



**Fall 2017**

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

**Independent Auditor's Report**

### **REPORT 1**

**Progress on Reducing Greenhouse Gases—  
Environment and Climate Change Canada**



Office of the  
Auditor General  
of Canada

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vérificateur général  
du Canada





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## Performance audit reports

This report presents the results of a performance audit conducted by the Office of the Auditor General of Canada under the authority of the *Auditor General Act*.

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

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# Table of Contents

<b>Introduction</b>	<b>1</b>
Background .....	1
Focus of the audit .....	2
<b>Findings, Recommendations, and Responses</b>	<b>3</b>
National leadership .....	3
Environment and Climate Change Canada made progress on working collaboratively with provinces, territories, and other federal departments .....	4
Environment and Climate Change Canada improved its reporting on projected greenhouse gas emissions .....	7
Targets to reduce greenhouse gas emissions .....	10
Environment and Climate Change Canada was not on track to meet the 2020 emission target and had shifted its focus to the 2030 emission target .....	10
<b>Conclusion</b>	<b>15</b>
<b>About the Audit</b>	<b>16</b>
<b>List of Recommendations</b>	<b>21</b>



# Introduction

## Background

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### Canada's greenhouse gas emissions

1.1 Climate change is widely regarded as one of the most significant concerns facing our economy, health, and natural environment. Failure to reduce greenhouse gas emissions and to adapt to the impacts of climate change will result in greater risks for Canadians.

1.2 Canada is the ninth-largest emitter of **greenhouse gases** in the world. Since its initial international agreement at the United Nations Framework Convention on Climate Change in 1992, Canada's overall greenhouse gas emissions have increased. This increase has occurred despite the federal government's committing to many international agreements, and developing a number of federal plans, over the past 25 years.

1.3 In 2015, Canada's total greenhouse emissions were 722 **megatonnes** of **carbon dioxide equivalent**. Most of these emissions consisted of carbon dioxide and methane. The oil and gas sector and transportation sector were the largest sources of greenhouse gas emissions in Canada (Exhibit 1.1).

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### Federal roles and responsibilities

1.4 Environment and Climate Change Canada is the lead federal department for coordinating and implementing the federal government's climate change policies and programs. This role includes putting in place some of the measures aimed at reducing greenhouse gas emissions and coordinating action with the provinces and territories. The Department is also responsible for negotiating international agreements, including setting national targets, and for reporting on national greenhouse gas emissions.

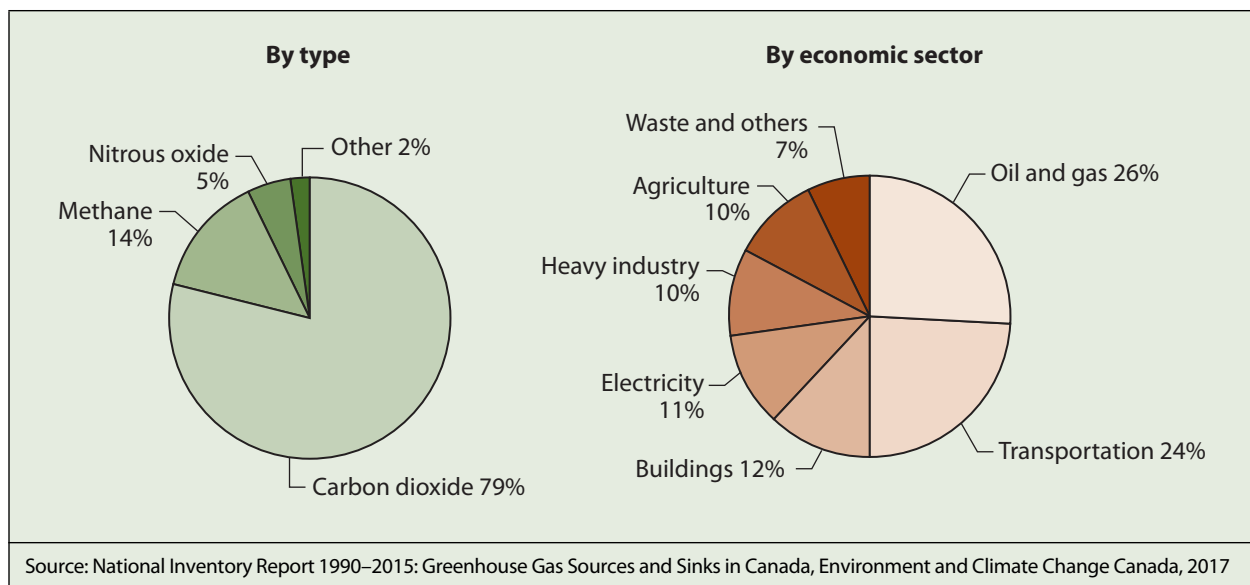
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**Greenhouse gases**—Gases in the atmosphere that warm the earth by trapping solar radiation. Increases in greenhouse gases, which include water vapour, carbon dioxide, and methane, are a primary cause of climate change.

**Megatonne**—Unit of measure for describing greenhouse gas emissions. One megatonne of carbon dioxide is equal to what 250,000 cars produce each year.

**Carbon dioxide equivalent**—A quantification of emissions of different greenhouse gases, expressed in terms of amount of carbon dioxide.

### Exhibit 1.1 Canada's greenhouse gas emissions by type and economic sector



## Focus of the audit

1.5 This audit focused on whether Environment and Climate Change Canada, with support from other government departments and agencies, made progress toward meeting Canada's commitments to reduce greenhouse gas emissions.

1.6 This audit is important because failing to reduce greenhouse gas emissions increases the risks of pollution, natural disasters, forest fires, and floods.

1.7 Canada's provincial auditors general partnered together and with the federal Commissioner of the Environment and Sustainable Development, through the Office of the Auditor General of Canada, to examine and report on progress on climate change action within their governments. This audit report on reducing greenhouse gases is one of the federal contributions to this project.

1.8 More details about the audit objective, scope, approach, and criteria are in **About the Audit** at the end of this report (see pages 16–20).



