

Session SBI42 (2015)

Session started at 01-03-2015 00:00:00 [GMT+1]

Session closed at 29-5-2015 23:59:59 [GMT+1]



A compilation of questions to - Canada
1 June 2015 by the
UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

Answers received from Canada on 1 June 2015 by email.

Question by China at Wednesday, 01 April 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: mitigation effects of PaMs

What are the mitigation effects of additional PaMs? Since they were not assessed in the report, it is strongly recommended that the next BR should include detailed and clear description on this issue.

Answered by: Canada at Monday, 1 June 2015

Additional, planned measures are currently under development and as such it is not yet possible to quantify their mitigation effects. In the case of federal regulations, requirements are developed in accordance with Canada's regulatory development process. This includes consultations with provinces and territories, industry, non-governmental organizations and the public. All regulations are published with an assessment of their costs and benefits, including mitigation effects.

Question by Brazil at Wednesday, 01 April 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Mitigation actions

Regarding Table 3, does Canada plans to estimate the impact of mitigation actions that have not being estimated (NE)? If not, what are the main reasons? If possible, give the explanation by mitigation action or by cluster/sector.

Answered by: Canada at Monday, 1 June 2015

While policies and measures in the planning stages were included in Table 3 of Canada's Biennial Report, emissions reductions for some of these measures were not available at the time of publication. Similarly, emissions reductions may not be available for supporting measures in cases where emissions reductions are not the primary objective of the initiative. Several policies and measures that are listed as NE in Table 3 are those of sub-national governments.

Emissions estimates for individual measures presented in Table 3 cannot be directly linked to integrated emission projections in Table 6a of the Biennial Report given the interactive effects that may occur between federal and provincial measures. In addition, the integrated emissions projections only account for measures that have been fully-funded, legislated or where sufficiently detailed data exists that make them possible to add to the modeling platform. Once this information is available,

policies and measures are quantified and incorporated into the integrated projections. Updated estimates will be provided in Canada's next Biennial Report submission to the UNFCCC. Canada is also currently awaiting more information from sub-national governments on planned future mitigation actions within their jurisdictions and will include this information in future estimates.

Question by Saudi Arabia at Tuesday, 31 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: The assessment of the economic and social consequences of response measures

Did Canada encounter difficulty in reporting on its assessment of the economic and Social consequences of response measures in the BR and the National Communication? Will Canada be providing information on this assessment in the next BR?

Answered by: Canada at Monday, 1 June 2015

As indicated in decision 2/CP.17, the multilateral assessment is focused on quantified economy-wide emission reduction targets, and as such this question is outside the scope of this process.

For more information on Canada's support for developing countries, please see Section 6 of Canada's First Biennial Report.

Question by Sweden at Tuesday, 31 March 2015

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Oil sands extraction

The majority of emissions from Canada's oil and gas sector stem from oil sands extraction. While a large number of policy measures have been implemented in other sectors of the economy, but the focus on oil sands extraction is low. Projected emissions for 2030 assume that no further government policies are introduced and also assume constant emission intensities of oil sands extraction. As a result, crude oil production from oil sands is expected to double until 2030, resulting in significantly emission increases from oil sands extraction.

Question: Could Canada please elaborate on envisaged policies for reducing emissions from oil sands extraction?

Answered by: Canada at Monday, 1 June 2015

The Government of Canada is taking a sector-by-sector regulatory approach to reducing GHG emissions. On May 15, 2015, the Government of Canada announced its intention to develop new regulations, including regulations to reduce emissions of methane, a potent GHG, from the oil and gas sector. Given the integration of the Canadian and American energy sectors, regulatory action in this area would be aligned with recently proposed actions in the United States to ensure Canadian companies remain competitive within the North American marketplace. Canada will also focus climate-related investments in innovative technologies to drive further improvements in environmental performance in the oil sands and other growing sectors.

Since 2007, the Province of Alberta has also had regulations in place to reduce GHG emissions from industrial facilities, including oil sands extraction.

Question by Brazil at Tuesday, 31 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Level of ambition

Since 2005, total Canadian GHG emissions have decreased by 35.7 Mt (4.8%), but if the emissions related to 2011 are compared to the emissions in 1990, they have increased by 33%. Emission reduction target is 17% below 2005 by 2020. If the target is compared to 1990, there will be an emissions increase of 25%. Considering the low level of ambition presented until now, does Canada intend to change the target in order to increase the level of ambition?

Answered by: Canada at Monday, 1 June 2015

Canada's target of reducing greenhouse gas emissions by 17 per cent below 2005 levels by 2020 is an ambitious target.

Question by Brazil at Tuesday, 31 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Emission reduction target

Emission reduction target is 17% below 2005 by 2020. However, based in Table 6 (a) "Information on updated greenhouse gas projections Under a 'With Measures' Scenario", the GHG emission reduction, considering the total with LULUCF contribution, is only 0.4%. Please explain possible actions being taken in order to close this gap between the target and projections. How is Canada planning to

achieve the referred target of 17% (Additional policies and measures, KP mechanisms or account for other LULUCF activities not included up to now)?

Answered by: Canada at Monday, 1 June 2015

The Government of Canada is implementing a sector-by-sector regulatory approach to reduce greenhouse gas emissions. Canada has regulated two of the largest sources of emissions in the country, the transportation and the electricity generation sectors. Moreover, since the time of publication of Canada's Biennial Report, the Government of Canada has continued to advance new measures to address greenhouse gas emissions.

The transportation sector has been a key area of focus as it generates nearly one-quarter of Canada's greenhouse gas emissions. Canada has worked collaboratively with the U.S. to develop common North American standards to address greenhouse gas emissions from vehicles. In 2014, final regulations limiting emissions from cars and light trucks model years 2017 and beyond were released, building on the final regulations already in place for model years 2011-2016. As a result of these regulations, it is projected that the average greenhouse gas emissions from 2025 vehicles will be reduced by about 50% from those sold in 2008.

With regards to heavy-duty vehicles, in 2014 the Government of Canada announced that it intends to develop more stringent standards to further reduce GHG emissions and fuel consumption from post-2018 model year heavy-duty vehicles and engines, building on existing regulations for the 2014 to 2018 model years. As a result of the existing regulations, GHG emissions from 2018 model-year heavy-duty vehicles will be reduced by up to 23 per cent. In addition to emissions standards for vehicles, Canada has also regulated renewable content in the fuel supply. As a result, gasoline is required to contain an average five per cent renewable content and most diesel fuel is required to have an average two per cent renewable content.

