

## Compilation of information relating to possible quantified emission limitation and reduction objectives as submitted by Parties

*Informal note by the secretariat*

11 August 2009

### Introduction

1. A number of Parties included in Annex I to the Convention (Annex I Parties) that are also Parties to the Kyoto Protocol made a joint submission on 5 May 2009 to the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) with information on possible quantified emission limitation and reduction objectives (QELROs) for 2020. The Parties indicated that this submission serves information purposes only and does not entail any collective political endorsement or acceptance by the submitting Parties of the information provided in the table of the submission. The submission is included in document FCCC/KP/AWG/2009/MISC.8.
2. In addition, Iceland made a statement during the plenary meeting of the eight session of the AWG-KP announcing its decision to reduce emissions by 15 per cent between 1990 and 2020. Japan also made a statement during the same session announcing its decision to reduce emissions by 15 per cent between 2005 and 2020. Further, Liechtenstein made a statement during the same session announcing its decision to reduce emissions between -20 to -30 per cent between 1990 and 2020. This information is included in a submission received by the secretariat on 11 June 2009, which is contained in document FCCC/KP/AWG/2009/Misc.13/Add.1.
3. New Zealand made a statement during the informal session of the AWG-KP held in Bonn, 10-14 August 2009 and announced its decision to reduce emissions between -10 to -20 per cent between 1990 and 2020. Information relating to possible QELRO for New Zealand as well as information for Monaco, the Russian Federation and Kazakhstan is contained in a joint submission by a group of Annex I Parties which is placed on the UNFCCC website [http://unfccc.int/kyoto\\_protocol/items/4752.php](http://unfccc.int/kyoto_protocol/items/4752.php).
4. The AWG-KP requested the secretariat to aggregate the values relating to possible QELROs and prepare relevant information for consideration by the AWG-KP at its eight session. It also requested the secretariat to update this information for its next session and to provide information on greenhouse gas (GHG) inventory data for all Annex I Parties that are also Parties to the Kyoto Protocol.

### Background

5. Table 1 below contains information relating to possible QELROs, the reference year, whether the land use, land-use change and forestry (LULUCF) sector and the use of Kyoto mechanisms are included, and the status of possible QELROs. Table 1 is presented with minimal changes from the table contained in document FCCC/KP/AWG/2009/MISC.8, with the addition of the proposals from Iceland, Japan, Liechtenstein, Monaco, New Zealand and the Russian Federation (see paragraphs 2 and 3).
6. Parties proposed a single value relating to possible QELRO or a range of values subject to certain conditions and in certain contexts. The information on these conditions and contexts is contained in annex I to this note. Information on GHG inventory data for Annex I Parties to the Kyoto Protocol is included in annex II to this note.
7. In some cases, whether the LULUCF sector would be included in the value relating to possible QELROs is yet to be determined by Parties. Even where there is an indication that the LULUCF sector has been included, it is not always clear which accounting rules have been used for the calculation the values relating to possible QELROs. In addition, the extent of the use of the Kyoto mechanisms, the

inclusion of new greenhouse gases<sup>1</sup> and the changes in emission estimates that would result from possible use of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories on emission trends and values relating to possible QELROs are also not clear.

**Table 1. Information relating to possible quantified emission limitation and reduction objectives submitted by Annex I Parties that are also Parties to the Kyoto Protocol**

Party	Information relating to possible QELROs		Inclusion of LULUCF	Inclusion of mechanisms	Status
	Range or single value by 2020	Reference year			
Australia	-5 to -15%; or -25%	2000	Yes	Yes	Officially announced
Belarus	-5 to -10%	1990	TBD	Yes	Under consideration
Canada	-20%	2006	TBD	TBD	Officially announced
European Community (EU-27)	-20 to -30%	1990	No for -20%; Yes for -30%	Yes <sup>a</sup>	Adopted by legislation
Iceland	-15%	1990	Yes	TBD	Officially announced
Japan	-15%	2005	No	No	Officially announced
Liechtenstein	-20 to -30%	1990	No	Yes	Officially announced
Monaco	-20%	1990	TBD <sup>b</sup>	TBD	Officially announced
New Zealand	-10 to -20%	1990	Yes	Yes	Officially announced
Norway	-30%	1990	Yes <sup>b</sup>	Yes	Officially announced
Russian Federation	-10 to -15%	1990	TBD	TBD	Officially announced
Switzerland	-20 to -30%	1990	Yes	Yes	Consultations in progress
Ukraine	-20%	1990	TBD	Yes	Under consideration