# Findings, Recommendations, and Responses

## National leadership

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### Overall message



1.9 Overall, we found that Environment and Climate Change Canada worked collaboratively with provinces and territories to develop a national climate change plan—the Pan-Canadian Framework on Clean Growth and Climate Change. The framework’s purpose is to allow Canada to meet its 2030 target for reducing emissions established by its contribution to the Paris Agreement under the United Nations Framework Convention on Climate Change. We also found that the Department collaborated with other federal departments to coordinate some of the implementation actions outlined in the framework. However, the measures to reduce greenhouse gas emissions contained in the framework had yet to be implemented.

1.10 In addition, we found that the Department made progress on its national and international reporting on projected greenhouse gas emissions. However, the Department did not clearly indicate how it would measure, monitor, and report on provincial and territorial contributions to meet Canada’s 2030 target.

1.11 These findings matter because addressing climate change is an area of shared jurisdiction that requires collaboration from all levels of government. A coordinated approach to reducing greenhouse gas emissions is needed to avoid gaps or duplication among emission reduction measures and policies at different levels of government, and to monitor their interactions. Coordination across jurisdictions is also important to ensure the overall effectiveness of these measures and policies.

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### Context

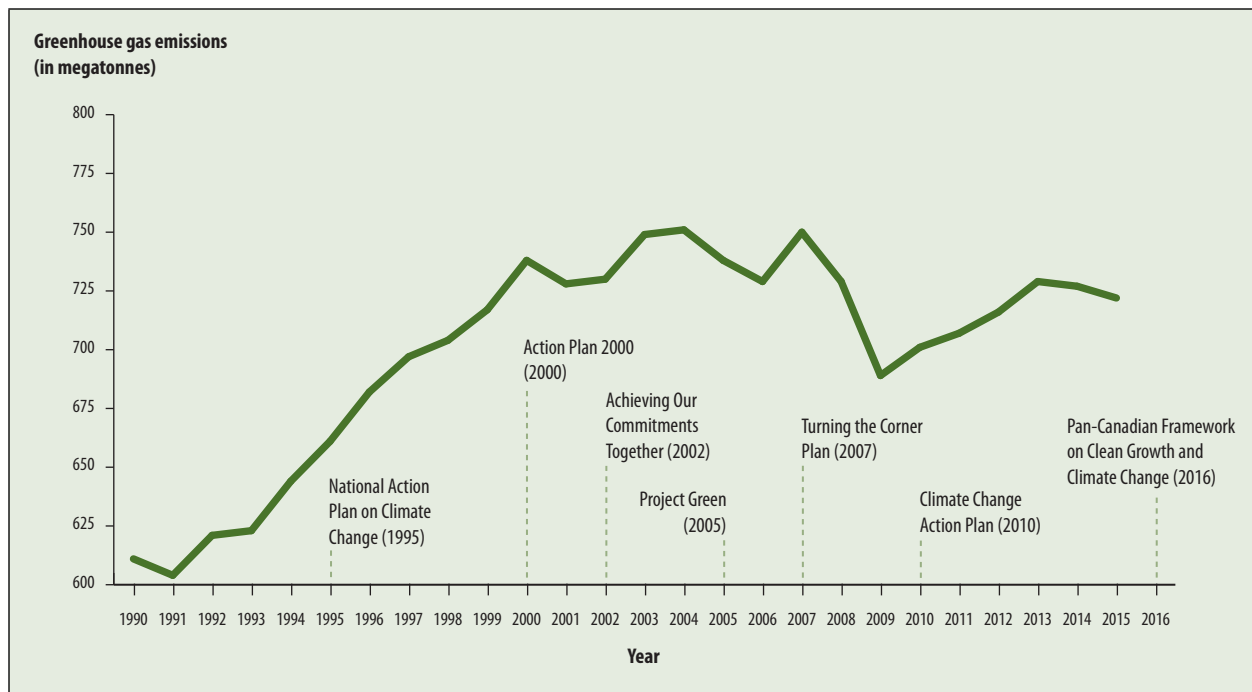
1.12 In 2016, Canada ratified the **Paris Agreement** to reduce greenhouse gas emissions. This was the first climate change agreement in which 197 countries committed to taking action, demonstrating higher levels of global engagement and collaboration. As its contribution to the Paris Agreement, the federal government committed to reducing emissions by 30 percent below the 2005 levels by 2030.

1.13 In Canada, the federal government shares jurisdiction over environmental matters with the provinces and territories. During the past 25 years, Environment and Climate Change Canada developed a number of climate change plans aimed at reducing greenhouse gas emissions. However, Canada’s overall greenhouse gas emissions increased between 1990 and 2015 (Exhibit 1.2).

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**Paris Agreement**—A global agreement, made under the United Nations Framework Convention on Climate Change in 2015, to limit the global temperature increase in the 21st century to less than two degrees Celsius.

**Exhibit 1.2** Canada's overall emissions increased between 1990 and 2015, despite numerous plans for reducing greenhouse gas emissions



1.14 Some provinces have developed plans and policies to reduce their own emissions. As a result, a variety of greenhouse gas reduction measures have been introduced across Canada, including different forms of **carbon pricing**.

1.15 Environment and Climate Change Canada has an important role in reporting nationally and internationally on whether federal, provincial, and territorial efforts to reduce greenhouse gas emissions will help Canada meet its 2030 target.

**Environment and Climate Change Canada made progress on working collaboratively with provinces, territories, and other federal departments**

**What we found**

1.16 We found that Environment and Climate Change Canada worked collaboratively with provinces, territories, and federal departments to develop and coordinate the implementation of the Pan-Canadian Framework on Clean Growth and Climate Change. However, we found

**Carbon pricing**—An economic mechanism to reduce greenhouse gas emissions. It can be implemented in the form of a **carbon tax**, a **cap and trade**, or a hybrid system of both.

**Carbon tax**—A tax based on greenhouse gas emissions, with a price placed on each tonne of greenhouse gas emitted.

**Cap and trade**—A market-based mechanism that sets a cap on the amount of greenhouse gas emissions from carbon emitters and provides an emission allowance that can be traded.

that the Department did not clearly indicate how it would measure, monitor, and report on the provincial and territorial contributions to meet Canada's 2030 emission target.

1.17 Our analysis supporting this finding presents what we examined and discusses the following topics:

- Collaborating with provinces and territories to reduce greenhouse gas emissions
- Coordinating with federal departments to implement the Pan-Canadian Framework on Clean Growth and Climate Change

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#### Why this finding matters

1.18 This finding matters because meeting Canada's commitments to reduce greenhouse gas emissions requires collaboration from all levels and parts of government.

