

**Greenhouse gas inventories and additional information
submitted by Parties included in Annex I**

**Reporting, accounting and review requirements relating to
the second commitment period of the Kyoto Protocol**

Version 01.10

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I. Introduction

A. Mandate and scope of the compilation

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its forty-first session, requested the secretariat to compile into a user-friendly document all reporting, review and accounting requirements relating to the second commitment period of the Kyoto Protocol.¹
2. This compilation intends to respond to the request by the SBSTA referred to in paragraph 1 above. Due to the nature of the requirement changes and their distribution among several decisions, compiling all the reporting, review and accounting requirements relating to the second commitment period contribute to improving transparency and, as a result, supports the implementation of these requirements.
3. This compilation has the Kyoto Protocol Reference Manual for the second commitment period as a companion.² All the requirements in context and additional clarifications may be found in this reference manual.

B. Structure of the compilation

4. The relevant reporting, review and accounting requirements for the second commitment period of the Kyoto Protocol are included in a series of decisions by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) taken over a period of five years, from CMP 6 to CMP 11.
5. The requirements for the second commitment period are generally built upon the requirements for the first commitment period, which were adopted at CMP 1. The changes for the second commitment period were introduced in a series of CMP decisions that may be classified in two:
 - (a) Decisions that established new rules for the second commitment period (e.g. decisions 2/CMP.6, 2/CMP.7 and 6/CMP.9 on land use, land-use change and forestry activities);
 - (b) Decisions that modified the previous CMP 1 decisions regarding specific provisions. This is the case, in particular, for decisions 3/CMP.11 and 4/CMP.11.
6. This compilation includes the original provisions taking into consideration the changes agreed in the decisions for the second commitment period. For each decision, and wherever appropriate, the title will indicate which decisions were considered as a basis (e.g. decision 11/CMP.1 in conjunction with decision 1/CMP.8).
7. **Boxes** with extracts from other decisions are included where they aid the understanding of the original decision (i.e. when the decision refers to other

¹ For the original mandate, please refer to document FCCC/SBSTA/2014/5, paragraph 82, available at <<http://unfccc.int/resource/docs/2014/sbsta/eng/05.pdf>>.

² The Kyoto Protocol Reference Manual for the second commitment period will be available at the UNFCCC web <unfccc.int/9501> in the second semester of 2016.

decisions). Boxes are also used to add clarification when a provision in a CMP 1 decision is not applicable to the second commitment period.

8. The symbol “▶” is used to indicate paragraphs added to a previous decision. Where words are added to a previous decision, these words are underlined.

9. Some provisions are valid for the second commitment period, but they are not relevant as required actions during the second commitment period. For example, provisions that requested the SBSTA or the CMP to continue considering one issue, Parties to submit views or the secretariat to prepare a technical paper or organize a workshop. Those provisions are greyed in this document. As an example, paragraph 4 of decision 2/CMP.6 is greyed.³

10. Finally, some decisions from CMP 1 are not applicable in their entirety for the second commitment period. In decision 3/CMP.11, paragraph 7, the CMP decides that decisions 14/CMP.1, 17/CMP.1 and 6/CMP.3 shall not apply for the purpose of the second commitment period. As a result, this compilation does not include these decisions.

³ Decision 2/CMP.6, paragraph 4, reads “ [The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol] [a]lso requests each Annex I Party to submit to the secretariat, by 28 February 2011, information on the forest management reference level inscribed in appendix I to this decision, including any update to replace the value, in accordance with the guidelines outlined in part I of appendix II to this decision”.

Kyoto Protocol to the united nations framework convention on climate change*

The Parties to this Protocol,

Being Parties to the United Nations Framework Convention on Climate Change, hereinafter referred to as "the Convention",

In pursuit of the ultimate objective of the Convention as stated in its Article 2,

Recalling the provisions of the Convention,

Being guided by Article 3 of the Convention,

Pursuant to the Berlin Mandate adopted by decision 1/CP.1 of the Conference of the Parties to the Convention at its first session,

Have agreed as follows:

Article 1

For the purposes of this Protocol, the definitions contained in Article 1 of the Convention shall apply. In addition:

1. "Conference of the Parties" means the Conference of the Parties to the Convention.
2. "Convention" means the United Nations Framework Convention on Climate Change, adopted in New York on 9 May 1992.
3. "Intergovernmental Panel on Climate Change" means the Intergovernmental Panel on Climate Change established in 1988 jointly by the World Meteorological Organization and the United Nations Environment Programme.
4. "Montreal Protocol" means the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted in Montreal on 16 September 1987 and as subsequently adjusted and amended.
5. "Parties present and voting" means Parties present and casting an affirmative or negative vote.
6. "Party" means, unless the context otherwise indicates, a Party to this Protocol.
7. "Party included in Annex I" means a Party included in Annex I to the Convention, as may be amended, or a Party which has made a notification under Article 4, paragraph 2 (g), of the Convention.

Article 2

1. Each Party included in Annex I, in achieving its quantified emission limitation and reduction commitments under Article 3, in order to promote sustainable development, shall:

(a) Implement and/or further elaborate policies and measures in accordance with its national circumstances, such as:

- (i) Enhancement of energy efficiency in relevant sectors of the national economy;
- (ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, taking into account its commitments under relevant international environmental agreements; promotion of sustainable forest management practices, afforestation and reforestation;
- (iii) Promotion of sustainable forms of agriculture in light of climate change considerations;
- (iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies;
- (v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments;
- (vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;
- (vii) Measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector;
- (viii) Limitation and/or reduction of methane emissions through recovery and use in waste management, as well as in the production, transport and distribution of energy;

(b) Cooperate with other such Parties to enhance the individual and combined effectiveness of their policies and measures adopted under this Article, pursuant to Article 4, paragraph 2 (e) (i), of the Convention. To this end, these Parties shall take steps to share their experience and exchange information on such policies and measures, including developing ways of improving their comparability, transparency and effectiveness. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, consider ways to facilitate such cooperation, taking into account all relevant information.

2. The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

3. The Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention. The Conference of the Parties serving as the meeting of the Parties to this Protocol may take further action, as appropriate, to promote the implementation of the provisions of this paragraph.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol, if it decides that it would be beneficial to coordinate any of the policies and measures in paragraph 1 (a) above, taking into account different national circumstances and potential effects, shall consider ways and means to elaborate the coordination of such policies and measures.

Article 3

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.

► 1 bis. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in the third column of the table contained in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 18 per cent below 1990 levels in the commitment period 2013 to 2020.

► 1 ter. A Party included in Annex B may propose an adjustment to decrease the percentage inscribed in the third column of Annex B of its quantified emission limitation and reduction commitment inscribed in the third column of the table contained in Annex B. A proposal for such an adjustment shall be communicated to the Parties by the secretariat at least three months before the meeting of the Conference of the Parties serving as the meeting of the Parties to this Protocol at which it is proposed for adoption.

► 1 quater. An adjustment proposed by a Party included in Annex I to increase the ambition of its quantified emission limitation and reduction commitment in accordance with Article 3, paragraph 1 ter, above shall be considered adopted by the Conference of the Parties serving as the meeting of the Parties to this Protocol unless more than three-fourths of the Parties present and voting object to its adoption. The adopted adjustment shall be communicated by the secretariat to the Depository, who shall circulate it to all Parties, and shall enter into force on 1 January of the year following the communication by the Depository. Such adjustments shall be binding upon Parties.

2. Each Party included in Annex I shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.

3. The net changes in greenhouse gas emissions by sources and removals by sinks resulting from direct human-induced land-use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990, measured as verifiable changes in carbon stocks in each commitment period, shall be used to meet the commitments under this Article of each Party included in Annex I. The greenhouse gas emissions by sources and removals by sinks associated with those activities shall be reported in a transparent and verifiable manner and reviewed in accordance with Articles 7 and 8.

4. Prior to the first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol, each Party included in Annex I shall provide, for consideration by the Subsidiary Body for Scientific and Technological Advice, data to establish its level of carbon stocks in 1990 and to enable an estimate to be made of its changes in carbon stocks in subsequent years. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, decide upon modalities, rules and guidelines as to how, and which, additional human-induced activities related to changes in greenhouse gas emissions by sources and removals by sinks in the agricultural soils and the land-use change and forestry categories shall be added to, or subtracted from, the assigned amounts for Parties included in Annex I, taking into account uncertainties, transparency in reporting, verifiability, the methodological work of the Intergovernmental Panel on Climate Change, the advice provided by the Subsidiary Body for Scientific and Technological Advice in accordance with Article 5 and the decisions of the Conference of the Parties.

Such a decision shall apply in the second and subsequent commitment periods. A Party may choose to apply such a decision on these additional human-induced activities for its first commitment period, provided that these activities have taken place since 1990.

5. The Parties included in Annex I undergoing the process of transition to a market economy whose base year or period was established pursuant to decision 9/CP.2 of the Conference of the Parties at its second session shall use that base year or period for the implementation of their commitments under this Article. Any other Party included in Annex I undergoing the process of transition to a market economy which has not yet submitted its first national communication under Article 12 of the Convention may also notify the Conference of the Parties serving as the meeting of the Parties to this Protocol that it intends to use an historical base year or period other than 1990 for the implementation of its commitments under this Article. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall decide on the acceptance of such notification.

6. Taking into account Article 4, paragraph 6, of the Convention, in the implementation of their commitments under this Protocol other than those under this Article, a certain degree of flexibility shall be allowed by the Conference of the Parties serving as the meeting of the Parties to this Protocol to the Parties included in Annex I undergoing the process of transition to a market economy.

7. In the first quantified emission limitation and reduction commitment period, from 2008 to 2012, the assigned amount for each Party included in Annex I shall be equal to the percentage inscribed for it in Annex B of its aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in 1990, or the base year or period determined in accordance with paragraph 5 above, multiplied by five. Those Parties included in Annex I for whom land-use change and forestry constituted a net source of greenhouse gas emissions in 1990 shall include in their 1990 emissions base year or period the aggregate anthropogenic carbon dioxide equivalent emissions by sources minus removals by sinks in 1990 from land-use change for the purposes of calculating their assigned amount.

► 7 bis. In the second quantified emission limitation and reduction commitment period, from 2013 to 2020, the assigned amount for each Party included in Annex I shall be equal to the percentage inscribed for it in the third column of the table contained in Annex B of its aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in 1990, or the base year or period determined in accordance with paragraph 5 above, multiplied by eight. Those Parties included in Annex I for whom land-use change and forestry constituted a net source of greenhouse gas emissions in 1990 shall include in their 1990 emissions base year or period the aggregate anthropogenic carbon dioxide equivalent emissions by sources minus removals by sinks in 1990 from land-use change for the purposes of calculating their assigned amount.