Canada has also taken action to increase clean-electricity generation Canada's share of non-emitting electricity increased from 75% in 2005 to nearly 80% in 2012.

Canada has introduced stringent coal-fired electricity standards, making it the first major coal user to ban construction of traditional coal fired electricity generation units. These regulations will also lead to the phase out of existing coal-fired electricity generation units without carbon capture and storage. In the first 21 years, these regulations are expected to result in a cumulative reduction in greenhouse gas emissions equivalent to removing roughly 2.6 million personal vehicles from the road per year.

Building on these measures, Canada is continuing to develop new regulations to address other key sources of emissions. For example, in December 2014, Canada announced its intention to regulate hydrofluorocarbons (HFCs). Regulating HFCs will enable Canada to reduce and limit these potent greenhouse gas emissions which, if

left unregulated, are expected to increase substantially in the next 10 to 15 years. In addition, Canada is taking steps to reduce global HFC consumption. In partnership with Mexico and the United States, Canada is advancing a proposal to amend the Montreal Protocol to include a phase-down of HFCs. The amendment would gradually reduce the consumption and production of HFCs and control by-product emissions of HFCs globally.

As part of submitting its intended nationally determined contribution under a new international climate change agreement, on May 15, 2015, the Government of Canada announced its intent to move forward with a number of additional regulatory proposals. These include proposed regulations for the natural gas fired electricity, chemicals and nitrogen fertilizers sectors, as well as regulations to address methane emissions from the oil and gas sector.

Provinces and territories are also undertaking action to reduce emissions, and each has established their own policies and measures based on its unique circumstances. Please refer to Table 3 in Canada's 1st Biennial Report and Chapter 4, section 4.5 of Canada's 6th National Communication for more information on provincial and territorial climate change policies and measures that are contributing to Canada's 2020 target.

Since the time of publication of Canada's Biennial Report some provinces and territories have moved forward with new commitments. For example, on April 13, 2015 the Province of Ontario announced that it will reduce its greenhouse gas emissions by 37 per cent below 1990 levels by 2030, a reduction which represents 42% of the amount by which Canada's 2030 target is lower than our 2005 base year.

Question by United States of America at Tuesday, 31 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Descriptions of Policies and Measures

The Expert Review Team noted that Canada's NC6 does not include some information required by the UNFCCC reporting guidelines on National Communications, specifically textual descriptions of the principal federal policies and measures for the waste or agriculture sectors, and recommended that Canada provide, as applicable, descriptions of the principal federal policies and measures in the agriculture and the waste sectors. Could Canada briefly describe these policies and measures?

Answered by: Canada at Monday, 1 June 2015

Agriculture

In Canada, agriculture is a shared jurisdiction. Policy frameworks negotiated and agreed to by federal, provincial and territorial (FPT) Ministers of agriculture outline broad objectives and serve as the foundation for agricultural programs and services. Growing Forward 2 (GF2) is Canada's current agriculture policy framework. It covers a five-year period (2013-2018) with a focus on innovation, competitiveness, and market development. GF2 is a \$3 billion investment by FPT governments for strategic initiatives in priority areas to advance environmentally sustainable agriculture in Canada, some of which generate climate change mitigation benefits. The Environmental Farm Plan (EFP) and Environmental Stewardship Incentive Programs support on-farm actions by providing producers with technical assistance and guides to assess and identify environmental risk on their farms. EFPs include an action plan that identifies risks and risk mitigation actions or beneficial management practices (BMPs) to improve the environmental performance of farms. Producers with a completed EFP are eligible for cost-share incentives ranging from 30% to as much as 90% of adoption costs depending on the province and specific BMP being applied for. Supported BMPs with climate change mitigation benefits include improved manure storage, biodigesters, restoration and protection of riparian areas and wetlands, soil erosion controls, and enhanced irrigation efficiency.

The Agricultural Greenhouse Gases Program (AGGP) provides \$27 million to support research to enhance the understanding and accessibility of agricultural technologies, BMPs and processes that can be adopted by farmers to mitigate GHG emissions. The AGGP has funded projects in four priority areas: livestock systems, cropping systems, agricultural water use efficiency, and agroforestry. The Federal-only AgriInnovation Program also provides \$698 million for industry-led research through Agri-Science clusters to accelerate the pace of innovation and enhance economic growth, productivity, competitiveness, adaptability and sustainability of the Canadian agriculture sector.

Waste

Responsibility for waste management in Canada is shared among FPT and municipal governments. FPT governments collaborate on improving waste management through the Canadian Council of Ministers of the Environment (CCME). The federal government is a participant in CCME activities, and contributed to the preparation of a 2014 [report](#) outlining the status of waste management in Canada. This report led to the adoption by all federal, provincial and territorial Ministers of the Environment of a shared vision and Action Plan to improve Canada's record on waste management by: improving Canada's recycling rates and reducing the amount of waste generated; developing tools and resources for environmentally-sound waste management in Canada; changing producer and consumer behaviour; and, addressing challenges in northern and remote communities to improve waste practices. The Government of Canada supports this Action Plan by: leading work on waste from the construction, renovation and demolition sector; participating in project teams that involve improving the diversion and management of organic wastes and wastes from the institutional and commercial sectors; and supporting the diversion of wastes and recycling of resources in northern territories.

The Government of Canada conducts and shares research on waste management best practices. Recent work includes: the Technical Document on Municipal Solid Waste Organics Processing (2013); the Technical Document for Batch Waste Incineration (2010); and the Greenhouse Gases Calculator for Waste Management (2009). The Government of Canada also works with territorial governments and key stakeholders to share information on best practices and policy initiatives from northern and remote areas, and to establish guidance for northern waste management. For instance, the Government of Canada is currently developing a technical document on municipal solid waste facilities to identify opportunities, barriers and best practices to waste management in these regions. The Government of Canada also plays an important role in data collection and management. A Waste Management Industry Survey, conducted every two years for business and government sectors, is the only national and publicly available source of waste related data across the country and is a vital source for tracking progress and waste management changes in Canada over time.

Government of Canada incentives and funding programs promote recycling, organics processing, technologies such as landfill gas capture, and help build infrastructure related to waste management. These include: the Gas Tax fund, Green Infrastructure Fund, Green Municipal Fund, ecoENERGY for Renewable Power, EcoAction Community Funding Program, and funding through Sustainable Development Technology Canada (SDTC). Further, the Government of Canada has incorporated waste management into its operational activities through the development of policies and programs, such as the Federal Sustainable Development Strategy.