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#### Recommendation

1.19 Our recommendation in this area of examination appears at paragraph 1.28.

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#### Analysis to support this finding

1.20 **What we examined.** We examined whether Environment and Climate Change Canada worked collaboratively with provinces, territories, and federal departments to reduce greenhouse gas emissions. We also examined whether it had a plan in place to meet the 2030 target for reducing emissions, and whether it tracked and reported its progress.

1.21 **Collaborating with provinces and territories to reduce greenhouse gas emissions.** We found that Environment and Climate Change Canada engaged provinces and territories on the issue of climate change. This collaboration resulted in the release of the Vancouver Declaration on Clean Growth and Climate Change in March 2016, which established a federal, provincial, and territorial commitment to deliver on the Paris Agreement.

1.22 We found that Environment and Climate Change Canada worked collaboratively with provinces and territories to develop a national plan to meet the 2030 target. Released in December 2016, the Pan-Canadian Framework on Clean Growth and Climate Change demonstrated a commitment by federal, provincial, and territorial governments to address climate change through an economy-wide approach that would accelerate clean economic growth and build resilience to climate change impacts. The framework outlines federal measures to reduce greenhouse gas emissions, including carbon pricing, a clean fuel standard, and regulations to reduce methane emissions from the oil and gas sector. It also sets out potential federal, provincial, and territorial collaborative mitigation measures—that is, measures to reduce greenhouse gas emissions. We note that at the time of publication of this report, the provinces of Saskatchewan and Manitoba had not adopted the framework.

1.23 We also found that the federal government, provinces, and territories established a governance structure to oversee and report on the framework's implementation. This structure included four ministerial councils intended to provide guidance on the four pillars of the framework:

- pricing carbon pollution;
- complementary climate actions to reduce emissions;
- adapt and build resilience; and
- clean technology, innovation, and jobs.

1.24 In addition, we found that federal, provincial, and territorial ministers agreed to discuss climate change on an ongoing basis at the Canadian Council of Ministers of the Environment, Canada's primary intergovernmental forum for collaboration on environmental issues.

1.25 At the time of our audit, we found that Environment and Climate Change Canada was consulting with provinces to implement a national carbon pricing benchmark, a key component of the framework. The federal government was also considering carbon pricing legislation. However, these measures, and others contained in the framework, had yet to be implemented.

**1.26 Coordinating with federal departments to implement the Pan-Canadian Framework on Clean Growth and Climate Change.**

We found that Environment and Climate Change Canada coordinated with other federal departments to implement federal measures outlined in the Pan-Canadian Framework on Clean Growth and Climate Change. For example, it helped define roles and responsibilities for federal departments to implement these measures and developed processes to track their progress. The Department, with other federal departments, also planned to report annually on federal progress to first ministers.

1.27 We also found that Environment and Climate Change Canada developed a climate change charter, which outlined how the Department would track Canada's progress on achieving all four pillars of the framework, including meeting the 2030 target. However, the Department had not yet established how it would measure, monitor, and report on the contribution of provincial and territorial measures toward meeting Canada's 2030 target for reducing emissions. Given the variety of provincial and territorial measures that contribute to reducing greenhouse gas emissions, an integrated approach to tracking and reporting on federal, provincial, and territorial measures is important to help ensure that Canada meets the 2030 target.

**1.28 Recommendation.** Environment and Climate Change Canada should develop an integrated approach to measure, monitor, and report publicly on the federal, provincial, and territorial contributions toward meeting Canada's 2030 target for reducing greenhouse gas emissions.

***The Department's response.*** Agreed. The Pan-Canadian Framework on Clean Growth and Climate Change commits the federal, provincial, and territorial governments to produce annual reports to first ministers in order to “take stock of progress and give direction to sustain and enhance efforts.” The first annual report will be delivered by the end of 2017 and will focus on key initial steps, such as budget commitments, newly established programs, regulatory measures, and pricing carbon pollution. The report will build on the work of federal–provincial–territorial ministerial tables tasked with implementing measures in the framework.

Environment and Climate Change Canada reaffirms its commitment to annual reporting on Canada's greenhouse gas emission projections through 2030. The projections will be developed in consultation with provincial and territorial governments and reflect the latest economic and energy market assumptions as well as the cumulative impact of climate change mitigation actions being undertaken across all Canadian jurisdictions.

## Environment and Climate Change Canada improved its reporting on projected greenhouse gas emissions

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### What we found

1.29 We found that Environment and Climate Change Canada improved its reporting on projected greenhouse gas emissions. It more clearly outlined key assumptions, and it changed its projections to better reflect the uncertainty included in its calculations. The Department was working on its methodology to improve reporting on carbon **sinks** and emissions from Canada's forests. It was also working with provinces and territories to improve how provincial and territorial measures would be reflected in reporting projected emissions.

1.30 Our analysis supporting this finding presents what we examined and discusses the following topics:

- Reporting on projected greenhouse gas emissions
- Reflecting the impacts of federal, provincial, and territorial measures to reduce greenhouse gas emissions

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### Why this finding matters

1.31 This finding matters because providing the most accurate and up-to-date information on greenhouse gas emissions is important to demonstrate Canada's progress toward reaching its target for reducing emissions. It also matters because emission projections are an important tool for assessing the interaction among existing and planned federal, provincial, and territorial measures and determining whether any adjustments are needed.

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**Sink**—A process that removes a greenhouse gas from the atmosphere. Forests can be both carbon emitters and carbon sinks.

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**Recommendation**

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1.32 Our recommendation in this area of examination appears at paragraph 1.40.

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**Analysis to support this finding**

1.33 **What we examined.** We examined whether Environment and Climate Change Canada implemented our 2014 recommendation about reporting on projected emission reductions.

1.34 **Reporting on projected greenhouse gas emissions.** Environment and Climate Change Canada reports on national greenhouse gas emissions to Canadians and to the United Nations Framework Convention on Climate Change. In the 2014 Fall Report of the Commissioner of the Environment and Sustainable Development, Chapter 1—Mitigating Climate Change, we recommended that the Department describe the key assumptions it used in its reports on projected emissions, and that it communicate the uncertainty associated with its projection estimates.