► 7 ter. Any positive difference between the assigned amount of the second commitment period for a Party included in the Annex I and average annual emissions for the first three years of the preceding commitment period multiplied by eight shall be transferred to the cancellation account of that Party.

8. Any Party included in Annex I may use 1995 as its base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, for the purposes of the calculations referred to in paragraphs 7 and 7 bis above.

► 8 bis. Any Party included in Annex I may use 1995 or 2000 as its base year for nitrogen trifluoride for the purposes of the calculation referred to in paragraph 7 bis above.

9. Commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol, which shall be adopted in accordance with the provisions of Article 21, paragraph 7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period referred to in paragraph 1 above.

10. Any emission reduction units, or any part of an assigned amount, which a Party acquires from another Party in accordance with the provisions of Article 6 or of Article 17 shall be added to the assigned amount for the acquiring Party.

11. Any emission reduction units, or any part of an assigned amount, which a Party transfers to another Party in accordance with the provisions of Article 6 or of Article 17 shall be subtracted from the assigned amount for the transferring Party.

12. Any certified emission reductions which a Party acquires from another Party in accordance with the provisions of Article 12 shall be added to the assigned amount for the acquiring Party.

► 12 bis. Any units generated from market-based mechanisms to be established under the Convention or its instruments may be used by Parties included in Annex I to assist them in achieving compliance with their quantified emission limitation and reduction commitments under Article 3. Any such units which a Party acquires from another Party to the Convention shall be added to the assigned amount for the acquiring Party and subtracted from the quantity of units held by the transferring Party.

► 12 ter. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that, where units from approved activities under market-based mechanisms referred to in paragraph 12 bis above are used by Parties included in Annex I to assist them in achieving compliance with their quantified emission limitation and reduction commitments under Article 3, a share of these units is used to cover administrative expenses, as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation if these units are acquired under Article 17.

13. If the emissions of a Party included in Annex I in a commitment period are less than its assigned amount under this Article, this difference shall, on request of that Party, be added to the assigned amount for that Party for subsequent commitment periods.

14. Each Party included in Annex I shall strive to implement the commitments mentioned in paragraph 1 above in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention. In line with relevant decisions of the Conference of the Parties on the implementation of those paragraphs, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, consider what actions are necessary to minimize the adverse effects of climate change and/or the impacts of response measures on Parties referred to in those paragraphs. Among the issues to be considered shall be the establishment of funding and transfer of technology.

Article 4

1. Any Parties included in Annex I that have reached an agreement to fulfill their commitments under Article 3 jointly, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.

2. The Parties to any such agreement shall notify the secretariat of the terms of the agreement on the date of deposit of their instruments of ratification, acceptance or approval of this Protocol, or accession thereto, or on the date of deposit of their instruments of acceptance of any amendment to Annex B pursuant to Article 3, paragraph 9. The secretariat shall in turn inform the Parties and signatories to the Convention of the terms of the agreement.

3. Any such agreement shall remain in operation for the duration of the commitment period specified in Article 3 to which it relates.
4. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization, any alteration in the composition of the organization after adoption of this Protocol shall not affect existing commitments under this Protocol. Any alteration in the composition of the organization shall only apply for the purposes of those commitments under Article 3 that are adopted subsequent to that alteration.
5. In the event of failure by the Parties to such an agreement to achieve their total combined level of emission reductions, each Party to that agreement shall be responsible for its own level of emissions set out in the agreement.
6. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization which is itself a Party to this Protocol, each member State of that regional economic integration organization individually, and together with the regional economic integration organization acting in accordance with Article 24, shall, in the event of failure to achieve the total combined level of emission reductions, be responsible for its level of emissions as notified in accordance with this Article.

Article 5

1. Each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Guidelines for such national systems, which shall incorporate the methodologies specified in paragraph 2 below, shall be decided upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session.
2. Methodologies for estimating anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Where such methodologies are not used, appropriate adjustments shall be applied according to methodologies agreed upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review and, as appropriate, revise such methodologies and adjustments, taking fully into account any relevant decisions by the Conference of the Parties. Any revision to methodologies or adjustments shall be used only for the purposes of ascertaining compliance with commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.
3. The global warming potentials used to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of greenhouse gases listed in Annex A shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review and, as appropriate, revise the global warming potential of each such greenhouse gas, taking fully into account any relevant decisions by the Conference of the Parties. Any revision to a global warming potential shall apply only to commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.

Article 6

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy, provided that:

- (a) Any such project has the approval of the Parties involved;
 - (b) Any such project provides a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur;
 - (c) It does not acquire any emission reduction units if it is not in compliance with its obligations under Articles 5 and 7; and
 - (d) The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.
2. The Conference of the Parties serving as the meeting of the Parties to this Protocol may, at its first session or as soon as practicable thereafter, further elaborate guidelines for the implementation of this Article, including for verification and reporting.
 3. A Party included in Annex I may authorize legal entities to participate, under its responsibility, in actions leading to the generation, transfer or acquisition under this Article of emission reduction units.
 4. If a question of implementation by a Party included in Annex I of the requirements referred to in this Article is identified in accordance with the relevant provisions of Article 8, transfers and acquisitions of emission reduction units may continue to be made after the question has been identified, provided that any such units may not be used by a Party to meet its commitments under Article 3 until any issue of compliance is resolved.

Article 7

1. Each Party included in Annex I shall incorporate in its annual inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, submitted in accordance with the relevant decisions of the Conference of the Parties, the necessary supplementary information for the purposes of ensuring compliance with Article 3, to be determined in accordance with paragraph 4 below.
2. Each Party included in Annex I shall incorporate in its national communication, submitted under Article 12 of the Convention, the supplementary information necessary to demonstrate compliance with its commitments under this Protocol, to be determined in accordance with paragraph 4 below.
3. Each Party included in Annex I shall submit the information required under paragraph 1 above annually, beginning with the first inventory due under the Convention for the first year of the commitment period after this Protocol has entered into force for that Party. Each such Party shall submit the information required under paragraph 2 above as part of the first national communication due under the Convention after this Protocol has entered into force for it and after the adoption of guidelines as provided for in paragraph 4 below. The frequency of subsequent submission of information required under this Article shall be determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol, taking into account any timetable for the submission of national communications decided upon by the Conference of the Parties.
4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the preparation of the information required under this Article, taking into account guidelines for the preparation of national communications by Parties included in Annex I adopted by the Conference of the Parties. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall also, prior to the first commitment period, decide upon modalities for the accounting of assigned amounts.

Article 8

1. The information submitted under Article 7 by each Party included in Annex I shall be reviewed by expert review teams pursuant to the relevant decisions of the Conference of the Parties and in accordance with guidelines adopted for this purpose by the Conference of the Parties serving as the meeting of the Parties to this Protocol under paragraph 4 below. The information submitted under Article 7, paragraph 1, by each Party included in Annex I shall be reviewed as part of the annual compilation and accounting of emissions inventories and assigned amounts. Additionally, the information submitted under Article 7, paragraph 2, by each Party included in Annex I shall be reviewed as part of the review of communications.
2. Expert review teams shall be coordinated by the secretariat and shall be composed of experts selected from those nominated by Parties to the Convention and, as appropriate, by intergovernmental organizations, in accordance with guidance provided for this purpose by the Conference of the Parties.
3. The review process shall provide a thorough and comprehensive technical assessment of all aspects of the implementation by a Party of this Protocol. The expert review teams shall prepare a report to the Conference of the Parties serving as the meeting of the Parties to this Protocol, assessing the implementation of the commitments of the Party and identifying any potential problems in, and factors influencing, the fulfillment of commitments. Such reports shall be circulated by the secretariat to all Parties to the Convention. The secretariat shall list those questions of implementation indicated in such reports for further consideration by the Conference of the Parties serving as the meeting of the Parties to this Protocol.
4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the review of implementation of this Protocol by expert review teams taking into account the relevant decisions of the Conference of the Parties.
5. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, with the assistance of the Subsidiary Body for Implementation and, as appropriate, the Subsidiary Body for Scientific and Technological Advice, consider:
 - (a) The information submitted by Parties under Article 7 and the reports of the expert reviews thereon conducted under this Article; and
 - (b) Those questions of implementation listed by the secretariat under paragraph 3 above, as well as any questions raised by Parties.
6. Pursuant to its consideration of the information referred to in paragraph 5 above, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take decisions on any matter required for the implementation of this Protocol.

Article 9

1. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall periodically review this Protocol in the light of the best available scientific information and assessments on climate change and its impacts, as well as relevant technical, social and economic information. Such reviews shall be coordinated with pertinent reviews under the Convention, in particular those required by Articles 4, paragraph 2 (d), and Article 7, paragraph 2 (a), of the Convention. Based on these reviews, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take appropriate action.
2. The first review shall take place at the second session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. Further reviews shall take place at regular intervals and in a timely manner.

Article 10

All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments for Parties not included in Annex I, but reaffirming existing commitments under Article 4, paragraph 1, of the Convention, and continuing to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4, paragraphs 3, 5 and 7, of the Convention, shall:

(a) Formulate, where relevant and to the extent possible, cost-effective national and, where appropriate, regional programmes to improve the quality of local emission factors, activity data and/or models which reflect the socio-economic conditions of each Party for the preparation and periodic updating of national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties, and consistent with the guidelines for the preparation of national communications adopted by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change:

(i) Such programmes would, *inter alia*, concern the energy, transport and industry sectors as well as agriculture, forestry and waste management. Furthermore, adaptation technologies and methods, for improving spatial planning would improve adaptation to climate change; and

(ii) Parties included in Annex I shall submit information on action under this Protocol, including national programmes, in accordance with Article 7; and other Parties shall seek to include in their national communications, as appropriate, information on programmes which contain measures that the Party believes contribute to addressing climate change and its adverse impacts, including the abatement of increases in greenhouse gas emissions, and enhancement of and removals by sinks, capacity building and adaptation measures;

(c) Cooperate in the promotion of effective modalities for the development, application and diffusion of, and take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies, know-how, practices and processes pertinent to climate change, in particular to developing countries, including the formulation of policies and programmes for the effective transfer of environmentally sound technologies that are publicly owned or in the public domain and the creation of an enabling environment for the private sector, to promote and enhance the transfer of, and access to, environmentally sound technologies;

(d) Cooperate in scientific and technical research and promote the maintenance and the development of systematic observation systems and development of data archives to reduce uncertainties related to the climate system, the adverse impacts of climate change and the economic and social consequences of various response strategies, and promote the development and strengthening of endogenous capacities and capabilities to participate in international and intergovernmental efforts, programmes and networks on research and systematic observation, taking into account Article 5 of the Convention;

(e) Cooperate in and promote at the international level, and, where appropriate, using existing bodies, the development and implementation of education and training programmes, including the strengthening of national capacity building, in particular human and institutional capacities and the exchange or secondment of personnel to train experts in this field, in particular for developing countries, and facilitate at the national level public awareness of, and public access to information on, climate change. Suitable modalities should be developed to implement these activities through the relevant bodies of the Convention, taking into account Article 6 of the Convention;

(f) Include in their national communications information on programmes and activities undertaken pursuant to this Article in accordance with relevant decisions of the Conference of the Parties; and

(g) Give full consideration, in implementing the commitments under this Article, to Article 4, paragraph 8, of the Convention.

