Analysis of quantified emission limitation and reduction commitments expressed as percentage of base year and absolute emission levels

Mandate: This document was prepared by the secretariat at the request of Parties during the last meeting of the AWG-KP spin-off group on "numbers" during the first part of the seventeenth session of the AWG-KP (15-24 May 2012). The objective is to provide an analysis of the quantitative implications of the quantified economy-wide limitation or reduction commitments (QELRCs) submitted by Parties. The document and the analysis that it contains have been prepared by the secretariat using the information submitted by Parties before and during the first part of the seventeenth session of the AWG-KP.

Scope: The document contain tables with information that is intended to complement the technical information available from the paper prepared by the secretariat on the quantified emission limitation and reduction objectives expressed as percentage of base year and absolute emission levels, the last version of which was distributed during the fourth part of the sixteenth session of the AWG-KP in Durban.[1] These tables have been prepared with full acknowledgment that the QELRCs provided by Parties are still provisional, and that the length of the second commitment period of the Kyoto Protocol, either 5 or 8 years, is yet to be agreed.

Contents: Table 1 contains information on the QELRCs and the associated quantitative implications in terms of average emissions and emission reductions compared to 1990 levels associated with possible QELRCs in the second commitment period of the Kyoto Protocol. In particular, it contains:

1) Level of emissions in the base-year for each Annex I Party that is also a Party to the Kyoto Protocol (Annex I Party);
2) Provisional QELRCs submitted by Parties with respect to themselves. All these Parties that have, thus far, submitted QELRCs have done so in relation to an eight-year commitment period (2013–2020);
3) QELRCs calculated and proposed by the Alliance of Small Island States (AOSIS) for Annex I Parties for a 5-year commitment period, as presented to the spin-off group during the first part of the seventeenth session of the AWG-KP;[2]
4) Average emissions in the second commitment period of the Kyoto Protocol associated with QELRCs, expressed in Mega ton (Mt) CO_2 equivalent. Calculations for these emissions for the provisional QELRCs submitted by Parties with respect to themselves and the QELRCs proposed by AOSIS, were prepared by the secretariat using inventory data from the 2012 annual inventory submissions by Annex I Parties;
5) Total average annual reduction of emissions compared to 1990 levels for the second commitment period of the Kyoto Protocol for the Parties for which QELRCs are provided, expressed in Mt CO_2 equivalent and in percent reduction of 1990 emissions. Estimates are provided for the provisional QELRCs submitted by Parties with respect to themselves, and for the QELRCs proposed by AOSIS;
6) Total average annual reduction of emissions compared to 1990 levels for the second commitment period of the Kyoto Protocol for the Parties with commitments inscribed in Annex B to the Kyoto Protocol for the first commitment period (except Canada, Japan and the Russian Federation), expressed in Mt CO_2 equivalent and in percent reduction of 1990 emissions. Estimates are provided for three possible paths of emissions towards 2020 consistent with the IPCC objective of an overall reductions by Annex I Parties by 25 and 40 percent, assuming:
    (a) A linear path between 1990 levels and the IPCC objective to be achieved by 2020;
    (b) A linear path between emission levels in 2010 equal to the average level of emissions during the first commitment period of the Kyoto Protocol that are consistent with the QELRCs for that commitment period as defined in Annex B to the Kyoto Protocol and the IPCC objective to be achieved by 2020;
    (c) A linear path from the current level of emissions as reported in the most recent year submitted by Parties in their annual inventory submissions, which is 2010, and the IPCC objective to be achieved by 2020.

[1] "Quantified emission limitation and reduction objectives expressed as percentage of base year and absolute emission levels," version of 2 December 2011, available at http://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/newtableqelros_distributed_2dec11.pdf.

[2] Available at http://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/awgkp_aosis_infsubmission_4.pdf

The values contained in table I are based on the annual submissions made in 2012 by Annex I Parties in accordance with Article 7, paragraph 1, of the Kyoto Protocol. In calculating the level of emissions in the base year, the secretariat assumed that the rules on the establishment of the initial assigned amount for the second commitment period would mirror the rules and decisions used by Parties for the first commitment period, in particular those related to Article 3, paragraphs 7 and 8, of the Kyoto Protocol.