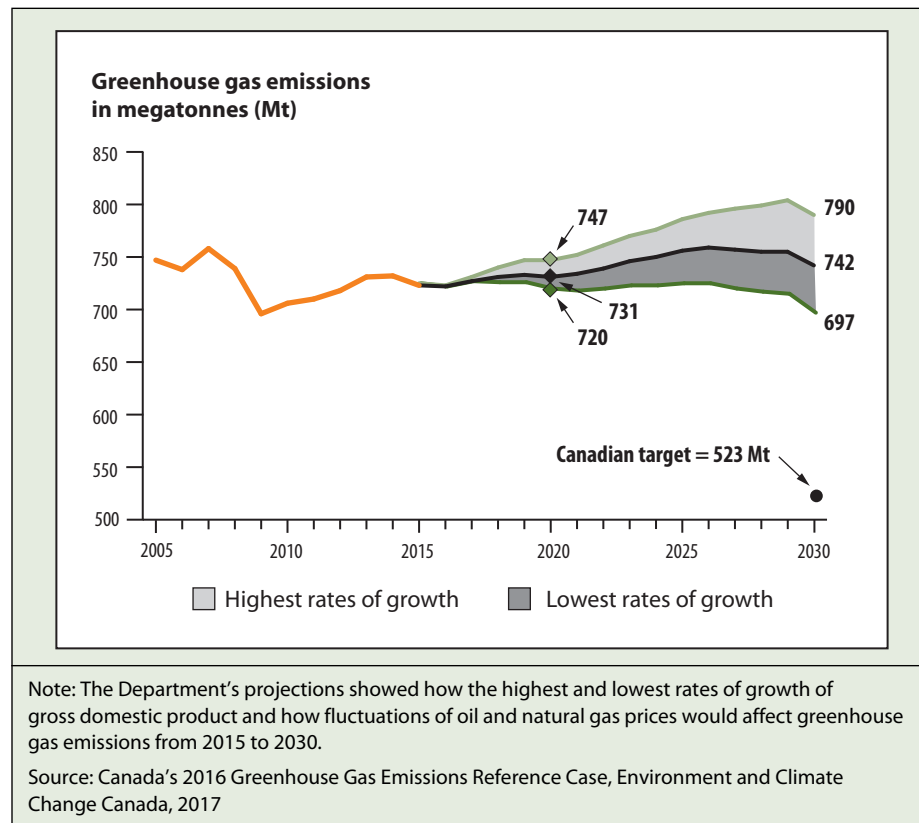
1.35 We found that the Department improved its reporting of projected greenhouse gas emissions by adding descriptions of key assumptions used to calculate projected emissions.

1.36 We also found that the Department improved the way it communicated the uncertainty associated with its projections. The graph in the Department's 2016 report showed how high and low rates of gross domestic product growth and fluctuating oil and natural gas prices affected emission projections (Exhibit 1.3).

1.37 In our 2014 audit, we also recommended that the Department's reports more appropriately and consistently describe projected emissions from Canada's forests. At the time of the current audit, we found that the Department, along with Natural Resources Canada, was reviewing its methodology for reporting on carbon sinks and emissions from Canada's managed forests. Because this work was in progress, the Department excluded projected reductions from Canada's forests from its 2016 report on emission projections.

1.38 **Reflecting the impacts of federal, provincial, and territorial measures to reduce greenhouse gas emissions.** In our 2014 audit, we recommended that the Department's reports on emission projections should, as far as possible, separately indicate the impact of federal and provincial measures. However, we found that the Department did not do this. For example, it did not clearly identify the impact of provincial measures included in its 2016 report to Canadians on emission projections.

**Exhibit 1.3** In its 2016 report, Environment and Climate Change Canada improved its reporting of projected emissions by adding high- and low-growth scenarios



1.39 We found that Environment and Climate Change Canada worked collaboratively with provinces toward improving guidance on which provincial measures would be included in national reports on emission projections. For example, the Canadian Council of Ministers of the Environment established the Emissions Projections Project Team to work with the Department to help develop its annual report on greenhouse gas projections. Through these consultations, the Department engaged with each province and territory to share information, answer questions, and incorporate the impacts of greenhouse gas policies and measures as accurately as possible into national projections.

1.40 **Recommendation.** Environment and Climate Change Canada should continue to work with provinces and territories to ensure clarity, transparency, and consistency in estimates of projected emissions.

***The Department's response.** Agreed. Environment and Climate Change Canada is committed to working closely with provinces and territories when developing its annual emission projections, including bilateral engagement of each province and territory on data sources and key modelling assumptions.*

*The Department will also continue its multilateral provincial–territorial engagement through its participation in the Emissions Projections*

*Project Team, established under the Canadian Council of Ministers of the Environment. The objective of the team is to achieve a greater understanding of the current modelling approaches, methodologies, and assumptions used by Canadian jurisdictions to model greenhouse gas emission projections in order to improve the accuracy and alignment of data used, information sharing, the communication of projections, and the ability to interpret differences in projections.*

## Targets to reduce greenhouse gas emissions

### Environment and Climate Change Canada was not on track to meet the 2020 emission target and had shifted its focus to the 2030 emission target

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#### Overall message



1.41 Overall, we found that Environment and Climate Change Canada was no longer working to meet the 2020 target for reducing greenhouse gas emissions set out in 2010 under the Copenhagen Accord. The Department did not show that existing regulations to reduce emissions would be sufficient to meet that target. In addition, we found that Environment and Climate Change Canada did not consistently report publicly on the results of implementing its regulations for reducing emissions. Finally, we found that the Department shifted its focus to meeting a new federal commitment, made in 2015, to contribute to global emission reductions by 2030.

1.42 This finding matters because failing to reduce greenhouse gas emissions increases the risks of pollution, natural disasters, forest fires, and floods. In order to reach targets for reducing greenhouse gas emissions, it is important to implement measures and report on their progress.

1.43 Our analysis supporting this finding presents what we examined and discusses the following topics:

- Working toward meeting the 2020 target
- Shifting the regulatory approach
- Reporting on the results of implementing regulations
- Focusing on the 2030 target

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#### Context

1.44 Over the past 25 years, the Government of Canada announced four federal commitments for reducing greenhouse gas emissions, as part of international agreements. With each commitment, the timeline for the federal government to meet its emission target was pushed further into the future (Exhibit 1.4).