Abbreviations: LULUCF = land use, land-use change and forestry, TBD = to be determined.

<sup>a</sup> The European Community envisages a restricted use of the mechanisms for the range of possible QELROs.

<sup>b</sup> The LULUCF sector is included following the existing rules under the Kyoto Protocol. If the rules change, Norway's national goal will change accordingly.

### Overview of results

8. The calculation of the emission reductions in aggregate was based on the most recent inventory data that are available on the UNFCCC website, which contain emission estimates up to 2006. These inventory data are based on the submissions made in 2008 by the Parties concerned. Most of the information relating to QELROs was prepared based on these submissions as these submissions were reviewed by expert review teams. Alternatively, calculations could be made using the current base year data under the Kyoto Protocol that are used to establish the assigned amounts for the first commitment period of the Protocol. However, figures for the base year for the Kyoto Protocol are not available for the 27 Parties that are member States of the European Community as a group.

9. In responding to the request mentioned in paragraph 4 above, the secretariat prepared two sets of emission reductions in aggregate for the Parties that have submitted information relating to possible QELROs in order to deal with uncertainties associated with LULUCF, as noted in paragraph 7 above. The results of these calculations are included in table 2 below. The first set of emission reductions in aggregate was calculated using emissions in 1990 or any other reference year specified by the Parties, excluding emissions and removals from the LULUCF sector, but including emissions from deforestation in accordance with the current accounting rules under the Kyoto Protocol. In this case, emission

<sup>1</sup> This refers to the consideration by the AWG-KP at its resumed sixth session of the coverage of greenhouse gases under its agenda item 5 (d).

reductions in aggregate of this group of Parties are expected to be between **15 and 21 per cent** below 1990 levels in 2020. The **second set** was calculated using emissions in 1990 or any other reference year specified by the Parties including emissions and removals from the LULUCF sector. In this case, emission reductions in aggregate of this group of Parties are expected to be between **13 and 20 per cent** below 1990 levels in 2020.

10. Given the uncertainties associated with the information relating to possible QELROs noted in paragraph 7 above, including the lack of clarity over the accounting rules for the LULUCF sector, the ranges of aggregate emission reductions presented in paragraph 10 above should be considered as preliminary.

**Table 2. Greenhouse gas emission trends and emission reductions in aggregate for the Annex I Parties that are also Parties to the Kyoto Protocol which have submitted information relating to possible quantified emission limitation and reduction objectives**

