



Climate Change Negotiations: The *United Nations Framework Convention on Climate Change* in Context

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Tim Williams

Economics, Resources and International Affairs Division Parliamentary Information and Research Service



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CLIMATE CHANGE NEGOTIATIONS: THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE IN CONTEXT

1 INTRODUCTION

The key to reducing the risks of climate change is to reduce global emissions of greenhouse gases, in addition to preparing to adapt. Reducing emissions requires the cohesive action of the international community, particularly those countries responsible for most of the emissions. The *United Nations Framework Convention on Climate Change* (Convention) is the guiding agreement that governs most multilateral negotiations to address the threat of climate change. However, while many commitments to reduce emissions have been made under the Convention, emissions continue to rise, causing greenhouse gases to accumulate in the atmosphere.

To meet the latest timetable for developing a new agreement, accepted at the conferences of the United Nations Framework Convention on Climate Change (UNFCCC), ¹ negotiations must rapidly succeed in overcoming entrenched points of view. This paper outlines the scientific, political and historical context of the UNFCCC negotiations.

2 BACKGROUND

2.1 THE SCIENTIFIC CONTEXT

In the 1980s, scientific evidence was mounting that emissions of greenhouse gases associated with human activity, particularly carbon dioxide (CO₂) from the burning of fossil fuels, was causing a global energy imbalance: elevated greenhouse gases in the atmosphere were trapping outgoing heat from the earth's surface so that less energy was leaving the earth than was arriving from the sun. Concern was rising that the subsequent warming of the atmosphere and oceans had the potential to bring about climate change.

Such evidence was amassed in global conferences, including the Toronto Conference on the Changing Atmosphere in 1988. In that year the World Meteorological Organization and the United Nations Environment Program established the Intergovernmental Panel on Climate Change (IPCC) to "prepare, based on available scientific information, assessments on all aspects of climate change and its impacts, with a view of formulating realistic response strategies." ²

The UN General Assembly then requested that the World Meteorological Organization and the United Nations Environment Programme, through the IPCC, "initiate action leading ... to a comprehensive review and recommendations" with respect to the science of climate and climate change; the social and economic impact of climate change; and possible responses, including the strengthening of existing international instruments and elements, to include in a possible future international convention.³

Since that time, the IPCC has issued five reports. The first chapter of the fifth report, published in September 2013, dealt with the physical science of climate change. It concluded that:

[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.⁴

The report also found that the largest contribution to the uptake of energy by the climate system, which is causing surface warming, is the increase since 1750 of the atmospheric concentration of CO₂ as the result of human activity.⁵

Draft IPCC documents undergo both peer and government review to affirm their accuracy, completeness and overall balance. Approval of the Summary for Policymakers in particular requires line-by-line governmental approval. Environment Canada has a prominent role in producing and reviewing IPCC reports on behalf of the Government of Canada.

2.2 THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

The IPCC's first report in 1990 fed directly into the 1992 signing of the Convention at the Earth Summit in Rio de Janeiro, Brazil. The ultimate objective of the Convention is the

stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.⁷

The Conference of the Parties (COP) is the main decision-making organization (the "supreme body") of the UNFCCC and meets once a year to review the implementation of the Convention and make decisions necessary to promote its effectiveness. As the Convention itself is a "framework," one important aspect of the COP is to decide whether to adopt additional specific legal instruments or agreements that might further the Convention's objective.

Agreements to reduce emissions have included voluntary and binding initiatives. However, to date, no agreement has been successful in bringing about reductions in global emissions of greenhouse gases.

2.2.1 VOLUNTARY COMMITMENTS: UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

Because developed countries have, historically, produced the largest share of global emissions, and since they have greater technological and economic capacity than developing countries to initiate and manage change, it was accepted in the Convention that they have a responsibility to lead the global effort to reduce emissions. This is one interpretation of "common but differentiated responsibilities," a key concept in the Convention.