1.45 Canada's overall greenhouse gas emissions increased between 1990 and 2015 (Exhibit 1.5). During that period, Canada emitted 131 megatonnes of greenhouse gases above the 2000 target that it had



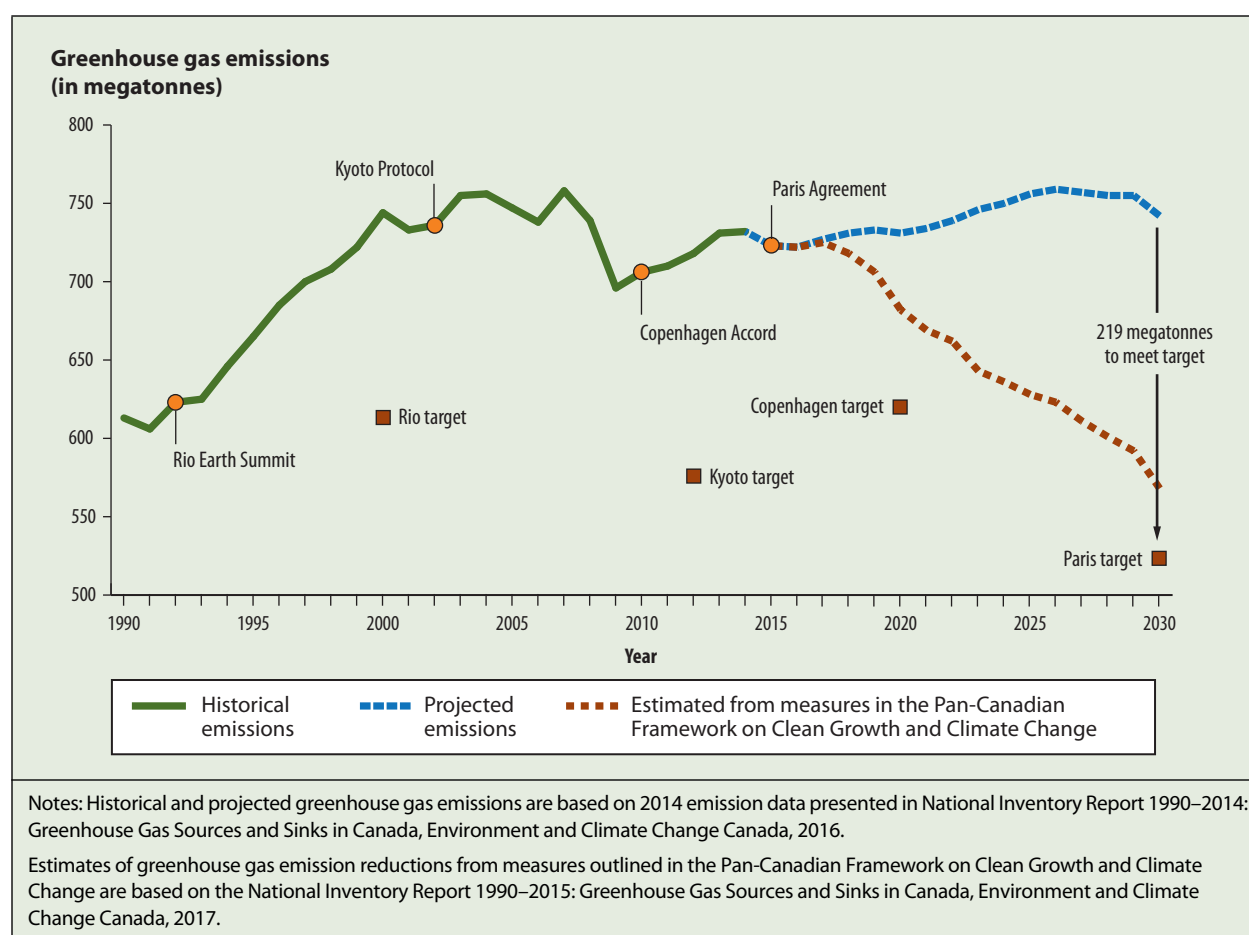
set under the Rio Earth Summit agreement. Canada also committed to the Kyoto Protocol but later withdrew and ultimately emitted 142 megatonnes more than the target that it had set in 2012 under the Protocol.

**Exhibit 1.4** Each federal commitment pushed the timeline for meeting the emission target further into the future

Year	International agreement	Federal commitment	Emission target (in megatonnes)*
1992	Rio Earth Summit	Reduce emissions to 1990 levels by 2000	613
2005	Kyoto Protocol	Reduce emissions to 6% below 1990 levels by 2012	576
2010	Copenhagen Accord	Reduce emissions by 17% below 2005 levels by 2020	620
2015	Paris Agreement	Reduce emissions by 30% below 2005 levels by 2030	523

\* Targets in megatonnes are based on historical greenhouse gas emissions from 2014. These numbers are subject to change based on annual reviews published in Environment and Climate Change Canada's National Inventory Report.

**Exhibit 1.5** Canada's greenhouse gas emissions between 1990 and 2015 did not meet federal targets, and Canada's projected and estimated emissions are not on track to meet the 2020 target



1.46 Canada's projected greenhouse gas emissions between 2015 and 2030 show that, with current implemented measures, emissions will not meet the 2020 target. However, if all of the greenhouse gas reduction measures outlined in the Pan-Canadian Framework on Clean Growth and Climate Change are introduced and implemented in a timely manner, the Department estimates that those measures will result in a reduction of 175 megatonnes by 2030.

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#### Recommendations

1.47 Our recommendations in this area of examination appear at paragraphs 1.51 and 1.55.

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#### Analysis to support this finding

1.48 **What we examined.** We examined whether Environment and Climate Change Canada had a plan in place to meet the 2020 target for reducing greenhouse gas emissions. We also examined the Department's monitoring and reporting processes on regulations to reduce emissions.

1.49 **Working toward meeting the 2020 target.** In our 2014 audit report, we expressed concerns that Canada would not meet the 2020 target for reducing emissions, established under the Copenhagen Accord. In the current audit, we found that Canada was still not on track to meet this target, as emissions in 2020 were projected to be 111 megatonnes above the 2020 target.