Party	Total GHGs excluding LULUCF, including deforestation <sup>a</sup> , in Tg CO <sub>2</sub> eq					Total GHGs excluding LULUCF, including deforestation <sup>a</sup> , in Tg CO <sub>2</sub> eq					Values relating to possible QELROs in % of reference year emissions					Total GHGs including LULUCF, in Tg CO <sub>2</sub> eq		
	1990	2006	1990	2006	2004	1990	2006	1990	2004	2004	Min	Max	Reference year	Min 2010	Max 2010	Reference year level	Min 2020	Max 2020
Australia	418.2	495.2	536.1	552.6 <sup>b</sup>	566.1 <sup>b</sup>	599.0 <sup>b</sup>	515.9	524.9	549.9	-5%	-25%	2000	566.1 <sup>a</sup>	537.8 <sup>a</sup>	424.0 <sup>b</sup>	528.9 <sup>b</sup>	498.7 <sup>b</sup>	
Belarus	127.4	68.8	81.6	127.4	69.8	8.0	105.3	42.5	35.0	-5%	-10%	1990	127.4	121.0	114.6	105.3	106.1	
Canada	592.3	717.7	720.6	592.3	717.7	720.6	485.8	620.1	752.0	-20%	-30%	2006	720.6	576.5	752.0	752.0	601.6	
European Community (EU-27)	5 564.0	5 054.1	5 129.6	5 565.8	5 056.1	5 131.5	5 165.1	4 649.3	4 633.7	-30%	-30%	1990	5 365.8	4 452.6	3 896.0	5 163.1	4 130.4	
Ireland	3.4	3.7	4.2	3.4	3.7	4.2	4.9	5.0	5.4	-15%	-15%	1990	3.4	2.9	2.9	4.9	4.2	
Japan	1 272.1	1 344.5	1 340.1	1 272.1	1 348.3	1 344.3	1 180.2	1 355.7	1 248.6	-15%	-15%	2005	1 358.1 <sup>a</sup>	1 154.4 <sup>a</sup>	1 154.4 <sup>a</sup>	1 262.7 <sup>a</sup>	1 072.9 <sup>a</sup>	
Liechtenstein	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	-20%	-30%	1990	0.2	0.2	0.2	0.2	0.2	
Monaco	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-20%	-20%	1990	0.1	0.1	0.1	0.1	0.1	
New Zealand	61.9	70.7	77.9	61.9	70.7	77.9	41.4	50.7	55.1	-10%	-20%	1990	61.9	55.8	49.6	41.4	37.3	
Norway	49.7	33.5	53.5	49.7	53.5	53.5	36.0	30.1	25.7	-30%	-30%	1990	49.7	34.8	34.8	36.0	25.2	
Russian Federation	3 326.4	2 038.2	2 190.2	3 326.4	2 038.2	2 199.2	3 506.6	2 386.8	2 478.0	-10%	-15%	1990	3 326.4	2 993.8	2 827.4	3 506.4	3 155.8	
Switzerland	57.8	51.8	53.2	57.8	51.8	53.2	50.2	52.6	51.0	-20%	-30%	1990	52.8	42.2	37.0	50.2	40.2	
Ukraine	922.0	395.0	443.2	922.0	395.0	443.2	855.1	344.1	410.6	-30%	-30%	1990	922.0	737.6	853.1	853.1	694.3	
<b>Total in Tg CO<sub>2</sub> eq</b>	<b>12 388.4</b>	<b>10 298.4</b>	<b>10 630.0</b>	<b>12 526.7</b>	<b>10 371.3</b>	<b>10 694.8</b>	<b>11 944.7</b>	<b>9 961.4</b>	<b>10 265.2</b>				<b>10 709.6</b>	<b>9 855.6</b>		<b>10 330.6</b>		
<b>Total in % of 1990 emissions</b>													<b>-15%</b>	<b>-21%</b>		<b>-13%</b>		
<b>Total in % of 2006 emissions</b>													<b>3%</b>	<b>-5%</b>		<b>4%</b>		
<b>Total in % of 2006 emissions</b>													<b>0%</b>	<b>-8%</b>		<b>1%</b>		

**Abbreviations:** GHGs = greenhouse gases, LULUCF = land use, land-use change and forestry, QELROs = quantified emission limitation and reduction objectives.

**Notes:** (1) For Parties with reference years different from 1990, QELROs can be calculated as a percentage reduction from 1990 levels as follows: Australia, -3 to -23 per cent, Canada, -3 per cent; -8 per cent (Japan's figure is calculated using base year data under the Kyoto Protocol in accordance with the 2008 inventory submission); (2) The differences between, on the one hand, the emission reductions in aggregate that are calculated based on emissions in 1990 excluding emissions from the LULUCF sector except for emissions deforestation and, on the other hand, those calculated excluding all emissions and removals from the LULUCF sector, are negligible. For this reason the latter figures are not shown in this table. (3) The estimates in this table are based on the submissions made by the Parties in 2008, which are available on the UNFCCC website and have been reviewed by expert review teams.