The quantitative analysis presented in table 1 is based on information submitted by Parties in response to the invitation contained in paragraph 5 of decision 1/CMP.7[3] (these submissions were compiled by the secretariat in documents FCCC/KP/AWG/2012/MISC.1 and FCCC/KP/AWG/2012/MISC.1/Add.1), as well as information received after the publication of these documents.[4]

Table 2 of this document summarizes the information submitted by Parties with a view to facilitate the understanding of the analysis presented in table 1. The information provided in table 2 is not intended to replace the original information submitted by Parties.

[3] Document FCCC/KP/CMP/2011/10/Add.1, page 2.

[4] Submission of Liechtenstein, received on 15 May 2012 and available at http://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/awgkp_liechtenstein_15052012.pdf

Table 1 - quantified emission limitation and reduction commitments expressed as percentage of base year and absolute emission levels

Party	Level of emissions in Base Year #	QELRC (percentage of base year or period)		Average annual emissions in the commitment period associated with QELRCs (in Mt CO2 eq.)	
		QELRCs submitted by Parties. Commitment period (2013–2020)	QELRCs proposed by AOSIS. Commitment period (2013–2017)	For QELRCs submitted by Parties. Commitment period (2013–2020)	For QELRCs proposed by AOSIS. Commitment period (2013–2017)
Australia	559.00	NA	93	NA	519.9
Belarus	139.18	92.0	65	128.0	90.5
Canada	589.29	NA	NA	NA	NA
Croatia	27.97	80.0	81	22.4	22.7
European Union (EU-27)	5736.16	80.0	81	4 588.9	4 646.3
Iceland	3.50	80.0	81	2.8	2.8
Japan	1256.34	NA	NA	NA	NA
Kazakhstan	318.14	NA	73	NA	232.2
Liechtenstein	0.23	84.0 - 78.0	81	0.2 - 0.2	0.2
Monaco	0.11	NA	81	NA	0.1
New Zealand	59.80	NA	90	NA	53.8
Norway	49.80	84.0 - 81.0	81	41.8 - 40.3	40.3
Russian Federation	3330.05	NA	NA	NA	NA
Switzerland	53.06	84.2 - 77.7	81	44.7 - 41.2	43.0
Ukraine	929.58	NA	46	NA	427.6

Reduction of average annual emissions during the second commitment period of the Kyoto Protocol since base year	**Commitment period (2013–2020)**	**Commitment period (2013–2017)**
Total average annual reduction since 1990 in accordance with QELRCs submitted with respect to themselves (8 years) or provided by AOSIS (5 year)		
i) Expressed in Mt CO2 eq.	1 175.5 - 1 180.4 *	1 791.8
ii) Expressed in percent reduction from total emissions in base year	16.2 - 15.0 *	22.7
Total average annual reduction since 1990 for Parties listed in the table above, excluding Canada, Japan and the Russian Federation, consistent with a linear path of emissions towards 2020 levels in accordance with the IPCC objective (25-40%)		
a) Assuming a linear path of emissions from 1990 levels to 2020 levels in accordance with the IPCC objective (25-40%)		
i) Expressed in Mt CO2 eq.	1 740.2 - 2 784.3	1 641.7 - 2 626.7
ii) Expressed in percent reduction from total emissions in base year	22.1 - 35.3	20.8 - 33.3
b) Assuming a linear path of emissions from average annual emissions consistent with QELRCs for the first commitment period of the Kyoto Protocol to 2020 levels in accordance with the IPCC objective (25-40%)		
i) Expressed in Mt CO2 eq.	1 426.4 - 2 194.7	1 193.4 - 1 784.4
ii) Expressed in percent reduction from total emissions in base year	18.1 - 27.9	15.1 - 22.6
c) Assuming a linear path of emissions from current level of emissions (2010) to 2020 levels in accordance with the IPCC objective (25-40%)		
i) Expressed in Mt CO2 eq.	1 864.3 - 2 632.6	1 818.9 - 2 409.9
ii) Expressed in percent reduction from total emissions in base year	23.7 - 33.4	23.1 - 30.6

 # Including provisions in accordance with Article 3, paragraphs 7 and 8, and different base year than 1990.

*** Only Parties that have submitted QELRCs for themselves are included in the total. The total average annual emissions reduction may be not comparable to other totals in this table**

NA = not applicable, QELRC = Quantified emission limitation and reduction commitment; IPCC – Intergovernmental Panel on Climate Change

Table 2 – Overview of the information submitted by Parties on quantified emission limitation or reduction objectives (QELROs)[5]

