

30 March 2009

ENGLISH ONLY

**AD HOC WORKING GROUP ON FURTHER COMMITMENTS  
FOR ANNEX I PARTIES UNDER THE KYOTO PROTOCOL  
Seventh session  
Bonn, 29 March to 8 April 2009**

**Agenda items 3 and 4**

**Consideration of the scale of emission reductions to be achieved by Annex I Parties  
in aggregate**

**Contribution of Annex I Parties, individually or jointly, to the scale of emission reductions to be  
achieved by Annex I Parties in aggregate**

**Workshop on issues relating to the scale of emission reductions to be achieved  
by Annex I Parties**

**Report by the chair of the workshop**

**I. Introduction**

1. At its resumed sixth session, the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) requested the secretariat to organize before or during its seventh session, under the guidance of its Chair, a workshop on the issues relating to the scale of emission reductions to be achieved by Annex I Parties.<sup>1</sup>
2. The approach and objectives of the workshop are clarified in the scenario note on the seventh session of the AWG-KP.<sup>2</sup>
3. The workshop was held in Bonn, Germany, on 27 March 2009, and was chaired by Mr. Harald Dovland, Chair of the AWG-KP. It provided an opportunity for Parties to share their views on: (a) approaches to identify the scale of emission reductions to be achieved by Annex I Parties in aggregate, as well as individual or joint contributions to this scale; and (b) implications of issues such as the duration of the commitment period(s), how quantified emission limitation and reduction objectives (QELROs) could be expressed including the base year, and mitigation potential. The workshop also provided an opportunity for leading international experts to share results of recent studies on these matters. It was open to all Parties and observers.
4. In the scenario note referred to in paragraph 2 above, the Chair of the AWG-KP invited interested Parties to make presentations at the workshop. The following Parties or groups of Parties made presentations: the European Community (EC), Japan, China, Australia, New Zealand, South Africa,

---

<sup>1</sup> FCCC/KP/AWG/2008/8, paragraphs 49 and 50.

<sup>2</sup> FCCC/KP/AWG/2009/2, paragraphs 20–24.

Belarus, Iceland and the Alliance of Small Island States. Leading international experts and research institutes presented results from relevant technical analysis.<sup>3</sup>

5. Question and answer sessions were held after the presentations. The following Parties made interventions and participated in the discussions: Argentina, Brazil, Gambia, Saudi Arabia, South Africa, the Czech Republic, Kuwait, the Marshall Islands, the Republic of Korea, the Russian Federation and Switzerland.

6. At the closing of the workshop, the chair summarized the main points presented during the workshop.

## II. Summary of discussions

7. The presentations and discussion during the workshop covered a number of issues relating to the scale of emission reductions to be achieved by Annex I Parties, which could be summarized under two main themes:

- Approaches to identify the scale of emission reductions to be achieved by Annex I Parties in aggregate, as well as individual or joint contributions to this scale;
- Implications of other issues, such as the duration of the commitment period(s), how QELROs could be expressed including the base year, and mitigation potential.

### A. Approaches to identify the scale of emission reductions to be achieved by Annex I Parties in aggregate, as well as individual or joint contributions to this scale

8. On the approaches to identify the scale of emission reductions to be achieved by Annex I Parties in aggregate, many Parties reiterated the need for Annex I Parties to take on ambitious emission reduction targets and to achieve deep cuts in emissions in order to attain the ultimate objective of the Convention. A global pathway to limit the increase in global mean surface temperature to less than 2 °C above pre-industrial levels, as presented in the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC), was often referred to in this context. Reference was made to the IPCC scenario of atmospheric greenhouse gas (GHG) concentrations at levels of 450 ppm carbon dioxide equivalent (CO<sub>2</sub> eq), which will require global emissions to be reduced by 50 per cent of 1990 levels by 2050, and aggregate emissions from Annex I Parties by 80–95 per cent.

