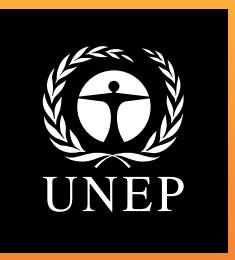

The Emissions Gap Report

Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2° C or 1.5° C?

A preliminary assessment

FULL REPORT

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November 2010

Foreword

Achim Steiner,
UN Under-Secretary-General, UNEP Executive Director

Climate change represents one of the greatest challenges but also an inordinate opportunity to catalyse a transition to a low carbon, resource-efficient Green Economy.

This report informs Governments and the wider community on how far a response to climate change has progressed over the past 12 months, and thus how far the world is on track to meet wider goals.

The pledges associated with the Copenhagen Accord of 2009 are the point of departure for this report. What might be achieved in terms of limiting a global temperature rise to 2° C or less in the twenty-first century and in terms of setting the stage for a Green Economy?

And what remains to be done—what is the gap between scientific reality and the current level of ambition of nations? The analysis focuses on where global emissions need to be in around 10 years time to be in line with what the science says is consistent with the 2° C or 1.5° C limits, and where we expect to be as a result of the pledges.

If the highest ambitions of all countries associated with the Copenhagen Accord are implemented and supported, annual emissions of greenhouse gases could be cut, on average, by around 7 gigatons (Gt) of CO_2 equivalent by 2020.

Without this action, it is likely that a business-as-usual scenario would see emissions rise to an average of around 56 Gt of CO_2 equivalent by around 2020. Cuts in annual emissions to around 49 Gt of CO_2 equivalent would still however leave a gap of around 5 Gt compared with where we need to be—a gap equal to the total emissions of the world's cars, buses and trucks in 2005.

That is because the experts estimate that emissions need to be around 44 Gt of CO_2 equivalent by 2020 to have a likely chance of pegging temperatures to 2° C or less.

However, if only the lowest ambition pledges are implemented, and if no clear rules are set in the negotiations, emissions could be around 53 Gt of CO_2 equivalent in 2020—not that different from business as usual—so the rules set in the negotiations clearly matter.

This report, the result of an unprecedented partnership between UNEP and individuals from 25 leading research centres, underlines the complexity of various scenarios.

The Emissions Gap Report emphasizes that tackling climate change is still manageable, if leadership is shown. In Cancun action on financing, mitigation and adaptation need to mature and move forward—supported perhaps by action on non-CO_2 pollutants such as methane from rubbish tips to black carbon emissions.

Above all, Cancun must demonstrate to society as a whole that Governments understand the gaps left by Copenhagen. But at the same time remain committed to counter climate change while meeting wider development goals.

Contents

Three online appendices accompany this report

Appendix 1: Further detail on the four pledge cases and the differences between estimates
Appendix 2: Detailed information about countries' pledges
Appendix 3: Detailed information about the studies reviewed

Available at www.unep.org/publications/ebooks/emissionsgapreport

Glossary

Annex I Target	For the purpose of this report, the quantified economy-wide emission reduction targets submitted by UNFCCC Annex I countries to the Copenhagen Accord's Appendix I.
Conditional Pledge	Pledges made by some countries that are contingent on the ability of national legislatures to enact the necessary laws, ambitious action from other countries, realization of finance and technical support, or other factors.
Copenhagen Accord	The 15th Conference of the Parties to the UNFCCC took note of this agreement in Copenhagen, Denmark in December 2009. The Accord includes two appendices listing Annex I and non-Annex I pledges, which are analysed in this report.
Cumulative Emissions	Sum of annual global greenhouse gas emissions over a period of time. Because many greenhouse gases persist in the atmosphere for a long time, cumulative emissions greatly influence concentrations and therefore temperature.
Double Counting	In the context of this report, double counting refers to a situation in which the same emission reductions are counted towards meeting two countries' pledges.
Emission Pathway	The trajectory of annual global greenhouse gas emissions over time.
Energy and Industry CO_2 Emissions	CO_2 emissions from the energy and industry sectors. These are often referred to in this report when describing emission reduction rates and negative emissions
Feasible Rates of Emission Reduction	The average annual rate of emission reductions assumed feasible given assumptions about technological development, economic costs, and/or socio-political factors.
Global (total) Greenhouse Gas Emissions	Emissions from all sectors and all greenhouse gases
Integrated Assessment Models	Models of climate change that seek to combine knowledge from multiple disciplines in formal integrated representations. As such they describe the full chain of climate change, including relevant linkages and feedbacks between socio-economic and biophysical processes.
Likely Chance	A greater than 66 per cent likelihood. Used to convey the probabilities of meeting temperature limits.
Lenient LULUCF Credits	Credits given for carbon removals from existing forests or other sinks that would have occurred without policy intervention.
Lenient Rules	Pledge cases with maximum Annex I "lenient LULUCF credits" and surplus emissions units.
Medium Chance	A 50 to 66 per cent likelihood. Used to convey the probabilities of meeting temperature limits.
Negative Emissions	Either globally or for a particular sector, the emissions that could occur if, in a given period, the removal of greenhouse gases from the atmosphere as a result of anthropogenic activities is greater than the addition of anthropogenic emissions into it.. Note that in this report negative energy and industry CO_2 emissions are often mentioned.

Non-Annex I Action	For the purpose of this report, those emission reduction actions submitted to the UNFCCC by non-Annex I countries and listed in the Copenhagen Accord's Appendix II.
Offsets	A general term referring to credits that offset the need to reduce emissions elsewhere.
Overshoot Pathway	An emission pathway wherein a selected target (concentration or temperature) is exceeded for a period of time, but is eventually met.
Pledge	For the purpose of this report, pledges include Annex I targets and non-Annex I actions as included in Appendix I and Appendix II, respectively, to the Copenhagen Accord.
Scenario	A description of how the future may unfold based on 'if-then' propositions. A scenario in the context of this report consists typically of a representation of an initial socio-economic situation and a description of the key driving forces and future changes in emissions, temperature or other climate change-related variables.
Strict Rules	Pledge cases in which the impact of "lenient LULUCF credits" (see definition above) and surplus emissions units are set to zero.
Stylized Pathways	These are results from carbon cycle and climate models that are designed to better understand the relationships between emissions and temperatures, but do not explicitly incorporate assumptions about technological, economic or socio-political feasibility of emission reductions.
Surplus Emission Units	After the first commitment period of the Kyoto Protocol (2008-2012), according to Article 3, paragraph 13, Parties holding emission units not required for compliance with their commitments are able to carry over these units for future use or sale. These are called "surplus emission units". There is also the possibility that new surplus emission units will be created in the second commitment period, when targets are set below business-as-usual expectations.
Temperature Limits	Targets for maximum global average temperature increase above pre-industrial levels.
20th-80th percentile range	Results that fall within the 20-80 per cent range of the frequency distribution of results in this assessment.