In 1992, through the Convention, developed countries agreed to voluntarily reduce emissions individually or jointly to 1990 levels by the year 2000. This was Canada's domestic target at the time. Developed countries also pledged to provide "new and additional" financial resources to help developing countries establish greenhouse gas emissions inventories and finance their efforts in meeting the substantial commitments that all parties, including developing countries, agreed to in article 4, paragraph 1, of the Convention ("Commitments").

2.2.2 BINDING COMMITMENTS: THE KYOTO PROTOCOL FIRST COMMITMENT PERIOD

Despite the voluntary pledges made under the Convention, greenhouse gas emissions in many developed countries continued to rise. As a result, a number of nations approved an addition to the treaty and, in 1997, the Kyoto Protocol was finalized under the Convention. The Kyoto Protocol has more powerful measures than the Convention, some of which are legally binding.

In the Protocol, developed countries agreed to individual, binding emissions reduction targets for the period 2008 to 2012, referred to as the Protocol's "First Commitment Period." These commitments were to reduce collective emissions by, on average, 5.2% below 1990 levels during the commitment period. Canada's target was to reduce its emissions to 6% below 1990 levels during this time frame (see Appendix for further information on Canada's targets). The Protocol came into force in February 2005.

In fact, the collective Kyoto target was met five years before the Protocol was signed: emissions in industrialized countries had already dropped to approximately 7% below 1990 levels by 1992. However, this decline reflected the collapse of certain economies in transition (EITs) to a market economy, such as countries formerly within the Soviet Union, whose emissions in 2012 remained at approximately 38% below 1990 levels. On the other hand, emissions from fully industrialized countries (excluding the EITs) rose by approximately 11% between 1990 and 2007 before falling during the 2008 recession. 9

Because the Protocol allowed for countries to trade emissions reduction credits, the excess of emissions reductions in EITs raised the possibility that fully industrialized countries could meet their obligations by purchasing credits from EITs. If this were the case, the Kyoto Protocol would have had little credibility. Commitments were embedded within the Protocol to ensure that the purchase of such credits would be supplemental to domestic actions. However, the notion of "supplemental" action was

not defined beyond the stipulation that domestic action should "constitute a significant element" of each nation's effort. 10

The Protocol met with mixed success. Some industrial countries other than EITs were able to decrease their emissions by 2011, including the United Kingdom (-27.8%), Sweden (-15.5%) and Denmark (-17.6%). However, the impact of the Protocol was lessened by the fact that the United States never became a party, and some countries, such as Canada, were on track to miss their targets. In December 2011, Canada notified the UNFCCC that it would withdraw from the Protocol in December 2012. It was the only country to do so during the first commitment period.

A second commitment period has been added to the Kyoto Protocol, and the option to undertake voluntary commitments has been introduced in the Copenhagen Accord; both of these developments are discussed in section 4.1 of this paper.

Although policy decisions, such as switching from coal to natural gas—fired electricity, can have an influence on emissions levels, the collective trends for industrialized countries have been determined largely by economic conditions: emissions rise during periods of economic growth and drop during times of collapse and recession. In the meantime, emissions from large developing countries such as China have increased along with their industrialization. It is clear that, to meet the Convention's objective, more ambitious targets and the collective will to meet them will be required.

3 THE NEED FOR INCREASED AMBITION

To date, the scope and emissions-reduction targets of international agreements have not been ambitious enough to have a significant impact on global emissions. Indeed, many targets have been missed. Greenhouse gas concentrations continue to increase in the atmosphere. Annual rates of growth in atmospheric CO₂ have doubled in 50 years, and in 2013 concentrations of CO₂ passed the 400 parts per million mark for the first time. ¹² Global average temperatures have increased by 0.85 (0.65 to 1.06) °C since 1880, and the last decade was the warmest on the instrumental record. ¹³

The exact degree to which emissions would have to be reduced to prevent dangerous interference in the climate system has been an important point of contention in international negotiations. Considerable scientific and political debate has centred on what constitutes "dangerous interference" and on how to establish thresholds for its avoidance. In light of some of this debate, and despite criticism of proposals to adopt a temperature threshold, ¹⁴ both the European Union and the G8 accepted that the average global temperature increase should be limited to 2°C above the pre-industrial temperature. This threshold has now been endorsed under the UNFCCC.

