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Report on the technical review of the third biennial report of Canada

Developed country Parties were requested by decision 2/CP.17 to submit their third biennial report to the secretariat by 1 January 2018. This report presents the results of the technical review of the third biennial report of Canada, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention".

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Contents

Abbreviations and acronyms

AnnexII Party	Party included in AnnexII to the Convention
AR4	Fourth Assessment Report of the Intergovernmental Panel on Climate Change
BR	biennial report
CAD	Canadian dollars
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CTCN	Climate Technology Centre and Network
CTF	common tabular format
ECCC	Environment and Climate Change Canada
EDC	Export Development Canada
ERT	expert review team
GDP	gross domestic product
GEF	Global Environment Facility
GHG	greenhouse gas
HFC	hydrofluorocarbon
IDRC	International Development Research Centre
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
NA	not applicable
NC	national communication
NE	not estimated
NF_3	nitrogen trifluoride
NO	not occurring
non-AnnexI Party	Party not included in AnnexI to the Convention
non-AnnexII Party	Party not included in AnnexII to the Convention
N_2O	nitrous oxide
OECD	Organisation for Economic Co-operation and Development
OECD DAC	OECD Development Assistance Committee
PaMs	policies and measures
PCF	Pan-Canadian Framework on Clean Growth and Climate Change
PFC	perfluorocarbon
SF_6	sulfur hexafluoride
UNFCCC	United Nations Framework Convention on Climate Change
UNFCCC reporting guidelines on BRs	"UNFCCC biennial reporting guidelines for developed country Parties"
UNFCCC reporting guidelines on NCs	"Guidelines for the preparation of national communications by Parties included in AnnexI to the Convention, Part II: UNFCCC reporting guidelines on national communications"
WAM	'with additional measures'
WEM	'with measures'

I. Introduction and summary

A. Introduction

1. This is a report on the in-country technical review of the BR3[1] of Canada. The review was organized by the secretariat in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention", particularly "Part IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention" (annex to decision 13/CP.20).

2. In accordance with the same decision, a draft version of this report was transmitted to the Government of Canada, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

3. The review was conducted from 9 to 14 April 2018 in Ottawa by the following team of nominated experts from the UNFCCC roster of experts: Mr. Ole-Kenneth Nielsen (Denmark), Ms. Jacqueline Pham (Australia), Ms. Maia Tskhvaradze (Georgia), Ms. Tatiana Tugui (Republic of Moldova) and Mr. Iván Darío Valencia (Colombia). Mr. Nielsen and Ms. Tugui were the lead reviewers. The review was coordinated by Mr. Peter Iversen and Ms. Inkar Kadyrzhanova (UNFCCC secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the BR3 of Canada in accordance with the UNFCCC reporting guidelines on BRs (annex I to decision 2/CP.17).

1. Timeliness

5. The BR3 was submitted on 29 December 2017, before the deadline of 1 January 2018 mandated by decision 2/CP.17. The CTF tables were submitted on 29 December 2017 and resubmitted on 5 March 2018.

2. Completeness, transparency of reporting and adherence to the reporting guidelines

6. Issues and gaps identified by the ERT related to the reported information are presented in table 1. The information reported by Canada in its BR3 mostly adheres to the UNFCCC reporting guidelines on BRs.

[1] The BR submission comprises the text of the report and the CTF tables, which are both subject to the technical review.

Table 1
Summary of completeness and transparency of mandatory information reported by Canada in its third biennial report

Section of BR	*Completeness*	*Transparency*	*Reference to description of recommendations*
GHG emissions and trends	Complete	Transparent	NA
Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target	Mostly complete	Transparent	Issue 1 in table 3
Progress in achievement of targets	Mostly complete	Transparent	Issue 1 in table 5; issues 1 and 2 in table 7; issue 1 in table 11
Provision of support to developing country Parties	Mostly complete	Mostly transparent	Issues 1 and 2 in table 12; issue 1 in table 15 and issue 1 in table 16

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in chapter III below.

II. Technical review of the information reported in the third biennial report

A. Information on greenhouse gas emissions and removals related to the quantified economy-wide emission reduction target

1. Technical assessment of the reported information

7. Total GHG emissions[2] excluding emissions and removals from LULUCF increased by 18.1 per cent between 1990 and 2015, whereas total GHG emissions including net emissions or removals from LULUCF increased by 34.5 per cent over the same period. Table 2 illustrates the emission trends by sector and by gas for Canada.

Table 2
Greenhouse gas emissions by sector and by gas for Canada for the period 1990–2015

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2014*	*2015*	*1990–2015*	*2014–2015*	*1990*	*2015*
Sector									
1. Energy	482 707.71	602 186.00	571 375.17	593 505.15	587 071.54	21.6	–1.1	79.0	81.3
A1. Energy industries	145 909.23	198 065.11	165 387.78	154 306.19	151 131.18	3.6	–2.1	23.9	20.9
A2. Manufacturing industries and construction	74 854.33	81 756.50	90 938.89	109 182.41	112 557.82	50.4	3.1	12.3	15.6
A3. Transport	126 321.58	154 044.11	171 357.42	174 920.50	174 979.10	38.5	0.0	20.7	24.2
A4. and A5. Other	86 819.52	98 469.18	89 290.64	95 420.80	91 517.52	5.4	–4.1	14.2	12.7
B. Fugitive emissions from fuels	48 803.05	69 851.01	54 400.35	59 675.14	56 885.83	16.6	–4.7	8.0	7.9

[2] In this report, the term "total GHG emissions "refers to the aggregated national GHG emissions expressed in terms of CO_2 eq excluding LULUCF, unless otherwise specified. Values in this paragraph are calculated based on the 2017 annual submission, version 4.

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2014*	*2015*	*1990–2015*	*2014–2015*	*1990*	*2015*
C. CO_2 transport and storage	NA, NO	0.09	0.09	0.10	0.10	NA	0.0	NA	0.0
2. IPPU	55 875.41	52 260.83	48 474.66	50 902.59	51 069.74	–8.6	0.3	9.1	7.1
3. Agriculture	48 517.02	57 955.55	56 193.26	58 192.68	58 961.64	21.5	1.3	7.9	8.2
4. LULUCF	–99 274.88	–62 412.26	–28 185.59	–32 925.97	–33 543.53	–66.2	1.9	NA	NA
5. Waste	23 900.64	25 783.28	24 794.90	24 557.74	24 698.54	3.3	0.6	3.9	3.4
6. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indirect CO_2	709.27	631.81	463.11	429.89	440.23	–37.9	2.4	NA	NA
Gas[a]									
CO_2	463 496.84	569 999.95	553 720.59	572 728.38	568 094.19	22.6	–0.8	75.9	78.7
CH_4	93 532.06	117 997.57	99 750.04	104 775.08	102 399.97	9.5	–2.3	15.3	14.2
N_2O	42 217.19	39 544.51	37 293.12	38 137.93	38 901.21	–7.9	2.0	6.9	5.4
HFCs	970.54	2 754.84	7 774.50	10 065.96	11 014.12	1034.8	9.4	0.2	1.5
PFCs	7 557.90	4 985.57	1 859.18	1 088.04	967.92	–87.2	–11.0	1.2	0.1
SF_6	3 225.93	2 902.96	440.42	362.63	423.90	–86.9	16.9	0.5	0.1
NF_3	0.32	0.24	0.15	0.15	0.15	–53.4	0.0	0.0	0.0
Total GHG emissions without LULUCF	**611 000.78**	**738 185.65**	**700 838.00**	**727 158.16**	**721 801.45**	**18.1**	**–0.7**	**100.0**	**100.0**
Total GHG emissions with LULUCF	**511 725.90**	**675 773.39**	**672 652.41**	**694 232.20**	**688 257.93**	**34.5**	**–0.9**	**NA**	**NA**
Total GHG emissions without LULUCF, including indirect CO_2	**611 710.05**	**738 817.46**	**701 301.11**	**727 588.05**	**722 241.68**	**18.1**	**–0.7**	**NA**	**NA**
Total GHG emissions with LULUCF, including indirect CO_2	**512 435.17**	**676 405.20**	**673 115.52**	**694 662.09**	**688 698.16**	**34.4**	**–0.9**	**NA**	**NA**

Source: GHG emission data: Canada's 2017 annual submission, version 4.
[a] Emissions by gas without LULUCF and without indirect CO_2.

8. The increase in total GHG emissions was driven mainly by geographic, demographic and economic circumstances. Climate and geography contribute to making Canada a heavy energy user. The large distances between metropolitan areas and the low population density lead to high emissions from the transport sector. In addition, Canada's economic growth was fastest among the Group of Seven[3] economies in 2016. Sectors such as manufacturing, construction, mining, oil and gas, and forestry represent about 30 per cent of the national economy.

9. In brief, Canada's national inventory arrangements were established in accordance with the Canadian Environmental Protection Act of 1999. There have been no changes in the national inventory arrangements since the BR2.

10. Canada reported in its BR3 the domestic arrangements established for self-assessment of progress towards its emission reduction targets. On behalf of the Auditor General of Canada, the Commissioner of the Environment and Sustainable Development performed an independent analysis, provided recommendations on the federal government's effort and reported progress on the implementation of the Federal Sustainable Development Strategy. During the review, Canada provided to the ERT the report, titled "Report 1: Progress on

[3] The Group of Seven comprises Canada, France, Germany, Italy, Japan, the United Kingdom of Great Britain and Northern Ireland, and the United States of America.

Reducing Greenhouse Gases by Environment and Climate Change Canada" (October 2017),[4] which concluded that ECCC worked collaboratively with provinces and territories to develop the PCF to reduce GHG emissions by 2030. However, the auditor stated that measures to reduce emissions contained in the PCF had yet to be implemented.

11. The auditor also concluded that ECCC, which is supported by other government departments and agencies, did not make progress towards meeting Canada's commitments to reduce GHG emissions. Specifically, ECCC did not implement measures that would be sufficient to reach the 2020 target for reducing emissions, and it had shifted its focus to the 2030 target.

12. During the review, Canada provided further information on progress relating to the development of new policies and the implementation of regulatory measures, including regulations for reducing CH_4 emissions from the oil and gas sector, regulations for reducing the use of climate-warming HFCs, natural gas-fired electricity regulations, amended coal-fired electricity regulations, the Clean Fuel Standard, and the draft legislation and framework for the federal backstop system on pricing carbon pollution, which has been passed by Parliament. Canada also launched several funding programmes and initiatives for reducing GHG emissions across all sectors of the economy. These include the Low Carbon Economy Leadership Fund, which allocated CAD 1.4 billion to provinces and territories to support mitigation, and the Low Carbon Economy Challenge Fund, which allocated CAD 500 million to support innovative projects to reduce emissions across Canada. Through the Investing in Canada Plan, Canada is also investing CAD 26.9 billion in green infrastructure and CAD 28.7 billion in public transit over the next decade. Investments are also being made to support clean technology research, development and adoption. Canada's provinces and territories are implementing their own regulatory measures and funding initiatives to reduce emissions.

2. Assessment of adherence to the reporting guidelines

13. The ERT assessed the information reported in the BR3 of Canada and recognized that the reporting is complete, transparent and adhering to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

B. Assumptions, conditions and methodologies related to attainment of quantified economy-wide emission reduction target

1. Technical assessment of the reported information

14. For Canada, the Convention entered into force on 21 March 1994. Under the Convention, Canada committed to reducing its GHG emissions by 17.0 per cent below the 2005 level by 2020. The target includes all GHGs included in the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories", namely CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3. It also includes all IPCC sources and sectors included in the annual GHG inventory. The global warming potential values used are from the AR4. Although emissions and removals from the LULUCF sector are not included in the calculation of the target (i.e. this is done on the basis of national totals excluding LULUCF), any progress in reducing emissions or increasing removals in the LULUCF sector will be included in the accounting of progress towards achieving the target. As indicated in the BR3, Canada confirmed that work continues on refining LULUCF estimates to better focus on anthropogenic emissions and removals as a basis for improved reporting and accounting for LULUCF. As this work is still under way, only historical inventory estimates were provided. Canada also reported that it has not yet made a decision on the use of market-based mechanisms to achieve its target. In absolute terms, this means that under the Convention, Canada has to reduce emissions from 738,263.70 kt CO_2 eq (in the base year) to 612,758.84 kt CO_2 eq by 2020.