9. Under the medium-term perspective until 2020, the range of emission reductions by Annex I Parties, referred to in the conclusions of the AWG-KP at its resumed sixth session,<sup>4</sup> namely, a reduction of 25–40 per cent below 1990 levels by 2020, was acknowledged. The urgent need for developed countries to continue to take the lead by committing to reducing their emissions of GHGs by around 30 per cent of 1990 levels by 2020, which is consistent with the 25–40 per cent range mentioned above, was also acknowledged. A number of Parties and experts emphasized that such ambitious emission reductions were necessary and feasible and could be achieved at low cost. The need to set an even more ambitious level of emission reductions by Annex I Parties of more than 40 per cent below 1990 levels by 2020 was emphasized by some Parties.

10. Based on more recent scientific information that has been made available since the publication of the IPCC AR4, some Parties expressed the view that the increase in global mean surface temperature should be limited to well below 1.5 °C above pre-industrial levels, and that atmospheric GHG concentrations should be stabilized at levels well below 350 ppm CO<sub>2</sub> eq. To achieve this limit, global

---

<sup>3</sup> Mr. Markus Amann from the International Institute for Applied Systems Analysis, Ms. Miyuki Nagashima from the Research Institute of Innovative Technology for the Earth, Mr. Tatsuya Hanaoka from the National Institute for Environmental Studies and Mr. Niklas Hoehne from Ecofys.

<sup>4</sup> FCCC/KP/AWG/2008/8, paragraph 18.

GHG emissions must peak by 2015 and must be reduced by more than 85 per cent by 2050. This will require Annex I Parties to reduce their aggregate emissions by more than 40 per cent of their 1990 levels by 2020; and by more than 95 per cent by 2050. To that end, the AWG-KP should take into account this recent scientific information, in particular information on acceleration of climate change and its adverse impacts, in particular its effect on sea level rise, which is of concern to small island States.

11. On the approaches to identify the scale of emission reductions to be achieved by Annex I Parties individually or jointly, a number of Parties emphasized that while some common principles could be applied (see para. 13 below), individual or joint targets should be differentiated to take into account differences in national circumstances. In this context, Australia mentioned that its mitigation costs are higher than those of other industrialized countries, and pledged to reduce its GHG emissions by 5 per cent below 2000 levels by 2020. However, it recognized that the cost of inaction will be greater than the cost of action. Australia also stated its intention to do more and reduce emissions by up to 15 per cent below 2000 levels by 2020 if other Parties join the mitigation effort and all developed countries take on comparable ambitious targets. Japan noted that its domestic mitigation potential is limited, because of the high level of efficiency in its economy, and presented six options for a medium-term reduction target currently under consideration, ranging from an increase of 4 per cent to a decrease of 25 per cent from 1990 levels by 2020. It indicated its intention to announce its medium-term target by June 2009.

12. Belarus noted the limited access to financial resources for domestic mitigation actions and stated its intention to consider the option of taking on a reduction target of 5–10 per cent below 1990 levels by 2020 if flexible mechanisms are available. Iceland noted that in small countries, single projects have a considerable effect on total GHG emissions, and referred to the need for flexibility in achieving reduction targets, for example through joint commitments with other Parties. In the context of the existing pledges from Annex I Parties, one Party noted that these pledges fall well short of the IPCC range for GHG emission reductions of 25–40 per cent of 1990 levels by 2020. Many Parties called upon all developed countries to indicate ambitious targets as soon as possible. Some acknowledged that any delay in taking action to mitigate climate change will increase the risk of surpassing critical thresholds and will involve higher economic costs.

**B. Implications of other issues, such as the duration of the commitment period(s), how QELROs could be expressed including the base year, and mitigation potential**

13. Many Parties reiterated their view that comparable efforts should be made by all Annex I Parties and that the allocation of commitments among these Parties should be made taking into account several principles and considerations, such as capability, responsibility, total GHG emission levels, potential for and cost of emission reduction, and differences in national circumstances. Some Parties emphasized the importance of transparency in the allocation process. Parties interpreted comparability in different ways: for example, as comparable emission reductions in 2020 below the baseline or as comparable costs involved. One Party suggested that when commitments are allocated, consideration be given to the need to ensure a gradual convergence of per capita emissions among developed and developing countries in the long term. Another Party acknowledged that even a 25–40 per cent reduction would keep the per capita emissions of Annex I Parties several times higher than those of developing countries. It further noted the need for developed countries to reduce their per capita emissions on a large scale, in accordance with the principle of equity.