The latest IPCC report has put into perspective the requirements for meeting this target. A 66% chance of avoiding an increase of 2° C from the period 1861–1880 "will require cumulative CO_2 emissions from all anthropogenic sources to stay between ... 0 and about 1000 GtC [1 GtC = 1 gigatonne or 1 billion metric tonnes of carbon] ... since that period." When influences on climate other than CO_2 are also included the upper limit

is reduced to 790 GtC. The IPCC adds that "an amount of 515 (445 to 585) GtC \dots was already emitted by 2011." ¹⁶

Global emissions were in the order of 10 GtC per year in 2011, having risen over 50% since 1990. Assuming no increase in this rate, cumulative emissions would reach the upper threshold in roughly 28 years, although in the absence of action to reduce emissions, this period would be less.

The apparent reduction in the rate of global temperature increase over the last 15 years may delay the point at which the 2°C threshold is exceeded. It could also mean that computer models are overestimating the climate system's response to CO₂, which would also provide some grace time for the reduction of emissions. However, if the 2°C threshold defines a true danger point, the need to reduce emissions remains urgent.

Although some energy experts have suggested ways to move forward, altering emission trends sufficiently to achieve the Kyoto targets will be an enormous task. ¹⁷ Urgent action is required to meet the 2°C threshold, but progress at the UNFCCC negotiations has not reflected this urgency. For almost seven years, the question at the centre of UNFCCC negotiations has been how, or whether, to continue the Kyoto process and increase the effectiveness of the implementation of the Convention.

4 UNFCCC NEGOTIATIONS: MOVING BEYOND KYOTO

Both the initial voluntary targets of the Convention and the binding targets of the Kyoto Protocol were seen as preliminary steps to further significant global action. UNFCCC negotiations are now taking place within the context of having accepted the significant challenge of avoiding a 2°C threshold.

Global politics are also an important context for the negotiations. As a result of the poor record of developed countries in general, developing countries doubt the commitment of developed countries to lead the effort to reduce global emissions. Developing countries also believe that developed countries have not helped them sufficiently to finance sustainable development practices and adapt to climate change, although some recent decisions at the UNFCCC may help address these issues.

Given the level of distrust, and given that it is a mathematical necessity for developing countries to reduce their emissions (China, for example, is now the world's largest emitter, ahead of the United States), persuading all large emitters to reduce their emissions has become an intense and difficult part of negotiations.

4.1 THE NEGOTIATING PROCESS – TOWARD FURTHER ACTION

Talks focusing on extending the Kyoto process and increasing the effectiveness of the implementation of the Convention began in 2005 in Montréal at the 11th Conference of the Parties to the Convention. (Termed COP 11, this was also the first meeting of the parties to the Kyoto Protocol, or CMP 1.) The following is a timeline of significant steps in the negotiations since then.

4.1.1 2005: WORK BEGINS

The "dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention" was launched under the UNFCCC as a first step toward getting the United States and other large emitters to discuss further emissions reductions. However, this dialogue did not "open any negotiations leading to new commitments." ¹⁸

A working group was also established under the Kyoto Protocol (AWG-KP) "to consider further commitments for Parties included in Annex I [the Annex to the Convention consisting of a list of developed countries] for the period beyond 2012." It was to "aim to complete its work ... in time to ensure that there is no gap between the first and second commitment periods." ¹⁹

4.1.2 2007: THE BALI ROAD MAP

At the 2007 UNFCCC climate meetings in Bali, Indonesia, the Bali Road Map was initiated. This plan consisted of two tracks, one under the Kyoto Protocol and the other under the Convention. In addition to the AWG-KP, the UNFCCC set up a separate, ad hoc working group to recommend ways to enable "the full, effective and sustained implementation of the Convention through long-term cooperative action" (AWG-LCA). ²⁰ Only parties to the Kyoto Protocol could take part in the AWG-KP, while all parties to the Convention could take part in the AWG-LCA.