[4] Available at http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201710_01_e_42489.html#hd2d.

15. In the BR3, Canada provided information on the context for its 2030 target. In May 2015, Canada submitted its intended nationally determined contribution to the secretariat. The submission included an economy-wide target to reduce GHG emissions by 30 per cent below the 2005 level by 2030.

2. Assessment of adherence to the reporting guidelines

16. The ERT assessed the information reported in the BR3 of Canada and identified issues relating to completeness and adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 3.

Table 3
Findings on the quantified economy-wide emission reduction target from the review of the third biennial report of Canada

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation*
1	Reporting requirement specified in paragraph 5 Issue type: completeness Assessment: recommendation	According to the UNFCCC reporting guidelines on BRs, it is mandatory to report information on the use of international market-based mechanisms. However, in the BR3, as was the case in the BR2, Canada did not report information related to the use of market-based mechanisms. In the BR3 and during the review, Canada explained that it is still examining the approach to the use of market-based mechanisms and therefore was not in a position to include any information at the time of submission. However, the ERT noted that in the WAM projections reported by Canada, purchases of allowances by entities in Quebec and Ontario under the Western Climate Initiative are included. The ERT reiterates the recommendation made in the previous review report that Canada report information on the use of market-based mechanisms in the next BR submission or, if not possible to report this information, provide explanation using a custom footnote or notation key in the CTF tables.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

C. Progress made towards the achievement of the quantified economy-wide emission reduction target

1. Mitigation actions and their effects

(a) Technical assessment of the reported information

17. Canada provided information on its package of PaMs implemented, adopted and planned, by sector and by gas, in order to fulfil its commitments under the Convention. Canada reported on its policy context and legal and institutional arrangements put in place to implement its commitments and monitor and evaluate the effectiveness of its PaMs.

18. Canada provided information on a set of PaMs similar to those previously reported, with some notable additions; for example, the many measures being implemented as part of the PCF. Canada also provided information on changes made since the previous submission to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target. The key change in the institutional arrangements is the introduction of the PCF and its supporting governance architecture, which is now the overarching framework for the coordination and implementation of climate change policy in Canada. The coordination of PCF implementation is the responsibility of ECCC, which has created the Pan-Canadian Framework Implementation Office to ensure collaboration on climate action across Canada's 19 federal departments and 13 provincial and territorial governments.

19. Canada reported on its self-assessment of compliance with its emission reduction target and national rules for taking action against non-compliance. In chapter 7 of the BR3, Canada reported on several processes that allow for self-assessment of compliance and of progress towards emission reduction goals. Canada also reported on the progress made in the establishment of national regulations to reduce GHG emissions. According to the BR3, the Commissioner of the Environment and Sustainable Development provides objective and independent analysis of, as well as recommendations on, whether federal government departments are meeting their sustainable development objectives, including on climate change. In response to a question raised by the ERT during the review, Canada provided the web links to audits carried out by the Commissioner of the Environment and Sustainable Development. Canada also highlighted several other publications, including the Canadian Environmental Sustainability Indicators and the Federal Sustainable Development Strategy. The PCF also includes monitoring and reporting on results in order to ensure that policies are effective, to take stock of progress and to inform future actions by Canada.

20. The key overarching cross-sectoral policy reported by Canada is the PCF (see para. 18 above). While some measures associated with this policy have been implemented, many are still under development (see para. 23 below). The current federal measures in place that are expected to deliver the highest mitigation impact for 2020 are: the light-duty vehicle GHG regulations phase 1, the federal Energy Efficient Equipment and Appliances Programme, the regulations to address CH_4 in the oil and gas sector, and the federal renewable fuels regulations. These four measures are expected to have mitigation impacts in 2020 of 11,900, 4,100, 4,000 and 4,000 kt CO_2 eq, respectively. In addition, some implemented measures are expected to have a significant mitigation impact in 2030. These include regulations to address CH_4 in the oil and gas sector (20,000 kt CO_2 eq), the federal Energy Efficient Equipment and Appliances Programme (10,400 kt CO_2 eq), the federal energy efficient buildings initiatives (11,000 kt CO_2 eq) and regulations for HFCs (9,000 kt CO_2 eq). Other measures that have not yet been quantified are also expected to have a significant mitigation impact in 2030, including the Federal Carbon Pricing Approach and Backstop System and the Clean Fuel Standard.

21. At the provincial and territorial level, the implemented measures with the highest mitigation effect are: the British Columbia carbon tax, the Alberta specified gas emitters regulation (which has been replaced by the Alberta carbon competitiveness regulation), the Ontario natural gas demand-side management programmes, the Ontario Feed-In Tariff Program and the Large Renewable Procurement (both of which sunsetted in 2016), the Nova Scotia electricity sector regulations, the Newfoundland and Labrador Lower Churchill Project (Muskrat Falls), and the Alberta directive 060 on upstream petroleum industry flaring, incinerating and venting.

22. Within the Government of Canada, ECCC, under the Minister of Environment and Climate Change, is the lead authority for federal and international climate change policies. The Canadian Environmental Protection Act of 1999 provides the legal authority for ECCC to regulate GHG emissions as a toxic substance. Under the Act, the Minister of Environment and Climate Change may establish regulations on various aspects related to the release of GHGs, including setting quantities or concentrations of GHGs that may be released from various types of facilities or from vehicles, engines and equipment manufactured or imported into Canada for the purpose of sale.

23. Canada highlighted the mitigation actions that are under development, such as many of the initiatives under the PCF. Among the mitigation actions that provide a foundation for significant additional actions, the following are critical for Canada to attain its emission reduction targets: the federal carbon pricing approach and backstop system, the Clean Fuel Standard, regulations to address HFCs, regulations to address CH_4 in the oil and gas sector, light- and heavy-duty vehicle GHG regulations, the Low Carbon Economy Fund, strategic interconnections of electricity grids and the National Zero Emission Vehicle Strategy. Table 4 provides a summary of the reported information on the PaMs of Canada.

Table 4
Summary of information on policies and measures reported by Canada

Sector	*Key PaMs*	*Estimate of mitigation impact by 2020 (kt CO_2 eq)*	*Estimate of mitigation impact by 2030 (kt CO_2 eq)*
Policy framework and cross-sectoral measures			
	Federal carbon pricing approach and backstop system	NE	NE
	Clean Fuel Standard	NE	30 000
	Regulation of HFCs	1 000	9 000
	Low Carbon Economy Fund	NE	NE
Energy			
	Regulations for reducing CO_2 emissions from the coal-fired generation of electricity	3 100	5 000
	Amended regulations for reducing CO_2 emissions from the coal-fired generation of electricity	NE	NE
	Strategic interconnections of electricity grids	NE	12 700
	Alberta coal-fired electricity generation phaseout	NE	NE
	Ontario coal phaseout	30 000	NE
	Regulations to address CH_4 in the oil and gas sector	4 000	20 000
	British Columbia electrification of the natural gas sector	1 600	4 000
	Alberta Carbon Capture and Storage Funding Act	2 760	2 760
	Alberta directive 060 on upstream petroleum industry flaring, incinerating and venting	4 000	NE
	Energy Innovation Program	282	NE
	Nova Scotia electricity sector regulations	2 500	NE
Transport			
	National Zero Emission Vehicle Strategy	NE	NE
	Light-duty vehicle GHG regulations phase 1	11 900	23 300
	Light-duty vehicle GHG regulations phase 2	2 800	24 300
	Heavy-duty vehicle GHG regulations phase 1	2 600	5 700
	Heavy-duty vehicle GHG regulations phase 2	25	3 000
	Federal renewable fuels regulations	4 000	NE
	Retrofit requirements for existing heavy-duty trucks to install fuel-saving devices	NE	NE
	Electric vehicle charging and alternative fuel refuelling infrastructure	NE	NE
	Energy-efficient transportation	1 100	1 900
Renewable energy			
	ecoENERGY for Renewable Power Programme	6 000	6 000

Sector	*Key PaMs*	*Estimate of mitigation impact by 2020 (kt CO_2 eq)*	*Estimate of mitigation impact by 2030 (kt CO_2 eq)*
	Newfoundland and Labrador Lower Churchill Project (Muskrat Falls)	1 200	NE
	Alberta Renewable Electricity Program	NE	NE
	SaskPower electricity initiatives	NE	6 000
Energy efficiency			
	Federal Energy Efficient Equipment and Appliances Programme	4 100	10 400
	Federal energy-efficient buildings initiatives	NE	11 200
	Ontario energy efficiency standards for products and appliances	NE	NE
	Nova Scotia electricity efficiency regulations	1 300	NE
IPPU			
	Energy efficiency in industry initiatives	1 100	6 700
	Alberta carbon competitiveness regulation (formerly Alberta specified gas emitters regulation)	10 000	NE
	Ontario natural gas demand-side management programmes	5 706	NE
	British Columbia GHG Industrial Reporting and Control Act	180	3 960
Agriculture			
	Growing Forward 2 federal, provincial and territorial government cost-shared programmes	NE	NE
	Growing Forward 2 federal-only programme: AgriInnovation	NE	NE
	Agricultural Greenhouse Gases Programme	NE	NE
	British Columbia Nutrient Management Program	100	NE
LULUCF			
	Forest Bioeconomy Framework for Canada	NE	NE
	British Columbia Great Bear Rainforest (Forest Management) Act	2 000	NE
	Quebec Wood Innovation Workplan	NE	NE
	Alberta forestry and agriculture offset protocols	NE	NE
Waste			
	Ontario waste and agriculture-related actions	1 800	NE
	Quebec regulation on respecting the landfilling and incineration of residual materials	NE	NE
	British Columbia landfill gas management regulation	811	NE

Note: The estimates of mitigation impact are estimates of emissions of CO_2 or CO_2 eq avoided in a given year as a result of the implementation of mitigation actions.

24. The ERT noted that, in order for Canada to significantly reduce GHG emissions in line with its 2020 target under the Convention, and also its 2030 target, it is of critical importance that the many planned PaMs that are part of the PCF are implemented as soon as possible. The ERT also noted that Canada has established a domestic reporting structure under which annual progress reports on PCF implementation are provided to the Prime Minister and to provincial and territorial premiers, as well as made public.

(b) Policies and measures in the energy sector

25. **Cross-cutting policies.** One of the major planned cross-cutting measures is national carbon pricing. Different types of carbon pricing have been implemented in different provinces, but not all provinces have implemented carbon pricing. Canada has developed a federal approach to pricing carbon pollution as a backstop to ensure that all jurisdictions have a price on carbon by 2019. Although the effect of carbon pricing has not been quantified in this submission, if implemented, it will have an effect on all fuel combustion sectors. Canada has also developed policies to accelerate technology innovation in order to complement regulatory measures such as carbon pricing and the Clean Fuel Standard. Programmes such as the Clean Growth Program enhance emission reductions under regulations by expanding the portfolio of low-carbon technology options.

26. **Electricity supply**. Canada's electricity supply is, to a large extent (nearly 81 per cent) based on renewable energy and non-emitting energy. However, a few provinces and territories still rely on fossil fuels for electricity generation. Canada is amending its existing regulations to reduce CO_2 emissions from coal-fired electricity and to accelerate the phaseout of traditional coal-fired electricity generation by 2030. Although the effect of the accelerated phaseout was not quantified at the time of Canada's submission, the phaseout will have an effect on Canada's generation mix and GHG emissions from the electricity sector.