Question by Brazil at Tuesday, 31 March 2015

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Emissions from “natural disturbances”

“In a spring 2012 submission to the UNFCCC, Canada stated its intent to include the LULUCF sector in its accounting of GHG emissions towards its 2020 target, noting that emissions and related removals resulting from natural disturbances would be excluded from the accounting”. Please, describe what Canada has considered “natural disturbances” and “anthropogenic emissions”.

Answered by: Canada at Monday, 1 June 2015

Canada’s National Communication (Annex 2, pg 104) states that “Canada’s work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future.” As part of its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada intends to account for the land sector using a net-

net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

Canada reported on emissions and removals from managed lands, including managed forests, in Chapter 7 of the 2013 National Inventory Report. Although estimates from managed land are intended to represent only 'anthropogenic' impacts, Canada's reported inventory estimates from managed forests include the impacts of natural disturbances, including insect infestations and areas burned by wildfire. Therefore, Canada applies accounting provisions to exclude the impact of natural disturbances.

Section 4.C of Canada's Biennial Report explains that forest fires and insect infestations are considered to be natural disturbances and to not result in anthropogenic emissions because they are "beyond control" and "not materially influenced" by Canada. These events occur each year in spite of significant and costly efforts to manage them. Section 4.C also describes how Canada's accounting for LULUCF excludes the impact of these natural disturbances and provides information on Canada's fire suppression and pest management strategies.

Question by Brazil at Tuesday, 31 March 2015

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Market based mechanisms

Under the session on "Estimates of Emission Reductions and Removals and the Use of Units from the Markets-Based Mechanisms and Land Use, Land-use Change and Forestry Activities" only LULUCF activities are considered. Please, provide details on the use of units from Markets-Based Mechanisms.

Answered by: Canada at Monday, 1 June 2015

As part of submitting its intended nationally determined contribution, Canada indicated that it may use international mechanisms toward its 2030 target, subject to robust systems that deliver real and verified emissions reductions. However, no decisions have been taken on potential approaches at this time. Canada will continue to engage in negotiations to ensure mechanisms are robust and deliver real and verified emissions reductions.

Question by Brazil at Tuesday, 31 March 2015

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Scenarios

In page 246, there is a description of progress in reducing GHG emissions measured against a “without measures” scenario. This BAU approach should not be applied to Annex I Parties. Please provide the reasons for presenting this kind of approach.

Answered by: Canada at Monday, 1 June 2015

The guidelines for developed countries’ Biennial Reports and National Communications indicate that Parties shall report a ‘with measures’ projection which encompasses currently implemented and adopted policies and measures, and may report ‘without measures’ and ‘with additional measures’ projections. Canada has chosen to report ‘with measures’ and ‘without measures’ scenarios.

Making a comparison to a “Without Measures” scenario allows for the more accurate estimation of the impacts of a policy, provided that the same macroeconomic assumptions were used in constructing both the “Without Measures” and “With Measures” scenario. This approach captures the level of effort required to meet the target, as it would take into account factors such as the expected population and economic growth.

Question by New Zealand at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Progress towards 2020 target

New Zealand notes that based on the recently published 1BR review report, Canada may face a shortfall in meeting its domestic target of -17% below 2005 levels by 2020. If this is the case, will Canada consider using international offsets to fill the gap?

Answered by: Canada at Monday, 1 June 2015

The Government of Canada is implementing a sector-by-sector approach to reduce greenhouse gas emissions. The 2020 emissions projections included in Canada’s First Biennial Report do not include the impact of future federal regulations that are currently being considered nor the impact of policies and measures being developed by provincial and territorial governments.

Question by New Zealand at Monday, 30 March 2015

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: LULUCF emissions

Natural disturbance emissions have dominated Canada's emissions profile for the LULUCF sector since 1990. The projections in the 6NC and 1BR do not include emissions from natural disturbances above a low level of background fire expected to occur every year. Does Canada have policies and measures in place to reduce the incidence of natural disturbance events or limit their impacts on greenhouse gas emissions from the LULUCF sector?

Answered by: Canada at Monday, 1 June 2015

Canada's National Communication (Annex 2, pg 104) states that "Canada's work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future." As part of its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada intends to account for the land sector using a net-net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

In terms of what was reported in Canada's Biennial Report, Section 4.C explains how the natural disturbance impacts Canada has excluded from the accounting are "beyond control" and "not materially influenced" by Canada. These events occur each year in spite of significant and costly efforts to manage them. Canada engages in ongoing efforts to prevent, manage and control natural disturbances to the extent practicable, given the vast land area involved. Fire suppression efforts are coordinated through the Provincial and Territorial Forest Fire Management Agencies, the Canadian Interagency Forest Fire Centre (www.cifffc.ca) and the use of fire information tools. A Canadian Wildland Fire Strategy (see <http://www.nrcan.gc.ca/forests/fire/13157>) helps guide fire management agencies and research to better mitigate forest fires in Canada.

To manage the impact of insect infestations, Canada uses risk analysis and an integrated pest management approach as part of the National Forest Pest Strategy, which provides a venue for sharing knowledge and expertise on pest status, pest management methods, and best practices (see <http://www.nrcan.gc.ca/forests/insects-diseases/13361>).

Canada also engages in efforts to rehabilitate land that has been subject to natural disturbance, where practicable: these efforts are governed by forest regeneration policies that exist in each province and territory.

Question by China at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: mitigation in LULUCF sector

According to the report, the projected emissions including the contribution of LULUCF by 2020 are 0.3% below the base year, while the target is 17.0% below the base year (2005). How will Canada be confident in achieving the target while lacking an estimation of mitigation effects of additional planned PaMs?

Answered by: Canada at Monday, 1 June 2015

The guidelines for developed countries' Biennial Reports and National Communications indicate that Parties shall report a 'with measures' projection which encompasses currently implemented and adopted policies and measures, and may report 'without measures' and 'with additional measures' projections. Canada has chosen to report 'with measures' and 'without measures' scenarios.

The Government of Canada is currently developing additional regulations as part of its balanced sector-by-sector regulatory approach that protects both the economy and the environment. Final decisions are yet to be taken on the regulatory design of these measures. Canada only includes final regulations in its reporting on projections.

In addition, since the publication of Canada's 1st Biennial Report and 6th National Communication, provinces and territories have announced new policies and measures, and have continued to implement measures towards their individual greenhouse gas emissions reduction targets. For example, Saskatchewan has created the world's first large scale power sector carbon capture and storage project. The Government of Canada has supported the provinces and territories with \$1.5 billion in funding to develop projects that would reduce emissions and encourage a transition to cleaner forms of electricity. Future reported emission projections will take into account these new policies and measures to the extent possible.