Article 11

1. In the implementation of Article 10, Parties shall take into account the provisions of Article 4, paragraphs 4, 5, 7, 8 and 9, of the Convention.

2. In the context of the implementation of Article 4, paragraph 1, of the Convention, in accordance with the provisions of Article 4, paragraph 3, and Article 11 of the Convention, and through the entity or entities entrusted with the operation of the financial mechanism of the Convention, the developed country Parties and other developed Parties included in Annex II to the Convention shall:

(a) Provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in advancing the implementation of existing commitments under Article 4, paragraph 1 (a), of the Convention that are covered in Article 10, subparagraph (a); and

(b) Also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of advancing the implementation of existing commitments under Article 4, paragraph 1, of the Convention that are covered by Article 10 and that are agreed between a developing country Party and the international entity or entities referred to in Article 11 of the Convention, in accordance with that Article.

The implementation of these existing commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among developed country Parties. The guidance to the entity or entities entrusted with the operation of the financial mechanism of the Convention in relevant decisions of the Conference of the Parties, including those agreed before the adoption of this Protocol, shall apply *mutatis mutandis* to the provisions of this paragraph.

3. The developed country Parties and other developed Parties in Annex II to the Convention may also provide, and developing country Parties avail themselves of, financial resources for the implementation of Article 10, through bilateral, regional and other multilateral channels.

Article 12

1. A clean development mechanism is hereby defined.

2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

3. Under the clean development mechanism:

(a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and

- (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.
4. The clean development mechanism shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Protocol and be supervised by an executive board of the clean development mechanism.
5. Emission reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to this Protocol, on the basis of:
- (a) Voluntary participation approved by each Party involved;
 - (b) Real, measurable, and long-term benefits related to the mitigation of climate change; and
 - (c) Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.
6. The clean development mechanism shall assist in arranging funding of certified project activities as necessary.
7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, elaborate modalities and procedures with the objective of ensuring transparency, efficiency and accountability through independent auditing and verification of project activities.
8. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.
9. Participation under the clean development mechanism, including in activities mentioned in paragraph 3 (a) above and in the acquisition of certified emission reductions, may involve private and/or public entities, and is to be subject to whatever guidance may be provided by the executive board of the clean development mechanism.
10. Certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period.

Article 13

1. The Conference of the Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to this Protocol.
2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.
3. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, any member of the Bureau of the Conference of the Parties representing a Party to the Convention but, at that time, not a Party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall keep under regular review the implementation of this Protocol and shall make, within its mandate, the decisions necessary to promote its effective implementation. It shall perform the functions assigned to it by this Protocol and shall:

(a) Assess, on the basis of all information made available to it in accordance with the provisions of this Protocol, the implementation of this Protocol by the Parties, the overall effects of the measures taken pursuant to this Protocol, in particular environmental, economic and social effects as well as their cumulative impacts and the extent to which progress towards the objective of the Convention is being achieved;

(b) Periodically examine the obligations of the Parties under this Protocol, giving due consideration to any reviews required by Article 4, paragraph 2 (d), and Article 7, paragraph 2, of the Convention, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge, and in this respect consider and adopt regular reports on the implementation of this Protocol;

(c) Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;

(d) Facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;

(e) Promote and guide, in accordance with the objective of the Convention and the provisions of this Protocol, and taking fully into account the relevant decisions by the Conference of the Parties, the development and periodic refinement of comparable methodologies for the effective implementation of this Protocol, to be agreed on by the Conference of the Parties serving as the meeting of the Parties to this Protocol;

(f) Make recommendations on any matters necessary for the implementation of this Protocol;

(g) Seek to mobilize additional financial resources in accordance with Article 11, paragraph 2;

(h) Establish such subsidiary bodies as are deemed necessary for the implementation of this Protocol;

(i) Seek and utilize, where appropriate, the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies; and

(j) Exercise such other functions as may be required for the implementation of this Protocol, and consider any assignment resulting from a decision by the Conference of the Parties.

5. The rules of procedure of the Conference of the Parties and financial procedures applied under the Convention shall be applied *mutatis mutandis* under this Protocol, except as may be otherwise decided by consensus by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

6. The first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be convened by the secretariat in conjunction with the first session of the Conference of the Parties that is scheduled after the date of the entry into force of this Protocol. Subsequent ordinary sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be held every year and in conjunction with ordinary sessions of the Conference of the Parties, unless otherwise decided by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

7. Extraordinary sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be held at such other times as may be deemed necessary by the Conference of the Parties serving as the meeting of the Parties to this Protocol, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the secretariat, it is supported by at least one third of the Parties.

8. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State member thereof or observers thereto not party to the Convention, may be represented at sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol as observers. Any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by this Protocol and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties serving as the meeting of the Parties to this Protocol as an observer, may be so admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure, as referred to in paragraph 5 above.

Article 14

1. The secretariat established by Article 8 of the Convention shall serve as the secretariat of this Protocol.

2. Article 8, paragraph 2, of the Convention on the functions of the secretariat, and Article 8, paragraph 3, of the Convention on arrangements made for the functioning of the secretariat, shall apply *mutatis mutandis* to this Protocol. The secretariat shall, in addition, exercise the functions assigned to it under this Protocol.

Article 15

1. The Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation established by Articles 9 and 10 of the Convention shall serve as, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol. The provisions relating to the functioning of these two bodies under the Convention shall apply *mutatis mutandis* to this Protocol. Sessions of the meetings of the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol shall be held in conjunction with the meetings of, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of the Convention.

2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the subsidiary bodies. When the subsidiary bodies serve as the subsidiary bodies of this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.

3. When the subsidiary bodies established by Articles 9 and 10 of the Convention exercise their functions with regard to matters concerning this Protocol, any member of the Bureaux of those subsidiary bodies representing a Party to the Convention but, at that time, not a party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

Article 16

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, as soon as practicable, consider the application to this Protocol of, and modify as appropriate, the multilateral consultative process referred to in Article 13 of the Convention, in the light of any relevant decisions that may be taken by the Conference of the Parties. Any multilateral consultative process that may be applied to this Protocol shall operate without prejudice to the procedures and mechanisms established in accordance with Article 18.

Article 17

The Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading. The Parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3. Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article.

Article 18

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type, degree and frequency of non-compliance. Any procedures and mechanisms under this Article entailing binding consequences shall be adopted by means of an amendment to this Protocol.

Article 19

The provisions of Article 14 of the Convention on settlement of disputes shall apply *mutatis mutandis* to this Protocol.

Article 20

1. Any Party may propose amendments to this Protocol.
2. Amendments to this Protocol shall be adopted at an ordinary session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. The text of any proposed amendment to this Protocol shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed amendments to the Parties and signatories to the Convention and, for information, to the Depositary.
3. The Parties shall make every effort to reach agreement on any proposed amendment to this Protocol by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted amendment shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.
4. Instruments of acceptance in respect of an amendment shall be deposited with the Depositary. An amendment adopted in accordance with paragraph 3 above shall enter into force for those Parties having accepted it on the ninetieth day after the date of receipt by the Depositary of an instrument of acceptance by at least three fourths of the Parties to this Protocol.
5. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits with the Depositary its instrument of acceptance of the said amendment.

Article 21

1. Annexes to this Protocol shall form an integral part thereof and, unless otherwise expressly provided, a reference to this Protocol constitutes at the same time a reference to any annexes thereto. Any annexes adopted after the entry into force of this Protocol shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.

2. Any Party may make proposals for an annex to this Protocol and may propose amendments to annexes to this Protocol.
3. Annexes to this Protocol and amendments to annexes to this Protocol shall be adopted at an ordinary session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. The text of any proposed annex or amendment to an annex shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed annex or amendment to an annex to the Parties and signatories to the Convention and, for information, to the Depository.
4. The Parties shall make every effort to reach agreement on any proposed annex or amendment to an annex by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the annex or amendment to an annex shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted annex or amendment to an annex shall be communicated by the secretariat to the Depository, who shall circulate it to all Parties for their acceptance.
5. An annex, or amendment to an annex other than Annex A or B, that has been adopted in accordance with paragraphs 3 and 4 above shall enter into force for all Parties to this Protocol six months after the date of the communication by the Depository to such Parties of the adoption of the annex or adoption of the amendment to the annex, except for those Parties that have notified the Depository, in writing, within that period of their non-acceptance of the annex or amendment to the annex. The annex or amendment to an annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depository.
6. If the adoption of an annex or an amendment to an annex involves an amendment to this Protocol, that annex or amendment to an annex shall not enter into force until such time as the amendment to this Protocol enters into force.
7. Amendments to Annexes A and B to this Protocol shall be adopted and enter into force in accordance with the procedure set out in Article 20, provided that any amendment to Annex B shall be adopted only with the written consent of the Party concerned.

Article 22

1. Each Party shall have one vote, except as provided for in paragraph 2 below.
2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States that are Parties to this Protocol. Such an organization shall not exercise its right to vote if any of its member States exercises its right, and vice versa.

Article 23

The Secretary-General of the United Nations shall be the Depository of this Protocol.

