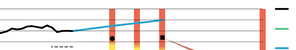
CLIMATE ACTION TRACKER

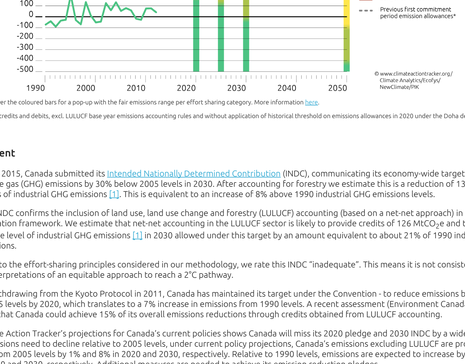
Canada

History: 2017 2016 2015 2014 2013 2012 2011

Page last updated: 20th May 2015

Rating





Note: Hover over the coloured bars for a pop-up with the fair emissions range per effort sharing category. More information here.

*Excl. LULUCF credits and debits, excl. LULUCF base year emissions accounting rules and without application of historical threshold on emissions allowances in 2020 under the Doha decision.

Assessment

On 15 May 2015, Canada submitted its Intended Nationally Determined Contribution (INDC), communicating its economy-wide target to reduce greenhouse gas (GHG) emissions by 30% below 2005 levels in 2030. After accounting for forestry we estimate this is a reduction of 13% below 2005 levels of industrial GHG emissions [1]. This is equivalent to an increase of 8% above 1990 industrial GHG emissions levels.

Canada's INDC confirms the inclusion of land use, land use change and forestry (LULUCF) accounting (based on a net-net approach) in its 2030 GHG mitigation framework. We estimate that net-net accounting in the LULUCF sector is likely to provide credits of 126 $MtCO_2e$ and therefore increase the level of industrial GHG emissions [1] in 2030 allowed under this target by an amount equivalent to about 21% of 1990 industrial GHG emissions.

According to the effort-sharing principles considered in our methodology, we rate this INDC "inadequate". This means it is not consistent with various interpretations of an equitable approach to reach a 2°C pathway.

Despite withdrawing from the Kyoto Protocol in 2011, Canada has maintained its target under the Convention - to reduce emissions by 17% below 2005 levels by 2020, which translates to a 7% increase in emissions from 1990 levels. A recent assessment (Environment Canada, 2014) estimates that Canada could achieve 15% of its overall emissions reductions through credits obtained from LULUCF accounting.

The Climate Action Tracker's projections for Canada's current policies shows Canada will miss its 2020 pledge and 2030 INDC by a wide margin. While emissions need to decline relative to 2005 levels, under current policy projections, Canada's emissions excluding LULUCF are projected to increase from 2005 levels by 1% and 8% in 2020 and 2030, respectively. Relative to 1990 levels, emissions are expected to increase by 26% and 35% in 2020 and 2030, respectively. Additional measures are needed to achieve its emission reduction pledges.

Pledge

On 15 May 2015, Canada submitted its INDC, proposing an economy-wide target to reduce GHG emissions to 30% below 2005 levels by 2030. Canada has indicated that it may also use international credits to meet its target. Considering the upward trajectory of the current policy projection against the pledge trajectory, Canada would need to use a large quantity of international credits to meet its target.

Canada intends to use a "net-net" approach to account for LULUCF emissions and a production approach to account for harvested wood products. Accounting For Harvested Wood Products (HWPs) must be performed in a consistent and compatible manner across countries so that accounting of imported and exported HWPs is complete and emissions are not excluded from inventories. It excludes emissions from natural disturbances (e.g. forest fires and insect outbreaks).

In its INDC communication, Canada does not quantify the impact of these accounting rules on the emissions level for compliance in 2030. According to our best estimate based on available data, the net-net accounting approach will generate 126 $MtCO_2e$ of credits for Canada in 2030 (see assumptions for further details). Using LULUCF credits weakens the INDC, as these credits can be used to offset emissions increases in other sectors such as energy and industry. We estimate this target is a reduction of 13% below 2005 levels of industrial GHG emissions [1]. This is equivalent to an increase of 8% above 1990 levels.