Question by China at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: PaMs for transportation and electricity sectors

Robust description of mitigation PaMs is presented in BR, particularly regarding transportation and electricity sectors. However, mitigation effects of other sectors, such as oil and gas and other emission-intensive sectors, are not estimated and elaborated. Mitigation in these sectors shall be equally considered and elaborated. Shall Canada provide more detailed information?

Answered by: Canada at Monday, 1 June 2015

Most of the PaMs included in Canada's Biennial Report have been implemented. The approach and/or requirements for these PaMs are in place and as such, in most cases, their mitigation impact in 2020 has been estimated. This applies to PaMs in the transportation and electricity sectors.

Canada recently announced that it intends to develop regulations for methane emissions from oil-and-gas and for the natural gas-fired electricity and chemicals and fertilizers sectors. As such, it is not yet possible to estimate the mitigation effects of these planned PaMs. Requirements are being developed in accordance with Canada's regulatory development process. As for all federal regulations, this process includes robust consultations. Once they have been finalized, regulations for these sectors will be published together with a Regulatory Impact Analysis Statement that includes an assessment of their costs and benefits, including their mitigation effects. Appropriate information will be included in Canada's future National Communications and Biennial Reports.

Question by China at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: FLRFL

The contribution of FLRFL is separately determined using the Reference Level approach. Does any inconsistency occur when integrating the FLRFL contribution with that from other sectors? Also, the Reference Level is technically corrected for estimation. As the ERT mentioned, comparing the corrected reference level values to the actual values to determine the contribution of FLRFL is concerned. Please further elaborate the methodology on Reference Level and the determination of FLRFL contribution?

Answered by: Canada at Monday, 1 June 2015

Canada's National Communication (Annex 2, pg 104) states that "Canada's work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future." As part of its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada intends to account for the land sector using a net-

net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

In terms of what was reported in Canada's National Communication and Biennial Report, Canada determined the LULUCF contribution using an accounting approach that included using a reference level approach for determining the FLRFL contribution, and then added the LULUCF contribution to the net emissions/removals from other sectors to determine progress toward its target.

Canada described its use of a reference level approach to determine the FLRFL contribution in Section 4.C (page 235) of the Biennial Report and Annex 2 to Chapter 5 of the 6th National Communication. A description and breakdown of Canada's technical correction is provided in Section 4.C (pages 236-237) of the Biennial Report. The accounted contribution from FLRFL was calculated as the difference between the technically-corrected reference level value for a year and the estimated emissions for that year.

Question by China at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: projection for LULUCF

The current emissions projection of LULUCF is solely estimated for the year of 2020. Is there any information on projections of LULUCF to increase its transparency?

Answered by: Canada at Monday, 1 June 2015

The projection of LULUCF emissions must be distinguished from the projection of the LULUCF accounting contribution.

As reflected in Table 5.18 of its 6th National Communication, Canada reported LULUCF emissions projections by subsector for various years out to 2030. As noted in the footnote to Table 5.18, estimates up to and including 2011 include natural disturbances; estimates for subsequent years are projections and exclude the impacts of natural disturbances apart from a low background level expected to occur every year (see http://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/canada_frml_en.pdf for more information on how the background level of disturbance was estimated).

As noted in the 6th National Communication (page 91), "a unique challenge in forecasting and accounting for LULUCF emissions and removals resides in addressing the effects of natural disturbances (e.g. wildfires, insect infestations such as the mountain pine beetle) that can result in significant variations in the annual emission

and removal estimates and generally cannot be predicted for future years.” This significant variation can be seen in the historical estimates in Table 5.18. The emissions projections for each LULUCF sub-sector were developed by sector experts, taking into account projected trends in activity, and then using those activity projections to produce emission projections. The models used to produce historical emission estimates for Canada’s National Inventory Report (see Annex 3.4 of the 2013 National Inventory Report) were also used to produce the emission projections. Further detail is provided in Annexes 2 and 6 of Chapter 5 of the 6th National Communication.

The LULUCF accounting contribution reflected the application of accounting approaches to emissions estimates and projections. Details of the accounting approaches used at that time are explained in Annexes 2 and 6 to Chapter 5 of the 6th National Communication and in Section 4.C of the Biennial Report. Canada’s accounting approach excludes the impacts of natural disturbances and focuses on human impacts, which in turn, helps policy makers make informed forest management decisions.

As accounting approaches for LULUCF post-2020 had not been discussed internationally at the time of preparing these reports, Canada, like other countries, did not project an accounting contribution past 2020. The projected LULUCF accounting contribution for 2020 was shown in Table 5.19 of the 6th National Communication and in Tables 2(d)II and 6a of the Biennial Report.

Question by China at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: LULUCF sector

Since emissions and removals from LULUCF are extremely critical for Canada, more detailed information regarding contributions from LULUCF shall be provided for the purpose of transparency. Can Canada provide more information on how the LULUCF contribution has been determined?

Answered by: Canada at Monday, 1 June 2015

Canada’s National Communication (Annex 2, pg 104) states that “Canada’s work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future.” As part of submitting its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada now intends to account for the land sector using a net-net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

In terms of what was reported in Canada's Biennial Report, Section 4.C outlined that Canada's approach to LULUCF accounting incorporated the UNFCCC categories of Forest Land Remaining Forest Land (FLRFL), Cropland Remaining Cropland, Forest Land converted to Other Land categories, and Land Converted to Forest Land. Detailed methodologies for how Canada estimated LULUCF emissions and removals for each of these land categories can be found in Annex 3.4 of Canada's 2013 National Inventory Report. For each, except FLRFL, the accounting contribution for 2010 and 2011 was calculated by comparing the 2005 (base year) emission estimates with the 2010 and 2011 emissions estimates. For FLRFL, a reference level approach was used: the accounting contribution was calculated by comparing the technically-corrected reference level values for 2010 and 2100 with the corresponding FLRFL estimates reported in the 2013 National Inventory Report. A similar approach was used in projecting the LULUCF accounting contribution in 2020, as described in detail in Annex 2 to Chapter 5 of the 6th National Communication.

Question by China at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: uncertainties in estimation of emission from LULUCF

Considering the large uncertainties in the accounting for emissions from LULUCF sector and the large inter-annual deviation, e.g. in WM scenario in 1990 emission/sink of LULUCF sector is -158Mt, in 1995 is +130 Mt, in 2000 is -120 Mt, in 2005 is -7Mt, in 2010 is +71Mt, and in 2020 is -128 Mt, how could Canada ensure the robustness of the data? And how would policy makers use these data for decision-making?