Table 2. Greenhouse gas emission trends and emission reductions in aggregate for the Annex I Parties that are also Parties to the Kyoto Protocol which have submitted information relating to possible quantified emission limitation and reduction objectives

Party	Total GHGs excluding LULUCF, in Tg CO <sub>2</sub> e				Total GHGs excluding LULUCF, including deforestation <sup>a</sup> , in Tg CO <sub>2</sub> e				Values relating to possible QELROs in % of reference year emissions				Total GHGs including LULUCF, in Tg CO <sub>2</sub> e				
	1990	2000	2006	1990	2006	1990	2006	1990	2006	2000	2006	Min	Max	Reference year	Reference year level	Min	Max
Australia	416.2	495.2	516.1	555.6 <sup>b</sup>	566.1 <sup>b</sup>	599.0 <sup>b</sup>	515.9	524.9	549.9	-5%	-25%	2000	366.1 <sup>b</sup>	424.6 <sup>a</sup>	324.9 <sup>a</sup>	496.7 <sup>b</sup>	393.7 <sup>b</sup>
Belarus	127.4	69.8	81.0	127.4	69.8	81.0	105.3	42.5	55.0	-5%	-10%	1990	127.4	114.6	105.3	100.1	94.8
Canada	592.3	717.7	726.6	592.3	717.7	726.6	445.8	620.1	751.9	-20%	-20%	2006	726.6	576.5	752.0	601.6	601.6
European Community (EU-27)	5 564.0	5 094.1	5 125.6	5 563.8	5 056.1	5 131.5	5 163.1	4 609.3	4 633.7	-20%	-30%	1990	5 365.8	4 452.6	5 163.1	4 130.4	3 614.1
Iceland	3.4	3.7	4.2	3.4	3.7	4.2	4.9	5.0	5.4	-15%	-15%	1990	3.4	2.9	2.9	4.9	4.2
Japan	1 272.1	1 348.3	1 340.1	1 272.1	1 348.3	1 340.1	1 180.2	1 255.7	1 248.6	-15%	-5%	2005	1 358.1 <sup>b</sup>	1 154.4 <sup>b</sup>	1 262.2 <sup>b</sup>	1 072.9 <sup>b</sup>	1 072.9 <sup>b</sup>
Liechtenstein	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	-20%	-20%	1990	0.2	0.2	0.2	0.2	0.2
Monaco	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-20%	-20%	1990	0.1	0.1	0.1	0.1	0.1
New Zealand	61.9	70.7	71.9	61.9	70.7	77.9	41.4	59.7	55.1	-10%	-20%	1990	61.9	55.8	40.6	41.4	37.3
Norway	49.7	53.5	53.5	49.7	53.5	53.5	36.0	30.1	23.7	-30%	-30%	1990	49.7	34.8	36.0	23.2	23.2
Russian Federation	3 326.4	2 038.2	2 196.2	3 326.4	2 038.2	2 196.2	3 506.4	2 386.0	2 478.0	-10%	-15%	1990	3 326.4	2 931.8	2 477.4	3 506.4	2 960.4
Switzerland	52.8	51.8	51.2	52.8	51.8	53.2	50.2	57.6	51.0	-20%	-30%	1990	52.8	42.2	37.0	40.2	33.2
Ukraine	922.0	395.0	441.2	922.0	395.0	443.2	835.1	344.1	410.6	-20%	-20%	1990	922.0	737.6	855.1	684.1	684.1
Total in Tg CO <sub>2</sub> e	12 385.4	10 298.4	10 604.0	12 536.7	10 371.3	10 694.8	11 944.7	9 961.4	10 265.2			10 709.6	9 655.6		10 350.6	9 539.3	
Total in % of 1990 emissions												-15%	-31%		-13%	-20%	
Total in % of 2000 emissions												3%	-5%		4%	-4%	
Total in % of 2006 emissions												6%	-6%		1%	-7%	

Abbreviations: GHGs = greenhouse gases, LULUCF = land use, land-use change and forestry, QELROs = quantified emission limitation and reduction objectives.