The accounting options Canada proposes using are fraught with difficulties, including substantial potential for double counting, asymmetric accounting (counting sinks and omitting sources), and other issues. The Kyoto Protocol rules provide the only rigorous framework at present for managing these risks, including taking account of factors such as salvage logging emissions, land-use changes following a natural disturbance, international coordination of HWP accounting etc. While Canada has withdrawn from the protocol, and is not a party to its second commitment period, Canada could apply the Kyoto Protocol rules and thereby alleviate a number of substantial concerns about their proposed LULUCF accounting options.

Kyoto Protocol	
Member of KP CP1 (2008-2012)	withdrawn
Member of KP CP2 (2013-2020)	no
KP CP1 target (below base year)	-6%
KP CP2 target (below base year)	none
Convention	
Copenhagen pledge	-17% below 2005 by 2020 [7% above 1990 by 2020 (excl. LULUCF)]
INDC	
2030 target	-30% below 2005 by 2030 [-8% above 1990 by 2030 (excl. LULUCF)]
Coverage	Economy wide, incl. LULUCF
LULUCF	net-net approach (excluding emissions from natural disturbances)
National goals	
Long term goal(s)	-60%/ -70% below 2006 by 2050 [-51%/-63% below 1990 by 2050]

Canada's Kyoto Protocol target for the first commitment period 2008–2012 was a reduction of 6% below 1990 levels. However, in December 2011, Canada withdrew from the Kyoto Protocol. In 2012, Canada subsequently reported an emissions increase of 18% above 1990 levels.

Canada's Copenhagen pledge to reduce emissions by 17% below 2005 levels by 2020 (7% above 1990 levels) weakens its previous Kyoto target. It also weakens its initial pledge under the Copenhagen Accord: to reduce emissions by 20% below 2006 levels by 2020 (equivalent to 1% below 1990 levels). The second Copenhagen commitment, based on 2005 levels, aligned Canada's level of ambition to the United States, which also targets a 17% reduction in emissions from 2005 levels by 2020.

Canada's Copenhagen pledge also excludes emissions from natural disturbances from the reference level and from the commitment period's cumulative emissions, and supports accounting for removals from harvested wood products [2]. A recent assessment (Environment Canada, 2014) estimates that, by 2020, LULUCF accounting will produce 19 $MtCO_2e$ of credits per year for Canada. This figure is significantly higher than projections based on the standard methodology, which range from 6 $MtCO_2e$ credit to 2 $MtCO_2e$ debit annually.

The Climate Action Tracker's projections for 2020 do not yet exclude emissions from natural disturbances and therefore result in higher emissions from the forest management sector than that of the Environment Canada report. More details and clarity from Canada on LULUCF forecasts and assumptions on how natural disturbances are treated, would improve transparency on both the 2020 and INDC pledges.

In 2007 Canada proposed a long-term target of reducing emissions by 60 to 70% below 2006 levels by 2050 (equivalent to 51% to 63% below 1990 levels). However, this was an aspirational target that was never legislated for.

The 'Climate Change Accountability Act,' a private member's bill [3] proposing a more ambitious target of reducing emissions by 80% below 1990 levels, has been submitted to the Canadian Parliament four times, most recently in June 2014. While the House of Commons passed the bill twice – in 2006 and 2010 - it has never got through the Senate.

Fair share

On the basis of effort-sharing approaches, Canada's INDC is rated "inadequate". This means that it is not consistent with interpretations of an equitable approach to reach a 2°C pathway. With the current INDC, in order to reach a 2°C pathway, other countries are required to make much deeper reductions with comparably greater effort. In order to be consistent with most effort-sharing approaches and rated "sufficient", Canada needs to set a more ambitious 2030 goal of reducing industrial GHG emissions by at least 73% below 2005 levels (67% below 1990 levels).

We also rate Canada's pledge for 2020 "inadequate". A more ambitious pledge would be in line with multiple effort sharing approaches including the capability and responsibility approaches and could bring Canada into the "medium" category. We rate Canada's long-term target to reduce emissions by 60 to 70% below 2006 levels (equivalent to 51-63% below 1990 levels) by 2050 "medium". This pledge is in line with approaches that focus on capability. According to multiple effort sharing approaches, to reach a fair share of emissions reductions, Canada's emissions would need to be negative by 2050.

Current policy projections

With currently implemented policies, Canada will reach industrial GHG emissions [1] of 746 $MtCO_2e$ in 2020 (excluding LULUCF): a 26% increase from 1990 levels. In 2030, emissions are projected to increase by 35% above 1990 levels to 798 $MtCO_2e$.