Answered by: Canada at Monday, 1 June 2015

Canada's accounting approach excludes the impacts of natural disturbances and focuses on human impacts, which in turn, helps policy makers make informed forest management decisions.

A distinction should be made between LULUCF emissions estimates reported in Canada's National Inventory Report and the LULUCF estimates used for accounting. As Canada notes in Chapter 7 of its 2013 National GHG Inventory Report, the Forest Land category has the largest influence on the reported LULUCF emissions and removals. That report also notes that Forest Land emissions estimates are affected by the ongoing impact of insect disturbances in managed forests in western Canada and that net emissions from Forest Land are particularly high in years when large areas of managed forests were burned by wildfire. As a consequence, interannual variability is high and the LULUCF sector fluctuates between being a net sink and a net source, depending on the net flux from managed forests.

Regarding the robustness of these emissions estimates, as explained in Chapter 7 of the 2013 Inventory Report, Canada applies a Tier 3 methodology for estimating GHG emissions and removals in its managed forests. Canada's National Forest Carbon Monitoring and Reporting System (NFCMARS) includes a model-based approach (Carbon Budget Model of the Canadian Forest Sector, CBM-CFS3) in which the conceptual approach is consistent with the IPCC guidance (2003): net anthropogenic removals or emissions are calculated over Canada's entire managed forest. Further information is available in Annex 3.4 of the 2013 National Inventory Report.

Canada's Biennial Report notes that the use of reported emission estimates for the purpose of accounting for Forest Land is challenging, given that reported estimates reflect the highly variable impacts of natural disturbances, as discussed above.

Question by China at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: LULUCF sector's contribution to achieving the target

In WM scenario, GHG emission (incl. LULUCF) of Canada in 2020 is 24% lower than level of 2005, which indicates an overachievement of the target of 17% emission reduction. However, in fact GHG emissions from all other sectors except LULUCF have been increased. Does that mean Canada will achieve its QEWERT purely by using the carbon sink from land sector?

Answered by: Canada at Monday, 1 June 2015

Similar to other countries, the contribution of Canada's LULUCF sector to achieving its emission reduction target is determined using accounting approaches applied to LULUCF emission estimates, as reported in the National Inventory (or projected, in the case of future emissions). This means that the LULUCF contribution cannot simply be determined by comparing emission estimates including LULUCF in 2020 with corresponding emission estimates in 2005, as shown in the line "Total with LULUCF" in Table 6(a) of the Biennial Report which focusses on a "With Measures" (WM) scenario. (This is because the actual 2005 values include LULUCF emissions/removals with natural disturbances but the projected 2020 values do not, so the values are not directly comparable.) Instead, the appropriate comparison that includes the LULUCF contribution to achieving the target is between the 2020 value (734 Mt CO₂e) and the 2005 value (737 Mt CO₂e) shown in the line "Total with LULUCF Contribution" in Table 6(a).

As indicated in Table 6(a), Canada's "with measures" scenario for "Total with LULUCF Contribution" included a projected 28 Mt accounting contribution from LULUCF in 2020 (Table 2(d)) shows the derivation of the contribution). The footnote to Table 6(a) explains that the "with measures" scenario reflects a 128 Mt reduction in

emissions in comparison to the “without measures” scenario in which consumers, businesses and governments had taken no action to reduce emissions since 2005.

Question by China at Monday, 30 March 2015

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: projections for inventory sectors

Emissions projection is estimated by economic sectors rather than inventory sectors. Are there any lessons learnt when projecting emissions by economic sectors?

Answered by: Canada at Monday, 1 June 2015

For the purposes of developing GHG emissions projections Canada allocates emissions to the economic sector from which the emissions originate. This reallocation takes the relevant proportion of emissions from various IPCC sub-categories to create a comprehensive emission profile for specific economic sectors. Using economic sectors allows for better understanding of the connections between economic activity and GHG emissions for the purposes of analyzing trends and potential policies.

For example, the transportation economic sector represents emissions arising from the mobility requirements of people using cars, trucks, trains aircraft and ships, and also includes the mobility service emissions from heavy-duty trucks and other commercial vehicles. However, unlike the IPCC categorization, the transportation economic sector does not contain off-road transportation emissions related to farming, mining, construction, forestry, pipelines or other industrial activities. Excluding off-road in the transportation economic sector ensures that emissions related to industrial activities do not appear as trends associated with on-road passenger and freight transportation requirements. For example, if there were any upward trend in farming or mining activity, emissions arising from the increased use of mobile farming machinery or mining trucks would be reflected in the economic sector estimates for agriculture or mining.

Another example of where it is important to split the emissions according to economic activity is in industrial electricity generation or cogeneration.

Question by China at Monday, 30 March 2015

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: market mechanisms

Is market-based mechanism included to achieve its target?

Answered by: Canada at Monday, 1 June 2015

As part of submitting its intended nationally determined contribution, Canada indicated that it may use international mechanisms toward its 2030 target, subject to robust systems that deliver real and verified emissions reductions. However, no decisions have been taken on potential approaches at this time. Canada will continue to engage in negotiations to ensure mechanisms are robust and deliver real and verified emissions reductions.

Question by China at Monday, 30 March 2015

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: LULUCF sector

LULUCF sector is excluded in its base year in BR1 Table 2(b), but at meantime LULUCF contribution is included. LULUCF contribution is included in Table 2(d) as well. Therefore, is LULUCF contribution in its base year and its target year? How to estimate LULUCF contribution?

Answered by: Canada at Monday, 1 June 2015

In the footnote to Table 2(b) of the Biennial Report, Canada specified that it did not include LULUCF in its base year (2005) when setting the quantified economy-wide emission reduction target, but the accounting contribution from the LULUCF sector will be applied in the target year (2020). In other words, emissions and removals from LULUCF were excluded from national totals for the purpose of calculating the 2020 target, as is common practice, but the accounting contribution that results from the LULUCF sector will be taken into account in assessing whether Canada has achieved its 2020 target.

Table 2(d) of the Biennial Report specifies the scope of accounting from the LULUCF sector, indicating that Canada will account for emissions and removals from Forest Land Remaining Forest Land, Cropland Remaining Cropland, Forest Land Converted to Other Land Categories, and Other Land Categories Converted to Forest Land. The

footnote to Table 2(d)I further specifies that the contribution from these land categories is determined by the difference in emissions and removals between 2005 and 2020 for all subsectors apart from Forest Land Remaining Forest Land, for which a reference level is used. Table 2(d)II provides estimates of the expected contribution in 2020 from each of the LULUCF sub-sectors. For further information on the accounting approaches used in estimating the LULUCF contribution see Section 4.C of the Biennial Report.