1.50 Environment and Climate Change Canada implemented some regulatory measures designed to reduce greenhouse gas emissions. However, the Department had no federal plans in place and was unable to explain how it would meet the 2020 target.

1.51 **Recommendation.** Environment and Climate Change Canada should publicly articulate how Canada's commitment to reduce emissions by 2020 will be met.

***The Department's response.** Agreed. Environment and Climate Change Canada is actively contributing to the implementation of the Pan-Canadian Framework on Clean Growth and Climate Change, which is a comprehensive and credible plan to achieve Canada's 2030 target under the Paris Agreement of a 30 percent reduction below 2005 levels of emissions as set in the Vancouver Declaration on Clean Growth and Climate Change by Canada's first ministers.*

*Through the initiatives outlined in the framework, we are taking action to facilitate Canada's transition to a low-carbon economy. A number of these measures will support Canada's efforts to reduce emissions by 2020, including putting a price on carbon pollution across Canada and regulating the use of hydrofluorocarbons. Additional policies, plans, and measures to reduce emissions have also been announced at the federal, provincial, and territorial levels.*

*The Department will build on its current reporting practices to provide the public with information regarding actions being taken in Canada to reduce greenhouse gas emissions, including through the annual report to first ministers related to the framework, Canada’s annual update of greenhouse gas emission projections, and the Department’s departmental results reports.*

**1.52 Shifting the regulatory approach.** We found that since 2014, Environment and Climate Change Canada had implemented two regulations to reduce emissions (Exhibit 1.6). We also found that, as of 2016, the Department had replaced its approach of developing and implementing regulations for specific sectors of the economy. As a result, the Department had not pursued the sector-specific oil and gas regulations or the regulations for emission-intensive trade-exposed industries. In our view, opportunities to achieve actual greenhouse gas emission reductions to meet the 2020 target were lost because the Department did not pursue these regulations.

**1.53** We found that the Department began using an economy-wide approach when developing regulations to meet the 2030 target. For example, the Department began to develop a clean fuel standard, which was intended to affect multiple sectors of the economy. However, two regulations in development remain targeted at the oil and gas sector—the regulations to control methane emissions and the regulations for natural gas-fired electricity.

**Exhibit 1.6** Regulatory progress had been made since 2014, but it would not be sufficient to meet the 2020 target

Year	Regulation	Status	Estimated total greenhouse gas reductions in megatonnes (Mt)
2010	<i>Renewable Fuels Regulations</i>	In effect	2 Mt by 2020
2010	<i>Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations</i>	In effect	174 Mt (no target date specified)
Expected 2012	Oil and gas regulations	Not pursued	Not applicable
Expected 2012	Regulations for emission-intensive trade-exposed industries	Not pursued	Not applicable
2014	<i>Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations</i>	In effect	3 Mt by 2020
2015	<i>Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations</i>	In effect	214 Mt by 2035
2016	<i>Ozone-depleting Substances and Halocarbon Alternatives Regulations</i>	In effect	176 Mt by 2040

**Exhibit 1.6** Regulatory progress had been made since 2014, but it would not be sufficient to meet the 2020 target (continued)

Year	Regulation	Status	Estimated total greenhouse gas reductions in megatonnes (Mt)
Expected 2017	Regulations respecting reduction in the release of methane and certain volatile organic compounds (upstream oil and gas sector)	Proposed	282 Mt by 2035
Expected 2018	Regulations limiting carbon dioxide emissions from natural gas-fired electricity generation	Delayed since 2012	Not available
Expected 2019	Clean fuel standard	In development	30 Mt each year

**1.54 Reporting on the results of implementing regulations.** We found that the Department did not consistently report to the public on the results of implementing regulations for reducing emissions. For example, it did not always follow the planned reporting schedule, publish reports on time, or make all reports public. Further, the reports did not contain information on all performance indicators and outcomes identified in the Department's performance and evaluation plans. Accordingly, the public did not receive clear information about whether the emission reduction regulations that the Department implemented were contributing to the 2020 target.

**1.55 Recommendation.** Environment and Climate Change Canada should report publicly and in a timely manner on the results of implementing regulations for reducing greenhouse gas emissions.

***The Department's response.*** Agreed. Environment and Climate Change Canada will build on its current regulatory reporting practices to provide the public with timely information regarding the results of implementing regulations for reducing greenhouse gas emissions.

*The Department will also be publicly reporting the reduction of greenhouse gas emissions in accordance with the Treasury Board's policy and directive on results, which took effect 1 July 2016. The Department will be using the Departmental Results Framework to provide parliamentarians and the public with clear and transparent results.*

*The Government of Canada is developing and implementing this new reporting system across federal departments.*

1.56 **Focusing on the 2030 target.** We found that Environment and Climate Change Canada moved its focus away from the 2020 target to the 2030 target, which extended the time to achieve emission reductions. The 2030 target, established by Canada's national contribution to the Paris Agreement, aims to reduce emissions by 30 percent below 2005 emission levels. The target of 523 megatonnes by 2030 means that Canada must achieve a total reduction of 219 megatonnes.

## Conclusion

1.57 We concluded that Environment and Climate Change Canada worked collaboratively with provinces and territories to develop a new national climate change plan to reduce greenhouse gas emissions by 2030—the Pan-Canadian Framework on Clean Growth and Climate Change. However, the measures to reduce greenhouse gas emissions contained in this plan had yet to be implemented.

1.58 We concluded that Environment and Climate Change Canada, with support from other government departments and agencies, did not make progress toward meeting Canada's commitments to reduce greenhouse gas emissions. The Department did not implement measures that would be sufficient to reach the 2020 target for reducing greenhouse gas emissions, and it shifted its focus to the 2030 target.

## About the Audit

This independent assurance report was prepared by the Office of the Auditor General of Canada on progress made to reduce greenhouse gases. 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 progress on reducing greenhouse gases complied in all significant respects with the applicable criteria.

All work in this audit was performed to a reasonable level of assurance in accordance with the Canadian Standard for 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 applies Canadian Standard on Quality Control 1 and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

In conducting the audit work, we have complied with the independence and other ethical requirements of the Rules of Professional Conduct of Chartered Professional Accountants of Ontario and the Code of Values, Ethics and Professional Conduct of the Office of the Auditor General of Canada. Both the Rules of Professional Conduct and the Code 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 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; and
- confirmation that the findings in this report are factually based.