Canada's emissions have shown an upward trend in the period 1990 – 2007, reaching their highest levels at 749 $MtCO_2e$ in 2007. At the beginning of the financial crisis, emissions dropped significantly. In the period 2010 - 2012, emissions remained fairly stable at around 700 $MtCO_2e$. With currently implemented policies, emissions are projected to show an upward trend again.

In particular, Canada's extraction of oil from tar sands is expected to contribute to a significant proportion of the emissions increase. Emissions from tar sands have already increased by 79% from 2005 to 61 $MtCO_2e$ in 2012, to represent 9% of Canada's total emissions (Environment Canada, 2014). By 2020, emissions from tar sands will be even more significant, reaching 103 $MtCO_2e$, or 14% of Canada's total emissions (Environment Canada, 2014).

Canada has various policies in place to reduce emissions. Fuel economy standards for light and heavy duty vehicles are aligned with federal-level regulations in the US, becoming progressively more stringent over time. The second phase of the light duty vehicle standards does have potential to reduce emissions below business as usual. Canada has also implemented regulation requiring a renewable fuel content of 2% for diesel and 5% for gasoline.

A performance standard for new coal-fired power plants will come into force on July 1, 2015, limiting the emissions intensity to 420 tCO_2/GWh. Since the standard at first only applies to new power plants, it implies no significant emissions reduction against business as usual by 2020, given the current poor investment environment for new coal power. The first of the existing power plants will not be subject to the performance standard until 2020. Canada has also invested over C$10 billion in clean energy technologies over the past decade. There are also some promising state-level activities, especially Ontario's decision to phase out coal-fired power plants by 2014, which are included in the current policy projections.

Policies are also under development to drive further emissions reductions. These policies will target the emissions of new heavy-duty vehicles post-2018, reducing emissions from natural gas-fired electricity, chemicals and nitrogen fertilizers, and methane emissions from the oil and gas sector (Government of Canada, 2015). Canada also intends to gradually phase-down HFC emissions. This is a significant move, as HFC emissions have increased tenfold over the period from 1990–2012.

Assumptions

Pledge

Pledges were calculated from historical data obtained from the UNFCCC GHG inventory (CRF, 2014).

Based on the INDC text, we assume that the LULUCF sector will be treated separately from other sectors. The 2030 contribution is therefore calculated as a 30% reduction in industrial GHG emissions [1] with subsequent addition of credits from the LULUCF sector. We estimate credits from the LULUCF sector according to net-net accounting of LULUCF emissions excluding natural disturbances in 2005 and 2030. LULUCF emissions excluding natural disturbances in 2005 are according to CRF (2014) data with reported emissions from wildfires discounted.

Projected LULUCF emissions for 2030 are from Canada's sixth national communication (Government of Canada, 2014). Uncertainty in LULUCF emissions is high and further clarity on the 2005 emissions excluding natural disturbances would improve our estimates (currently, as proxy we deduct emissions from wildfires from total emissions for the land-use category reported under CRF for 2005). Further, our calculations currently omit production-based accounting of harvested wood products. However, the national communication projection indicates a significantly increasing sink from 2005 to 2030 in this sector and therefore accounting is highly likely to generate credits and allow higher emissions from industrial GHG [1].

In the INDC it is stated that Canada will apply global warming potentials (GWPs) from the IPCC Fourth Assessment Report (AR4). For consistency with the other elements of our analysis we calculated the target based on GWPs from the IPCC Second Assessment Report (SAR). The graph included in the INDC is also based on SAR GWPs. An analysis based on AR4 GWPs would not significantly change the emission trend shown or rating given.

Current policy projections

The current policy projection to 2020 was obtained from Canada's Emissions Trends report (Environment Canada, 2014). Growth rates from Canada's Sixth National Report on Climate Change (Government of Canada, 2014) were then applied to the 2020 emission level to project emissions to 2030.

Sources

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Footnotes

[1] With "industrial GHG emissions" we mean here GHG emissions from the energy, industrial processes, solvent and other product use, agriculture and waste sectors, excluding land sector and forestry.

[2] See FCCC/KP/AWG/2010/18/Add.1 (paragraphs 27-28, page 34) For details on accounting for harvested wood products.

[3] A private member's bill is a bill introduced in the House of Commons by a member of parliament who is not a member of the cabinet.

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