Notes: (1) For Parties with reference years different from 1990, QELROs can be calculated as a percentage reduction from 1990 levels as follows: Australia, -3 to -23 per cent, Canada, -3 per cent and Japan, -8 per cent (Japan's figure is calculated using base year data under the Kyoto Protocol in accordance with the 2008 inventory submissions).

(2) The differences between, on the one hand, the emission reductions in aggregate that are calculated based on emissions in 1990 excluding emissions from the LULUCF sector except for emissions from deforestation and, on the other hand, those calculated excluding all emissions and removals from the LULUCF sector, are negligible. For this reason the latter figures are not shown in this table.

(3) The estimates in this table are based on the submissions made by the Parties in 2006, which are available on the UNFCCC website and have been reviewed by expert review teams.

<sup>a</sup> Emissions from deforestation are included only in the total emissions from Australia and the European Community (for four member States only) because for Australia and for four Parties that are member States to the European Union, the LULUCF sector was a net source of emissions in 1990 and these Parties therefore meet the criteria of Article 3, paragraph 7, of the Kyoto Protocol for including emissions from deforestation for the purposes of calculation of the base year emissions.

<sup>b</sup> Emission data presented here do not reflect the formal accounting that applies to Australia under the Kyoto Protocol. As a result, these data differ from figures published in Australia's White Paper: Australia's Low Pollution Future (2008) and Australia's submission Strengthening Australia's National Ambition for 2020 to the UNFCCC (PCCC/KP/AVG/2009/White.13), which equate Australia's commitment to reduce emissions by 5-25 per cent below 2000 levels by 2020 to a reduction of 4-24 per cent on 1990 levels. This is based on data available at <<http://www.agris.greenhouse.gov.au>>.

<sup>c</sup> Emissions figures presented in these columns are calculated by the secretariat by multiplying 0.85 times reference year data for Japan (2005 inventory data). The figures may not coincide with Japan's absolute emissions target in 2020, which is being calculated by the Government of Japan through aggregating mitigation potential in various sectors. The treatment of LULUCF in the context of setting QELROs is yet to be decided by Japan. The results of the calculations will be provided to the secretariat as soon as possible and be reflected in this table.

## **ANNEX I**

### **Information relating to possible quantified emission limitation and reduction objectives as submitted by Parties and summarized by the secretariat**

#### **Australia**

1. On 4 May, Prime Minister Kevin Rudd committed the Australian Government to reduce Australia's emissions by 25 per cent on 2000 levels by 2020 if the world agrees to an ambitious global deal capable of stabilising levels of greenhouse gases in the atmosphere at 450 ppm CO<sub>2</sub> eq or lower. The Australian Government retains its previous policy commitment to unconditionally reduce Australia's emissions by 5 per cent on 2000 levels by 2020, and to reduce emissions by up to 15 per cent by 2020 if there is a global agreement which falls short of securing atmospheric stabilisation at 450 ppm CO<sub>2</sub> eq, and under which major developing economies commit to substantially restrain emissions and advanced economies take on commitments comparable to Australia's (FCCC/KP/AWG/2009/MISC.13/Add.1, page 4).

#### **Belarus**

2. Belarus informs that if the amendment adopted via decision 10/CMP.2 comes into effect before the end of the first commitment period, for the period after 2012 the Republic of Belarus will consider an option of assuming the commitment to meet the target of 90–95 per cent of 1990 emission level; and if the aforementioned amendment does not take effect, the Republic of Belarus will refrain from voluntary commitments for the post-Kyoto period that would establish the target lower than 100 per cent of 1990 emission level (FCCC/KP/AWG/2009/MISC.13/Add.1, page 4).