Party	Status of the submission on QELROs for CP2	QELROs for CP2, reference to 1990	Approach and assumptions used to determine the QELROs	Conditions associated with information on QELROs for CP2	Information on domestic policies supporting QELROs	Length of CP2
Australia	Still considering whether to submit information on QELROs and whether to join CP2	NA		Australia is carefully examining the interaction between Australia's legislated policy settings and new international rules: a CP2 must be balanced by an agreement with legally binding mitigation commitments by all major economies. In addition, Parties have yet to agree to several important rules that will apply to CP2.	Australia's 2020 pledge is supported by a broad package of national policies and legislation, including a Carbon Pricing Mechanism commencing on 1 July 2012.	NA
Belarus[1]	No information related to the status of the pledge was provided.	QELROs is 92%	Belarus followed the Technical Paper[6] and used the QELRO for CP1 (QELRO 2010) as a starting point.	The pledge of Belarus was specified as 8% emission reduction by the year 2020 as compared to the 1990, by Decree No. 224 adopted by the President of the Republic of Belarus on 7 May 2012		NA
Croatia	The information on the QELROs in the submission is provisional.	QELROs is 80%	Croatia aligns itself with the submission by the European Union in respect of QELROs for CP2.	Croatia intends to fulfill its commitment under Article 3 of the Kyoto Protocol jointly with the EU and Iceland, in accordance with Article 4 of the Kyoto Protocol.	Croatia is transposing the EU's climate and energy package, and will join the EU emission trading scheme (EU ETS) from 1 January 2013.	8-year commitment period, from 2013 to 2020
European Union	The information on the QELROs in the submission is provisional.	QELROs is 80% for 2013-2020	The information on QELROs of the EU and its member States has been determined on the basis of the EU's total GHG emissions allowed during the period 2013-2020 under its existing climate and energy package (CE package) legislation, reflecting the 20% pledge by 2020.	The QELROs for the European Union for CP2 are based on the understanding that these will be fulfilled jointly in accordance with Article 4 of the Kyoto Protocol, as well with Croatia and Iceland. The EU stands by its conditional offer, as reiterated by the European Council in December 2009 to move to a 30% reduction by 2020 compared to 1990 levels, as part of a global and comprehensive agreement for the period beyond 2012, provided that other developed countries commit themselves to comparable emission reductions and developing countries contribute adequately according to their responsibilities and respective capabilities.		8-year commitment period, from 2013 to 2020. The EU calls for a review of the ambition level under the Kyoto Protocol coinciding with the 2013-2015 review under the Convention.

[5] The AWG-KP, at its resumed sixth session, agreed that further commitments for Annex I Parties should, for the next commitment period, principally take the form of quantified emission limitation or reduction objectives (QELROs). Article 3, paragraph 1, of the Kyoto Protocol uses the term 'quantified emission limitation and reduction commitment' (QELRCs). This document assumes that both terms refer to the same concept.

[6] FCCC/TP/2010/3/Rev.1; hereinafter referred to as the 'Technical Paper'.