Article 24

1. This Protocol shall be open for signature and subject to ratification, acceptance or approval by States and regional economic integration organizations which are Parties to the Convention. It shall be open for signature at United Nations Headquarters in New York from 16 March 1998 to 15 March 1999. This Protocol shall be open for accession from the day after the date on which it is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depository.
2. Any regional economic integration organization which becomes a Party to this Protocol without any of its member States being a Party shall be bound by all the obligations under this Protocol. In the case of such organizations,

one or more of whose member States is a Party to this Protocol, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under this Protocol. In such cases, the organization and the member States shall not be entitled to exercise rights under this Protocol concurrently.

3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by this Protocol. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

Article 25

1. This Protocol shall enter into force on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I, have deposited their instruments of ratification, acceptance, approval or accession.

2. For the purposes of this Article, "the total carbon dioxide emissions for 1990 of the Parties included in Annex I" means the amount communicated on or before the date of adoption of this Protocol by the Parties included in Annex I in their first national communications submitted in accordance with Article 12 of the Convention.

3. For each State or regional economic integration organization that ratifies, accepts or approves this Protocol or accedes thereto after the conditions set out in paragraph 1 above for entry into force have been fulfilled, this Protocol shall enter into force on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.

4. For the purposes of this Article, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States members of the organization.

Article 26

No reservations may be made to this Protocol.

Article 27

1. At any time after three years from the date on which this Protocol has entered into force for a Party, that Party may withdraw from this Protocol by giving written notification to the Depositary.

2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.

3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from this Protocol.

Article 28

The original of this Protocol, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

DONE at Kyoto this eleventh day of December one thousand nine hundred and ninety-seven.

N WITNESS WHEREOF the undersigned, being duly authorized to that effect, have affixed their signatures to this Protocol on the dates indicated.

ANNEX A

Greenhouse gases

Carbon dioxide (CO₂)

Methane (CH₄)

Nitrous oxide (N₂O)

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF₆)

► Nitrogen trifluoride (NF₃)⁴

Sectors/source categories

Energy

Fuel combustion

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive emissions from fuels

Solid fuels

Oil and natural gas

Other

Industrial processes

Mineral products

Chemical industry

Metal production

Other production

Production of halocarbons and sulphur hexafluoride

Consumption of halocarbons and sulphur hexafluoride

Other

Solvent and other product use

Agriculture

Enteric fermentation

Manure management

Rice cultivation

Agricultural soils

Prescribed burning of savannas

Field burning of agricultural residues

⁴ Applies only from the beginning of the second commitment period.

Other

Waste

Solid waste disposal on land

Wastewater handling

Waste incineration

Other

► ANNEX B

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
<i>Party</i>	<i>Quantified emission limitation or reduction commitment (2008–2012) (percentage of base year or period)</i>	<i>Quantified emission limitation or reduction commitment (2013–2020) (percentage of base year or period)</i>	<i>Reference year¹</i>	<i>Quantified emission limitation or reduction commitment (2013–2020) (expressed as percentage of reference year)¹</i>	<i>Pledges for the reduction of greenhouse gas emissions by 2020 (percentage of reference year)²</i>
Australia	108	99.5	2000	98	–5 to –15% or –25% ³
Austria	92	80 ⁴	NA	NA	
Belarus ^{5*}		88	1990	NA	–8%
Belgium	92	80 ⁴	NA	NA	
Bulgaria*	92	80 ⁴	NA	NA	
Croatia*	95	80 ⁶	NA	NA	–20%/–30% ⁷
Cyprus		80 ⁴	NA	NA	
Czech Republic*	92	80 ⁴	NA	NA	
Denmark	92	80 ⁴	NA	NA	
Estonia*	92	80 ⁴	NA	NA	
European Union	92	80 ⁴	1990	NA	–20%/–30% ⁷
Finland	92	80 ⁴	NA	NA	
France	92	80 ⁴	NA	NA	
Germany	92	80 ⁴	NA	NA	
Greece	92	80 ⁴	NA	NA	
Hungary*	94	80 ⁴	NA	NA	
Iceland	110	80 ⁸	NA	NA	
Ireland	92	80 ⁴	NA	NA	
Italy	92	80 ⁴	NA	NA	
Kazakhstan*		95	1990	95	–7%
Latvia*	92	80 ⁴	NA	NA	
Liechtenstein	92	84	1990	84	–20%/–30% ⁹
Lithuania*	92	80 ⁴	NA	NA	
Luxembourg	92	80 ⁴	NA	NA	
Malta		80 ⁴	NA	NA	
Monaco	92	78	1990	78	–30%
Netherlands	92	80 ⁴	NA	NA	
Norway	101	84	1990	84	–30% to

Kyoto Protocol to the United Nations Framework Convention on Climate Change

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
<i>Party</i>	<i>Quantified emission limitation or reduction commitment (2008–2012) (percentage of base year or period)</i>	<i>Quantified emission limitation or reduction commitment (2013–2020) (percentage of base year or period)</i>	<i>Reference year¹</i>	<i>Quantified emission limitation or reduction commitment (2013–2020) (expressed as percentage of reference year)¹</i>	<i>Pledges for the reduction of greenhouse gas emissions by 2020 (percentage of reference year)²</i>
					–40% ¹⁰
Poland*	94	80 ⁴	NA	NA	
Portugal	92	80 ⁴	NA	NA	
Romania*	92	80 ⁴	NA	NA	
Slovakia*	92	80 ⁴	NA	NA	
Slovenia*	92	80 ⁴	NA	NA	
Spain	92	80 ⁴	NA	NA	
Sweden	92	80 ⁴	NA	NA	
Switzerland	92	84.2	1990	NA	–20% to –30% ¹¹
Ukraine*	100	76 ¹²	1990	NA	–20%
United Kingdom of Great Britain and Northern Ireland	92	80 ⁴	NA	NA	
<i>Party</i>	<i>Quantified emission limitation or reduction commitment (2008–2012) (percentage of base year or period)</i>				
Canada ¹³	94				
Japan ¹⁴	94				
New Zealand ¹⁵	100				
Russian Federation ^{16*}	100				

Abbreviation: NA = not applicable.

* Countries that are undergoing the process of transition to a market economy.

All footnotes below, except for footnotes 1, 2 and 5, have been provided through communications from the respective Parties.

- ¹ A reference year may be used by a Party on an optional basis for its own purposes to express its quantified emission limitation or reduction commitment (QELRC) as a percentage of emissions of that year, that is not internationally binding under the Kyoto Protocol, in addition to the listing of its QELRC(s) in relation to the base year in the second and third columns of this table, which are internationally legally binding.
- ² Further information on these pledges can be found in documents FCCC/SB/2011/INF.1/Rev.1 and FCCC/KP/AWG/2012/MISC.1, Add.1 and Add.2.
- ³ Australia's QELRC under the second commitment period of the Kyoto Protocol is consistent with the achievement of Australia's unconditional 2020 target of 5 per cent below 2000 levels. Australia retains the option later to move up within its 2020 target of 5 to 15, or 25 per cent below 2000 levels, subject to certain conditions being met. This reference retains the status of these pledges as made under the Cancun Agreements and does not amount to a new legally binding commitment under this Protocol or its associated rules and modalities.

- ⁴ The QELRCs for the European Union and its member States for a second commitment period under the Kyoto Protocol are based on the understanding that these will be fulfilled jointly with the European Union and its member States, in accordance with Article 4 of the Kyoto Protocol. The QELRCs are without prejudice to the subsequent notification by the European Union and its member States of an agreement to fulfil their commitments jointly in accordance with the provisions of the Kyoto Protocol.
- ⁵ Added to Annex B by an amendment adopted pursuant to decision 10/CMP.2. This amendment has not yet entered into force.
- ⁶ Croatia's QELRC for a second commitment period under the Kyoto Protocol is based on the understanding that it will fulfil this QELRC jointly with the European Union and its member States, in accordance with Article 4 of the Kyoto Protocol. As a consequence, Croatia's accession to the European Union shall not affect its participation in such joint fulfilment agreement pursuant to Article 4 or its QELRC.
- ⁷ As part of a global and comprehensive agreement for the period beyond 2012, the European Union reiterates its conditional offer to move to a 30 per cent reduction by 2020 compared to 1990 levels, provided that other developed countries commit themselves to comparable emission reductions and developing countries contribute adequately according to their responsibilities and respective capabilities.
- ⁸ The QELRC for Iceland for a second commitment period under the Kyoto Protocol is based on the understanding that it will be fulfilled jointly with the European Union and its member States, in accordance with Article 4 of the Kyoto Protocol.
- ⁹ The QELRC presented in column three refers to a reduction target of 20 per cent by 2020 compared to 1990 levels. Liechtenstein would consider a higher reduction target of up to 30 per cent by 2020 compared to 1990 levels under the condition 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.
- ¹⁰ Norway's QELRC of 84 is consistent with its target of 30 per cent reduction of emissions by 2020, compared to 1990. If it can contribute to a global and comprehensive agreement where major emitting Parties agree on emission reductions in line with the 2° C target, Norway will move to a level of 40 per cent reduction for 2020 based on 1990 levels. This reference retains the status of the pledge made under the Cancun Agreements and does not amount to a new legally binding commitment under this Protocol.
- ¹¹ The QELRC presented in the third column of this table refers to a reduction target of 20 per cent by 2020 compared to 1990 levels. Switzerland would consider a higher reduction target up to 30 per cent by 2020 compared to 1990 levels subject to comparable emission reduction commitments from other developed countries and adequate contribution from developing countries according to their responsibilities and capabilities in line with the 2° C target. This reference retains the status of the pledge made under the Cancun Agreements and does not amount to a new legally binding commitment under this Protocol or its associated rules and modalities.
- ¹² Should be full carry-over and there is no acceptance of any cancellation or any limitation on use of this legitimately acquired sovereign property.
- ¹³ On 15 December 2011, the Depositary received written notification of Canada's withdrawal from the Kyoto Protocol. This action will become effective for Canada on 15 December 2012.
- ¹⁴ In a communication dated 10 December 2010, Japan indicated that it does not have any intention to be under obligation of the second commitment period of the Kyoto Protocol after 2012.
- ¹⁵ New Zealand remains a Party to the Kyoto Protocol. It will be taking a quantified economy-wide emission reduction target under the United Nations Framework Convention on Climate Change in the period 2013 to 2020.
- ¹⁶ In a communication dated 8 December 2010 that was received by the secretariat on 9 December 2010, the Russian Federation indicated that it does not intend to assume a quantitative emission limitation or reduction commitment for the second commitment period.