Although attempts were made to keep the two tracks separate, each clearly had implications for the other. Developing nations wanted the Kyoto Protocol to continue with more aggressive targets, while other countries, particularly the United States, under the Convention, wanted a new agreement that included all large emitters.

Both working groups were to complete their assignments and report at the 2009 UNFCCC meetings in Copenhagen, Denmark, in the hope that their work would lead to a new agreement. No agreement was reached, however, and the COP and CMP extended the working groups' mandates.

4.1.3 2009: THE COPENHAGEN ACCORD

Because the working groups could not agree on any texts in Copenhagen, informal negotiations took place outside the UNFCCC process during high-level talks between ministers, heads of state of major economies, and representatives of regional groups.²¹ These led to the finalization of the Copenhagen Accord.

The Accord alluded to some of the major issues in negotiations: a global temperature target, financing for developing nations, verification of reductions, and differentiated actions between developed and developing nations. The most important aspect of the Accord is that principal contributors to greenhouse gas emissions, such as the United States and China, and countries whose emissions are growing rapidly, such as India and Brazil, were involved in its finalization.

Countries were asked to associate themselves with the Copenhagen Accord by officially agreeing to its objectives in writing to the UNFCCC. Some of these objectives included:

- a commitment to take action to meet the objective of achieving deep cuts in global emissions so as to hold the increase in global temperature below 2°C;
- a commitment by developed nations to provide almost US\$30 billion in new and additional resources from 2010 to 2012 (including forestry and investments through international institutions), with balanced allocation between adaptation and mitigation;
- in the case of developing nations, a commitment to implement mitigation actions tailored to their own countries, subject to their domestic measurement, reporting and verification; and
- in the case of developed nations, a commitment to economy-wide emissions targets for 2020 that would, in the case of Kyoto Protocol parties, further strengthen the emissions reductions initiated by the Protocol.²²

As negotiations had not taken place under the UNFCCC, the Accord was not an official UNFCCC document. However, one of the decisions of the COP was to "take note" of the Accord.

In 2010, the language of the Copenhagen Accord was adopted as an official decision at the Cancun, Mexico, climate change meetings. Importantly, this occurred despite the fact that Bolivia continued to oppose it, meaning that the decision was taken in the absence of unanimity. Debate over the process for decision-making has since hindered advancement toward implementing the Convention.

4.1.4 2011: DURBAN AND WORK TOWARD A 2015 AGREEMENT

Acknowledging the gap between the collective effect of individual nations' pledges and the estimated requirements to reduce emissions sufficiently to avoid breaching the 2°C threshold, it was decided at the 2011 COP meeting in Durban, South Africa, "to launch a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties." ²³ To this end, it established the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) and gave it a deadline of 2015 to complete its work so that the agreed outcome, whatever form it might take, would be implemented from 2020. ²⁴

The ADP has two "workstreams." The first is concentrated on developing the 2015 agreement. The second, recognizing that to wait until a new agreement takes effect would make the challenge even greater, seeks to examine ways for the global community to embrace more ambitious emissions reductions efforts before 2020.

4.1.5 2012: THE CONTINUATION OF KYOTO

Apart from acknowledging the need for greater ambition for collective global emission reductions, the key decision at the 2012 COP 18 meetings, held in Doha, Qatar, was to amend the Kyoto Protocol to allow for a second eight-year commitment period, beginning in 2013. The commitment period will keep the Kyoto mechanisms, such as the emissions trading system, active until 2020, when the new agreement is to be implemented. However, its coverage is less than that of the first commitment period, since Russia and Japan did not agree to take on new commitments and Canada has withdrawn from the Protocol.