#### **Canada**

3. In the medium-term, the Government of Canada is committed to reducing Canada's total greenhouse gas (GHG) emissions by 20 per cent by 2020 relative to 2006 levels. This equals a reduction in annual emissions of approximately 145 Mt by 2020. This commitment has been developed as a domestic goal on Canada's long-term emission reduction pathway. It does not assume or provide for significant use of the Kyoto mechanisms, in particular emission trading under Article 17. In the long-term, the government is committed to reducing Canada's GHG emissions by 60–70 per cent below 2006 levels by 2050 (FCCC/KP/AWG/2009/MISC.13/Add.1, pages 4 and 6–7).

#### **The European Community and its member States**

4. The European Union agreed in 2008 its "Energy and climate package". The package includes a unilateral commitment to reduce EU-27 GHG emissions by at least 20 per cent by 2020 compared to 1990 levels and by 30 per cent provided that other developed countries commit themselves to comparable emission reductions and that economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities consistent with staying below 2°C (FCCC/KP/AWG/2009/MISC.13/Add.1, page 4).

#### **Iceland**

5. The Government of Iceland decided on 29 May 2009 to reduce net greenhouse gas emissions by 15 per cent from 1990 levels by 2020. In real terms this ambition entails a 25 per cent reduction compared to the target ascribed to Iceland in the Kyoto Protocol. This target is dependent upon the continuation of the decisions included in the Marrakesh Accords, in particular the continuation of land use, land-use change and forestry and of decision 14/CP.7. Iceland previously adopted the long-term goal of reducing emissions by 50 to 75 per cent by 2050 (FCCC/KP/AWG/2009/MISC.13/Add.1, pages 4 and 8).

#### **Kazakhstan**

6. Kazakhstan will request an amendment to Annex B to the Kyoto Protocol on the level of 100 per cent on the base year 1992. The low carbon strategy for the post-Kyoto regime is under consideration ([http://unfccc.int/kyoto\\_protocol/items/4752.php](http://unfccc.int/kyoto_protocol/items/4752.php)).

#### **Monaco**

7. Minimiser la quantité de gaz à effet de serre (GES) émise, dont les trois causes principales sont l'habitat, le traitement des déchets et les transports. Ainsi, dans le cadre du Protocole de Kyoto, ratifié par Monaco, le bilan des émissions de gaz à effet de serre (exprimées en équivalents CO<sub>2</sub>) se situe pour l'année 2006 à 13% en dessous de celui de l'année 1990. La Principauté de Monaco se situe donc sur une trajectoire favorable à l'atteinte des objectifs qu'elle doit atteindre en application du protocole de Kyoto, à savoir réduire de 8%, sur la période 2008-12, ses émissions de gaz à effet de serre par rapport à celles de 1990 ([http://unfccc.int/kyoto\\_protocol/items/4752.php](http://unfccc.int/kyoto_protocol/items/4752.php)).

#### **Japan**

8. On 10 June 2009, Prime Minister Taro Aso announced the target of a 15 per cent reduction from the 2005 level by 2020. This target is based on purely domestic reduction efforts. How to treat credit offsets and sinks will be considered during the course of the negotiations. This mid-term target will pave the way for Japan to attain its long-term target of 60–80 per cent reduction in 2050 (FCCC/KP/AWG/2009/MISC.13/Add.1, page 5).

#### **Liechtenstein**

9. In the context of an ambitious global agreement Liechtenstein intends to achieve a 20 per cent reduction in greenhouse gas emissions from 1990 levels by 2020. If other developed countries commit themselves to comparable emission reduction efforts and if economically more advanced developing countries take appropriate mitigation actions, Liechtenstein is prepared to consider a reduction target of up to 30 per cent within the framework of a comprehensive global agreement. The emission reduction goals mentioned above do not take into account activities from land use, land-use change and forestry. With respect to the establishment of a long-term emission reduction goal, Liechtenstein aims at a reduction of greenhouse gas emissions of 50 per cent from 1990 levels by 2050. Furthermore, Liechtenstein acknowledges the contributions of the flexible mechanisms of the Kyoto Protocol to reduce greenhouse gas emissions and supports the international efforts to further improve these mechanisms with respect to administrative efficiency and environmental integrity (FCCC/KP/AWG/2009/MISC.13/Add.1, page 9).