27. **Renewable energy sources.** Canada has vast renewable energy resources, especially hydro and wind power. There is still great potential for further expansion of renewable energy, which is partly reflected in measures establishing targets for renewable energy; for example, the New Brunswick Electricity Act Renewable Portfolio Standard Regulation, the Nova Scotia electricity sector regulations, the Prince Edward Island wind farm development and the Alberta coal-fired electricity generation phaseout (which includes a 30 per cent renewable energy target in 2030). The further use of renewable energy is, to some extent, impeded by a lack of interconnection among provinces. This has been addressed in some cases (e.g. the Prince Edward Island–New Brunswick Cable Interconnection Upgrade Project) through implemented measures.

28. **Energy efficiency**. Energy efficiency is addressed through several federal and provincial and territorial PaMs. The mitigation effect of some of these PaMs is substantial (see table 4). For example, under the PCF, efforts are under way to adopt more stringent codes for new and existing buildings, including the goal that provinces and territories adopt a 'net-zero energy ready' model building code by 2030. Canada is also: setting new standards for heating equipment and other key technologies to the highest level of efficiency that is economically and technically achievable; updating and introducing new energy efficiency standards under its energy efficiency regulations; and updating and introducing new high performance ENERGY STAR specifications. In the industrial sector, Canada is taking steps to reduce GHG emissions via energy efficiency benchmarking programmes such as ENERGY STAR for Industry and ISO 50001.

29. **Transport sector.** In the transport sector, the federal government collaborates with partners to develop and implement regulatory regimes. For example, it has worked with the International Civil Aviation Organization to develop regulations. The government has also partnered with the International Maritime Organization to implement regulations. Additional complementary PaMs to support the uptake of clean transportation technologies and practices are also being advanced through voluntary agreements with industry, providing economic incentives for deployment and for research into new technologies. Canada has also implemented regulations targeting GHG emissions from on-road vehicles. As part of the PCF,

a National Zero Emission Vehicle Strategy is to be developed. Canada plans to announce the strategy in 2018.

(c) Policies and measures in other sectors

30. **Industrial processes.** Heavy industry and oil and gas are significant contributors to the total GHG emissions in Canada. Several PaMs have been implemented affecting emissions from industry, including energy efficiency measures but also other targeted measures. A significant measure comprises the regulations to address CH_4 in the oil and gas sector, which aim to reduce CH_4 emissions from the oil and gas sector by 40–45 per cent below the 2012 level by 2025.

31. **Agriculture.** For the agriculture sector, Canada reported on three federal and three provincial PaMs related to investments in research as well as programmes to reduce GHG emissions in farming operations. Of the six PaMs, only two (both provincial) have a quantified mitigation effect in 2020, together totalling 108 kt CO_2 eq in 2020. No mitigation effect has been estimated for 2030. In the NC7 (referenced in the BR3 and during the in-country review) Canada informed the ERT that under the PCF, it is working with provincial and territorial governments to enhance carbon storage in agricultural lands and it is supporting innovation to advance GHG efficient management practices in agriculture. In 2018, the Canadian Agricultural Partnership was agreed among federal, provincial and territorial governments for investing in innovative climate research and programmes to reduce GHG emissions in agricultural production.

32. **LULUCF.** Only one federal measure has been reported for the LULUCF sector and six PaMs at the provincial level. Of the seven PaMs, only two have a quantified mitigation effect in 2020, totalling 2,111 kt CO_2 eq. No mitigation effect has been estimated for 2030.

33. **Waste management.** As a result of the different jurisdictions in Canada, the regulation of the waste sector predominantly falls to the provincial and territorial level. Canada provided several examples of collaboration across federal, provincial and territorial governments, including the commitment to identify opportunities to produce renewable fuels and bioproducts from waste, and work on the Canada-wide Action Plan for Extended Producer Responsibility. At the provincial level, 12 PaMs are reported. Most of those PaMs target emissions from solid waste disposal on land through landfill gas recovery. The mitigation effect has been estimated for six PaMs in 2020, that is, half of the PaMs reported. The quantified effect of the PaMs is reported as 3,315 kt CO_2 eq in 2020.

(d) Response measures

34. Canada reported on the assessment of the economic and social consequences of response measures. Canada presented several initiatives aimed at minimizing adverse impacts. For example, in implementing the PCF, its key socioeconomic aspects and potential impacts are being taken into consideration. Economy-wide measures, such as setting a price on carbon pollution, can have impacts on economic competitiveness and on vulnerable groups of society and indigenous peoples. The principles adopted in the PCF with regards to pricing carbon pollution highlight revenue recycling measures to avoid a disproportionate burden on the most vulnerable groups and indigenous peoples, and to increase carbon prices in a predictable and gradual way to limit economic impacts.

(e) Assessment of adherence to the reporting guidelines

35. The ERT assessed the information reported in the BR3 of Canada and identified an issue relating to completeness and adherence to the UNFCCC reporting guidelines on BRs. The finding is described in table 5.

Table 5
Findings on mitigation actions and their effects from the review of the third biennial report of Canada

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 6 Issue type: completeness Assessment: recommendation	The ERT noted that for many mitigation actions, Canada did not report the mitigation impact in CTF table 3. The reporting has improved since the BR2 and Canada is reporting more transparently in cases where the mitigation effect has not been estimated. During the review, Canada recognized that improvements could be made to the number of PaMs with an estimated mitigation impact. The Party expects to be able to include mitigation estimates for a number of new measures being developed under the PCF in its next reporting cycle. Canada will continue to encourage provinces and territories to report the estimated mitigation impacts of their PaMs. The ERT recommends that Canada continue to improve the completeness of its reporting in its next BR submission by reporting the mitigation effects for all the mitigation actions reported in CTF table 3, to the extent possible.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

2. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry

(a) Technical assessment of the reported information

36. In the BR3, Canada reported that it is examining its approach to the use of international market-based mechanisms to meet its 2020 and 2030 emission reduction targets under the Convention. As such, Canada was not in a position to make a decision on their use at the time of preparing the BR3. The Party further reported that, within the context of negotiations to elaborate the details of the Paris Agreement, it will continue to work with other countries on exploring the best options for the use of international mechanisms.

37. In addition, in its BR3, Canada explained that, although it would account for the contribution from LULUCF towards the achievement of its target, it had not been able to provide the estimates in the BR3 owing to ongoing work on the development of an estimation methodology that captures anthropogenic emissions and removals (see table 7). Hence, CTF tables 4, 4(a)I, 4(a)II and 4(b) are reported blank. The ERT notes that in the BR3 Canada implemented a recommendation made in the previous review report by providing explanations for the lack of information in CTF tables 4, 4(a)I, 4(a)II and 4(b).

38. Table 6 illustrates Canada's total GHG emissions. It does not contain information on Canada's use of market-based mechanisms or the contribution of LULUCF towards achieving the target because Canada did not report this information in its BR3 or in the relevant CTF tables.

Table 6
Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry by Canada to achieve its target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*	*Contribution of LULUCF (kt CO_2 eq)*	*Emissions including contribution of LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*
1990	611 000.78	NE	NE	NE
Base year[a] (2005)	738 263.70	NE	NE	NE
2010	700 838.00	NE	NE	NE
2011	707 445.93	NE	NE	NE
2012	716 284.61	NE	NE	NE
2013	729 206.93	NE	NE	NE
2014	727 158.16	NE	NE	NE
2015	721 801.45	NE	NE	NE

Sources: Canada's BR3 and CTF table 1.

[a] Emissions and removals are reported for a base year if a year other than 1990 is used as the base year.

39. In assessing the progress towards the achievement of the 2020 target, the ERT noted that Canada's emission reduction target under the Convention is 17.0 per cent below the 2005 level (see para. 14 above). According to table 6, in 2015, Canada's annual total GHG emissions excluding LULUCF were only 2.2 per cent (16,462.25 kt CO_2 eq) below the base-year level (738,263.70 kt CO_2 eq).

40. The ERT noted that Canada faces challenges in implementing mitigation actions that deliver the emission reductions needed to make sufficient progress towards its target. On the basis of the results of the projections (see para. 57 below), the ERT also noted that the Party may face challenges in the achievement of its target under the Convention and would need to further strengthen mitigation actions, make use of reductions in emissions or increase in removals from the LULUCF sector, or make use of units from market-based mechanisms.

41. The ERT noted that Canada's ability to achieve its target will depend on several factors, including: how rapidly its major PaMs are able to achieve results; the contribution of the LULUCF sector, pending the completion of ongoing work to refine inventory and account approaches; Canada's decision on the use of units from market-based mechanisms; and the nature of potential future changes in the national economy, in particular the oil and gas industry.

(b) Assessment of adherence to the reporting guidelines

42. The ERT assessed the information reported in the BR3 of Canada and identified issues relating to completeness and adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 7.

Table 7
Finding on estimates of emission reductions and removals and the use of units from the market-based mechanisms and land use, land-use change and forestry from the review of the third biennial report of Canada

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation*
1	Reporting requirement specified in paragraph 9 Issue type: completeness Assessment: recommendation	No information was provided in the BR3 on emissions or removals from the LULUCF sector. Canada stated an estimation methodology that captures anthropogenic emissions and removals is currently under development. Canada explained in the BR3 and during the review that work continues on refining LULUCF estimates to better focus on anthropogenic emissions and removals as a basis for improved reporting and accounting for LULUCF. As this work is under way, only historical inventory estimates were provided in the BR3. The ERT recommends that Canada provide in the next BR submission information on emissions or removals from the LULUCF sector based on the accounting approach applied to achieve the 2020 target.
2	Reporting requirement specified in paragraph 10 Issue type: completeness Assessment: recommendation	No information was provided in the BR3 regarding the use of units from market-based mechanisms. During the review, Canada explained that it has not yet decided on the use of units (see also table 3). The ERT recommends that Canada provide in the next BR submission information on the use of units from market-based mechanisms to achieve the 2020 target.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

3. Projections overview, methodology and results

(a) Technical assessment of the reported information

43. Canada reported updated projections for 2020 and 2030 relative to actual inventory data for 2015 under the WEM scenario. The WEM scenario reported by Canada includes implemented and adopted PaMs until September 2017.

44. In addition to the WEM scenario, Canada reported in its BR3 the WAM scenario. The WAM scenario includes planned PaMs. During the review, Canada provided a definition of its scenarios, explaining that its WEM scenario includes federal policies that are legislated, have funding certainty and/or have been announced with accompanying detail. This includes policies such as the GHG emission standards for light- and heavy-duty vehicles, regulations for reducing CO_2 emissions from coal-fired electricity generation and standards for supporting energy efficiency and renewable energy development, as well as other provincial or territorial PaMs implemented. The WAM scenario includes federal and provincial and territorial policies announced that are still under development but where enough information is available to be included in the scenario. The definitions indicate that the scenarios were prepared in accordance with the UNFCCC reporting guidelines on NCs.

45. The projections are presented on a sectoral basis, for sectors defined by the Party as economic sectors, which is different to the IPCC classification, but in line with the UNFCCC reporting guidelines on NCs. Table 5.7 of the NC7 and CTF tables 6(a) and 6(c) present the Party's 'with measures' projection by IPCC classification. The ERT noted that projections for the LULUCF sector for 2020 and 2030 were not provided, either as the IPCC classification or within Canada's grouping by economic sector. See table 11 for further information. The sectoral classification used for the projections uses the same sectoral categories as those used in the reporting on mitigation actions in the NC7. Projections are presented on a gas-by-gas basis for CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 as well as NF_3 for

1990–2030. The projections are also provided in an aggregated format for each sector as well as for the total GHG emissions using global warming potential values from the AR4.

46. In order to provide the reader with an understanding of emission trends, Canada presented information on drivers with the most significant impact on the trends for each sector. The ERT noted that the explanation is much improved compared with Canada's BR2 submission, in which no description of emission trends was provided.

47. Canada did not report emission projections for indirect GHGs such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds or sulfur oxides. During the review, Canada confirmed that it would not provide emission projections for indirect GHGs for the BR3 but would consider doing so for future BRs.

48. Emission projections related to fuel sold to ships and aircraft engaged in international transport were reported separately and were not included in the totals.