4.1.6 2013: "Nationally Determined Contributions"

The 2013 meetings in Warsaw, Poland, concluded with a decision to invite "all parties to initiate or intensify domestic preparations for their intended nationally determined contributions," ²⁵ often referred to as INDCs. Various aspects of this decision are of significance. The term "contribution" was accepted over the term "commitment," and there was no mention of the nature of the "legal force" of the potential 2015 agreement. Neither was there mention of how commitments in the agreement could be established in a way that would be acceptable to all and would verifiably avoid breaching the 2°C target. ²⁶

4.1.7 CURRENT STATE OF NEGOTIATIONS

As agreed at the 2012 COP 18 in Doha, a draft of the agreement was to be available no later than May 2015. In February 2015, a negotiating text²⁷ for an agreement was released by the ADP. The process for negotiations to finalize the new agreement was agreed to at the 2014 COP 20 meeting in Lima, Peru. At the last ADP session held 19–23 October 2015, difficulties arose in producing the latest text of the draft agreement.²⁸ According to one analysis,²⁹ a final agreement will be difficult to reach.

Key to the new agreement will be balancing the need for parties' collective commitments to avoid the 2°C threshold while allowing nations to set their own targets.³⁰

Various countries have now submitted their intended nationally determined contributions. For example, the United States has accepted a target to reduce its emissions by 26%–28% below 2005 levels by 2025, "and to make best efforts to reduce by 28%," while the European Union is "committed to a binding target of an at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990." Canada's targets are discussed in the appendix to this paper.

According to a recent UN report,³³ the global emissions reductions pledged to date, if kept, would slow the rate of growth in global emissions. However, emissions would continue to rise; by 2030, they would reach levels that are 37%-52% higher than they were in 1990.

5 CONCLUSION

The chairs of the ADP commented in August 2013 that "science, equity, national circumstances and flexibility, effectiveness and participation are emerging as guiding elements in the design of the 2015 agreement." These elements are similar to those identified by the IPCC in 2007, which concluded, "There is a broad consensus in the literature that a successful agreement will have to be environmentally effective, cost-effective, incorporate distributional considerations and equity, and be institutionally feasible." ³⁵

Meanwhile, the urgency to reduce emissions to meet the Convention's objective mounts. Models of the climate system suggest that, even if greenhouse gas emissions ceased to increase, temperatures would remain elevated for centuries. Also, current fossil fuel infrastructure investments will lock in associated future emissions for decades. Meanwhile, negotiations and implementation of an agreement must overcome the significant political dynamic between developed and developing countries that has prevented advancement toward an effective agreement.

A report produced for the World Bank estimated that, without commitments beyond those made under the Copenhagen Accord, there is a 20% likelihood of exceeding an increase of 4°C by 2100, a mark that would be reached in less time if current commitments are not met. The report concludes that "[a] world in which warming reaches 4°C above preindustrial levels, would be one of unprecedented heat waves, severe drought, and major floods in many regions, with serious impacts on human systems, ecosystems, and associated services." ³⁶

Although an increase in average global temperature of 4°C may constitute a more certain danger, the UNFCCC has accepted a threshold of 2°C as defining a danger to the climate system. As a result of the difficulties in reducing global emissions, it is becoming likely that this threshold will be passed. However, despite the failure of the UNFCCC to come to an effective international agreement, it has focused attention on climate change, catalyzing domestic actions and international activities that were unlikely to have occurred in its absence. Recent data suggest that emissions in 2012 increased at a lower rate than in previous years.³⁷

Yet, despite hope that current actions, particularly fuel switching, may be lowering the rate at which emissions are increasing, much more will have to be done to actually decrease emissions in order to lower atmospheric greenhouse gas concentrations sufficiently to meet the targets of the UNFCCC.