14. An analysis of global mitigation potentials was presented by several experts at the workshop, which suggests that a large mitigation potential is available at negative or low cost in both developed and developing countries. In this context, the need for enhanced financial support and support to facilitate technology transfer was noted. Sector-specific analysis was deemed useful by some Parties; most of the scientific models presented at the workshop used sector-specific approaches to a certain extent. Sectors that were frequently mentioned included power generation (emissions from fuel combustion), industry, transport, and residential and commercial. Other sectors mentioned include the energy sector (fugitive emissions), agriculture, waste and industrial processes (fluorinated gases). Energy efficiency and the shift

to low-carbon fuels were identified as the key areas where mitigation potential could be realized at low cost, including through cooperative action.

15. An overview of scientific models for assessment and comparison of the level of effort in reducing GHG emissions was presented by the experts. A number of principles proposed by several Parties on the allocation of commitments were transformed into indicators serving as the input data to these models. These indicators include gross domestic product per capita and the Human Development Index (for capability), GHG emissions intensity of the economy (for overall mitigation potential), percentage change in emissions between 1990 and 2006 (early action), and population growth (for national circumstances). In the context of responsibility, the need to consider cumulative emissions since 1850 was acknowledged by some Parties. The presentations also included indicators for mitigation potential by sector, including CO<sub>2</sub> per kilowatt-hour (energy industry), energy intensity index (industry) and GHG emissions per capita (commercial and residential sectors, and transport).

16. Experts noted that results from the application of scientific models for the allocation of commitments are sensitive to input data and model assumptions. This includes: the starting point (recent emission levels, economic structure and energy efficiency levels), future development (economic development and level of interest rates, and dynamics of technology development and deployment and availability of key mitigation technologies) and marginal abatement cost curves. They also noted that results are more sensitive to cost information than the other input data.

17. A framework for assessing comparability of efforts was presented by one Party. In accordance with this framework, the economic cost faced by a country in meeting a target is important information that should be taken into account when allocating commitments among Annex I Parties. This cost is a function of the baseline ('business-as-usual') emission scenario, cost estimates for reducing emissions below this baseline and other indicators reflecting the principles of responsibility and capability.

18. The year 2020 was frequently referred to as the year to be used for setting the medium-term targets by most Parties and experts. The period 2013–2017 was stated by one Party as an appropriate second commitment period in order to enable prompt further adjustments and any necessary responses to new scientific information on climate change becoming available. Emphasis was put on the need to ensure that there is no gap between the first and the second commitment periods. It was proposed that the base year could remain 1990 to ensure continuity, consistency and transparency, or 2006 to reflect recent GHG trends. While most Parties envisaged QELROs taking the form of a percentage change of emissions from the base year similar to the QELROs for the first commitment period, one Party made a proposal to express the QELROs in Gg CO<sub>2</sub> eq and to subsequently present them as a reduction in emissions from 1990, 2000, 2005 and 2007 levels, expressed as a percentage.

### **C. Other issues**

19. The outcome of a joint workshop on mitigation potential, comparability of effort and sectoral approaches was presented by representatives of the EC and Japan. This workshop provided an opportunity for an informal exchange of views among representatives of governments, academia and the private sector on the analysis of mitigation potentials and comparability of efforts in emission reduction conducted using different models and modelling approaches. This exchange of views suggests that Parties and research institutions are using different approaches, models and assumptions when considering emissions levels, mitigation potentials and GHG reduction targets, which inevitably leads to differences in the results obtained. Sectoral approaches to emission reduction were discussed in detail in the context of setting targets and developing indicators, as well as enhancing cooperation and sharing best practices and best available technologies.

20. The workshop referred to in paragraph 19 above contributed to improving transparency in the approaches used and to facilitating an understanding of how to arrive at fair and effective GHG reduction targets for developed countries. The informal exchange of views and modelling experiences was deemed

very useful by the participants, and it was suggested that such exchanges could be continued in future, with a view to supporting the decision-making process for setting ambitious and feasible medium-term targets in a transparent way.

-----