(b) Methodology, assumptions and changes since the previous submission

49. The methodology used for the preparation of the projections is based on the same modelling framework used for the preparation of the emission projections for the BR2. The methodology is applicable to all sectors, with the exception of the forest sector, for which all estimates, including projections, are modelled using the Carbon Budget Model of the Canadian Forest Sector.

50. Canada's approach to projecting GHG emissions has two key parts: collating the most current and credible data available on GHG emissions and energy use; and developing emission projection scenarios through the use of the in-house E3MC model.[5] E3MC has two dynamically linked components: Energy 2020, which incorporates Canada's energy supply and demand structure; and the in-house macroeconomic model of the Canadian economy. E3MC is subject to annual data updates and methodology improvements, as required. The modelling approach includes a peer review of the assumptions and projections by external experts and some stakeholders. During the review, Canada outlined the action items following the peer review, which include investigating how technological change is accounted for, and expanding the sensitivity analyses undertaken. The NC7 (chapter 5, annex 2) referenced in the BR3 describes various sector-specific methodological changes since the BR2, such as: updated growth rates for transport-related HFC emissions; updated assumptions of zero-emission vehicle sales; changes to the calibration process for the buildings sector to better capture historical energy efficiency improvements; and the use of actual historical electricity transmissions and distribution losses in the model.

51. To prepare its projections, Canada relied on the following key underlying assumptions: energy prices, macroeconomic developments, population trends and agriculture indicators. These variables and assumptions were reported in CTF table 5 and tables 5A.1 and 5A.2 of the NC7. The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections. The sources of the assumptions are agencies such as Statistics Canada, Finance Canada, the National Energy Board, and Agriculture and Agri-Food Canada. The major assumptions compared with historical data are described in the NC7 and referenced in the BR3. The ERT notes that explanations of the modelling approach, data and assumptions in the BR3 have improved compared with Canada's BR2 submission.

52. Canada provided information in CTF table 5 on assumptions, methodologies, models and approaches used and on the key variables and assumptions used in the preparation of the projection scenarios.

53. Canada also provided information on sensitivity analyses. Sensitivity analyses were conducted for changes in future economic growth and higher or lower world oil and gas prices. The 'high' scenario assumes higher values for GDP growth over the period 2015–2030 (of about 2.5 per cent per year) than in the WEM projection, and higher world oil (USD 81 and 116 per barrel in 2020 and 2030, respectively) and gas prices (USD 3.55 and 4.67 per

[5] Environment Canada's Energy, Emissions and Economy Model for Canada.

gigajoule in 2020 and 2030, respectively). The 'low' scenario assumes lower values for GDP growth over 2015 to 2030 (of about 1.0 per cent per year), and lower oil (USD 39 and 37 per barrel in 2020 and 2030, respectively) and gas prices (USD 2.65 and 2.86 per gigajoule in 2020 and 2030, respectively).

54. The results of the sensitivity analyses indicate that emissions will increase under the 'high' scenario and decrease under the 'low' scenario, but not to the point where the 2020 (or 2030) targets would be achieved. Under the 'high' scenario, emissions are projected to be 0.4 per cent (2,700 kt CO_2 eq) and 53.2 per cent (53,700 kt CO_2 eq) above 2005 levels in 2020 and 2030, respectively. Under the 'low' scenario, emissions are projected to be 4.1 per cent (30,300 kt CO_2 eq) and 25.8 per cent (88,300 kt CO_2 eq) below 2005 levels in 2020 and 2030, respectively.

(c) Results of projections

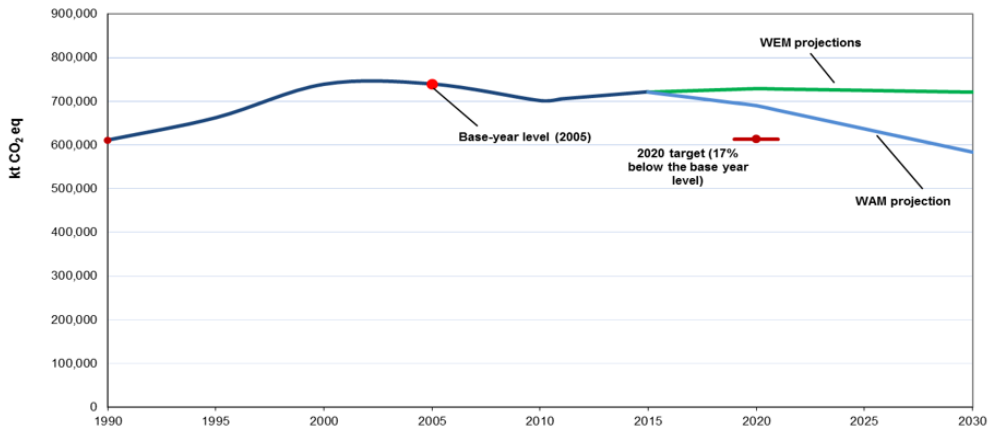
55. The projected emission levels under different scenarios and information on the quantified economy-wide emission reduction target are presented in table 8 and the figure below.

Table 8
Summary of greenhouse gas emission projections for Canada

	GHG emissions (kt CO_2 eq per year)	*Changes in relation to base-year[a] level (%)*	*Changes in relation to 1990 level (%)*
Quantified economy-wide emission reduction target under the Convention	613 619	17.0	0.5
Inventory data 1990[b]	610 800	–17.4	NA
Inventory data 2015[b]	721 400	–2.4	18.1
WEM projections for 2020[c]	728 400	–1.5	19.3
WAM projections for 2020[c]	690 400	–6.6	13.0
WEM projections for 2030[c]	721 400	–2.4	18.1
WAM projections for 2030[c]	583 400	–21.1	–4.5

Note: The projections are for GHG emissions without LULUCF.
[a] "Base year" in this column refers to the base year used for the target under the Convention, which is 2005.
[b] From Canada's BR3 CTF table 6.
[c] From Canada's NC7 and/or BR3.

Greenhouse gas emission projections reported by Canada



Sources: Data for the years 1990–2030: Canada's NC7 and BR3; total GHG emissions excluding LULUCF.

56. Canada's total GHG emissions excluding LULUCF are projected to be 728,400 kt CO_2 eq and 721,400 kt CO_2 eq in 2020 and 2030, respectively, under the WEM scenario, which is an increase of 19.3 and 18.1 per cent, respectively, above the 1990 level. Under the WAM scenario, emissions in 2020 are projected to be higher than emissions in 1990 by 79,600 kt CO_2 eq or 13.0 per cent and amount to 690,400 kt CO_2 eq. Emissions in 2030 under the WAM scenario are projected to be lower than those in 1990 by 27,400 kt CO_2 eq or 4.5 per cent and amount to 583,400 kt CO_2 eq. Under the WEM scenario, Canada's total GHG emissions excluding LULUCF in 2020 and 2030 are projected to be 1.5 per cent (10,900 kt CO_2 eq) and 2.4 per cent (17,900 kt CO_2 eq), respectively, below 2005 levels.

57. The 2020 projections (excluding LULUCF) suggest that Canada is likely to face significant challenges in achieving its 2020 target under the Convention (see para. 14 above). The ERT noted that many additional PaMs under the PCF have been announced and have various timelines for implementation, and that, if implemented, the PaMs could better position Canada to meet its 2030 target. However, in the light of the limited time remaining until 2020, the ERT considers that it would be difficult for Canada to meet its 2020 target and that clarity is required regarding the role of the LULUCF sector and market-based mechanisms.

58. Canada presented the WEM and WAM scenarios by sector for 2020 and 2030, as summarized in table 9.

Table 9
Summary of greenhouse gas emission projections for Canada presented by sector

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2020		*2030*		*1990–2020*		*1990–2030*	
Sector	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
Energy (not including transport)	334 000	388 000	376 000	382 000	318 000	16.2	12.6	14.4	–4.8
Transport	148 000	199 000	189 000	190 000	173 000	34.5	27.7	28.4	16.9
Industry/industrial processes	56 000	57 000	58 000	64 000	65 000	1.8	3.6	14.3	16.1
Agriculture	49 000	57 000	57 000	58 000	58 000	16.3	16.3	18.4	18.4
LULUCF	–99 000	NE	NE	NE	NE	NA	NA	NA	NA
Waste	24 000	27 000	27 000	28 000	28 000	12.5	12.5	16.7	16.7
Total GHG emissions without LULUCF	**610 800**	**728 400**	**690 400**	**721 400**	**583 400**	**19.3**	**13.0**	**18.1**	**–4.5**

Source: Canada's 2017 annual submission, version 4, and Canada's NC7 and BR3 CTF tables.

59. According to the projections reported for 2020 under the WEM scenario, emissions from all sectors are projected to increase between 1990 and 2020. The most significant emission increases are expected to occur in the energy and transport sectors, amounting to projected increases of 54,000 kt CO_2 eq (16.2 per cent) and 51,000 kt CO_2 eq (34.5 per cent) between 1990 and 2020, respectively. The pattern of projected emissions reported for 2030 under the same scenario remains the same, with emissions from all sectors expected to increase.

60. The ERT noted that the projection trends in the energy sector reflect Canada's efforts to replace coal-fired electricity generation and increase renewable energy sources. However, absolute reductions in emissions from electricity generation from 2005 to 2030 (70,000 kt CO_2 eq) are largely offset by projected growth in emissions from the oil and gas sector (57,000 kt CO_2 eq) over the same period. Energy sector emissions in 2020 and 2030 are 16.2 per cent and 14.4 per cent above 1990 levels, respectively, although they are 3.0 per cent and 4.5 per cent below 2005 levels, respectively.

61. If additional measures are considered (i.e. under the WAM scenario), the patterns of emission reductions between 1990 and 2020 presented by sector and by gas remain the same as for the WEM scenario, that is, emissions from all sectors are projected to increase; however, the extent of that increase is slightly less than without additional measures. For 2030, emissions from all gases, with the exception of PFCs and SF_6, are projected to decline.

62. Canada presented the WEM and WAM scenarios by gas for 2020 and 2030, as summarized in table 10.

Table 10
Summary of greenhouse gas emission projections for Canada presented by gas

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2020		*2030*		*1990–2020*		*1990–2030*	
Gas	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
CO_2	463 000	579 000	557 000	584 000	506 000	25.1	20.3	26.1	9.3
CH_4	94 000	96 000	96 000	86 000	85 000	2.1	2.1	–8.5	–9.6
N_2O	42 000	38 000	38 000	39 000	39 000	–9.5	–9.5	–7.1	–7.1
HFCs	1 000	15 000	15 000	12 000	12 000	1 400.0	1 400.0	1 100.0	1 100.0
PFCs	7 600	300	300	300	300	–96.1	–96.1	–96.1	–96.1
SF_6	3 200	100	100	100	100	–96.9	–96.9	–96.9	–96.9
NF_3	0	0	0	0	0	–	–	–	–
Total GHG emissions without LULUCF	**610 800**	**728 400**	**690 400**	**721 400**	**583 400**	**19.3**	**13.0**	**18.1**	**–4.5**

Source: Canada's 2017 annual submission, version 4, and Canada's NC7 and BR3 CTF tables.

63. For 2020 the most significant reductions under the WEM scenario are projected for PFC emissions: 7,300.00 kt CO_2 eq (96.1 per cent). Emissions of N_2O and SF_6 are also projected to decrease by 4,000.00 kt CO_2 eq (9.5 per cent) and 3,100.00 kt CO_2 eq (96.9 per cent), respectively, between 1990 and 2020. The ERT noted, however, that emissions (excluding LULUCF) of all other gases are projected to increase between 1990 and 2020. Emissions of CO_2, HFCs and CH_4 are projected to increase by 116,000.00 kt CO_2 (25.1 per cent), 14,000.00 kt CO_2 eq (1,400.0 per cent) and 2,000.00 kt CO_2 eq (2.1 per cent), respectively.

64. Under the same scenario, the pattern of projected emissions of gases reported to 2030 remains largely the same, with the exception of emissions of CH_4, which are projected to decrease by 8,000.00 kt CO_2 eq (8.5 per cent) between 1990 and 2030 owing to reductions in the waste and agriculture sector and expected declines as a result of proposed government regulations to reduce CH_4 emissions from the oil and gas sector.