### Audit objective

The objective of this audit was to determine whether Environment and Climate Change Canada, with support from other government departments and agencies, made progress toward meeting Canada's commitments to reduce greenhouse gas emissions.

### Scope and approach

Our audit focused on the responsibilities of Environment and Climate Change Canada. We assessed progress made on existing commitments to meet the 2020 and 2030 targets for reducing greenhouse gas emissions by following up on selected recommendations and observations from our fall 2014 report on mitigating climate change.

The audit team interviewed responsible officials, analyzed documents and information sources, and examined systems and processes to determine whether Environment and Climate Change Canada,

working with others, had made progress toward meeting Canada's national and international commitments to reduce greenhouse gas emissions.

## Collaborative climate change audit initiative

Canada's provincial auditors general partnered together and with the federal Commissioner of the Environment and Sustainable Development, through the Office of the Auditor General of Canada, to examine and report on progress on climate change action within their governments. This audit report on reducing greenhouse gases is one of the federal contributions to this project. Audit work for the territories was carried out by the Office of the Auditor General of Canada, as independent auditor to Canada's northern legislatures.

## Criteria

Criteria	Sources
<b>To determine whether Environment and Climate Change Canada, with support from other government departments and agencies, made progress toward meeting Canada's commitments to reduce greenhouse gas emissions, we used the following criteria:</b>	
Environment and Climate Change Canada, as the lead department, working with other government departments and agencies, has a plan or strategy that describes how the federal government will contribute to achieving the national 2020 and 2030 greenhouse gas emission reduction targets.	<ul style="list-style-type: none"> <li>• 2014 Fall Report of the Commissioner of the Environment and Sustainable Development, Chapter 1—Mitigating Climate Change, Recommendation 1.41 and the related departmental response</li> <li>• Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013–2016, Environment Canada, 2013</li> <li>• Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2016–2019, Environment and Climate Change Canada, 2016</li> <li>• <i>Department of the Environment Act</i></li> <li>• Paris Agreement, United Nations Framework Convention on Climate Change, 2015</li> <li>• Copenhagen Accord, United Nations Framework Convention on Climate Change, 2009</li> <li>• Canada's emission target, submitted to the United Nations Framework Convention on Climate Change, 2010</li> <li>• United Nations Framework Convention on Climate Change, 1992</li> <li>• Canada's Intended Nationally Determined Contribution, submitted to the United Nations Framework Convention on Climate Change, 2015</li> <li>• ISO 14001:2015—Environmental Management Systems, International Organization for Standardization</li> </ul>

Criteria	Sources
<b>To determine whether Environment and Climate Change Canada, with support from other government departments and agencies, made progress toward meeting Canada's commitments to reduce greenhouse gas emissions, we used the following criteria: (continued)</b>	
	<ul style="list-style-type: none"> <li>• Cabinet Directive on Regulatory Management, Privy Council Office</li> <li>• Companion Guide: The Development of Results-based Management and Accountability Frameworks for Horizontal Initiatives, Treasury Board of Canada Secretariat, 2002</li> </ul>
Environment and Climate Change Canada, with support from other federal departments, has monitored, assessed, and evaluated the expected outcomes/effects of regulations intended to contribute to achieving the national greenhouse gas emission reduction targets.	<ul style="list-style-type: none"> <li>• 2014 Fall Report of the Commissioner of the Environment and Sustainable Development, Chapter 1—Mitigating Climate Change, Recommendations 1.29 and 1.41, and related departmental responses</li> <li>• Cabinet Directive on Regulatory Management, Privy Council Office</li> <li>• RIAS Writer's Guide 2009, Treasury Board of Canada Secretariat, 2010</li> <li>• Handbook for Regulatory Proposals: Performance Measurement and Evaluation Plan, Treasury Board of Canada Secretariat</li> <li>• Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada, Environment Canada, 2010</li> <li>• Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013–2016, Environment Canada, 2013</li> <li>• Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2016–2019, Environment and Climate Change Canada, 2016</li> </ul>
Environment and Climate Change Canada, with support from other federal departments, has publicly reported on the outcomes/effects of federal regulations currently in place to reduce greenhouse gas emissions.	<ul style="list-style-type: none"> <li>• 2014 Fall Report of the Commissioner of the Environment and Sustainable Development, Chapter 1—Mitigating Climate Change, Recommendations 1.29 and 1.41, and related departmental responses</li> <li>• 2012 Spring Report of the Commissioner of the Environment and Sustainable Development, Chapter 2—Meeting Canada's 2020 Climate Change Commitments, Recommendation 2.35 and the related departmental response</li> <li>• Cabinet Directive on Regulatory Management, Privy Council Office</li> <li>• RIAS Writer's Guide 2009, Treasury Board of Canada Secretariat, 2010</li> </ul>



Criteria	Sources
<b>To determine whether Environment and Climate Change Canada, with support from other government departments and agencies, made progress toward meeting Canada's commitments to reduce greenhouse gas emissions, we used the following criteria: (continued)</b>	
	<ul style="list-style-type: none"> <li>• Handbook for Regulatory Proposals: Performance Measurement and Evaluation Plan, Treasury Board of Canada Secretariat</li> <li>• Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada, Environment Canada, 2010</li> <li>• Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013–2016, Environment Canada, 2013</li> <li>• Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2016–2019, Environment and Climate Change Canada, 2016</li> </ul>
<p>Environment and Climate Change Canada has reported on future emissions, including the overall impact of reduction measures in place, by</p> <ul style="list-style-type: none"> <li>• publishing greenhouse gas emission projection reports regularly to support the development of greenhouse gas reduction measures toward meeting the greenhouse gas emission reduction targets,</li> <li>• describing the key assumptions,</li> <li>• indicating the impact of federal and provincial measures as far as possible,</li> <li>• communicating the uncertainty associated with its estimates, and</li> <li>• consistently reporting on the future greenhouse gas emissions/removals from Canada's forests.</li> </ul>	<ul style="list-style-type: none"> <li>• 2014 Fall Report of the Commissioner of the Environment and Sustainable Development, Chapter 1—Mitigating Climate Change, Recommendation 1.63 and the related departmental response</li> <li>• Greenhouse Gas Emissions Forecasting: Learning from International Best Practices, National Round Table on the Environment and the Economy, 2008</li> <li>• Greenhouse Gas Protocol: Mitigation Goal Standard—An Accounting and Reporting Standard for National and Subnational Greenhouse Gas Reduction Goals, World Resources Institute, 2014</li> <li>• Cabinet Directive on Regulatory Management, Privy Council Office</li> </ul>
<p>Environment and Climate Change Canada, as the lead department, has effective mechanisms in place for working with the provinces and territories to reduce greenhouse gas emissions.</p>	<ul style="list-style-type: none"> <li>• 2014 Fall Report of the Commissioner of the Environment and Sustainable Development, Chapter 1—Mitigating Climate Change, Recommendation 1.41 and the related departmental response</li> <li>• Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada, Environment Canada, 2010</li> <li>• Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013–2016, Environment Canada, 2013</li> </ul>