Decision 2/CMP.6

The Cancun Agreements: Land use, land-use change and forestry

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Affirming that the implementation of land use, land-use change and forestry activities included under the provisions of the Kyoto Protocol shall be consistent with the objectives and principles of, and any decisions taken under, the Convention and its Kyoto Protocol,

1. *Affirms* that the principles contained in paragraph 1 of decision 16/CMP.1 continue to govern the treatment of land use, land-use change and forestry activities;

Decision 16/CMP.1, paragraph 1

1. Affirms that the following principles govern the treatment of land use, land-use change and forestry activities:
 - (a) That the treatment of these activities be based on sound science
 - (b) That consistent methodologies be used over time for the estimation and reporting of these activities
 - (c) That the aim stated in Article 3, paragraph 1, of the Kyoto Protocol not be changed by accounting for land use, land-use change and forestry activities
 - (d) That the mere presence of carbon stocks be excluded from accounting
 - (e) That the implementation of land use, land-use change and forestry activities contributes to the conservation of biodiversity and sustainable use of natural resources
 - (f) That accounting for land use, land-use change and forestry does not imply a transfer of commitments to a future commitment period
 - (g) That reversal of any removal due to land use, land-use change and forestry activities be accounted for at the appropriate point in time
 - (h) That accounting excludes removals resulting from: (i) elevated carbon dioxide concentrations above their pre-industrial level; (ii) indirect nitrogen deposition; and (iii) the dynamic effects of age structure resulting from activities and practices before the reference year;

2. *Agrees* that the definitions of forest, afforestation, reforestation, deforestation, revegetation, forest management, cropland management and grazing land management shall be the same as in the first commitment period under the Kyoto Protocol;

Decision 16/CMP.1, Annex, chapter A “Definitions”

1. For land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, the following definitions shall apply:
 - (a) “Forest” is a minimum area of land of 0.05–1.0 hectare with tree crown cover (or equivalent stocking level) of more than 10–30 per cent with trees with the potential to reach a minimum height of 2–5 metres at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10–30 per cent or tree height of 2–5 metres are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest
 - (b) “Afforestation” is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources
 - (c) “Reforestation” is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources,

on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989

(d) "Deforestation" is the direct human-induced conversion of forested land to non-forested land

(e) "Revegetation" is a direct human-induced activity to increase carbon stocks on sites through the establishment of vegetation that covers a minimum area of 0.05 hectares and does not meet the definitions of afforestation and reforestation contained here

(f) "Forest management" is a system of practices for stewardship and use of forest land aimed at fulfilling relevant ecological (including biological diversity), economic and social functions of the forest in a sustainable manner

(g) "Cropland management" is the system of practices on land on which agricultural crops are grown and on land that is set aside or temporarily not being used for crop production

(h) "Grazing land management" is the system of practices on land used for livestock production aimed at manipulating the amount and type of vegetation and livestock produced.

3. *Requests* the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol to consider, in time for possible inclusion in the second commitment period of the Kyoto Protocol, if appropriate, whether a cap should be applied to emissions and removals from forest management and how extraordinary occurrences (called force majeure) whose severity is beyond the control of, and not materially influenced by, a Party can be addressed;

4. *Also requests* each Annex I Party to submit to the secretariat, by 28 February 2011, information on the forest management reference level⁵ inscribed in appendix I to this decision, including any update to replace the value, in accordance with the guidelines outlined in part I of appendix II to this decision;

5. *Decides* that each submission referred to in paragraph 4 above shall be subject to a technical assessment by a review team in accordance with the guidelines outlined in part II of appendix II to this decision, and that outcomes of the technical assessment will be considered by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its next session;

6. *Requests* the secretariat, subject to the availability of funds, to organize the technical assessments referred to in paragraph 5 above;

7. *Also requests* the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol to continue its consideration of definitions, modalities, rules and guidelines relating to land use, land-use change and forestry activities under the Kyoto Protocol for application in the second commitment period.

⁵ The forest management reference levels inscribed in appendix I to this decision were set transparently, taking into account the following: (a) removals or emissions from forest management as shown in greenhouse gas inventories and relevant historical data; (b) age-class structure; (c) forest management activities already undertaken; (d) projected forest management activities under a 'business as usual' scenario; (e) continuity with the treatment of forest management in the first commitment period; (f) the need to exclude removals from accounting in accordance with decision 16/CMP.1, paragraph 1. Points (c), (d) and (e) above were applied where relevant. The forest management reference levels also took into account the need for consistency with the inclusion of carbon pools. Reference levels including and excluding 'force majeure' should be provided.

Appendix I

Reference levels submitted by Annex I Parties to the Kyoto Protocol *

<i>Party</i>	<i>Reference level (Mt CO₂eq/year)</i>
Australia	-9.16
Austria	-2.12
Belarus	-24.93
Belgium	-3.40
Bulgaria	-10.08
Canada	-105.40
Croatia	-
Cyprus ^a	-0.16
Czech Republic	-3.86
Denmark	0.18
Estonia	-1.97
European Union (27)	-283.20 ^a
Finland	-13.70
France	-66.98
Germany	-2.07
Greece	-1.38
Hungary	-0.50
Iceland	-
Ireland	-0.07
Italy	-15.61
Japan	0.00
Latvia	-12.93
Liechtenstein	-
Lithuania	-11.48
Luxembourg	-0.26
Malta ^a	-0.05
Monaco	-
Netherlands	-1.69
New Zealand	17.05
Norway	-14.20
Poland	-34.67
Portugal	-0.92
Romania	-29.43
Russian Federation	-89.10
Slovakia	-0.51
Slovenia	-2.73
Spain	-41.53
Sweden	-21.84
Switzerland	0.48
Ukraine	-28.5 ^b
United Kingdom of Great Britain and Northern Ireland	-3.44

^a The European Union total includes Cyprus and Malta. Cyprus and Malta are member States of the European Union but are not Parties to the Convention that are also Parties to the Kyoto Protocol with a commitment inscribed in Annex B to the Kyoto Protocol.

^b As per the submission from Ukraine received by the secretariat on 10 December 2010, this number is based on the assumption of a 50/50 per cent split between managed and unmanaged forests and will be updated as soon as possible on the basis of the most recent information.

Note: Parties have made different assumptions in the construction of the reference levels proposed in the table above. These assumptions can be found in Parties' submissions at <http://unfccc.int/meetings/ad_hoc_working_groups/kp/items/4907.php>.

* *Editor's note:* Please refer to decision 2/CMP.7, annex, appendix, for the updated values submitted by the Parties.

Appendix II

Guidelines for the submission and review of information on forest management reference levels/baselines

1. Each Party included in Annex I shall include in its submission transparent, complete, consistent, comparable and accurate information required under part I of these guidelines, for the purpose of allowing a technical assessment, as specified in part II, of the data, methodologies and procedures used in the construction of reference levels as specified in appendix I above to facilitate consideration of the forest management reference level.

Part I: Guidelines for submissions of information on forest management reference levels

Objectives

2. The objectives of the submission are:

(a) To provide information consistent with the general reporting principles set out by the Convention and elaborated by the Intergovernmental Panel on Climate Change (IPCC)⁶ on how the elements contained in footnote 1 in paragraph 4 of this decision were taken into account by Parties in the construction of forest management reference levels, and to provide any additional relevant information;

(b) To document the information that was used by Parties in constructing forest management reference levels in a comprehensive and transparent way;

(c) To provide transparent, complete, consistent, comparable and accurate methodological information used at the time of the construction of forest management reference levels.

3. Parties shall provide submissions in accordance with the following guidelines:

General description

4. Provide a general description of the construction of the forest management reference levels consistent with footnote 1 in paragraph 4 of this decision.

5. Provide a description on how each element contained in footnote 1 in paragraph 4 of this decision was taken into account in the construction of the forest management reference level.

Pools and gases

6. Identify pools and gases which have been included in the reference level and explain the reasons for omitting a pool from the reference level construction.

7. Explain consistency between the pools included in the reference level.

Approaches, methods and models used

8. Provide a description of approaches, methods and models, including assumptions, used in the construction of the forest management reference level, referring, where relevant, to the most recently submitted national inventory report.

Description of construction of reference levels

⁶ UNFCCC Annex I Reporting Guidelines, IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry*.

9. Provide a description of how each of the following elements were considered or treated in the construction of the forest management reference level, taking into account the principles in decision 16/CMP.1:

- (a) Area under forest management;
- (b) Emissions and removals from forest management and the relationship between forest management and forest land remaining forest land as shown in greenhouse gas inventories and relevant historical data, including information provided under Article 3, paragraph 3, and, if applicable, Article 3, paragraph 4, on forest management of the Kyoto Protocol and under forest land remaining forest land under the Convention;
- (c) Forest characteristics, including age-class structure, increments, rotation length and other relevant information, including information on forest management activities under 'business as usual';
- (d) Historical and assumed harvesting rates;
- (e) Harvested wood products;
- (f) Disturbances in the context of force majeure;
- (g) Factoring out in accordance with paragraph 1 (h) (i) and (ii) of decision 16/CMP.1.

10. Provide a description of any other relevant elements considered or treated in the construction of the forest management reference level, including any additional information related to footnote 1 in paragraph 4 of this decision.

Policies included

11. Provide a description of the domestic policies adopted and implemented no later than December 2009 and considered in the construction of the forest management reference level and explain how these policies have been considered in the construction of the reference level.

12. Provide confirmation that the construction of the forest management reference level neither includes assumptions about changes to domestic policies adopted and implemented after December 2009 nor includes new domestic policies.

Part II: Guidelines for review of submissions of information on forest management reference levels

Objectives of review

13. The objectives of the review are:

- (a) To assess whether Parties have provided transparent, complete, consistent, comparable and accurate information on how the elements contained in footnote 1 in paragraph 4 of this decision were taken into account in the construction of forest management reference levels;
- (b) To ascertain whether the construction of the forest management reference level is consistent with the information and descriptions used by the Party;
- (c) To provide, as appropriate, technical recommendations to the Annex I Party;
- (d) To provide a technical assessment to support consideration by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its seventh session of the forest management reference levels to be used during the second commitment period of the Kyoto Protocol;

(e) To assess whether Parties have provided transparent, complete, consistent, comparable and accurate methodological information to facilitate reviews of methodological consistency.

Scope of the review

14. A technical assessment of the data, methodologies, assumptions and procedures used in the construction of the forest management reference levels of Annex I Parties to determine whether they are consistent with the guidelines in part I of this appendix.