65. If additional measures are considered (i.e. under the WAM scenario), the patterns of emission reductions by 2020 presented by sector and by gas remain the largely same; that is, emissions of PFCs, N_2O, SF_6 decrease between 1990 and 2020, while emissions of CO_2, HFCs and CH_4 increase, although not to the same levels. Under the same scenario, the pattern of projected emissions by gas to 2030 is largely the same, with the exception of CH_4 emissions, which are projected to decrease further, by 9,000.00 kt CO_2 eq (9.6 per cent).

(d) Assessment of adherence to the reporting guidelines

66. The ERT assessed the information reported in the BR3 of Canada and identified issues relating to transparency, completeness and adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 11.

Table 11
Findings on greenhouse gas emission projections reported in the third biennial report of Canada

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 34 Issue: completeness Assessment: recommendation	Canada did not provide projections of LULUCF emissions. During the review, Canada informed the ERT that it is continuing to refine LULUCF estimates to better focus on anthropogenic emissions and removals. In turn, this is expected to provide a basis for improved reporting and accounting for LULUCF. As this work is still under way, only historical inventory estimates were provided. Canada advised the ERT that it expects to be in a position to provide LULUCF estimates in the BR4, which is due 1 January 2020. During the review, Canada also informed the ERT that it is continuing to refine its LULUCF methodology to focus on anthropogenic emissions and removals. Work is also under way on exploring potential improvements in LULUCF subsectors, including the harvested wood products projections. The Party advised the ERT that it expects to be in a position to provide the LULUCF projections in the BR4, which is due 1 January 2020. The ERT recommends that, to enhance the completeness of its reporting, Canada provide in the next submission projections of LULUCF emissions for 2020 and 2030.
2	Reporting requirement specified in paragraph 35 Issue type: completeness Assessment: encouragement	Canada did not provide projections of indirect GHG emissions, such as carbon monoxide, nitrogen oxides and non-methane volatile organic compounds or sulfur oxides. Canada confirmed during the review that it has not provides projections of indirect GHG emissions for the BR3, but that it would consider including these in its next submission. The ERT encourages Canada to enhance completeness by reporting projections of indirect GHG emissions, such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur oxides.
3	Reporting requirement specified in paragraph 43 Issue type: transparency Assessment: encouragement	In the BR3, Canada did not provide a description of: the original purpose for which the E3MC model was built and how it has been modified for climate change purposes; strengths and weaknesses of the E3MC model; and how the E3MC model accounts for the overlap that may exist between different PaMs. During the review, Canada provided extensive information on the E3MC model, including its strengths and weaknesses, changes made to the model and planned improvements, and outlined how it accounted for different PaMs to avoid any possible double counting of emission reductions. The ERT encourages Canada to enhance transparency by providing in the next submission the details of its model, E3MC.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

D. Provision of financial, technological and capacity-building support to developing country Parties

1. Approach and methodologies used to track support provided to non-Annex I Parties

(a) Technical assessment of the reported information

67. In the BR3, Canada reported information on the provision of financial, technological and capacity-building support required under the Convention.

68. Canada indicated during the review that its definition of "new and additional" finance is financing that is additional to what was planned before the Copenhagen Accord. Canada

provided details on what "new and additional" support it has provided (see issue 1 in table 12).

69. Canada reported the financial support that it has provided to non-Annex I Parties, distinguishing between support for mitigation and adaptation activities and recognizing the capacity-building elements of such support. It explained how it tracks finance for adaptation and mitigation. In CTF tables 7(a)–(d), projects were labelled using the Rio Markers to indicate whether they targeted the Rio Conventions as the principal objective or as a significant objective.

70. The BR3 includes information on the national approach to tracking the provision of support, indicators, delivery mechanisms used and allocation channels tracked. The methodology used for preparing information on international climate support and the methodological approach for measuring Canada's climate finance is included in annex3 of the NC7. Canada included information on how it has refined its approach to tracking climate support and methodologies, and indicated that, since the BR3, it has adopted the practice of reporting information on climate finance by calendar year to align itself with reporting by other donors and other reporting mechanisms such the OECD DAC, whereas in the past it was reporting by fiscal year (1 April to 31 March). Canada employs the OECD DAC exchange rates for each year.

71. Canada described the methodology and underlying assumptions used for collecting and reporting information on financial support, including underlying assumptions and indicators. Canada tracks flows on repayable contributions. For financing related to EDC, transactions and projects are labelled "climate finance" if they take place in non-Annex I countries and fall within the "Special Climate" category within the International Financial Corporation's Definitions and Metrics for Climate-related Activities.[6] Canada uses information on climate shares imputed to financing for multilateral development banks as provided by the OECD in order to estimate the amount of climate financing from core contributions to such banks and the GEF. Canada has also opted to use a 30 per cent coefficient as the climate change related allocation level for projects whose primary objective is not climate change but which contribute to either mitigation or adaptation.

72. Canada tracks climate finance at the project level with indicators such as expected results, results achieved, estimated and actual GHG reduction or avoidance, and number of people benefiting from adaptation projects. Canada indicated during the review that it avoids double counting by tracking finance at the project level. In response to a question raised by the ERT, Canada indicated that it did not list in CTF tables 7(a) and (b) projects funded through Canadian facilities at multilateral development banks (the International Financial Corporation, the Inter-American Development Bank and the Asian Development Bank) to avoid double counting, because funding for these facilities had been disbursed to these banks in the previous reporting cycle and reported in the NC6 and the BR1. However, Canada indicated that project level breakdown from these funds is available.[7]

73. Canada reported on the work being done with other countries, primarily through the OECD DAC, to define quantification methodologies for the measurement and reporting of private finance mobilized through public interventions. For the BR3 Canada employed the methodology of the OECD Technical Working Group to estimate Canada's pro rata share of mobilized private climate finance of Canada's investments at facilities at multilateral development banks.

74. The ERT noted that the BR3 includes little information on delivery mechanisms of finance, particularly for bilateral finance. However, the BR3 references the NC7, which in turn references the international climate financing pages on the website of the Government of Canada,[8] where can be found detailed information on climate finance through bilateral aid and through Canadian facilities at multilateral development banks, including the

[6] Available at https://www.ifc.org/wps/wcm/connect/8ea3b242-c6bb-4132-82b1-ee4bd7007567/IFC+Climate+Definitions+v3.1+.pdf?MOD=AJPERES.

[7] See https://climate-change.canada.ca/finance/.

[8] https://climate-change.canada.ca/finance/Default.aspx.

implementation agencies, which are multiple and varied – Canadian not-for-profit organizations, international organizations, academic institutions, government agencies in developing countries, and others (see issue 2 in table 12).

75. During the review, Canada indicated that the country no longer has a Canadian International Development Agency, and that its role has been replaced by Global Affairs Canada, which works directly with countries and also with national agencies to deliver bilateral aid. The ERT noted that Canada's international climate financing pages on the Government of Canada website were not fully updated with the 2015 and 2016 projects included in the CTF tables. In response to a question raised by the ERT, Canada indicated that it will update the website with this information in the coming months.

76. Canada indicated during the review that the BR3 is being used not only to report to the UNFCCC but also to communicate on climate change action to the Canadian public. The Party noted that the BR reporting process strengthens ECCC's ability to gather and track climate finance data government-wide. UNFCCC reporting requirements provide a clear request and need for data, which encourages climate finance providers from across multiple federal departments and agencies to provide complete and timely information. Canada still, however, reports the challenge of adequately capturing private finance in the appropriate CTF tables.

(b) Assessment of adherence to the reporting guidelines

77. The ERT assessed the information reported in the BR3 of Canada and identified issues relating to transparency and adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 12.

Table 12
Findings on the approach and methodologies used to track support provided to non-Annex I Parties from the review of the third biennial report of Canada

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 13 Issue type: transparency Assessment: recommendation	Canada did not indicate the specific level of funding prior to the Copenhagen Accord above which climate financing would be "new and additional". In response to a question raised by the ERT, Canada indicated that funding prior to the Copenhagen Accord was in the order of CAD 75 million per year, as reported in the NC6, whereas in the period 2015–2016 it amounted to USD 439.75 million (CAD 576 million). The ERT reiterates the recommendation made in the previous review report that Canada include in the next submission information on the "new and additional" financial support provided, including the level of support (in numbers) that was planned prior to the Copenhagen Accord.
2	Reporting requirement specified in paragraph 14 Issue type: transparency Assessment: recommendation	The ERT noted that Canada provided only limited information on delivery mechanisms of finance, particularly for bilateral finance, but provided a reference to the international climate financing pages on the website of the Government of Canada, which has detailed information on climate finance. The ERT recommends that Canada include in the next submission information on the delivery mechanisms of finance used and allocation channels tracked, particularly for bilateral finance.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

2. Financial resources

(a) Technical assessment of the reported information

78. Canada reported information on the provision of financial support required under the Convention, including on financial support provided, committed and pledged, allocation channels and annual contributions. This information was provided for calendar years 2015 and 2016. In response to a question raised by the ERT on why the calendar years 2013 and 2014 were not reported in the NC7, Canada explained that these were reported in the BR2 (using fiscal years 2013 (1 April 2013 to 31 March 2014) and 2014 (1 April 2014 to 31 March 2015)) and that Canada was following the draft UNFCCC reporting guidelines on NCs that had not yet been adopted by the UNFCCC.

79. The ERT noted that, according to the UNFCCC guidelines on NCs, Annex II Parties should report financial information covering a three-year period, and if possible, a four-year period, whereas in the BR they are expected to report financial information covering the most recent two-year period.

80. The ERT also noted that Canada moved from fiscal year reporting in its BR2 (1 April to 31 March) to calendar year reporting to align itself with reporting by other donor countries and other reporting mechanisms such as the OECD DAC. In response to a question raised by the ERT on the possible overlap between financial support reported in the BR2 for the period January–March 2015 (part of fiscal year 2014) with financial support reported in the BR3 for calendar year 2015, Canada indicated that the overlap was minimal because most disbursements in fiscal year 2014 occurred in the early part of the fiscal year.

81. Canada indicated how it has determined that financial resources are "new and additional". Canada's definition of "new and additional" is financing that is additional to what was planned before the Copenhagen Accord. In response to a question raised by the ERT, Canada indicated that funding prior to the Copenhagen Accord was in the order of CAD 75 million per year, as shown in the NC6, whereas in the period 2015–2016 it amounted to USD 439.75 million (CAD 576 million). The ERT calculated based on the CTF tables that in 2015 provision of "new and additional" financial resources were in the order of CAD 91.74 million, and in 2016 in the order of CAD 232.78 million. Climate finance delivered as part of Canada's CAD 2.65 billion climate finance commitment is also new and additional.

82. Canada described how its resources address the adaptation and mitigation needs of non-Annex I Parties. It also described how those resources assist non-Annex I Parties to mitigate and adapt to the adverse effects of climate change, facilitate economic and social response measures, and contribute to technology development and transfer and capacity-building related to mitigation and adaptation. Canada reported that it supports non-Annex I Parties in the development of their nationally determined contributions and national adaptation plans, particularly the poorest and most vulnerable countries, the least developed countries and small island developing States. Climate-smart agriculture, access to water, and forestry were among the topics highlighted as important for climate-related international assistance to developing countries.

83. As examples of this support, Canada highlighted projects in Jordan of CAD 1.73 million and 0.67 million to support low-carbon development, renewable energy and the installation of solar panels in poor households. It also highlighted support provided to the World Meteorological Organization's Climate Risk Early Warning Systems, and CAD 0.97 million provided to Haiti to address emissions from charcoal combustion in households. Other relevant initiatives reported in CTF table 7(b) include several international assistance projects that support climate objectives; for example, strengthening climate-resilient agriculture in Bolivia (Plurinational State of), Ethiopia, Ghana, Guatemala, Honduras, Kenya, Mali, Nicaragua and the United Republic of Tanzania, and increasing food security and promoting sustainable livelihoods in Bolivia (Plurinational State of), Burkina Faso, the Democratic Republic of the Congo, Ethiopia, Ghana, Haiti, Peru and Senegal.