NOTES

- The United Nations Framework Convention on Climate Change is also the name of the body that has been established to facilitate the implementation of the Convention's provisions. In this paper, "Convention" is used to refer to the agreement and "UNFCCC" to refer to the body that implements it.
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- United Nations General Assembly, <u>Protection of global climate for present and future</u> generations of mankind, A/RES/43/53, 6 December 1988.
- 4. IPCC, "Summary for Policymakers," in Climate Change 2013: The Physical Science Basis Contribution of Working Group I to the IPCC Fifth Assessment Report of the Intergovernmental Panel on Climate Change, 2013, p. 2.
- 5. IPCC (2013). This paraphrases the conclusions regarding the causes to which the changes in the energy balance of the earth (quantified as "radiative forcing") are attributed, p. 11.
- 6. IPCC, Principles and Procedures.
- 7. United Nations, *United Nations Framework Convention on Climate Change*, Article 2, 1992.
- United Nations Framework Convention on Climate Change [UNFCCC], Subsidiary Body for Implementation, Figure 2, "Changes in greenhouse gas emissions from Annex I Parties, 1990–2012," in <u>National greenhouse gas inventory data for the period 1990–2012</u>, FCCC/SBI/2014/20, 17 November 2014, p. 8.
- 9. Ibid.
- 10. UNFCCC, <u>Report of the Conference of the Parties on its Seventh Session, Held at Marrakesh from 29 October to 10 November 2001: Addendum, Part Two Action Taken by the Conference of the Parties, FCCC/CP/2001/13/Add.2, 21 January 2002.</u>
- 11. UNFCCC, Figure 3, "Changes in total aggregate emissions of individual Annex I Parties, 1990–2011," in *Natural greenhouse gas inventory for the period 1990–2011* (2013), p. 9.
- U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Global Greenhouse Gas Reference Network, <u>Trends in Atmospheric Carbon Dioxide</u>.
- 13. IPCC (2013), p. 3.
- 14. See, for example, Brigitte Knopf et al., "<u>The 2°C Target Reconsidered</u>," Chapter 12 in *Climate Change, Justice and Sustainability: Linking Climate and Development Policy*, ed. O. Edenhofer et al., Springer Science and Business Media, Dordrecht, Netherlands, 2012, pp. 121–137.
- 15. IPCC (2013), p. 27.
- 16. Ibid.
- 17. See, for example, International Energy Agency, "Four energy policies can keep the 2°C climate goal alive," News release, 10 June 2013.
- 18. UNFCCC, "Decision 1/CP.11: Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention," Report of the Conference of the Parties on its eleventh session, held at Montreal from 28 November to 10 December 2005: Addendum, Part Two Action Taken by the Conference of the Parties at its eleventh session, FCCC/CP/2005/5/Add.1, 30 March 2006, p. 3.
- 19. UNFCCC, "Decision 1/CMP.1: Consideration of commitments for subsequent periods for Parties included in Annex I to the Convention under Article 3, paragraph 9, of the Kyoto Protocol," Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its first session, held at Montreal from 28 November to 10 December 2005: Addendum, Part Two Action taken by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its first session, FCCC/KP/CMP/2005/8/Add.1, 30 March 2006, p. 3.
- UNFCCC, <u>Ad hoc Working Group on Long-term Cooperative Action under the</u> Convention (AWG-LCA).