#### **New Zealand**

10. New Zealand announced that it is prepared to take on a responsibility target for greenhouse gas emissions reductions of between 10% and 20% below 1990 levels by 2020, if there is a comprehensive global agreement. This means: (a) the global agreement sets the world on a pathway to limit temperature rise to not more than 2°C; (b) developed countries make comparable efforts to those of New Zealand; (c) advanced and major emitting developing countries take action fully commensurate with their respective capabilities; (d) there is an effective set of rules for land use, land-use change and forestry (LULUCF); and (e) there is full recourse to a broad and efficient international carbon market. It is expected that New Zealand will meet its target through a mixture of domestic emission reductions, the storage of carbon in forests, and the purchase of emissions reductions in other countries (FCCC/KP/AWG/2009/MISC.XXX). In addition, New Zealand announced in a previous submission that it is developing a range of possible medium-term targets consistent with a global goal of stabilisation at 450 ppm CO<sub>2</sub> eq and with New Zealand's long-term target of a 50 per cent reduction in net emissions from 1990 levels by 2050 (FCCC/KP/AWG/2009/MISC.13/Add.1, page 5).

#### **Norway**

11. In the context of an ambitious global agreement, Norway intends to cut global emissions equivalent to 100 per cent of its own greenhouse gas emissions, becoming a carbon neutral nation within 2030. Norway will undertake to reduce total greenhouse gas emissions by 30 per cent by 2020 relative to 1990 levels. The aim is to reduce two thirds of emissions domestically bringing Norway on the path to become a low carbon society (FCCC/KP/AWG/2009/MISC.13/Add.1, page 5).

**Russia**

12. Russia is currently considering establishing a national mid-term target (FCCC/KP/AWG/2009/MISC.13/Add.1, page 5). Range of values relating to possible QELROs which are included in table 1 reflect the information from the joint submission referred to in paragraph 3.

**Ukraine**

13. Ukraine is ready to commit to the greenhouse gas emissions reduction by 20 per cent by 2020 and by 50 per cent by 2050. Imposing stricter obligations on Ukraine will not only render impossible the economy growth, but will also prevent social and economic recovery of the country (FCCC/KP/AWG/2009/MISC.13/Add.1, page 5).

## ANNEX II

**Table Greenhouse gas emission trends for the Annex I Parties that are also Parties to the Kyoto Protocol according to the 2008 submission of emission inventory to the UNFCCC**