15. The review team will assess the following issues:

(d) Whether the Party has identified pools and gases included in the forest management reference level and explained the reasons for omitting a pool or a gas from the forest management reference level and whether the coverage of pools in the forest management reference level is consistent;

(e) The description of approaches, methods and models used in the construction of reference levels;

(f) How each element in paragraphs 9 and 10 above is considered, including justification for why any particular element was not considered;

(g) Whether the forest management reference level value is consistent with the information and descriptions provided by the Party;

(h) Whether the information was provided by the Party in a transparent manner;

(i) Whether a description is provided of domestic policies included in accordance with the provisions contained in paragraph 11 above that were used in the construction of the reference level and how these policies were used in the construction of the reference level;

(j) Whether confirmation has been provided that the construction of the forest management reference level does not include assumptions about changes to domestic policies in accordance with paragraph 12 above.

16. As part of the technical assessment, the review process may provide technical recommendations to the Annex I Party on the construction of its forest management reference level. This may include a recommendation to make a technical revision to elements used in its construction.

17. Review teams shall refrain from making any judgment on domestic policies taken into account in the construction of the reference level.

Review procedures

General procedures

18. Review teams will meet in a single location to perform a centralized review of all forest management reference level submissions.

19. Each submission will be assigned to a review team responsible for performing the technical assessment in accordance with procedures and time frames established in these guidelines.

20. Each review team will provide a thorough and comprehensive assessment of the forest management reference level submission and will under its collective responsibility prepare a report.

21. The review process will be coordinated by the secretariat. Review teams will be composed of land use, land-use change and forestry review experts selected from the roster

of experts. Participating experts will serve in their personal capacity and will be neither nationals of the Party under review nor funded by that Party.

22. Review teams will work under the same rules as those set out in paragraphs 9 and 10 of the annex to decision 22/CMP.1.

Composition of the review teams

23. Review teams should be made up of at least three land use, land-use change and forestry experts. The secretariat shall ensure that in any review team one co-lead reviewer shall be from an Annex I Party and one co-lead reviewer shall be from a non-Annex I Party. The secretariat will select the members of the review team with a view to achieving a balance between experts from Annex I Parties and non-Annex I Parties.

Timing

24. In order to facilitate the secretariat's work, each Party should confirm to the secretariat, by the end of February 2011, its active experts on the land use, land-use change and forestry roster of experts who will be able to participate in the review of forest management reference levels in 2011.

25. The secretariat should forward all relevant information to the review teams in good time before the start of the review.

26. Prior to the review, the review team should identify any preliminary questions requiring clarification by the Party, as appropriate.

27. The review should take place no later than by the end of May 2011 and be conducted according to the indicative timings set out in paragraphs 28 to 32 below. The Party being reviewed may interact with the review team during the review of its submission in order to respond to questions and to provide additional information as requested by the review team.

28. The review team may seek any additional clarification from the Party no later than one week following the review. This may include technical recommendations to the Party on the construction of its reference level. The Party is to provide any required clarifications to the review team no later than five weeks following the request and may also submit a revised reference level in response to the technical recommendations of the review team.

29. The review team will prepare a draft report and make it available to the Party no later than eight weeks following the review. The report should include a short summary.

30. The Party will have three weeks to respond to the draft report of the review team.

31. If the Party does not agree with the findings in the draft report, in responding to the Party's comments the review team will seek advice from a small group of experienced reviewers to be convened by the secretariat, which will consider comparability across Parties.

32. The review team will prepare a final report within three weeks following the Party's response and the report will be sent to the secretariat for publication on the UNFCCC website. The final report will contain the technical assessment, technical recommendations, if appropriate, the responses by the Party and, where provided, the advice of the small group of experienced reviewers convened by the secretariat.

33. The secretariat will prepare a synthesis report of key conclusions of the forest management reference level review process, including comments by Parties, for consideration at the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its seventh session. The synthesis report will be made publicly available and will be published on the UNFCCC website.

*10th plenary meeting
10–11 December 2010*

Decision 2/CMP.7

Land use, land-use change and forestry

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Affirming that the implementation of land use, land-use change and forestry activities included under the provisions of the Kyoto Protocol shall be consistent with the objectives and principles of, and any decisions taken under, the Convention and its Kyoto Protocol,

Also affirming that forests are systems of life that have multiple and integral functions and consist of communities of diverse, interrelated and interdependent components,

Having considered decision 16/CMP.1,

Recalling decision 2/CMP.6,

1. *Affirms* that the principles contained in decision 16/CMP.1, paragraph 1, continue to govern the treatment of land use, land-use change and forestry activities in the second and subsequent commitment periods of the Kyoto Protocol;

Decision 16/CMP.1, paragraph 1

1. Affirms that the following principles govern the treatment of land use, land-use change and forestry activities:

- (a) That the treatment of these activities be based on sound science
- (b) That consistent methodologies be used over time for the estimation and reporting of these activities
- (c) That the aim stated in Article 3, paragraph 1, of the Kyoto Protocol not be changed by accounting for land use, land-use change and forestry activities
- (d) That the mere presence of carbon stocks be excluded from accounting
- (e) That the implementation of land use, land-use change and forestry activities contributes to the conservation of biodiversity and sustainable use of natural resources
- (f) That accounting for land use, land-use change and forestry does not imply a transfer of commitments to a future commitment period
- (g) That reversal of any removal due to land use, land-use change and forestry activities be accounted for at the appropriate point in time
- (h) That accounting excludes removals resulting from: (i) elevated carbon dioxide concentrations above their pre-industrial level; (ii) indirect nitrogen deposition; and (iii) the dynamic effects of age structure resulting from activities and practices before the reference year;

2. *Decides* that anthropogenic greenhouse gas emissions by sources and removals by sinks shall be accounted for in accordance with the principles and definitions referred to in decision 2/CMP.6, paragraphs 1 and 2, and in accordance with the annex to this decision;

3. *Also decides* that the information referred to in paragraph 2 above shall be reviewed in accordance with relevant decisions under Article 8 of the Kyoto Protocol;

4. *Agrees* to consider, at its eighth session, the need to revise decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol that are relevant to the annex to this decision, including those related to reporting and review under Articles 5, 7 and 8 of the Kyoto Protocol;

5. *Requests* the Subsidiary Body for Scientific and Technological Advice to initiate a work programme to explore more comprehensive accounting of anthropogenic emissions by sources and removals by sinks from land use, land-use change and forestry, including through

a more inclusive activity-based approach or a land-based approach, and to report to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its ninth session on the outcomes of this work programme;

6. *Also requests* the Subsidiary Body for Scientific and Technological Advice to initiate a work programme to consider and, as appropriate, develop and recommend modalities and procedures for possible additional land use, land-use change and forestry activities under the clean development mechanism with a view to forwarding a draft decision on this matter to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol for adoption at its ninth session;

7. *Further requests* the Subsidiary Body for Scientific and Technological Advice to initiate a work programme to consider and, as appropriate, develop and recommend modalities and procedures for alternative approaches to addressing the risk of non-permanence under the clean development mechanism with a view to forwarding a draft decision on this matter to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol for adoption at its ninth session;

8. *Invites* the Intergovernmental Panel on Climate Change to review and, if necessary, update supplementary methodologies for estimating anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, related to the annex to this decision, on the basis of, inter alia, chapter 4 of its *Good Practice Guidance for Land Use, Land-Use Change and Forestry*;

9. *Requests* the Subsidiary Body for Scientific and Technological Advice to consider, following the completion of the methodological work by the Intergovernmental Panel on Climate Change outlined in paragraph 8 above, any supplementary methodologies related to the annex to this decision, with a view to forwarding a draft decision on this matter to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol for adoption at its tenth session;

10. *Also requests* the Subsidiary Body for Scientific and Technological Advice to initiate a work programme to develop and recommend modalities and procedures for applying the concept of additionality, with a view to forwarding a draft decision on this matter to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol for adoption at its ninth session;

11. *Adopts* the definitions, modalities, rules and guidelines relating to land use, land-use change and forestry activities under the Kyoto Protocol contained in the annex to this decision for application in the second commitment period.

Annex

Definitions, modalities, rules and guidelines relating to land use, land-use change and forestry activities under the Kyoto Protocol

B. Definitions

1. For land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, the following definitions, in addition to those contained in decision 16/CMP.1 and referred to in decision 2/CMP.6, paragraph 2, shall apply:

(a) “Natural disturbances” are non-anthropogenic events or non-anthropogenic circumstances. For the purposes of this decision, these events or circumstances are those that cause significant emissions in forests and are beyond the control of, and not materially influenced by, a Party. These may include wildfires, insect and disease infestations, extreme weather events and/or geological disturbances, beyond the control of, and not materially influenced by, a Party. These exclude harvesting and prescribed burning;

(b) “Wetland drainage and rewetting” is a system of practices for draining and rewetting on land with organic soil that covers a minimum area of 1 hectare. The activity applies to all lands that have been drained since 1990 and to all lands that have been rewetted since 1990 and that are not accounted for under any other activity as defined in this annex, where drainage is the direct human-induced lowering of the soil water table and rewetting is the direct human-induced partial or total reversal of drainage.

Decision 16/CMP.11, annex, paragraph 1

1. For land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, the following definitions shall apply:

(a) “Forest” is a minimum area of land of 0.05–1.0 hectare with tree crown cover (or equivalent stocking level) of more than 10–30 per cent with trees with the potential to reach a minimum height of 2–5 metres at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10–30 per cent or tree height of 2–5 metres are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest

(b) “Afforestation” is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources

(c) “Reforestation” is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989

(d) “Deforestation” is the direct human-induced conversion of forested land to non-forested land

(e) “Revegetation” is a direct human-induced activity to increase carbon stocks on sites through the establishment of vegetation that covers a minimum area of 0.05

hectares and does not meet the definitions of afforestation and reforestation contained here

(f) “Forest management” is a system of practices for stewardship and use of forest land aimed at fulfilling relevant ecological (including biological diversity), economic and social functions of the forest in a sustainable manner

(g) “Cropland management” is the system of practices on land on which agricultural crops are grown and on land that is set aside or temporarily not being used for crop production

(h) “Grazing land management” is the system of practices on land used for livestock production aimed at manipulating the amount and type of vegetation and livestock produced.

C. Article 3, paragraph 3

2. For the purposes of Article 3, paragraph 3, eligible activities are those direct human-induced afforestation, reforestation and/or deforestation activities that meet the requirements set forth in this annex and that started on or after 1 January 1990 and before 31 December of the last year of the commitment period.