Note, however, that as part of its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada intends to account for the land sector using a net-net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

Question by China at Monday, 30 March 2015

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: completeness of GHG emission information

As the ERT noted, information about five categories of mandatory reporting information in the LULUCF sector is missing in the Inventory. Please clarify.

Answered by: Canada at Monday, 1 June 2015

Canada currently reports emissions/removals in the NIR from all mandatory categories for LULUCF; however, some subcategories of emissions/removals are reported as NO (Not Occurring) and NE (Not Estimated). Various reports on the individual reviews of Canada's inventory submissions have identified the following incomplete mandatory subcategories, i.e. reported as NE:

- i.) Carbon stock changes (CSC) from all pools in wetlands converted to cropland and settlement converted to cropland
- ii.) CSC from living biomass and soils in grassland remaining grassland
- iii.) CSC from living biomass (losses) and soils in cropland converted to wetlands and grassland converted to wetlands
- iv.) CSC from living biomass (losses) in other land converted to wetlands
- v.) CSC from all pools in cropland converted to settlements, wetlands converted to settlements and other land converted to settlements
- vi.) CSC from living biomass and soils in grasslands converted to other land and wetlands converted to other land

Based on ERT recommendations finalized in April 2015, Canada will now report the following subcategories as NO, as these land conversions are not observed to occur in Canada, specifically: CSC from all pools in grassland and wetlands converted to other land and CSC from all pools in other land converted to settlements. In addition,

CSC from living biomass in grassland remaining grassland will be reported as Not Applicable (NA).

CSCs in cropland and grassland converted to wetlands are included in Other Land converted to Wetlands (which comprises all non-forest lands converted to Wetlands). These land conversion to wetlands would only be associated with flooding events (during the creation of hydroelectric reservoirs) and would not be differentiated methodologically from Other Land converted to Wetlands.

CSC from soils in grassland remaining grassland; CSC from all pools in cropland and wetlands converted to settlement and CSC from all pools in wetlands and settlement converted to cropland are for the time being not estimated (NE).

Emissions are not estimated in grasslands remaining grasslands because there is no evidence that carbon stock changes are occurring in grassland soils as a result of management change; emissions or removals are estimated to be indistinguishable from zero.

CSC from all pools in cropland and wetlands converted to settlement and CSC from all pools in wetlands and settlements converted to cropland are not reported because of challenges in developing activity data. Areas subject to land-use change in Canada are a very small fraction of the total land area in each category. Identifying current and historical land-use change events with some confidence is a considerable task which Canada aims to achieve over time.

Question by Switzerland at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Measures with a view to longer term emission reductions

What additional PaMs are taken into consideration by the Party in light of longer term requirements to substantially lower per capita GHG emissions as recommended by science and thus contribute to the collective achievement of the 2 degree warming limit?

Answered by: Canada at Monday, 1 June 2015

Canada recognizes that collective action by all countries is required to reduce global greenhouse gas emissions. Canada supports the goal to limit global average temperatures below 2°C above pre-industrial levels, which will require significant efforts by all major emitters.

Canada is taking action to reduce its GHG emissions. Through a sector-by-sector regulatory approach, the Government of Canada has regulated two of Canada's

highest emitting sectors, the transportation and the electricity generation sectors, and is proceeding with further action in other key sectors.

Canada has implemented policies and actions that will lower its greenhouse gas emissions over the longer term. For example, Canada has introduced regulations to reduce greenhouse gas (GHG) emissions from coal-fired electricity generation that will apply a stringent performance standard to new coal-fired electricity generation units, and to coal-fired units that have reached the end of their economic life. Combined with actions being taken by the provinces, in the first 21 years, these regulations are expected to result in a cumulative reduction of 214 Mt.

Canada has also made significant investments in clean energy and technologies that are expected to reduce greenhouse gas emissions over the longer term. Since 2006, the Government has invested over \$10 billion to support green infrastructure, energy efficiency, clean energy technologies, and the production of cleaner energy and fossil fuels. For example, Canada has launched the world's first commercial scale carbon capture and storage for a coal-fired electricity generator that can remove up to 90% of GHG emissions.

Canada is working with the provinces and territories, which have jurisdiction over natural resources and energy in Canada. Provinces and territories are undertaking action to reduce emissions each has established its own policies and measures to reduce greenhouse gas emissions, based on its unique circumstances. Please refer to Table 3 in Canada's 1st Biennial Report and Chapter 4, section 4.5 of Canada's 6th National Communication for more information on provincial and territorial climate change policies and measures that are contributing greenhouse gas emissions reductions.

Canada's approach is generating results. As a result of action to date, Canada's 2020 greenhouse gas emissions are projected to be 130 megatonnes lower relative to a scenario without action. From 2005 to 2013, Canadian GHG emissions decreased by 3.1 per cent while the economy grew by 12.9 per cent. Canada's per capita greenhouse gas emissions have also decreased significantly, all while the economy has grown – a trend that is projected to continue through to 2020.

Question by Switzerland at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Measures to reverse emission trends

What potentials and associated measures in the most relevant GHG emitting sectors have been identified by the Party to address the need to reverse emission trends with a view to reaching the 2020 target?

The Government of Canada is taking a sector-by-sector regulatory approach to reduce GHG emissions from major emitting sectors. Canada's national circumstance as a vast, northern country with large distances between urban centers means we face unique challenges in reducing greenhouse gas emissions. The sector-by-sector approach allows the Government to tailor regulations to each economic sector, in order to target and reduce emissions efficiently while safe-guarding the economy. Because of our close economic linkages with the United States, we also look to align our greenhouse gas regulations with those in the U.S., as appropriate for the Canadian context.

Regulatory measures are already in place for two of the largest sources of emissions in Canada: electricity and transportation. Canada has worked collaboratively with the U.S. to develop common North American standards to address greenhouse gas emissions from the transportation sector. In the electricity sector, Canada is the first major coal-user to ban the construction of traditional coal-fired units through its stringent coal-fired electricity regulations. These regulations will also lead to the phase out of existing coal-fired electricity generation units without carbon capture and storage.

The mitigation potential of existing measures is included in Canada's Biennial Report

Last fall, the Government of Canada announced the intent to further regulate GHG emissions for post-2018 model year heavy-duty vehicles and engines, building on the final regulations already in place for model years 2014 to 2018. The planned regulations would significantly improve the GHG emission performance of post-2018 model year heavy-duty vehicles and engines.

