not prioritized key measures. In our review of the 2023 Progress Report on the Emissions Reduction Plan, we found the following:

- The department was not explicit about which measures would have direct emissions reductions and which would be enabling measures with indirect emissions reductions. For example, the Indigenous Off-Diesel Initiative is a capacity-building program for Indigenous communities and will not have direct emissions reductions; however, it is not identified as such in the 2030 Emissions Reduction Plan or the progress report.
- The department had not identified which measures were to contribute to emissions reductions to meet the 2030 target and those meant to contribute longer term. For example, the Small Modular Reactor Action Plan, aimed at developing a nuclear technology, will only contribute to reducing emissions closer to 2050.
- The department had not identified the implementation of key measures most important in helping Canada achieve its emissions reduction targets.

This lack of transparency meant that accountabilities for reducing emissions remained unclear.

7.55 Some organizations told us that, although they were accountable for advancing their measure, they were not directly responsible for reducing greenhouse gas emissions. For example, National Research Council Canada was identified as a lead department in the progress report for the National Model Codes. The council told us that its responsibility was to lead the development of code provisions but that emissions reductions would occur upon adoption and implementation. Adoption is the purview of the provinces and territories. While enabling measures are also important, we reiterate the importance of explicitly identifying direct and indirect measures and prioritizing the implementation of key measures in the plan that are required to meet the 2030 Emissions Reduction Plan target.

Conclusion

7.56 Federal organizations had made some progress towards implementing the measures we assessed from the 2030 Emissions Reduction Plan. However, most of these measures faced challenges in effective implementation as a result of slow implementation, unreliable emissions estimates, and varied value-for-money assessments. The overall implementation of measures in the 2030 Emissions Reduction Plan remains insufficient to meet Canada's 2030 emissions reduction target. Federal organizations had made progress in advancing our past audit recommendations to date, but they were not always timely.

7.57 Environment and Climate Change Canada's first progress report missed opportunities to enhance transparency but met its legislative reporting requirements issued under the *Canadian Net-Zero Emissions Accountability Act*.

About the Audit

This independent assurance report was prepared by the Office of the Auditor General of Canada on the effective implementation of selected measures and our recommendations and on the transparent reporting on progress of the 2030 Emissions Reduction Plan to reach Canada's emissions reduction target. Our responsibility was to provide objective information, advice, and assurance to assist Parliament in its scrutiny of the government's management of resources and programs and to conclude on whether the selected federal organizations complied in all significant respects with the relevant applicable criteria.

All work in this audit was performed to a reasonable level of assurance in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3001—Direct Engagements, set out by the Chartered Professional Accountants of Canada (CPA Canada) in the CPA Canada Handbook—Assurance.

The Office of the Auditor General of Canada applies the Canadian Standard on Quality Management 1—Quality Management for Firms That Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements. This standard requires our office to design, implement, and operate a system of quality management, including policies or procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

In conducting the audit work, we complied with the independence and other ethical requirements of the relevant rules of professional conduct applicable to the practice of public accounting in Canada, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour.

In accordance with our regular audit process, we obtained the following from entity management:

- confirmation of management's responsibility for the subject under audit
- acknowledgement of the suitability of the criteria used in the audit
- confirmation that all known information that has been requested, or that could affect the findings or audit conclusion, has been provided
- confirmation that the audit report is factually accurate

Audit objective

The objective of this audit was to determine whether selected federal organizations had made progress towards effectively implementing selected measures to reduce Canada's greenhouse gas emissions and whether Environment and Climate Change Canada had reported on progress in a transparent manner.

Scope and approach

The audit aimed to develop an accountability monitoring framework to support annual reports examining the implementation of mitigation measures by federal organizations. In addition to the mitigation measures examined in this current audit, the annual monitoring included information

on measures from the 2030 Emissions Reduction Plan that had been audited in past performance audits since 2021. We also examined the implementation of recommendations from past audits on climate change since 2021. We also looked at best practices in climate change accountability.