3. For the purposes of determining the area of deforestation to come under the accounting system under Article 3, paragraph 3, each Party shall determine the forest area using the same spatial assessment unit as is used for the determination of afforestation and reforestation, but this must be not larger than 1 hectare.

4. Each Party included in Annex I shall report, in accordance with Article 7, on how harvesting or forest disturbance that is followed by the re-establishment of a forest is distinguished from deforestation. This information will be subject to review in accordance with Article 8.

5. Each Party included in Annex I shall report and account for, in accordance with Article 7, all emissions arising from the conversion of natural forests to planted forests.

D. Article 3, paragraph 4

6. A Party included in Annex I may choose to account for anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from any or all of the following activities: revegetation, cropland management, grazing land management, and wetland drainage and rewetting.

7. All Parties included in Annex I shall account for anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from the following: any activity under Article 3, paragraph 4, elected in the first commitment period, and forest management.

8. A Party included in Annex I wishing to account for elected activities under Article 3, paragraph 4, in the second commitment period shall identify, in its report to enable the establishment of its assigned amount pursuant to Article 3, paragraphs 7 and 8, or any amendments thereto, the activities under Article 3, paragraph 4, that it elects to include in its accounting for the second commitment period. Upon election, a decision by a Party will be fixed for the second commitment period.

9. During the second commitment period, a Party included in Annex I shall demonstrate that activities referred to in paragraph 6 above, in addition to those already selected for the first commitment period, have occurred since 1990 and are human-induced. A Party included in Annex I shall not account for emissions by sources and removals by sinks resulting from

activities under Article 3, paragraph 4, if these are already accounted for under Article 3, paragraph 3.

10. For the second commitment period, accountable anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from revegetation, cropland management, grazing land management, and wetland drainage and rewetting under Article 3, paragraph 4, shall be equal to anthropogenic greenhouse gas emissions by sources and removals by sinks in the commitment period, less the duration of the commitment period in years times the anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from these eligible activities in the base year of that Party, while avoiding double accounting.

11. Accounting for wetland drainage and rewetting shall be based on estimation methodologies for wetlands, lands converted to wetlands and land use on drained organic soils in the Intergovernmental Panel on Climate Change (IPCC) guidelines most recently adopted or encouraged by the Conference of the Parties, and any subsequent clarifications agreed by the Conference of the Parties.

12. For the second commitment period, accountable anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from forest management under Article 3, paragraph 4, shall be equal to anthropogenic greenhouse gas emissions by sources and removals by sinks in the commitment period, less the duration of the commitment period in years times the reference level inscribed in the appendix.⁷

13. For the second commitment period, additions to the assigned amount of a Party resulting from forest management under Article 3, paragraph 4, and from forest management project activities undertaken under Article 6, shall not exceed 3.5 per cent of the base year greenhouse gas emissions excluding land use, land-use change and forestry pursuant to Article 3, paragraphs 7 and 8, or any amendments thereto, times the duration of the commitment period in years.

14. When accounting for forest management, Annex I Parties shall demonstrate methodological consistency between the reference level and reporting for forest management during the second commitment period, including in the area accounted for, in the treatment of harvested wood products, and in the accounting of any emissions from natural disturbances. Parties shall make technical corrections, if necessary, to ensure consistency, including applying IPCC methods for ensuring time-series consistency (e.g. overlap with historical data) and shall report on how these corrections were made. Information on technical corrections and methodological consistency shall be reported as part of the annual greenhouse gas inventories and inventory reports, in accordance with relevant decisions under Articles 5 and 7 of the Kyoto Protocol, and reviewed as part of the review of the annual greenhouse gas inventory review in accordance with relevant decisions under Article 8 of the Kyoto Protocol.

15. After adoption of the reference level for forest management, if the reported data on forest management or forest land remaining forest land used to establish the reference level are subject to recalculations, a technical correction shall be applied to include in the

⁷ The forest management reference levels inscribed in the appendix to this annex were set transparently, taking into account: (a) removals or emissions from forest management as shown in greenhouse gas inventories and relevant historical data; (b) age-class structure; (c) forest management activities already undertaken; (d) projected forest management activities under business as usual; (e) continuity with the treatment of forest management in the first commitment period; and (f) the need to exclude removals from accounting in accordance with decision 16/CMP.1, paragraph 1. Points (c), (d) and (e) above were applied where relevant. The forest management reference levels also took into account the need for consistency with the inclusion of carbon pools and the provisions for addressing natural disturbances contained in paragraphs 33–35 below.

accounting the impact of the recalculations on the reported data that have been used by the Party to set the reference level.

16. Emissions that occur during the second commitment period from harvested wood products removed from forests prior to the start of the second commitment period shall also be accounted for. In the case the forest management reference level is based on a projection, a Party may choose not to account for the emissions from harvested wood products originating from forests prior to the start of the second commitment period, and shall ensure consistency in the treatment of the harvested wood products pool in the second commitment period in accordance with paragraph 14 above. Emissions from harvested wood products already accounted for during the first commitment period on the basis of instantaneous oxidation shall be excluded. The treatment of harvested wood products in the construction of a projected forest management reference level shall be on the basis of provisions outlined in paragraph 29 below and shall not be on the basis of instantaneous oxidation.⁸

E. Article 12

17. Afforestation and reforestation are eligible project activities under the clean development mechanism in the second commitment period. Activities additional to afforestation and reforestation will be eligible if agreed by any future decision of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol.

18. The modalities and procedures contained in decision 5/CMP.1 for afforestation and reforestation project activities under the clean development mechanism, and in decision 6/CMP.1 for small-scale afforestation and reforestation project activities under the clean development mechanism, shall apply, *mutatis mutandis*, to the second commitment period. Alternative approaches to addressing the risk of non-permanence may apply in accordance with any future decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol.

19. For the second commitment period, the total of additions to a Party's assigned amount resulting from afforestation and reforestation project activities under Article 12 shall not exceed one per cent of the base year emissions of that Party, times the duration of the commitment period in years.

F. General

20. Each Party included in Annex I shall, for the purpose of applying the definition of "forest" as contained in decision 16/CMP.1, apply the definition of forest selected in the first commitment period.

Decision 16/CMP.11, annex, paragraph 16

16. Each Party included in Annex I shall, for the purposes of applying the definition of "forest" as contained in paragraph 1 (a) above, select a single minimum tree crown cover value between 10 and 30 per cent, a single minimum land area value between 0.05 and 1 hectare and a single minimum tree height value between 2 and 5 metres. The selection of a Party shall be fixed for the duration of the first commitment period. The selection shall be included as an integral part of its report to enable the calculation of its assigned amount pursuant to Article 3, paragraphs 7 and 8, in accordance with decision 19/CP.7, and shall include the values for tree crown cover, tree height and the minimum land area. Each Party shall justify in its reporting that such values are consistent with the

⁸ Taking in to account the provisions of paragraph 32 below.

information that has historically been reported to the Food and Agriculture Organization of the United Nations or other international bodies, and if they differ, explain why and how such values were chosen.

21. Those Parties included in Annex I that did not select a definition of forest for the first commitment period shall, for the purpose of applying the definition of “forest” as contained in decision 16/CMP.1, select a single minimum tree crown cover value of between 10 and 30 per cent, a single minimum land area value of between 0.05 and 1 hectare and a single minimum tree height value of between 2 and 5 metres.
22. For the second commitment period, and subject to other provisions in this annex, the additions to and subtractions from the assigned amount of a Party pursuant to Article 3, paragraphs 7 and 8, or any amendments thereto, shall be equal to anthropogenic greenhouse gas emissions by sources and removals by sinks measured as verifiable changes in carbon stocks, and to non-carbon dioxide greenhouse gas emissions during the commitment period resulting from afforestation, reforestation and deforestation under Article 3, paragraph 3, that have taken place since 1 January 1990. Where the result of this calculation is a net sink of greenhouse gases, this value shall be added to the assigned amount of that Party. Where the result of this calculation is a net source of greenhouse gas emissions, this value shall be subtracted from the assigned amount of that Party.
23. The accounting of anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, shall begin with the onset of the activity or the beginning of the commitment period, whichever comes later.
24. Once land is accounted for under Article 3, paragraphs 3 and 4, this land must be accounted for throughout subsequent and contiguous commitment periods.
25. National inventory systems established under Article 5, paragraph 1, shall ensure that areas of land subject to land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, are identifiable, and information on these areas shall be provided by each Party included in Annex I in their national inventories in accordance with Article 7. Such information will be reviewed in accordance with Article 8.
26. Each Party included in Annex I shall account for all changes in the following carbon pools: above-ground biomass, below-ground biomass, litter, dead wood, soil organic carbon and harvested wood products.⁹ With the exception of harvested wood products, a Party may choose not to account for a given pool in a commitment period, if transparent and verifiable information is provided that demonstrates that the pool is not a source.
27. Emissions from harvested wood products removed from forests which are accounted for by a Party under Article 3, paragraphs 3 and 4, shall be accounted for by that Party only. Imported harvested wood products, irrespective of their origin, shall not be accounted for by the importing Party.
28. Accounting shall be on the basis of instantaneous oxidation.
29. Notwithstanding paragraph 28 above, and provided that transparent and verifiable activity data for the harvested wood product categories specified below are available, accounting shall be on the basis of the change in the harvested wood products pool during the second and subsequent commitment periods, estimated using the first-order decay

⁹ The accounting of this pool may be on the basis of instantaneous oxidation.

function¹⁰ with default half-lives¹¹ of two years for paper, 25 years for wood panels and 35 years for sawn wood.

30. A Party may use country-specific¹² data to replace the default half-lives specified above, or to account for such products in accordance with the definitions and estimation methodologies in the most recently adopted IPCC guidelines and any subsequent clarifications agreed by the Conference of the Parties, provided that verifiable and transparent activity data are available and that the methodologies used are at least as detailed or accurate as those prescribed above.

31. Harvested wood products resulting from deforestation shall be accounted for on the basis of instantaneous oxidation.

32. Where carbon dioxide emissions from harvested wood products in solid waste disposal sites are separately accounted for, this shall be on the basis of instantaneous oxidation. Carbon dioxide emissions from wood harvested for energy purposes shall be accounted for on the basis of instantaneous oxidation.