Party	Status of the submission on QELROs for CP2	QELROs for CP2, reference to 1990	Approach and assumptions used to determine the QELROs	Conditions associated with information on QELROs for CP2	Information on domestic policies supporting QELROs	Length of CP2
Iceland	The final QELRO will be determined at the Doha meeting	QELROs is 80% for 2013-2020	Iceland aligns itself with the submission by the European Union in respect of QELROs for CP2.	Iceland's QELRO for CP2 is based on the understanding that it will fulfill this QELRO jointly with the European Union, in accordance with Article 4 of the Kyoto Protocol. As a consequence, future accession by Iceland to the European Union shall not affect its participation in such joint fulfillment agreement.	Iceland's 2007 Climate Change Strategy outlines a general policy for mitigation, adaptation and other aspects for climate policy. An Action Plan on Climate Mitigation was developed on the basis of the Strategy in 2010. Together, these actions should lead to Iceland being able to meet its likely international commitments, including a QELRO set for CP2.	Iceland prefers an 8-year commitment period
Liechten-stein	The information on the QELROs in the submission may be subjected to adjustments depending on the rules for CP2	QELRO range of 84-78%.	Liechtenstein followed the Technical Paper and used the QELRO for the CP1 (QELRO 2010) as starting point.	The range of QELROs reflect the range of pledges 20-20% and conditions associated		Liechtenstein prefers an 8 year commitment period (2013-2020)
New Zealand	Still considering whether to submit information on QELROs	NA		New Zealand welcomes the Durban Platform, but notes that this is well short of achieving a comparable "balancing agreement" covering advanced and major-emitting developing countries as well as those Annex I Parties that will not be part of CP2. Also, New Zealand is still assessing the domestic implications of the agreed forestry rules, and waiting certainty on the issue of carry-over of surplus AAUs, which could have a significant impact on its decision on pledges.	New Zealand is in the process of adjusting its Emissions Trading Scheme following a review in 2011, a period of public consultation and a legislative process: legislative amendments are expected later in 2012. New Zealand is also involved in other domestic and international initiatives.	NA
Norway	The information on the QELROs in the submission is provisional.	QELROs range of 81-84%, considering the range of rules and assumptions.	The range of QELROs is based on different linear emission trajectories considering the following alternatives: 1) The QELRO in the first commitment period, with two starting points: the mid-term (2010) of the first commitment period or the end-point of the first commitment period (2012); 2) Current level of emissions, with two options: 2009 or 2010.	In Norway's submission, information on QELROs is given relative to the pledge of 30% by 2020, compared to 1990. Norway will move to a 40% pledge as part of a global and comprehensive agreement for the period beyond 2012 where major emitting Parties agree on emission reductions in line with the 2C target: but in the Kyoto context these conditions are not fulfilled yet.		Norway prefers an 8-year commitment period, in order to secure that there is no gap between CP2 and the new comprehensive agreement under the Durban Platform for Enhanced Action, that shall come into effect in 2020.

Party	Status of the submission on QELROs for CP2	QELROs for CP2, reference to 1990	Approach and assumptions used to determine the QELROs	Conditions associated with information on QELROs for CP2	Information on domestic policies supporting QELROs	Length of CP2
Switzer-land	The information on the QELROs in the submission may be subjected to later modification	QELROs range of 84.2 to 77.7%, considering the range of pledges (20-30% by 2020).	Switzerland followed the Technical Paper. On environmental integrity when transforming pledges into QELROs and choosing the starting point of the emission trajectory for CP2, Switzerland used the QELRO for the CP1 (QELRO 2010) as starting point.	Switzerland would consider a pledge up to 30% by 2020 compared to 1990 levels under the condition that other developed countries commit themselves to comparable emissions reductions and that economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities.	On 26 August 2009, Switzerland's Federal Council adopted a draft legal text for the Federal Act on the Reduction of CO2 Emissions (the CO2 Act) on national climate policy for the period between 2013 and 2020. The draft was adopted by the Parliament in December 2011, and will enter into force on the 1st January 2013, if no referendum is launched against this law.	Switzerland prefers an 8 year commitment period (2013-2020), so that it is consistent with the Swiss CO2 Act, which provides for a reduction objective in the period 2013-2020, and it takes into account the necessary time for measures to yield greenhouse gas emissions reductions.
Nauru on behalf of AOSIS	No information provided	AOSIS provides QELROs for all Annex I KP Parties for a 5 year CP (2013-2017)	AOSIS used the information in the Technical Paper. Also, it considered that commitments should be established: consistent with the most ambitious pledges, when ranges are used, or more ambitious; using a linear trajectory from QELROs CP1 as starting point; below a Party's 1990 emission levels and below a Party's most recent set of verified emission levels.	AOSIS considers inappropriate the inclusion of footnotes that render Annex B commitments conditional, as these are presented in Annex I to decision 1/CMP.7. It is essential that the international community have complete clarity on the effective emission reductions.	AOSIS presents information on how to increase the level of ambition by Annex I Parties. EU: It could move to more ambitious targets of 30% with a cost of 0.03-0.04% of GDP; 25% could be met domestically and 5% from use of international credits; use of 1% net credits from LULUCF. New Zealand: use of surplus RMU units from CP1 that are fungible to AAUs and move to a 20%. Australia: use of surplus and increase the effective ambition by not including deforestation in the calculation of base year emissions. Belarus and Ukraine: use of the vast surplus from CP1. Kazakhstan: strengthen the QELROs for CP1.	Annex B must contain legally-binding, single number, QELROs for a 5-year CP (2013 to 2017)

Abbreviations: CP1=first commitment period, CP2= second commitment period, GHG=greenhouse gas emissions