While our report assesses all measures against a common set of criteria, the individual measures can have differing objectives, use different policy instruments, or range in scale, making comparisons between measures difficult. We have selected criteria based on the Intergovernmental Panel on Climate Change and other international authorities that have defined the elements of effective greenhouse gas reduction measures as well as on findings from our past audits.

The results of the assessment are aimed at determining whether federal organizations have effectively implemented their mitigation measures to achieve emissions reductions that would contribute to meeting Canada's 2030 emissions reduction target of 40% to 45% below 2005 levels. This assessment is not intended to constitute a thorough audit of each measure independently and does not speak to the effectiveness or the policy outcomes of the individual measures.

We examined whether selected federal organizations had made progress in effectively implementing emissions reduction measures. The audit team assessed the implementation of selected measures, using criteria that included the following:

Criteria	Description of assessment	Rating
Timeliness of implementation	Determine whether any milestones announced or reported have been met	1—Met milestones 0.5—Some delays (less than 6 months) 0—Significant delays or no timelines
Expected emissions avoided	Determine whether the entity assessed the expected emissions avoided using a reliable approach including policy interactions	1—Estimated using a reliable approach 0.5—Estimated, but some issues with approach (for example, used proxy) 0—Estimated using unreliable approach or no estimate
Change in design	If there was a change in design, determine whether the changes will affect the stringency and the expected emissions avoided since initial estimate	1—Change in design expected to result in additional expected emissions avoided 0.5—Change in design expected to result in the same expected emissions avoided 0—Change in design expected to result in fewer expected emissions avoided
System for assessing results	Determine whether the federal organization established a measuring, monitoring, and reporting framework with interim and final targets, indicators, and data	1—System is complete 0.5—System lacking some information (for example, no targets, no relevant data) 0—No system

Criteria	Description of assessment	Rating
Value for money	Determine whether the federal organization assessed value for money	1—Assessed for emissions avoided, such as cost per tonne of emissions avoided 0.5—Assessed other benefits but did not include reducing emissions 0—Did not assess value for money
Multi-jurisdictional challenges	Determine whether the federal organization considered and implemented mitigating measures to address any multi-jurisdictional challenges	1—No jurisdictional challenges identified 0.5—Some provincial or territorial challenges despite mitigation measures 0—Significant provincial or territorial challenges despite mitigation measures
Gender-based analysis plus (GBA Plus) and Indigenous peoples—Design elements	Determine whether the measure has design elements to meet the needs of Indigenous peoples and other populations identified in GBA Plus	0.5—Measure is designed to meet the needs of Indigenous peoples and other populations identified in GBA Plus 0.25—Measure is designed to meet the needs of some (not all) Indigenous peoples and other populations identified in GBA Plus 0—Measure has not been designed to meet the needs of Indigenous peoples and other populations identified in GBA Plus
GBA Plus and Indigenous peoples—Resource allocation	Determine whether the measure has resources allocated to Indigenous peoples and other populations identified in GBA Plus	0.5—Resources or capacity building had been fully allocated 0.25—Resources or capacity building were in progress to be allocated 0—No resources or capacity building have been allocated
GBA Plus and Indigenous peoples—Progress tracking (disaggregated data rating not included in overall assessment)	Determine whether progress has been tracked for Indigenous peoples and other populations identified in GBA Plus	Disaggregated data on Indigenous peoples and other populations identified have been collected Disaggregated data is collected for some populations identified No disaggregated data available

An overall rating was calculated for each measure by summing the rating for the individual criteria.

Sum of criteria	Overall rating
Greater than 5	Implementation on track towards reducing emissions by 2030
3 to 5	Facing implementation challenges that may hinder emissions reductions
Less than 3	Significant implementation barriers in reducing emissions by 2030

In addition, we examined whether federal organizations had made progress towards advancing recommendations from previous reports by the Commissioner of the Environment and Sustainable Development. The assessment included a review of the entity responses to the recommendations presented in the audits, the actions and timelines outlined in the management action plans developed by the entity, and whether the actions aligned with the recommendation.