In December 2014, when the Government of Canada published a Notice of Intent to regulate hydrofluorocarbons (HFCs). This move is consistent with Canada's international efforts over the last six years to advocate for global action on HFCs, by promoting, along with the U.S. and Mexico, a North American Proposal to phase down HFCs under the Montreal Protocol.

Canada continues to examine additional measures to reduce greenhouse gas emissions. As for all federal regulations, this process includes consultations with provinces and territories, industry, non-governmental organizations and the public. As noted in Canada's Biennial Report, work on additional measures to address remaining sectors is ongoing. As such, it is not yet possible to estimate the mitigation effects of these planned PaMs.

As part of submitting its intended nationally determined contribution under a new international climate change agreement, on May 15, 2015 the Government of Canada announced its intent to move forward with a number of additional regulatory proposals. These include proposed regulations for the natural gas fired electricity, chemicals and nitrogen fertilizers sectors, as well as to address methane emissions from the oil and gas sector.

Canada is working with the provinces and territories, which have authorities over natural resources and energy in Canada. Provinces and territories are undertaking action to reduce emissions, and each has established their own policies and measures based on their unique circumstances. Please refer to Table 3 in Canada's 1st Biennial Report and Chapter 4, section 4.5 of Canada's 6th National Communication for more information on provincial and territorial climate change policies and measures that are contributing greenhouse gas emissions reductions towards Canada's 2020 target.

Question by European Union at Monday, 30 March 2015

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Reference level

Canada provides in section 4.C of its first biennial report rationales and numerical values of the technical correction of its reference level (FMRL). When applying a technical correction to the FMRL with HWP contribution as reported in the appendix to decision 2/CMP.7, and the applied reference level for the year 2011 (cf BR table 4(a)I), there is a big difference from the values of the technical correction reported in BR1. Could you please explain the reasons behind such discrepancy?

Answered by: Canada at Monday, 1 June 2015

Canada's National Communication (Annex 2, pg 104) states that "Canada's work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future." As part of its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada intends to account for the land sector using a net-net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

In terms of what was reported in Canada's Biennial Report, Canada does not believe there was a discrepancy between the original 2011 reference level and the technical correction described in the Biennial Report. Canada's reference level, as derived in 2011 and included in the Appendix to decision 2/CMP.7, assumed a low constant background level of natural disturbances for 2010 to 2020, because it is impossible to accurately predict future natural disturbances. Specifically, the reference level assumed a constant level of fire equal to 95,000 hectares per year, equivalent to the annual minimum area that had burned in the 51 year period (from 1959 to 2009). The original reference level time series is shown below. For further information, including on how the background level of natural disturbance was calculated, please see:

	Canada's original (2011) Reference Level time series (kt CO₂e)
2010	-96,891
2011	-105,570
2012	-109,946
2013	-109,412
2014	-112,751
2015	-109,216
2016	-111,656
2017	-114,745
2018	-115,611
2019	-118,363
2020	-122,615

Section 4.C of the Biennial Report describes the technical correction which was applied to the original reference level values for 2010 and 2011 shown above. The technical correction reflects the impact of updates and recalculations to the historical data, as well as methodological improvements and the now known impacts of natural disturbances for these two years (e.g. approximately 2.3 million hectares burned by wildfire), which were considerably higher than the low background level assumed in the original reference level. A detailed explanation of the updates and corrections is provided in Section 4.C on pages 236-237 of the Biennial Report. As indicated in the table on page 237, the technical correction is quite large because of the large difference in natural disturbances assumed in the original reference level versus the natural disturbances that actually occurred in 2010 and 2011.

Question by European Union at Monday, 30 March 2015

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: LULUCF accounting approaches

In Canada's national communication (Annex 2, p. 104) it is stated related to the contribution of the LULUCF sector to the target: "Canada's work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future." Does this mean that Canada has not yet fully decided on the accounting approach for the LULUCF sector as part of its 2020 target? When does Canada expect to finalize its accounting approach?

Answered by: Canada at Monday, 1 June 2015

As part of submitting its intended nationally determined contribution, the Government of Canada announced that Canada intends to account for the land sector using a net-net approach, and to use a “production approach” to account for harvested wood products. Canada will exclude impacts from natural disturbances.

Question by European Union at Monday, 30 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Additional measures

The biennial report shows that in the current ‘with measures’ projections, neither the projected emissions with or without LULUCF will achieve Canada’s 2020 target of an emission reduction by 17% below 2005. What additional measures are planned to meet the 2020 target? What is their status of adoption and implementation and their expected emission reduction effects?

Answered by: Canada at Monday, 1 June 2015

The Government of Canada is continuing to implement its sector-by-sector approach to reduce emissions from major emitting sectors. The 2020 emissions projections included in Canada’s First Biennial Report do not include the impact of upcoming and future federal regulations.

As noted under planned measures in Canada’s Biennial Report, the Government of Canada is continuing work in a number of sectors, including oil and gas, and emission-intensive trade-exposed sectors, and is developing CO2 standards for the marine and aviation sectors.

These initiatives are under development. Requirements are being developed in accordance with Canada’s regulatory development process. As for all federal regulations, this process includes consultations with provinces and territories, industry, non-governmental organizations and the public. Once they have been finalized, regulations for these sectors will be published together with a Regulatory Impact Analysis Statement that includes an assessment of their costs and benefits, including their mitigation effects. Appropriate information will be included in Canada’s future National Communications and Biennial Reports.

As part of submitting its intended nationally determined contribution under a new international climate change agreement, on May 15, 2015 the Government of Canada announced its intent to move forward with a number of additional regulatory proposals. These include proposed regulations for the natural gas fired electricity, chemicals and nitrogen fertilizers sectors, as well as to address methane emissions from the oil and gas sector.

In addition, since the publication of Canada's 1st Biennial Report and 6th National Communication, provinces and territories have announced new policies and measures, and have continued to implement measures towards their individual greenhouse gas emissions reduction targets. For example, Saskatchewan has created the world's first large scale power sector carbon capture and storage project. The Government of Canada has supported the provinces and territories with \$1.5 billion in funding to develop projects that would reduce emissions and encourage a transition to cleaner forms of electricity.

Future reported emission projections will take into account these new policies and measures.