84. Canada explained the principles underlying its climate finance, including commitments to act in accordance with science, promote decarbonization and clean

technology, support climate change efforts in developing countries, empower women and girls, and enable prosperity through a sustainable economy. Canada made a reference to its new Feminist International Assistance Policy, adopted in June 2017, which aims to empower women and girls and promote gender equality across all development assistance. The Party also indicated that its climate finance is aligned with the 2030 Agenda for Sustainable Development, and in particular Sustainable Development Goal 13 related to climate action. Canada also highlighted that the Province of Quebec delivered CAD 6 million in 2016 to the Global Environment Facility's Least Developed Countries Fund, with funds coming from Quebec's cap-and-trade carbon market system.

85. Canada reported information on the assistance that it has provided to developing country Parties that are particularly vulnerable to the adverse effects of climate change to help them meet the costs of adaptation to those adverse effects. In particular, it highlighted the Caribbean Disaster Risk Management Programme to improve resilience in communities to hurricanes and other extreme weather events, with a particular focus on gender equality. Canada has also supported disaster preparedness institutional capacity-building in South-Eastern Asian countries, and it provided USD 1.3 million in relief and reconstruction aid to the Philippines after Typhoon Haiyan.

86. With regard to the most recent financial contributions aimed at enhancing implementation of the Convention by developing countries, Canada reported that it did not have specific priority countries or sectors. Rather, it has general priorities for its climate finance, including: supporting ambitious mitigation action in line with developing countries' needs; scaling up support for adaptation, particularly for the poorest and most vulnerable; mobilizing private sector finance; and supporting gender equality and the empowerment of women and girls. Quebec has prioritized support to be delivered in 2017 and 2018 for technology transfer and capacity-building in francophone countries. Quebec's climate finance support is funded by Quebec's Green Fund through the 2013–2020 Action Plan on Climate Change. Table 13 includes some of the information reported by Canada on its provision of financial support.

Table 13
Summary of information on provision of financial support by Canada in 2015–2016
(Millions of United States dollars)

	Year of disbursement	
Allocation channel of public financial support	*2015*	*2016*
Official development assistance	4 277.23	3 930.44
Climate-specific contributions through multilateral channels, including:	108.83	99.99
GEF	29.96	28.92
Least Developed Countries Fund	0	453
Green Climate Fund	0	126.75
Trust Fund for Supplementary Activities	0.20	0
Financial institutions, including regional development banks:	74.72	67.08
African Development Bank	5.40	0.00
Asian Development Bank	5.59	5.40
Inter-American Development Bank	1.58	1.69
International Development Association	62.15	59.99
United Nations bodies, including:	4.31	13.10
Partnership for Clean Fuels and Vehicles	0.01	0.01
Contribution to the Global Framework for Climate Services	0.16	0.15
International Fund for Agricultural Development: Climate Change Adaptation	0	7.54
Multilateral Fund of the Montreal Protocol	4.14	3.99

Allocation channel of public financial support	*Year of disbursement* 2015	2016
United Nations Development Programme support for the twenty-second session of the Conference of the Parties	0	1.06
World Meteorological Organization Climate Risk Early Warning Systems	0	0.35
Consultative Group on International Agricultural Research	2.35	2.26
Support to the International Organisation of La Francophonie	0.23	0.38

Sources: (1) Query Wizard for International Development Statistics, available at http://stats.oecd.org/qwids/; (2) BR3 CTF tables.

87. Canada reported in CTF table 7(b) 80 bilateral assistance projects in the form of grants over the course of 2015 and 2016, including 52 projects for 2015 and 63 projects for 2016, 35 of which had continued from 2015. As reported in CTF table 7(b), 100 per cent of the public bilateral financing provided by Canada in this reporting period was in the form of grants. However, the Party does not count financing from EDC, whose projects were not listed in CTF table 7(b). Of the 80 international bilateral assistance projects that involved climate change objectives, 10 were listed with climate change as the principal objective. Of the 80 projects, 41 projects in 2015 and 44 in 2016 were classified as adaptation-focused projects; 8 projects in 2015 and 13 in 2016 were classified as mitigation-focused projects; 3 projects in 2015 and 6 in 2016 were classified as cross-cutting; 33 projects in 2015 and 35 in 2016 targeted the agriculture and food security sectors; 8 projects in 2015 and 8 in 2016 were related to disaster preparedness, prevention, relief and reconstruction; and 3 projects in 2015 and 8 in 2016 addressed energy issues. Overall, adaptation has the highest share of bilateral international assistance projects, while sectorally, agriculture and food security is the most frequent focus of these projects.

88. Canada reported on its climate-specific public financial support, totalling USD 150.38 million in 2015 and USD 289.37 million in 2016. With regard to the future financial pledges aimed at enhancing the implementation of the Convention by developing countries, Canada committed itself to providing CAD 2.65 billion from 2016 to 2020, and CAD 800 million specifically by 2020. From Canada's report for fiscal years (1 April to 31 March) 2013 and 2014, annual climate financing was CAD 231.98 million and CAD 213.17 million, respectively, as reported in the BR2. Although there is a slight overlap in the period of January–March 2015 when Canada shifted from fiscal year reporting to calendar year reporting, funding for the biennial period 2015–2016 represents an apparent increase of 21 per cent compared with the 2013–2014 period. However, Canada did not incorporate in the CTF tables the total funding in 2015 and 2016 from EDC, which primarily represents export credits for Canadian companies carrying out business in developing countries in areas related to climate change, and which totalled CAD 273 million in this period.

89. The ERT noted that the comparison is also limited by the adoption of a tracking methodology in the 2015–2016 reporting period that may differ from the one employed for 2013–2014, because the description of the latter was limited in the BR2. Canada only reports disbursed funding (information is provided in the NC7 and referenced in the BR3), but it did mention several funding announcements made in 2016 and 2017 for a total of CAD 335 million, including: CAD 200 million for the Asian Development Bank to catalyse private investment; CAD 122 million for bilateral adaptation and mitigation projects in Africa, Asia, Latin America and the Caribbean; and CAD 5 million for the UNFCCC capacity-building initiative on transparency.

90. During the reporting period, Canada reported bilateral finance for 50 countries throughout Africa, Asia, and Latin America and the Caribbean. Canada explained that it does not have a particular focus on priority countries, although the CTF tables show more than one bilateral project for some countries, including Ethiopia, Ghana, Haiti, Honduras, Jordan, Mali, Nicaragua and the Philippines. The ERT noted that Canada reported in CTF table 7(b) bilateral support allocated to developing countries of USD 38.61 million in 2015 and USD

46.69 million in 2016. Information on financial support from the public sector provided through multilateral and bilateral channels and the allocation of that support by priority is presented in table 14.

Table 14
Summary of information on channels of financial support used in 2015–2016 by Canada
(Millions of United States dollars)

Allocation channel of public financial support	*Year of disbursement*				*Share (%)*	
	2015	*2016*	*Difference*	*Change (%)*	*2015*	*2016*
Support through bilateral and multilateral channels allocated for:						
Mitigation	1.55	9.82	8.27	535.0	3.7	5.2
Adaptation	36.17	45.53	9.36	25.9	87.0	24.0
Cross-cutting	3.84	134.03	130.20	3 394.4	9.2	70.8
Total	**41.55**	**189.38**	**147.83**	**355.8**	**100.0**	**100.0**
Detailed information by type of channel						
Multilateral channels						
Mitigation	0.01	0.01	0.00	–3.5	0.4	0.0
Adaptation	0.39	1.61	12.22	3 125.4	13.3	8.8
Cross-cutting	2.54	130.07	127.53	5 018.9	86.3	91.2
Total	**2.94**	**142.69**	**139.75**	**4 747.4**	**100.0**	**100.0**
Bilateral channels						
Mitigation	1.53	9.81	8.27	539.1	4.0	21.0
Adaptation	35.78	32.92	–2.86	–8.0	92.7	70.5
Cross-cutting	1.29	3.96	2.66	205.7	3.4	8.5
Total	**38.61**	**46.69**	**8.08**	**20.9**	**100.0**	**100.0**
Multilateral compared with bilateral channels						
Multilateral	2.94	142.69	139.75	4 747.4	7.1	75.3
Bilateral	38.61	46.69	8.08	20.9	92.9	24.7
Total	**41.55**	**189.38**	**147.83**	**355.8**	**100.0**	**100.0**

Source: CTF tables 7, 7(a) and 7(b) of the BR3 of Canada.

91. The BR3 includes detailed information on the financial support provided through multilateral, bilateral and regional channels in 2015 and 2016. More specifically, Canada contributed through multilateral channels, as reported in the BR3 and in CTF table 7(a), USD 111.77 and 242.68 million for 2015 and 2016, respectively. The contributions, in order of size, were made to the Green Climate Fund, the International Development Association (World Bank), the GEF, the Asian Development Bank, the Multilateral Fund of the Montreal Protocol, the International Fund for Agricultural Development, the African Development Bank, the Inter-American Development Bank, UNDP, and others.

92. The BR3 and CTF table 7(b) also include detailed information on the total financial support provided through bilateral channels (USD 38.61 million and 46.69 million) in 2015 and 2016, respectively.

93. Canada indicated in its NC7, referenced in the BR3, that it provided CAD 500,000 to the UNFCCC Trust Fund for Supplementary Activities. However, only CAD 250,000 was noted in CTF table 7(a) for 2015. In response to a question raised by the ERT, Canada explained that there was an error in the CTF table and that an additional CAD 250,000 should

have been reported for 2016. Canada indicated that it will resubmit the CTF tables with this correction.

94. The BR3 provides information on the types of support provided. In terms of the focus of public financial support, as reported in CTF table 7 for 2015, the shares of the total public financial support allocated for mitigation, adaptation and cross-cutting projects were 3.7, 87.0 and 9.2 per cent, respectively. In addition, 74.3 per cent of the total public financial support was allocated through multilateral channels and 25.6 per cent through bilateral, regional and other channels. In 2016, the shares of total public financial support allocated for mitigation, adaptation and cross-cutting projects were 5.2, 24.0 and 70.8 per cent, respectively. Furthermore, 83.9 per cent of the total public financial support was allocated through multilateral channels and 16.1 per cent through bilateral, regional and other channels.

95. However, the ERT noted that in the NC7, referenced in the BR3, Canada reported overall shares of mitigation public climate finance of 42 per cent, adaptation public climate finance of 54 per cent, and cross-cutting public–private finance of 4 per cent. During the review, Canada clarified that the discrepancies in these figures and the shares reported in the CTF tables are due to the fact that Canada assumed a 50 per cent allocation of funding to the Green Climate Fund to mitigation, and 50 per cent to adaptation, as per the Green Climate Fund's goals, whereas in the CTF tables this appears as cross-cutting. Other smaller amounts of funding were labelled as cross-cutting in the CTF tables but as mitigation and adaptation by Canada when calculating these shares. Canada did not include in these calculations the CAD 273 million provided by EDC. It is unclear whether this funding is oriented more towards mitigation; the ERT noted that the breakdown of this funding was not provided by the Party. During the review, Canada explained that the breakdown was not provided because of the private sector nature of the funding destination, and indicated there were confidentiality restrictions with this information.

96. The ERT noted that in 2015 and 2016 a majority of financial contributions made through multilateral channels was allocated to cross-cutting activities across mitigation and adaptation in various sectors, as reported in CTF table 7(a). The ERT also noted that in 2015 and 2016 the majorities of bilateral projects supported were in the agriculture sector or related to disaster preparedness and relief, and reconstruction relief and rehabilitation, mostly for adaptation, with some investments also in mitigation projects in agriculture and energy.