We also examined whether Environment and Climate Change Canada had reported in a transparent manner on the implementation of measures and results. This included assessing the progress report and the projection report that were published in December 2023. We assessed transparency based on the legislative requirements of the *Canadian Net-Zero Emissions Accountability Act* and best practices in climate change accountability. These best practices were drawn from past audit reports, past recommendations made by experts to the federal government, and the practices of international organizations.

For this audit, we analyzed data and information obtained from documents provided by the organizations and during discussions with officials.

Who we audited

Environment and Climate Change Canada is designated to lead the coordination on climate change mitigation for the federal government. The department is responsible for estimating and reporting historical and future emissions. The department is also responsible for leading the implementation of specific measures to reduce greenhouse gas emissions under its mandate. The department is responsible for leading, on behalf of the federal government, the coordination of action on climate change with provinces, territories, and Indigenous peoples. The department is responsible for advancing relevant agreed-to recommendations made by the Commissioner of the Environment and Sustainable Development in the reports identified in the second criterion in the table below.

Natural Resources Canada and **Housing, Infrastructure and Communities Canada (formerly Infrastructure Canada)** are responsible for leading the implementation of measures to reduce greenhouse gas emissions under their mandates. The organizations are also responsible for advancing relevant agreed-to recommendations made by the Commissioner of the Environment and Sustainable Development in the reports identified in the second criterion in the table below.

Crown-Indigenous Relations and Northern Affairs Canada, Transport Canada, the **Canada Infrastructure Bank**, and **National Research Council Canada** are responsible for leading the implementation of measures to reduce greenhouse gas emissions under their mandates.

The **Privy Council Office** is responsible for advancing relevant agreed-to recommendations made by the Commissioner of the Environment and Sustainable Development in the reports identified in the second criterion in the table below.

Criteria

We used the following criteria to conclude against our audit objective:

Criteria	Sources
Selected federal entities have made progress in effectively implementing measures to reduce Canada's greenhouse gas emissions.	• *Canadian Net-Zero Emissions Accountability Act* • Minister of Environment and Climate Change Mandate Letter, 2021 • 2023 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 6—Canadian Net-Zero Emissions Accountability Act—2030 Emissions Reduction Plan • Cabinet Directive on Regulation, Treasury Board of Canada Secretariat • Framework for the Management of Risk, Treasury Board of Canada Secretariat
Selected federal entities have made progress to advance relevant recommendations.	• 2023 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 1—Forests and Climate Change • 2023 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 5—Emission Reductions Through Greenhouse Gas Regulations—Environment and Climate Change Canada • 2023 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 6—Canadian Net-Zero Emissions Accountability Act—2030 Emissions Reduction Plan • 2022 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 3—Hydrogen's Potential to Reduce Greenhouse Gas Emissions • 2022 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 4—Funding Climate-Ready Infrastructure—Infrastructure Canada • 2022 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 5—Carbon Pricing—Environment and Climate Change Canada • 2021 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 4—Emissions Reduction Fund—Natural Resources Canada

Criteria	Sources
Environment and Climate Change Canada has reported on the implementation of measures and progress towards Canada's emissions reduction target in a transparent manner.	• *Canadian Net-Zero Emissions Accountability Act* • 2023 Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 6—Canadian Net-Zero Emissions Accountability Act—2030 Emissions Reduction Plan • Pan-Canadian Framework on Clean Growth and Climate Change • Policy on Results, Treasury Board

Period covered by the audit

The audit covered the period from 18 August 2023 to 30 July 2024. This is the period to which the audit conclusion applies. However, to gain a more complete understanding of the subject matter of the audit, we also examined certain matters that preceded the start date of this period.

Date of the report

We obtained sufficient and appropriate audit evidence on which to base our conclusion on 18 October 2024, in Ottawa, Canada.

Audit team

This audit was completed by a multidisciplinary team from across the Office of the Auditor General of Canada led by Kimberley Leach, Principal. The principal has overall responsibility for audit quality, including conducting the audit in accordance with professional standards, applicable legal and regulatory requirements, and the office's policies and system of quality management.