Question by European Union at Monday, 30 March 2015

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Forest reference levels

The biennial report informs that the reference level for forest remaining forestland was technically corrected to reflect data and methodological changes. Can you explain where Canada provided estimates of the entire reference level time series for 2010-2020 (original) as well as of the estimates of the technical corrected time series including the corrections applied in 2014?

Answered by: Canada at Monday, 1 June 2015

Canada's National Communication (Annex 2, pg 104) states that "Canada's work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future." As part of its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada intends to account for the land sector using a net-net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

Canada's original reference level submission in 2011 did not include the reference level time series. However, this information was provided to the Expert Review Team during the review of Canada's Biennial Report, and is presented in the table below along with time series details for the technical correction. The technical correction details for 2010 and 2011 were provided and explained in Section 4.C of the Biennial Report.

Reference Level (RL) and Technical Correction Time Series (kt CO₂e)

	Original RL time series	Technical correction			Technically-corrected RL
		As a result of methodology-ical changes and updates in historic data	As a result of inclusion of natural disturbances in 2010 and 2011	Total technical correction	
2010	-96,891	-2,963	166,655	163,692	66,802
2011	-105,570	-3,803	168,159	164,356	58,786
2012	-109,946	-3,897	23,329	19,432	-90,515
2013	-109,412	-4,238	21,495	17,257	-92,155
2014	-112,751	-3,963	19,792	15,829	-96,922
2015	-109,216	-4,028	18,110	14,083	-95,133
2016	-111,656	-3,890	16,761	12,871	-98,785
2017	-114,745	-3,622	15,403	11,781	-102,964
2018	-115,611	-3,154	14,266	11,112	-104,499
2019	-118,363	-3,127	13,252	10,125	-108,238
2020	-122,615	3,648	12,108	15,758	-106,858

[Question by](#) European Union at Monday, 30 March 2015

[Category:](#) Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

[Type:](#) Before 31 of March

[Title:](#) LULUCF approaches

Does Canada confirm that its approach chosen intends to comply with decision 2/CMP.6 (Guidelines on forest management reference levels) and the related chapter of the 2013 revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol? Will Canada comply with the reporting obligations as outlined in Annex II to decision 2/CMP.8, paragraph 2(f) and provide information similar to the natural disturbance tables under the Kyoto Protocol?

Are there any areas in which Canada will not account in according with the guidance under the Kyoto Protocol?

According to which review guidelines does Canada expect that this information on forest reference levels and natural disturbances to be reviewed in the future?

[Answered by:](#) Canada at Monday, 1 June 2015

Canada is not a Party to the Kyoto Protocol.

Canada looks forward to the conclusions of negotiations for a new agreement and rules within it, including COP decisions on this sector. We expect that there will be review guidelines developed for application under the new agreement.

Question by European Union at Wednesday, 25 March 2015

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Decoupling of economic growth from GHG emissions

To what extent is economic growth decoupled from GHG emissions?
What have been the main effects of the existing policies and measures on the emission trends? What have been the main deviations from expected results and what in your view has caused this?

Answered by: Canada at Monday, 1 June 2015

The relationship between GHG emissions and economic activity has changed significantly in Canada as a result of structural changes, as well as behavioural and technological changes and improvements. According to Canada's 2015 National Inventory Report, between 2005 and 2013, Canada's GHG emissions fell by 3.1% while GDP increased by 12.9% over the same period. Emission intensity fell 14.2% between 2005 and 2013 and is expected to continue to improve through 2030

Canada faces unique challenges in addressing climate change. A growing population, highly variable climate, large landmass, and a natural resource-based economy are all variables influencing Canadian GHG emissions. Despite these challenges, Canada is making progress in reducing emissions. Canada's 2020 GHG emissions are projected to be about 130 megatonnes (Mt) lower than if no action was taken, an amount roughly equivalent to one year's worth of GHG emissions from all of Canada's road transportation.

Question by European Union at Wednesday, 11 March 2015

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Estimation of LULUCF emissions and removals

The ERT stated in the review report of the BR that the approach to account for the LULUCF sector is not transparent and that the required information to understand the methodology for estimating the LULUCF contribution to the target is not transparent (paragraph 17). While additional information was provided to the ERT, this information is not available to the public or to other Parties.

How does Canada estimate its LULUCF emissions and removals in its emission levels' projections over the period? What are the methodological approaches used and how do they impact on the assessment of the progress to the QEWERT?

When and where will Canada make transparent information available for the general public that allows a complete understanding of the approach chosen? What improvements will be made in the next biennial report to enhance transparency?

Answered by: Canada at Monday, 1 June 2015

Canada's National Communication (Annex 2, pg 104) states that "Canada's work to analyze alternative accounting approaches is ongoing, and changes to the accounting approach may be made in future." As part of its intended nationally determined contribution (submitted to the UNFCCC on May 15, 2015), the Government of Canada announced that Canada intends to account for the land sector using a net-net approach, including for FLRFL or forest land. Canada will continue to exclude emissions from natural disturbances.

Estimates for how the land sector is expected to contribute to Canada's 2020 and 2030 targets will be provided in Canada's next Biennial Report to the UNFCCC.

Information on how Canada previously projected the estimated emissions and removals from the LULUCF sector was included in Chapter 5 of the 6th National Communication. As noted in Section 5.4.5.8, LULUCF emission projections (in Table 5.18) are modelled separately from projections for other sectors. For accounting (Table 5.19), Canada has used approaches for Forest Land remaining Forest Land and Cropland remaining Cropland that are based on those agreed in Decisions 2/CMP.6 and 2/CMP.7. Annex 2 to Chapter 5 provided a detailed description of the projection of the emissions and accounting contribution of the LULUCF sector. Annex 6 to Chapter 5 discussed in detail the modelling methodologies used for LULUCF projections, including a description of the modelling approach used for each of the LULUCF sub-sectors.

Following the recommendations of the Expert Review Team, Canada is planning to improve the discussion and organization of information on LULUCF accounting approaches for its 2nd Biennial Report. One planned improvement is the inclusion of a simplified explanation of the accounting approaches used, for those not familiar with the technical aspects of forest carbon accounting.

Question by European Union at Wednesday, 11 March 2015

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 of March

Title: Use of market mechanisms

Does Canada intend to use market mechanisms to achieve the targets? If yes, to which extent and what is the associated effect on the emission level projections for the period up to 2020? Is use of international credits foreseen and if so, to what extent?

Answered by: Canada at Monday, 1 June 2015

As noted in its Intended Nationally Determined Contribution submitted to the UNFCCC, Canada has said it may use international mechanisms to achieve its 2030 target, subject to robust systems that deliver real and verified emissions reductions.