97. CTF tables 7(a) and 7(b) include information on the types of financial instrument used in the provision of assistance to developing countries. The ERT noted that the grants provided in 2015 and 2016 accounted for 100 per cent of the total public financial support reported by Canada in the CTF tables. Nonetheless, Canada reports in the BR3 overall funding of CAD 273 million from EDC; if this funding is in the form of export credits and other non-concessional finance, then the share of grants for public finance support is about 68 per cent. In response to a question by the ERT, Canada indicated that owing to confidentiality constraints it was not able to report this finance at a granular level and it was therefore not included in the CTF tables.

98. In the BR3, Canada clarified that private finance is mainly mobilized through: (1) funding from EDC for sectors such as clean energy; (2) the Green Climate Fund; and (3) Canadian facilities at multilateral development banks, particularly the Canadian Climate Fund for the Private Sector in the Americas at the Inter-American Development Bank, the Canadian Climate Change Program at the International Financial Corporation, and the Canadian Climate Fund for the Private Sector in Asia at the Asian Development Bank. These facilities are designed to lower the risk for private investments in clean energy and climate resilience, with public concessional finance taking a higher risk. Canada reports that the funding to these facilities, provided in the 2013–2014 period, together with another USD 2.56 billion in co-financing from other public sources, has resulted in approximately USD 1.7 billion in private finance, USD 234 million of which can be directly attributed to Canadian support.

99. Canada did not report on private finance leveraged with the public funding from EDC, but it indicated during the review that EDC supports clean technology development in developing countries, in particular, areas such as water treatment, energy-efficient lighting,

waste-to-energy schemes, alternative energy transportation, renewable energy generation, smart-grid infrastructure and energy efficiency.

100. Canada has announced a CAD 200 million contribution to the Asian Development Bank to catalyse private investment in developing countries in Asia and the Pacific. It has also indicated that it will provide CAD 50 million to the Group of Seven Initiative on Climate Risk Insurance to improve the capacity of communities and the private sector to better prepare and respond to extreme weather events. Canada also announced the creation of a new Development Finance Institution in 2018 with an initial capitalization of CAD 300 million, which is intended to partner with small and medium-sized enterprises from the private sector. During the review, Canada reported that climate change mitigation and adaptation, job creation and gender equality would be the three priorities of this institution. It will deliver concessional loans and equity, and sub-Saharan Africa will be its target region.

101. Furthermore, Canada reported on funding announcements, including: CAD 200 million for the Asian Development Bank to catalyse private sector investments; CAD 122 million for bilateral adaptation and mitigation projects in Burkina Faso, Haiti, Morocco, Senegal, South Africa and Viet Nam, as well as in countries in Latin America and the Caribbean; CAD 5 million for the UNFCCC Capacity-building Initiative for Transparency; CAD 3 million for the World Bank Transformative Carbon Asset Facility; and CAD 2 million for the National Adaptation Plans Global Network for climate capacity-building.

102. In addition to the above, Canada highlighted its involvement in the CTCN and the Private Financing Advisory Network of the United Nations Industrial Development Organization to promote the mobilization of private resources in climate finance.

103. Canada reported on the difficulty in collecting information and reporting on private financial flows leveraged by bilateral climate finance for mitigation and adaptation activities in non-Annex I Parties, which is due to the lack of information on initiatives undertaken directly by the private sector and to confidentiality constraints on the transactions of EDC with the private sector.

104. In general, the ERT considers that Canada showed progress in its tracking of climate finance, informed by international discussions, particularly at OECD on methodologies for tracking financial support and aligning with best reporting practices; for instance, reporting by calendar year, which Canada has done as of 2015. Canada has successfully calculated pro rata shares of leveraged private finance through special Canadian facilities at multilateral development banks, although it faces challenges with tracking leveraged private finance from EDC funding.

105. Canada reported on progress on delivering the CAD 2.65 billion commitment and road map to USD 100 billion from developed countries by 2020. This commitment started being delivered in 2016. Canada highlights a USD 126.75 million (CAD 168 million) contribution to the Green Climate Fund in 2016 as part of the CAD 300 million pledge to the Green Climate Fund. Canada accounts CAD 18.45 million of contributions to the GEF as funding coming from the CAD 2.65 billion commitment, out of a total contribution of CAD 233.09 million for the sixth replenishment of the GEF (2014–2018).

106. In the NC7 (figure 7.1), referenced in the BR3, Canada indicated that it has delivered CAD 625 million in public finance in 2015 and 2016. However, the ERT noted that this figure includes funding from EDC, which is not reflected in the CTF tables, and it does not include core contributions to multilateral development banks noted in the CTF tables according to imputed climate shares following OECD statistics. The total public finance in the CTF tables is USD 439.75 million (CAD 575.87 million). In response to a question raised by the ERT, Canada indicated that it does not count core contributions to multilateral development banks as climate finance or as part of the CAD 2.65 billion pledge of climate finance for the period 2016–2021, and that only CAD 18.45 million of core contributions to the GEF, compared with the CAD 38.33 million reported in CTF tables, is counted as part of the CAD 2.65 billion.

(b) Assessment of adherence to the reporting guidelines

107. The ERT assessed the information reported in the BR3 of Canada and identified issues relating to completeness, transparency and adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 15.

Table 15
Findings on financial resources from the review of the third biennial report of Canada

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 18	The ERT identified a number of inconsistencies between the data presented in a textual format and the data presented in the CTF tables regarding the annual financial support that Canada has provided for the purpose of assisting non-Annex I Parties.
	Issue type: transparency	During the review Canada, provided relevant explanations for the observed differences.
	Assessment: recommendation	The ERT recommends that Canada improve the consistency of the textual information presented in the BR and the information presented in the CTF tables to enhance transparency of the reported information and facilitate overall aggregation and comparability.
2	Reporting requirement specified in paragraph 19	In its BR3, Canada reported data on private financial flows leveraged by climate finance invested by Canada in Canadian facilities at multilateral development banks. Canada estimated that USD 234 million of private finance has been leveraged from Canadian investment of USD 453 million in these facilities. The Party also reported CAD 273 million provided by EDC for enhancing clean technology deployment in developing countries. However, Canada did not provide figures for private investment spurred through these public lines of credit.
	Issue type: completeness	
	Assessment: encouragement	During the review, Canada indicated that it did not have access to the figures for private investment leveraged trough export credits from EDC.
		The ERT encourages Canada to report in its next submission, to the extent possible, on private investment leveraged by finance from EDC, as well as from the new Development Finance Institution, which aims to enable partnerships with small and medium-sized private enterprises and which becomes operational in early 2018.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

3. Technology development and transfer

(a) Technical assessment of the reported information

108. Canada provided information on steps, measures and activities related to technology transfer, access and deployment benefiting developing countries undertaken by the public sector and public–private partnerships. Canada provided examples of support provided for the deployment and enhancement of the endogenous capacities of non-Annex I Parties.

109. Canada reported information on technology transfer activities undertaken in the 2015 and 2016 calendar years in CTF table 8, reporting several public and public and private interventions. In response to a question raised by the ERT, Canada indicated that it was not able to obtain information for privately financed technology transfer activities because the country does not track purely private sector transactions in developing countries.

110. The ERT took note of the information provided in CTF table 8 on recipient countries, target areas, measures and focus sectors of technology transfer programmes. Canada has focused its activities on technology development and transfer in the areas of adaptation, business development, clean energy management, smart grids, fugitive emission reductions, and forestry and land-use management. Several programmes focused on training and dissemination of tools developed in Canada for clean energy and forestry, technology

exchange for CH_4 emission reductions in the oil and gas sector, and support of global initiatives such as the CTCN, Private Financing Advisory Network and Global Observation of Forest Cover and Landcover Dynamics.

111. The ERT noted that Canada reported on its PaMs as well as success and failure stories in relation to technology transfer, and in particular on measures taken to promote, facilitate and finance the transfer and deployment of climate-friendly technologies.

112. Canada highlighted RETScreen as one of its most successful examples of technology transfer. RETScreen is a clean energy management software managed and maintained by Natural Resources Canada and used for energy efficiency, renewable energy and cogeneration project feasibility analysis. Natural Resources Canada has developed detailed training materials for the software, which is available free of charge in 36 languages. It has more than 525,000 users worldwide. Canada estimated that emission reductions of around 20 million CO_2 eq annually have been delivered by the projects designed with this software. The Party reported several training activities in 2015 and 2016, such as webinars and in-person workshops for countries in Western Africa and Latin America.

113. Through the national designated entity at Natural Resources Canada, Canada has encouraged Canadian private sector and non-governmental organizations to become members of the CTCN. In response to a question raised by the ERT, Canada indicated that the Government has reached out to more than 400 organizations to promote the CTCN through delivering presentations at conferences and key events, engaging directly with companies and organizations, and informing Canada's trade commissioners about the CTCN. There are 24 Canadian members of the Network, 17 of them private sector companies, 4 not-for profit organizations and 2 academic institutions. In CTF table 8, Canada reported seven webinars with private sector partners in 2015 and 2016 through the CTCN, covering RETScreen, energy efficiency and risk mapping, mitigation technologies for small farmers, and utility demand-side energy management programmes. The Canadian firms Econoler, Island Water Technologies Inc., Design+Environment and Ecoaction Innovative Solutions Inc., in collaboration with Natural Resources Canada, delivered these webinars.

114. Canada also highlighted a project of IDRC and the Private Financing Advisory Network (currently hosted by the United Nations Industrial Development Organization and the Renewable Energy and Energy Efficiency Partnership). This project assessed barriers to private investment in adaptation, and built investor capacity to better understand and manage the risks implicit in adaptation projects. The project also created a pipeline of bankable projects that have the potential to attract private sector financing. Through an investor forum (on business plan competition) this initiative secured private finance for a number of recipients, particularly small and medium-sized enterprises looking for equity investment. The recipients included African Bamboo, which produces bamboo floors in Ethiopia and provides adaptation benefits (e.g. providing livelihoods to communities, and soil and water conservation), and Classic Foods in Kenya, which helps farmers implement sustainable farming practices and improve farm economics. IDRC also supports a network of 'B Corporations' in Latin America to accelerate the impact of these companies in implementing innovations related to climate change.

115. Furthermore, Canada highlighted technology transfer and support for the Carbon Budget Model of the Canadian Forest Sector, through which Mexico was one of the beneficiaries. Under this model, methods were developed to integrate data from the United States of America and Mexico into Canadian carbon models to support analyses of mitigation options in all three countries. In the forest sector, an example of an important technology collaboration with developing countries is the installation of fire danger rating systems in Armenia and Georgia and in Mexico, as part of the Global Fire Early Warning System operated by Canada, and the use of the Canadian Fire Weather Index by Chile as a tool to prevent and manage wildfires.

116. Overall, Canada reported 10 technology development and transfer projects and initiatives implemented in 2015 and 2016, 5 of which were public and private, and 5 were purely public.

117. During the review, Canada highlighted some domestic technology development programmes that have international elements, including in developing countries. Specifically, the Clean Growth Hub, which is being established within Innovation Canada and which will help clean technology proponents connect with international markets through a single information hub. Funding for EDC is being mobilized to help the growth and expansion of Canadian clean technology firms through exports.

(b) Assessment of adherence to the reporting guidelines

118. The ERT assessed the information reported in the BR3 of Canada and identified an issue relating to completeness and adherence to the UNFCCC reporting guidelines on BRs. The finding is described in table 16.