Recommendations and Responses

Responses appear as they were received by the Office of the Auditor General of Canada.

In the following table, the paragraph number preceding the recommendation indicates the location of the recommendation in the report.

Recommendation	Response
7.34 To improve the timeliness and effectiveness of the implementation of federal climate change measures to reduce emissions, Environment and Climate Change Canada, together with responsible federal organizations, should • increase the reliability of greenhouse gas emissions reduction estimates for each measure so that budgetary, planning, and delivery decisions are based on better information • establish a government-wide approach and guidance for value-for-money assessments of emissions reduction measures and publish the value of emissions reductions for individual measures • collect and report disaggregated data that tracks access to and delivery of measures for the identified groups	**Environment and Climate Change Canada's response.** **Agreed** The recent Cabinet Directive on Strategic Environmental and Economic Assessment (SEEA) recommends that departments include a quantitative analysis where important effects on greenhouse gas emissions are anticipated in new measures. In implementing this requirement, Environment and Climate Change Canada (ECCC) is working with departments to improve consistency when quantifying greenhouse gas effects (increases or decreases) of measures to support government decision-making. This is intended to enhance the understanding, reliability and integration of expected greenhouse gas effects, including value for money, for new measures. Working with central agencies, ECCC will explore the continued implementation, evaluation and evolution of the SEEA to support budgetary and Cabinet decisions. However, it is important to understand the challenges in estimating and attributing greenhouse gases (GHGs) reductions from individual regulations.

Recommendation	Response
	Partially agreed "Value" in federal decision making is multi-faceted, including impacts on society, culture, health, Indigenous and provincial/territorial relations, and other areas outside the remit of ECCC, preventing the development of any single government-wide approach to assessing emission reduction measures from a value-for-money perspective. The Cabinet Directive on Strategic Environmental Assessment (SEEA) requires departments to consider both environmental and economic effects of all proposed emission measures. This is undertaken through the Climate, Nature and Economy Lens template, which captures quantified GHG estimates, where feasible, as well as economic impacts and the fiscal cost of the measure. The result is that decision makers are provided with a consistent understanding and integration of expected environmental and economic effects, though these remain only two of the elements weighed in making decisions. ECCC is committed to working with other departments, including central agencies, to regularly review and update the guidance and approach for the Climate, Nature and Economy Lens. With respect to anticipated emissions reductions, there are methodological challenges in determining the GHG impact of individual measures, given the interactive effects between initiatives. ECCC will support departments in ensuring the accuracy in their quantification of GHG emissions impact relative to other economy-wide modelling efforts, in particular those proposals that are likely to result in a 0.5 Mt or greater annual increase or decrease in emissions. The primary focus of public reporting of projected emissions effects will continue to be national-level frameworks such as the Emissions Reduction Plan and Biennial Report. **Partially agreed** ECCC does not report on disaggregated data that tracks access to and delivery of measures for the identified groups. Furthermore, ECCC is not solely responsible for the development of measures, collection of disaggregated data, or development of performance indicators. ECCC will continue to work collaboratively with other departments to explore options to better understand the impact of climate measures on certain groups. Federal departments will need to consider feasibility and privacy considerations when collecting and reporting on disaggregated data.