- 21. For more information on country groups important to climate change negotiations, see UNFCCC, *Party Groupings*.
- 22. The wording is that of the Copenhagen Accord, but it has been rearranged for greater clarity and brevity. (See UNFCCC, Report of the Conference of the Parties on its fifteenth session, held in Copenhagen from 7 to 19 December 2009: Addendum, Part Two Action taken by the Conference of the Parties at its fifteenth session, FCCC/CP/2009/11/Add.1, 30 March 2010.)
- 23. UNFCCC, "Decision 1/CP.17: Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action," Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011: Addendum, Part Two Action taken by the Conference of the Parties at its seventeenth session, FCCC/CP/2011/9/Add.1, 15 March 2012, p. 2.
- 24. Ibid.
- 25. UNFCCC, "Decision 1/CP.19: Further advancing the Durban Platform," <u>Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 to 23 November 2013: Addendum, Part Two Action taken by the Conference of the Parties at its nineteenth session, p. 4.</u>
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- 27. UNFCCC, Ad Hoc Working Group on the Durban Platform for Enhanced Action, *Negotiating text*, FCCC/ADP/2015/1, 25 February 2015.
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- 31. The White House, <u>Fact Sheet: U.S. Reports its 2025 Emissions Target to the UNFCCC</u>, 31 March 2015.
- Latvian Presidency of the Council of the European Union, <u>Submission by Latvia and the European Commission on Behalf of the European Union and its Member States</u>,
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- 33. UNFCCC, <u>Synthesis report on the aggregate effect of the intended nationally determined contributions</u>, Note by the secretariat, FCCC/CP/2015/7, 30 October 2015.
- 34. UNFCCC, Ad Hoc Working Group on the Durban Platform for Enhanced Action, Note on progress: Note by the Co-Chairs, ADP.2013.14.InformalNote, 13 August 2013.
- Terry Barker et al., <u>Climate Change 2007: Working Group III: Mitigation of Climate Change Technical Summary</u>, Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007.
- 36. Potsdam Institute for Climate Impact Research and Climate Analytics, <u>Turn down the</u> <u>heat: why a 4°c warmer world must be avoided</u>, International Bank for Reconstruction and Development/The World Bank, Washington, D.C., November 2012.
- 37. Jos G.J. Olivier et al., *Trends in Global CO₂ Emissions: 2013 Report*, PBL Netherlands Environmental Assessment Agency, The Hague, 2013.

APPENDIX - CANADA'S INTERNATIONAL CLIMATE CHANGE COMMITMENTS

Canada has made four commitments under the *United Nations Framework*Convention on Climate Change to reduce emissions. These are reported in Table 1.

One method of measuring the relative levels of ambition of the commitments is to compare the average annual percent reduction in emissions required to meet the target from the year the commitment was made. This is also reported in Table 1.

Table 1 – Canada's Greenhouse Gas Emission Reduction Targets Under the United Nations Framework Convention on Climate Change (Convention)

Target Context	Year Commitment Made	Target	Average Annual Percent (%) Reduction in Emissions Required to Meet the Target from the Year the Commitment was Made
Original Convention target	1992	1990 levels by 2000	-0.2
Kyoto Protocol target	1997	6% below 1990 levels, on average, between 2008 and 2012	-1.5
Copenhagen Accord commitment	2010	17% below 2005 levels by 2020	-1.3
Intended nationally determined contribution (Paris)	2015	30% below 2005 levels by 2030	-2.1ª

Note: a. Emissions for 2015 are assumed to be equivalent to the latest reported data for 2013.

Source:

Calculations made by the author based on the emissions reported in Environment Canada, National Inventory Report 1990–2013: Greenhouse Gas Sources and Sinks in Canada – The Canadian Government's Submission to the UN Framework Convention on Climate Change, Part 3, 2015.

Entering the first commitment period of the Kyoto Protocol (2008), Canada's emission level had increased to the extent that emissions would have had to be reduced by almost 10% per year to meet the target. Following the 2006 election, the Government of Canada decided not to adhere to the Kyoto target and formally withdrew from the Protocol in December 2012.

Achieving Canada's latest commitment will require an average annual reduction in greenhouse gas emissions far greater than any of the commitments made to date. The difficulty of reaching a target, however, is not only a function of the absolute rate of reductions required, but also the national circumstances, including emission projections in the absence of action; ease of opportunities to reduce emissions; mechanisms already in place to reduce emissions; and the collective desire of the Canadian people to reduce emissions, as expressed in individual effort and political will.

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