Party	GHGs excluding LULUCF, in Tg CO <sub>2</sub> eq			Total excl LULUCF, including deforestation <sup>a</sup> , in Tg CO <sub>2</sub> eq			GHGs including LULUCF, in Tg CO <sub>2</sub> eq		
	1990	2000	2006	1990	2000	2006	1990	2000	2006
Australia	416.2	495.2	536.1	552.6	566.1	599.0	515.9	524.9	549.9
Austria	79.2	81.1	91.1	79.2	81.1	91.1	64.8	63.1	72.9
Belarus	127.4	69.8	81.0	127.4	69.8	81.0	105.3	42.5	55.0
Belgium	144.5	145.5	137.0	144.5	145.5	137.0	143.1	144.0	135.9
Bulgaria	116.7	68.7	71.3	116.7	68.7	71.3	90.4	49.5	53.1
Canada	592.3	717.7	720.6	592.3	717.7	720.6	485.8	620.1	752.0
Croatia	32.5	26.2	30.8	32.5	26.2	30.8	28.3	20.9	23.3
Czech Republic	194.2	147.0	148.2	194.2	147.0	148.2	190.3	139.6	144.8
Denmark	70.3	69.3	71.9	70.3	69.3	71.9	70.9	71.0	70.1
Estonia	41.6	18.2	18.9	41.6	18.2	18.9	36.2	20.3	15.4
European Community <sup>b</sup>	5 564.0	5 054.1	5 129.6	5 565.8	5 056.1	5 131.5	5 163.1	4 649.3	4 633.7
Finland	70.9	69.8	80.3	70.9	69.8	80.3	52.5	49.3	46.8
France	566.4	559.9	546.5	566.4	559.9	546.5	526.2	508.4	476.6
Germany	1 227.7	1 019.5	1 004.8	1 227.7	1 019.5	1 004.8	1 199.4	985.6	968.4
Greece	104.6	128.2	133.1	104.6	128.2	133.1	101.4	125.3	127.9
Hungary	98.2	77.6	78.6	98.2	77.6	78.6	92.3	79.4	72.7
Iceland	3.4	3.7	4.2	3.4	3.7	4.2	4.9	5.0	5.4
Ireland	55.5	69.0	69.8	55.5	69.0	69.7	55.7	69.2	69.3
Italy	516.2	552.3	567.9	516.9	552.3	567.9	437.8	455.2	455.7
Japan	1 272.1	1 348.3	1 340.1	1 272.1	1 348.3	1 340.1	1 180.2	1 255.7	1 248.6
Latvia	26.5	10.0	11.6	26.5	10.0	11.6	5.8	-4.1	-6.2
Liechtenstein	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3
Lithuania	49.4	19.4	23.2	49.4	19.4	23.2	38.3	10.4	15.3
Luxembourg	13.2	10.2	13.3	13.2	10.2	13.3	12.9	9.9	13.0
Monaco	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Netherlands	211.7	213.6	207.5	212.1	214.1	208.0	214.3	216.3	210.1
New Zealand	61.9	70.7	77.9	61.9	70.7	77.9	41.4	50.7	55.1
Norway	49.7	53.5	53.5	49.7	53.5	53.5	36.0	30.1	25.7
Poland	453.6	389.5	400.5	453.6	389.5	400.5	430.5	365.3	360.0
Portugal	59.1	81.5	82.7	60.1	82.5	83.7	60.7	75.5	78.6
Romania	247.7	138.7	156.7	247.7	138.7	156.7	211.9	100.4	119.2
Russian Federation	3 326.4	2 038.2	2 190.2	3 326.4	2 038.2	2 190.2	3 506.4	2 386.0	2 478.0
Slovakia	73.7	48.5	48.9	73.7	48.5	48.9	71.3	46.1	45.9
Slovenia	18.6	18.9	20.6	18.6	18.9	20.6	15.4	13.7	15.9
Spain	287.7	385.0	433.3	287.7	385.0	433.3	260.8	353.1	400.3
Sweden	72.0	68.3	65.7	72.0	68.3	65.7	13.2	38.8	27.7
Switzerland	52.8	51.8	53.2	52.8	51.8	53.2	50.2	52.6	51.0
Ukraine	922.0	395.0	443.2	922.0	395.0	443.2	855.1	344.1	410.6
United Kingdom	772.0	673.8	655.8	772.3	674.3	656.3	774.9	673.4	653.8
<b>Total</b>	<b>12 428.6</b>	<b>10 334.1</b>	<b>10 670.5</b>	<b>12 562.2</b>	<b>10 407.0</b>	<b>10 735.4</b>	<b>11 980.9</b>	<b>9 991.7</b>	<b>10 298.1</b>

*Abbreviations:* GHGs = greenhouse gases, LULUCF = land use, land-use change and forestry, QELROs = quantified emission limitation and reduction objectives.

*Note:* The estimates in this table are based on the submissions made by the Parties in 2008, which are available on the UNFCCC website and have been reviewed by expert review teams.

<sup>a</sup> Emissions from deforestation are included only in the total emissions from Australia and the European Community (for four member States only) because for Australia and for four Parties that are member States to the European Union, the LULUCF sector was a net source of emissions in 1990 and these Parties therefore meet the criteria of Article 3, paragraph 7, of the Kyoto Protocol for including emissions from deforestation for the purposes of calculation of the base year emissions.

<sup>b</sup> Emission data for the EC includes emissions from the inventory submission of the 15 Member States that are bound by the provisions of Article 4 under the Kyoto Protocol and the remaining 10 EC member States that are also included in Annex I to the Convention.