Recommendation	Response
7.53 To improve the transparency of future progress and associated projection reports, Environment and Climate Change Canada should • in collaboration with other federal organizations, provide consistent and comparable updates on the implementation on federal measures, including expected deadlines for subsequent implementation milestones, and results achieved • in collaboration with other federal organizations, report progress on a comprehensive set of key sector-level secondary indicators relevant to emissions reductions • provide more detailed information on the assumptions of federal measures included in the modelling, such as the assumed stringency and coverage • perform uncertainty analysis for the projections that test the emissions pathway with key variables, such as those related to technology and timing of new infrastructure	**Environment and Climate Change Canada's response.** **Agreed** • As required by subsection 14(b) of the *Canadian Net-Zero Emissions Accountability Act*, Environment and Climate Change Canada (ECCC) will, in collaboration with other implementing departments, provide an update on the implementation of the federal measures described in emissions reduction plans. These updates will include, where available and as provided by other implementing departments, information on expected deadlines for subsequent implementation milestones and results achieved. • ECCC will work collaboratively with other implementing departments, as well as key partners and stakeholders, to identify a comprehensive set of sector-level secondary indicators relevant to emissions reductions. • ECCC aligns its modelling assumptions and policy parameters as much as possible to the intended design of the modelled measures, as described in published regulatory documents (e.g., regulations and cost-benefit analyses). ECCC will provide more detailed information on the assumptions made for modelling of the federal measures, with respect to assumed stringency and coverage. In certain cases, it may be difficult to provide all the details. • In addition to the set of sensitivity scenarios, ECCC normally publishes around various assumptions related to economic/population growth and oil and gas prices, ECCC will perform sensitivity scenarios around emerging technology costs and adoption.

Appendix A—Concerns About Progress of Emissions Reduction Measures Raised in Other Audit Reports

Measure	Lead organization	Year audited	Our findings—Reported deficiencies
Onshore Program of the Emissions Reduction Fund	Natural Resources Canada	2021	• Emissions reduction estimates were overestimated and not reliable • Value for money was not properly assessed for projects
Hydrogen Strategy for Canada	Natural Resources Canada	2022	• Emissions reduction estimates were overestimated • Model applied to determine the potential of hydrogen was inadequate • Assumptions were overly confident, and quality control on modelling was limited
Carbon pricing	Environment and Climate Change Canada	2022	• Emissions coverage was inconsistent • Large emitters program reduced the effectiveness of the measure • Some groups remained burdened • Reporting lacked transparency
Reduction of Carbon Dioxide Emissions From Coal-Fired Generation of Electricity Regulations	Environment and Climate Change Canada	2023	• Sensitivity analysis for projected reductions was insufficient
Zero Emission Vehicle Infrastructure Program	Natural Resources Canada	2023	• Access to charging infrastructure was limited
Natural Climate Solutions Fund: 2 Billion Trees	Natural Resources Canada	2023	• Implementation was delayed • Expected emissions reduction was unlikely
Clean Fuel Regulations	Environment and Climate Change Canada	2023 and 2024	• Implementation was delayed

Measure	Lead organization	Year audited	Our findings—Reported deficiencies
Agricultural Climate Solutions—On-Farm Climate Action Fund	Agriculture and Agri-Food Canada	2024	• Implementation was delayed • Estimates of emissions reductions were revised to a significantly lower value • Performance targets related to climate mitigation was not finalized
Agricultural Climate Solutions—Living Labs program	Agriculture and Agri-Food Canada	2024	• Implementation was delayed • Performance targets related to climate mitigation was not established or finalized
Agricultural Clean Technology program (Adoption stream)	Agriculture and Agri-Food Canada	2024	• Implementation was delayed
Net Zero Accelerator Initiative	Innovation, Science and Economic Development Canada	2024	• Emissions reduction estimates were overestimated and unreliable • The impact of the initiative was diminished due to lack of a horizontal industrial decarbonization policy • Projects' value for money in reducing emissions was not clear • Applicant requirements for equity, diversity, and inclusion were insufficient

Appendix B—Examined Measures

Description of criteria applied for the assessment is in the **About the Audit** section.

On track—Implementation on track towards reducing emissions by 2030

Facing challenges—Facing implementation challenges that may hinder emissions reductions

Significant barriers—Significant implementation barriers in reducing emissions by 2030

Economy-wide

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
Clean Power priority investment area	Canada Infrastructure Bank	On track	• **System for assessing results**—The bank reported on the total estimated emissions reductions from financed projects irrespective of contributing to part of the project funding.
Public Transit priority investment area	Canada Infrastructure Bank	On track	• **System for assessing results**—The bank reported on the total estimated emissions reductions from financed projects irrespective of contributing to part of the project funding.
Green Infrastructure priority investment area	Canada Infrastructure Bank	On track	• **System for assessing results**—The bank reported on the total estimated emissions reductions from financed projects irrespective of contributing to part of the project funding.