Table 16
Findings on technology development and transfer from the review of the third biennial report of Canada

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 22 Issue type: completeness Assessment: recommendation	In its BR3, Canada reported information on measures and activities related to technology transfer implemented or planned since its last NC or BR, and provided information on the recipient country, the target area of mitigation or adaptation, the sector involved, and the sources of technology transfer from the public and private sectors. Canada also indicated that it has established Canadian facilities at multilateral development banks; however, the ERT noted that the Party did not list the projects by Canadian facilities at these banks in CTF table 8. Information about some of these projects is available on the international climate finance pages of the Government of Canada website, which is referred to in the BR3. In response to a question raised by the ERT, Canada indicated that it does not list the projects financed through these facilities because the funds disbursed to them were reported in the BR2, and the subsequent development of projects through them is managed by the multilateral development banks. The ERT acknowledges that it would be incorrect to list these projects in CTF table 7(b) corresponding to projects supported by bilateral climate finance because this would represent double counting with finance reported for the BR2. The ERT recommends that in its next submission Canada report, to the extent possible, detailed information on projects by Canadian facilities at multilateral development banks in CTF table 8, in accordance with the requirements of paragraph 22 of the BR reporting guidelines.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

4. Capacity-building

(a) Technical assessment of the reported information

119. In the BR3 and CTF table 9 Canada supplied information on how it has provided capacity-building support for mitigation, adaptation and technology that responds to the existing and emerging needs identified by non-Annex I Parties. Canada described individual measures and activities related to capacity-building support in textual and tabular format. Examples include: training programmes and dissemination of RETScreen, the Canadian-developed clean energy management software, provided through the Clean Energy Ministerial's Clean Energy Solutions Center; the Heavy Oil Working Group, a forum to discuss and exchange information and best practices in mitigation of CH_4 emissions a workshop on "Carbon capture, utilization and storage", and visits to facilities in Saskatchewan and Alberta in 2016 with a delegation from Mexico; and capacity-building on the Carbon Budget Model of the Canadian Forest Sector, which informs forest mitigation activities.

120. Canada reported that it has supported climate-related capacity development activities relating to adaptation finance, water management, mitigation of fugitive oil and gas emissions, clean energy, forest monitoring and restoration, carbon pricing, and carbon capture utilization and storage. Canada also reported that it has responded to the existing and emerging capacity-building needs of non-Annex I Parties by fostering climate leadership in developing countries, particularly in Africa, Asia and Latin America, through five leadership academic programmes led by IDRC and focusing on water, cities, resilience and adaptation finance.

121. In response to a question raised by the ERT, Canada indicated that it supports needs identified by developing countries through demand-driven support mechanisms, such as the CTCN and the GEF, and through participation in global partnerships, such as the Mission Innovation initiative and the Clean Energy Solutions Center of the Clean Energy Ministerial, the Carbon Sequestration Leadership Forum, the Global Partnership on Forest and Landscape Restoration and the International Model Forest Network.

122. Canada provided information on the provision of capacity-building support in CTF table 9. In addition, numerous projects reported for technology development and transfer in CTF table 8 have a capacity-building component, such as the RETScreen clean energy management software, the CTCN, a North American workshop on reducing CH_4 emissions, and the Global Fire Early Warning System. In response to a question raised by the ERT, Canada indicated that it responds to existing and emerging needs identified by non-Annex I Parties by being an active participant in the CTCN, where requests are driven by developing countries and stem from developing countries' technology needs assessments.

123. Canada's reporting on capacity-building in the BR3 focused on the dissemination of training and software and tools developed by Canada, adaptation capacity-building through training and education, and forest sector modelling and collaboration through global and regional platforms. In total, 15 initiatives were reported.

(b) Assessment of adherence to the reporting guidelines

124. The ERT assessed the information reported in the BR3 of Canada and recognized that the reporting is complete, transparent and adhering to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

III. Conclusions and recommendations

125. The ERT conducted a technical review of the information reported in the BR3 and CTF tables of Canada in accordance with the UNFCCC reporting guidelines on BRs. The ERT concludes that the reported information mostly adheres to the UNFCCC reporting guidelines on BRs and provides an overview of emissions and removals related to the Party's quantified economy-wide emission reduction target; progress made by Canada in achieving its target; and the Party's provision of support to developing country Parties.

126. Canada's total GHG emissions excluding LULUCF covered by its quantified economy-wide emission reduction target were estimated to be 18.1 per cent above its 1990 level, whereas total GHG emissions including LULUCF were 34.5 per cent above its 1990 level in 2015. Emission increases were driven by geographic, demographic and economic circumstances, which make Canada a heavy energy user. The large distances between metropolitan areas and the low population density lead to high emissions from the transport sector.

127. Under the Convention, Canada committed itself to achieving a quantified economy-wide emission reduction target of 17.0 per cent below the 2005 level by 2020. The target covers CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3, expressed using global warming potential values from the AR4 and covers all sources and sectors included in the annual GHG inventory. Although emissions and removals from the LULUCF sector are not included in the calculation of the target (i.e. this is done on the basis of national totals excluding LULUCF),

any progress in reducing emissions or increasing removals in the LULUCF sector will be included in the accounting of progress towards achieving the target. As indicated in the BR3, Canada confirmed that work continues on refining LULUCF estimates to better focus on anthropogenic emissions and removals as a basis for improved reporting and accounting for LULUCF. As this work is still under way, only historical inventory estimates were provided. Canada also reported that it has not yet made a decision on the use of market-based mechanisms to achieve its target. In absolute terms, this means that under the Convention, Canada has to reduce emissions from 738,263.70 kt CO_2 eq (in the base year) to 612,758.84 kt CO_2 eq by 2020.

128. The key overarching cross-sectoral policy reported by Canada is the PCF. While some measures associated with this policy have been implemented, many are still under development. The current federal measures in place that are expected to deliver the highest mitigation impact for 2020 are: the light-duty vehicle GHG regulations phase 1, the federal Energy Efficient Equipment and Appliances Programme, the regulations to address CH_4 in the oil and gas sector, and the federal renewable fuels regulations. These four measures are expected to have a mitigation impact by 2020 of 11,900, 4,100, 4,000 and 4,000 kt CO_2 eq, respectively. In addition, some implemented measures are expected to have a significant mitigation impact in 2030. These include regulations to address CH_4 in the oil and gas sector (20,000 kt CO_2 eq), the federal Energy Efficient Equipment and Appliances Program (10,400 kt CO_2 eq), the federal energy efficient buildings initiatives (11,000 kt CO_2 eq) and regulations for HFCs (9,000 kt CO_2 eq). Other measures that have not yet been quantified are also expected to have a significant mitigation impact in 2030, including the pan-Canadian carbon price and the Clean Fuel Standard.

129. At the provincial and territorial level, the implemented measures with the highest mitigation effect are: the British Columbia carbon tax, the Alberta specified gas emitters regulation (which has been replaced by the Alberta carbon competitiveness regulation), the Ontario natural gas demand-side management programmes, the Ontario Feed-In Tariff Program and the Large Renewable Procurement (both of which sunsetted in 2016), the Nova Scotia electricity sector regulations, the Newfoundland and Labrador Lower Churchill Project (Muskrat Falls), and the Alberta directive 060 on upstream petroleum industry flaring, incinerating and venting.

130. Canada did not report on the contribution of LULUCF and use of market-based mechanisms towards the achievement of its target. While Canada has not yet decided on its use of market-based mechanisms, it did not report on the contribution of LULUCF owing to ongoing work on the development of the accounting methodology for LULUCF. Therefore, it is currently not possible for the ERT to assess Canada's use of units from market-based mechanisms and LULUCF towards the achievement of its target.

131. The GHG emission projections provided by Canada in the BR3 correspond to the WEM and WAM scenarios. Under these scenarios, emissions are projected to be 19.3 and 13.0 per cent above the 1990 level by 2020, respectively. On the basis of the reported information, the ERT concludes that Canada will face significant challenges in achieving its 2020 target under the WEM and WAM scenarios.

132. The ERT noted that Canada faces challenges in making progress towards its emission reduction target by implementing mitigation actions that deliver significant emission reductions.

133. Canada continues to provide climate financing to developing countries in line with its climate finance announcements, such as the CAD 2.65 billion commitment announced to ramp up climate finance to CAD 800 million per year in 2020. It has reported an increase in its contributions of 21 per cent since the BR2, although the figures are not strictly comparable; its public financial support in 2015 and 2016 totalled USD 150.38 million and USD 298.37 million per year, respectively. For those years, Canada provided less support for mitigation than for adaptation through bilateral cooperation, although funding from EDC was not divided between adaptation and mitigation. The biggest share of bilateral financial support went to projects in the agriculture sector, followed by projects related to disaster prevention, preparedness, relief, reconstruction and rehabilitation. With respect to technology

development and transfer to developing countries, Canada highlighted several successful experiences related to energy planning management software, fostering of technology transfer through the CTCN, adaptation technology support, and forest mitigation modelling and forest fire monitoring. In terms of capacity-building support, Canada reported participation in multiple international initiatives and partnerships, particularly in the areas of clean energy, carbon dioxide capture, utilization and storage, oil and gas mitigation, and forestry.

134. In the course of the review, the ERT formulated the following recommendations for Canada to improve its adherence to the UNFCCC reporting guidelines on BRs in its next BR submission:[9]

(a) To improve the completeness of its reporting by:

(i) Including information on the use of market-based mechanisms or a transparent explanation for not reporting this information, using a custom footnote or notation key in the CTF tables (see issue 1 in table 3);

(ii) Reporting the mitigation effects for all the mitigation actions reported in CTF table 3, to the extent possible (see issue 1 in table 5);

(iii) Reporting information on emissions or removals from the LULUCF sector and the accounting approach to be used when reporting on progress towards the 2020 target (see issue 1 in table 7);

(iv) Reporting information on the use of units from market-based mechanisms to achieve the 2020 target (see issue 2 in table 7);

(v) Providing projected emissions for the LULUCF sector for 2020 or 2030 (see issue 1 in table 11);

(vi) Listing in CTF table 8, to the extent possible, the projects by Canadian facilities at multilateral development banks, including provision of support for technology development and transfer, and noting whether the projects have a technology transfer and development component and whether they have taken place in the years since the last reporting period of the BR (see issue 1 in table 16).

(b) To improve the transparency of its reporting by:

(i) Including information on the "new and additional" financial support provided, including the level of support (in numbers) that was planned prior to the Copenhagen Accord (see issue 1 in table 12);

(ii) Including information on the delivery mechanisms of finance used and allocation channels tracked, particularly for bilateral finance (see issue 2 in table 12);

(iii) Improving the consistency of the textual information presented in the BR and the information presented in the CTF tables (see issue 1 in table 15).

[9] The recommendations are given in full in the relevant chapters of this report.

Annex

Documents and information used during the review

A. Reference documents

2017 GHG inventory submission of Canada. Available at http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/10116.php.

BR3 of Canada. Available at http://unfccc.int/files/national_reports/national_communications_and_biennial_reports/application/pdf/4623051_canada-br3-nc7-1-5108_eccc_can7thncomm3rdbi-report_en_04_web.pdf.

BR3 CTF tables of Canada. Available at http://unfccc.int/national_reports/biennial_reports_and_iar/biennial_reports_data_interface/items/10132.php.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories". Annex to decision 24/CP.19. Available at http://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications". FCCC/CP/1999/7. Available at http://unfccc.int/resource/docs/cop5/07.pdf.

"Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention". Annex to decision 13/CP.20. Available at http://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf.

NC7 of Canada. Available at http://unfccc.int/files/national_reports/national_communications_and_biennial_reports/application/pdf/4623051_canada-br3-nc7-1-5108_eccc_can7thncomm3rdbi-report_en_04_web.pdf.

Report on the individual review of the annual submission of Canada submitted in 2017. FCCC/ARR/2018/CAN. Available at http://unfccc.int/resource/docs/2018/arr/can.pdf.

Report of the technical review of the second biennial report of Canada. FCCC/TRR.2/CAN. Available at http://unfccc.int/resource/docs/2016/trr/can.pdf.

Report on the technical review of the sixth national communication of Canada. FCCC/IDR.6/CAN. Available at http://unfccc.int/resource/docs/2015/idr/can06.pdf.

"UNFCCC biennial reporting guidelines for developed country Parties". Annex I to decision 2/CP.17. Available at http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf.

B. Additional information provided by the Party

Responses to questions during the review were received from Ms. Hilary Hove (ECCC), including additional material. The following document[10] was provided by Canada:

International Finance Corporation's definitions and metrics for climate-related activities. Available at https://www.ifc.org/wps/wcm/connect/8ea3b242-c6bb-4132-82b1-ee4bd7007567/IFC+Climate+Definitions+v3.1+.pdf?MOD=AJPERES.

[1] Reproduced as received from the Party.