Criteria	Sources
To determine whether Environment and Climate Change Canada, with support from other government departments and agencies, made progress toward meeting Canada's commitments to reduce greenhouse gas emissions, we used the following criteria: (continued)	
	<ul style="list-style-type: none"> <li>• Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2016–2019, Environment and Climate Change Canada, 2016</li> <li>• Cabinet Directive on Regulatory Management, Privy Council Office</li> <li>• <i>Canadian Environmental Protection Act, 1999</i></li> </ul>

### Period covered by the audit

The audit covered the period between January 2006 and June 2017. This is the period to which the audit conclusion applies.

### Date of the report

We obtained sufficient and appropriate audit evidence on which to base our conclusion on 12 June 2017, in Ottawa, Ontario.

### Audit team

Principal: Andrew Hayes  
Director: Elsa Da Costa

Alina Dan  
Kate Kooka  
Kajal Patel

# List of Recommendations

The following table lists the recommendations and responses found in this report. The paragraph number preceding the recommendation indicates the location of the recommendation in the report, and the numbers in parentheses indicate the location of the related discussion.

Recommendation	Response
<b>National leadership</b>	
<p><b>1.28</b> Environment and Climate Change Canada should develop an integrated approach to measure, monitor, and report publicly on the federal, provincial, and territorial contributions toward meeting Canada's 2030 target for reducing greenhouse gas emissions. (1.21–1.27)</p>	<p><b>The Department's response.</b> Agreed. The Pan-Canadian Framework on Clean Growth and Climate Change commits the federal, provincial, and territorial governments to produce annual reports to first ministers in order to "take stock of progress and give direction to sustain and enhance efforts." The first annual report will be delivered by the end of 2017 and will focus on key initial steps, such as budget commitments, newly established programs, regulatory measures, and pricing carbon pollution. The report will build on the work of federal–provincial–territorial ministerial tables tasked with implementing measures in the framework.</p> <p>Environment and Climate Change Canada reaffirms its commitment to annual reporting on Canada's greenhouse gas emission projections through 2030. The projections will be developed in consultation with provincial and territorial governments and reflect the latest economic and energy market assumptions as well as the cumulative impact of climate change mitigation actions being undertaken across all Canadian jurisdictions.</p>
<p><b>1.40</b> Environment and Climate Change Canada should continue to work with provinces and territories to ensure clarity, transparency, and consistency in estimates of projected emissions. (1.34–1.39)</p>	<p><b>The Department's response.</b> Agreed. Environment and Climate Change Canada is committed to working closely with provinces and territories when developing its annual emission projections, including bilateral engagement of each province and territory on data sources and key modelling assumptions.</p> <p>The Department will also continue its multilateral provincial–territorial engagement through its participation in the Emissions Projections Project Team, established under the Canadian Council of Ministers of the Environment. The objective of the team is to achieve a greater understanding of the current modelling approaches, methodologies, and assumptions used by Canadian jurisdictions to model greenhouse gas emission projections in order to improve the accuracy and alignment of data used, information sharing, the communication of projections, and the ability to interpret differences in projections.</p>

Recommendation	Response
<p><b>Targets to reduce greenhouse gas emissions</b></p> <p><b>1.51</b> Environment and Climate Change Canada should publicly articulate how Canada's commitment to reduce emissions by 2020 will be met. (1.49–1.50)</p> <p><b>1.55</b> Environment and Climate Change Canada should report publicly and in a timely manner on the results of implementing regulations for reducing greenhouse gas emissions. (1.54)</p>	
	<p><b>The Department's response.</b> Agreed. Environment and Climate Change Canada is actively contributing to the implementation of the Pan-Canadian Framework on Clean Growth and Climate Change, which is a comprehensive and credible plan to achieve Canada's 2030 target under the Paris Agreement of a 30 percent reduction below 2005 levels of emissions as set in the Vancouver Declaration on Clean Growth and Climate Change by Canada's first ministers.</p> <p>Through the initiatives outlined in the framework, we are taking action to facilitate Canada's transition to a low-carbon economy. A number of these measures will support Canada's efforts to reduce emissions by 2020, including putting a price on carbon pollution across Canada and regulating the use of hydrofluorocarbons. Additional policies, plans, and measures to reduce emissions have also been announced at the federal, provincial, and territorial levels.</p> <p>The Department will build on its current reporting practices to provide the public with information regarding actions being taken in Canada to reduce greenhouse gas emissions, including through the annual report to first ministers related to the framework, Canada's annual update of greenhouse gas emission projections, and the Department's departmental results reports.</p> <p><b>The Department's response.</b> Agreed. Environment and Climate Change Canada will build on its current regulatory reporting practices to provide the public with timely information regarding the results of implementing regulations for reducing greenhouse gas emissions.</p> <p>The Department will also be publicly reporting the reduction of greenhouse gas emissions in accordance with the Treasury Board's policy and directive on results, which took effect 1 July 2016. The Department will be using the Departmental Results Framework to provide parliamentarians and the public with clear and transparent results.</p> <p>The Government of Canada is developing and implementing this new reporting system across federal departments.</p>







**Fall 2017**

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and Sustainable Development to the Parliament of Canada**

**The Commissioner's Perspective**

1. Progress on Reducing Greenhouse Gases—Environment and Climate Change Canada
2. Adapting to the Impacts of Climate Change
3. Funding Clean Energy Technologies
4. Departmental Progress in Implementing Sustainable Development Strategies
5. Environmental Petitions Annual Report and Retrospective