Buildings

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
Canada Greener Homes Grant (part of the Canada Greener Homes Initiative)	Natural Resources Canada	On track	• **Multi-jurisdictional challenges**—Challenges were addressed through co-delivery for some provinces (Ontario, Nova Scotia, and Quebec). However, the risk of duplication remains with provinces with no co-delivery agreements.
Develop National Model Code requirements for alterations to existing buildings with a focus on energy efficiency and requirements for greenhouse gas emissions for new buildings	National Research Council Canada Natural Resources Canada	Facing challenges	• **Timeliness**—The measure took a long time to develop. The Pan-Canadian Framework on Clean Growth and Climate Change committed to developing requirements for alterations to existing buildings with a focus on energy efficiency by 2022. Some provisions for improving the energy efficiency of both new builds and alterations were updated in the 2022 publication. However, details specific to alterations to existing buildings were then planned for the 2025 edition of the codes. • **Multi-jurisdictional challenges**—Challenges remain for provincial and territorial adoption. The federal government is supporting adoption through incentives and training materials.
Canada Green Buildings Strategy	Natural Resources Canada	Facing challenges	• **Timeliness**—The measure was delayed. Expected to be released in late 2023, the strategy was published in July 2024. • **Multi-jurisdictional challenges**—Provinces and territories have jurisdiction over buildings and may have different priorities. Design and implementation of the strategy would require coordination with these levels of government. The department engaged with them and developed funding initiatives to encourage uptake.

Electricity

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
Northern Responsible Energy Approach for Community Heat and Electricity program	Crown-Indigenous Relations and Northern Affairs Canada	On track	• **Value for money**—The department had assessed other benefits but had not assessed the value for money for emissions reductions of this measure.
Smart Renewables and Electrification Pathways Program	Natural Resources Canada	On track	• **Gender-based analysis plus (GBA Plus) and Indigenous peoples**—The program had not yet tracked disaggregated data on job creation for youth and women, an objective that was stated in the program.
Clean Electricity Regulations	Environment and Climate Change Canada	Facing challenges	• **Timeliness**—This measure was delayed. Draft regulations had been expected by the end of 2022 but were not published until August 2023, in part due to consultation. • **Multi-jurisdictional challenges**—The department proposed measures to mitigate concerns raised by provinces, such as impacts on costs and rate affordability. However, some provinces continue to express concerns about the regulations.
Small Modular Reactor Action Plan implementation	Natural Resources Canada	Facing challenges	• **Timeliness**—The measure was delayed. However, the status of actions committed to in Canada's Small Modular Reactor Action Plan have been progressing from 2021 and 2024 (about half of them had been completed). A review of key legislation has yet to be completed, like the *Nuclear Liability and Compensation Act*, which was to be completed by 2022. • **Expected emissions avoided**—The department had not assessed the expected emissions avoided for this measure. • **Value for money**—The department had not assessed the value for money of this measure.

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
Clean Energy for Rural and Remote Communities program	Natural Resources Canada	Facing challenges	• **Timeliness**—This measure was delayed. The measure was initially funded in 2017 for 6 years and was extended to 2026. The department told us that the COVID-19 pandemic, as well as the unique circumstances and the remoteness of communities, impacted the timely delivery of projects as planned. • **Value for money**—The department had assessed other benefits but had not assessed the value for money for emissions reductions of this measure.
Indigenous Off Diesel Initiative	Natural Resources Canada Crown-Indigenous Relations and Northern Affairs Canada	Significant barriers	• **Timeliness**—The measure was delayed. The measure was launched in 2019 to fund projects until 2024, but project funding has been extended to 2026 due to delays in projects not progressing through the final phase of the program at the expected rate. The program told us that the COVID-19 pandemic impacted delivery of projects as originally planned. • **Expected emissions avoided**—The department did not provide estimates of expected emissions avoided for projects that went through initial phases of the program. • **Value for money**—The department had assessed other benefits but had not assessed the value for money for emissions reductions of this measure.

Transportation

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
Regulated light-duty zero-emission vehicle sales targets	Environment and Climate Change Canada	On track	• **System for assessing results**—The department's monitoring system lacked some information, including targets for the 3 indicators related to emissions.
Incentives for Zero-Emission Vehicles Program	Transport Canada	On track	• **Expected emissions avoided**—The expected emissions avoided in 2030 varied significantly due to challenges attributing the reductions of the measure versus reductions from the zero-emission vehicle regulation.
Rural Transit Solutions Fund (part of permanent public transit funding)	Housing, Infrastructure and Communities Canada (formerly Infrastructure Canada)	Facing challenges	• **Multi-jurisdictional challenges**—Challenges to delivery persist due to the various levels of governments and municipalities with various levels of capacity. • **Expected emissions avoided**—The department had not assessed the expected emissions avoided for this measure. • **Value for money**—The department had not assessed the value for money of this measure. • **GBA Plus and Indigenous peoples**—The pace of resource disbursement for Indigenous peoples was slow. The department partially tracked access to the measure and did not collect disaggregated data to assess results.
Zero Emission Transit Fund (part of permanent public transit funding)	Housing, Infrastructure and Communities Canada (formerly Infrastructure Canada)	Facing challenges	• **Multi-jurisdictional challenges**—Challenges to delivery persist due to the various levels of governments and municipalities with various levels of capacity. • **Value for money**—The department had not assessed the value for money of this measure. • **GBA Plus and Indigenous peoples**—The pace of resource disbursement for Indigenous peoples was slow. The department partially tracked access to the measure and did not collect disaggregated data to assess results.

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
Active Transportation Fund (part of permanent public transit funding)	Housing, Infrastructure and Communities Canada (formerly Infrastructure Canada)	Facing challenges	• **Multi-jurisdictional challenges**—Challenges to delivery persist due to the various levels of governments and municipalities with various levels of capacity. • **Expected emissions avoided**—The department undertook an initial estimate of the program, but these were revised to significantly lower expected emissions reductions due to changes in program design. • **Value for money**—The department had not assessed the value for money of this measure. • **GBA Plus and Indigenous peoples**—The pace of resource disbursement for Indigenous peoples was slow. The department partially tracked access to the measure and did not collect disaggregated data to assess results.

Oil and gas

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
Oil and gas methane regulations	Environment and Climate Change Canada	On track	• **Timeliness**—The measure was delayed. These regulations were first proposed in October 2021. The draft had been expected by early 2023 but were not published until December 2023. Final regulations were expected in 2024.
Oil and gas emissions cap	Environment and Climate Change Canada Natural Resources Canada	Significant barriers	• **Timeliness**—The measure was delayed. This measure was first proposed in 2021, and the regulation design was expected to be completed in early 2023. However, regulation design was not published until December 2023. Draft regulations were initially expected by December 2023 but have yet to be published. Final regulations are expected in 2025. • **Multi-jurisdictional challenges**—Significant multi-jurisdictional challenges exist as provinces and territories have critical view on the cap-and-trade proposal, despite mitigation actions having been taken by the departments.

Waste

Measure	Organization name	Overall assessment of progress to reduce emissions by 2030	Audit findings—Key deficiencies that hinder expected emissions reductions by 2030
New regulations on reducing methane emissions from landfills	Environment and Climate Change Canada	Facing challenges	• **Timeliness**—The measure was delayed. Draft regulations were expected to be completed by 2022 and the final regulations by 2024. However, the department published draft regulations in 2024. • **Multi-jurisdictional challenges**—Challenges to implementation exist as some provinces had strong reactions to federal regulation. However, the department is aiming to mitigate by exploring equivalency agreements when provinces have equivalent regulations.