33. With respect to the treatment of natural disturbances emissions:

(a) A Party shall indicate whether it intends to apply this provision to forest management under Article 3, paragraph 4, during the second commitment period, in which case it shall provide country-specific information in its national greenhouse gas inventory report for 2015 on a forest management background level¹³ of emissions associated with annual natural disturbances that have been included in its forest management reference level, how the background level has been estimated and information on how to avoid the expectation of net credits or net debits during the commitment period, including through the use of a margin, where a margin is needed.¹⁴ When accounting for forest management under Article 3, paragraph 4, and provided that requirements of paragraph 34 below are met, a Party may exclude from the accounting, either annually or at the end of the second commitment period, emissions from natural disturbances that in any single year exceed the forest management background level. Any subsequent removals during the commitment period on the lands affected shall also be excluded from the accounting. Parties may only exclude emissions from disturbances in years where those emissions are above the background level plus the margin, where a margin is needed;

(b) A Party shall indicate whether it intends to apply this provision during the second commitment period to afforestation and reforestation under Article 3, paragraph 3, in

¹⁰ Using equation 12.1 of the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, as a basis for estimating changes in the harvested wood products pool during a commitment period.

¹¹ Half-lives are based on table 3a.1.3 of the *2003 IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry*.

¹² In the case of exported harvested wood products, country-specific data refers to country-specific half-lives and harvested wood products usage in the importing country.

¹³ The background level can be defined as the average of a consistent and initially complete time series containing 1990–2009 emissions associated with natural disturbances after the application of an iterative process to remove outliers, based on twice the standard deviation around the mean until no outliers can be identified. Alternatively, Parties may apply a transparent and comparable country-specific approach using a consistent and initially complete time series of data including for the period containing 1990–2009. All approaches shall avoid the expectation of net credits during the commitment period. If a Party's forest management reference level does not include a background level of emissions, for the application of the background level as referred to in paragraph 33(a), a value for the background level would be estimated by applying the first approach mentioned above.

¹⁴ In the case that the background level is defined using the first approach in footnote 7, the margin would equal twice the standard deviation of the time series defining the background level. In the case that the background level is defined using a country-specific approach or the Party's reference level is zero, the Party must describe how a margin is established, where a margin is needed. All approaches shall avoid the expectation of net credits during the commitment period.

which case it shall provide country-specific information in its national greenhouse gas inventory report for 2015 on an afforestation and reforestation background level of emissions associated with annual natural disturbances,¹⁵ how the background level has been estimated and information on how to avoid the expectation of net credits or net debits during the commitment period, including through the use of a margin, where a margin is needed. When accounting for afforestation and reforestation under Article 3, paragraph 3, and provided that the requirements of paragraph 34 below are met, a Party may exclude from the accounting, either annually or at the end of the second commitment period, emissions from natural disturbances that in any single year exceed the afforestation and reforestation background level. Any subsequent removals during the commitment period on the lands affected shall also be excluded from the accounting. Parties may only exclude emissions from disturbances in years where those emissions are above the background level plus the margin, where a margin is needed;

(c) Parties shall account for emissions associated with salvage logging;

(d) Parties shall not exclude from accounting emissions from natural disturbances on those lands that are subject to land-use change following the disturbance.

34. A Party included in Annex I that applies the provisions described in paragraph 33 above shall calculate the net emissions and removals subject to those provisions and shall provide transparent information:

(a) Showing that all lands subject to paragraph 33(a) and (b) above are identified, including their georeferenced location, year and types of disturbances;

(b) Showing how annual emissions resulting from disturbances and the subsequent removals in those areas are estimated;

(c) Showing that no land-use change has occurred on lands for which the provisions in paragraph 33 above are applied and explaining the methods and criteria for identifying any future land-use changes on those land areas during the commitment period;

(d) That demonstrates that the occurrences were beyond the control of, and not materially influenced by, the Party in the commitment period, by demonstrating practicable efforts to prevent, manage or control the occurrences that led to the application of the provisions contained in paragraph 33 above;

(e) That demonstrates efforts taken to rehabilitate, where practicable, the land for which the provisions in paragraph 33 above are applied;

(f) Showing that emissions associated with salvage logging were not excluded from accounting.

35. The supplementary information described in paragraph 34 above shall be included in the national greenhouse gas inventory reports of Parties that apply paragraph 33 above. All information and estimates referred to in paragraphs 33 and 34 above shall be subject to review as part of the periodical review of annual greenhouse gas inventory reports submitted by Parties.

36. The treatment of emissions and removals that occur on the lands referred to in paragraph 33 above in the subsequent commitment periods shall be reflected in land use, land-use change and forestry accounting for those commitment periods.

37. A Party included in Annex I may include in its accounting of forest management under Article 3, paragraph 4, anthropogenic greenhouse gas emissions by sources and removals by

¹⁵ The afforestation and reforestation background level of emissions associated with disturbances and a margin, where a margin is needed, shall be calculated using a methodology consistent with the one used by the Party to calculate the forest management background level.

sinks resulting from the harvest and conversion of forest plantations, accounted for under forest management, to non-forest land, provided that all of the requirements below are met:

(a) The forest plantation was first established through direct human-induced planting and/or seeding of non-forest land before 1 January 1990, and, if the forest plantation was re-established, that this last occurred on forest land through direct human-induced planting and/or seeding after 1 January 1960;

(b) A new forest of at least equivalent area as the harvested forest plantation is established through direct human-induced planting and/or seeding of non-forested land that did not contain forest on 31 December 1989;

(c) This newly established forest will reach at least the equivalent carbon stock that was contained in the harvested forest plantation at the time of harvest, within the normal harvesting cycle of the harvested forest plantation, and, if not, a debit would be generated under Article 3, paragraph 4.

38. All lands and associated carbon pools subject to the provision described in paragraph 37 above shall be accounted for as forest management under Article 3, paragraph 4, and not under Article 3, paragraph 3.

39. All lands and associated carbon pools subject to paragraph 37 above shall be identified, monitored and reported, including the georeferenced location and year of conversion

Appendix

<i>Party^a</i>	<i>Reference level (Mt CO₂ eq/year)^b</i>	<i>Applying first-order decay function for HWP</i>
Australia		4.700
Austria	-2.121	-6.516
Belarus	-30.020	
Belgium	-2.407	-2.499
Bulgaria	-8.168	-7.950
Canada	-70.600	-114.300
Croatia	-6.289	
Cyprus ^{c, d}	-0.164	-0.157
Czech Republic	-2.697	-4.686
Denmark	0.334	0.409
Estonia	-1.742	-2.741
European Union (27) ^{c, e}	-253.336	-306.736
Finland	-19.300	-20.466
France	-63.109	-67.410
Germany	-2.067	-22.418
Greece ^f	-1.830	
Hungary	-0.892	-1.000
Iceland	-0.154	
Ireland	-0.008	-0.142
Italy	-21.182	-22.166
Japan	0.00	
Latvia	-14.255	-16.302
Liechtenstein	-0.0025	0.0001
Lithuania	-4.139	-4.552
Luxembourg ^g	-0.418	
Malta ^{c, g}	-0.049	
Monaco ^h		
Netherlands	-1.464	-1.425
New Zealand	11.150	
Norway	-11.400	
Poland	-22.750	-27.133
Portugal	-6.480	-6.830
Romania ⁱ	-15.444	-15.793
Russian Federation	-116.300	
Slovakia	0.358	-1.084
Slovenia	-3.033	-3.171
Spain	-20.810	-23.100
Sweden	-36.057	-41.336
Switzerland	0.220	

<i>Party^a</i>	<i>Reference level (Mt CO₂ eq/year)^b</i>	<i>Applying first-order decay function for HWP</i>
Ukraine ^j	-48.700	
United Kingdom of Great Britain and Northern Ireland	-3.442	-8.268

Note: Parties have made different assumptions in the construction of the reference levels proposed in the appendix above. These assumptions are found in Parties' submissions (see <<http://unfccc.int/4907.php>>).

Abbreviation: HWP = harvested wood products.

^a Technical corrections will be made to include, if necessary, the treatment of natural disturbances and harvested wood products, or any other relevant provisions included in this annex.

^b Assuming instantaneous oxidation.

^c The European Union total includes Cyprus and Malta. Cyprus and Malta are member States of the European Union that are Parties to the Kyoto Protocol but without a commitment inscribed in Annex B to the Kyoto Protocol.

^d Cyprus did not prepare an individual submission and its data were included only in the technical assessment report for the European Union (FCCC/TAR/2011/EU).

^e In a communication to the secretariat dated 7 February 2012, the European Commission requested that the forest management reference level for the European Union be adjusted to reflect the sum of the numbers of its member States.

^f In a communication to the secretariat dated 7 February 2012, Greece noted that there is no estimate for their forest management reference level value applying the first-order decay function for harvested wood products and therefore it requested the removal of the estimate reflected in the table contained in document FCCC/KP/AWG/2011/L.3/Add.2.

^g Luxembourg and Malta did not prepare individual submissions and their data were included only in the technical assessment report for the European Union (FCCC/TAR/2011/EU). For both Parties there were no estimates, which applied the first-order decay function for harvested wood products.

^h Monaco did not propose a forest management reference level due to its lack of forest land.

ⁱ Romania's forest management reference level (applying first-order decay function for harvested wood products) that was included in document FCCC/KP/AWG/2011/L.3/Add.2 was not updated in accordance with the revised value for instantaneous oxidation as contained in the technical assessment report for Romania (FCCC/TAR/2011/ROU). In a communication to the secretariat dated 19 December 2011, Romania requested that this revised forest management reference level be included in this table.

^j Ukraine's revised forest management reference level is a preliminary or interim estimate.

*10th plenary meeting
11 December 2011*

Decision 3/CMP.7

Emissions trading and the project-based mechanisms

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Articles 6, 12 and 17 of the Kyoto Protocol,

Also recalling decisions 1/CMP.1, 2/CMP.1, 1/CMP.5 and 1/CMP.6,

Noting the reports of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol on its sessions to date,

1. *Reconfirms* that the use of the mechanisms shall be supplemental to domestic action and that domestic action shall thus constitute a significant element of the effort made by each Party included in Annex I to meet its quantified emission limitation and reduction commitments under Article 3, paragraph 1, of the Kyoto Protocol, or any amendment thereto;
2. *Decides* to review at its eighth session, and revise as appropriate, the design of the commitment period reserve for the subsequent commitment period to support the effective operation of emissions trading, taking into account, inter alia, the relevant rules, modalities, guidelines and procedures for measuring, reporting, verification and compliance;
3. *Requests* the Subsidiary Body for Implementation, at its thirty-sixth session, to consider the matter referred to in paragraph 2 above with a view to recommending draft decisions for adoption by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its eighth session.

Decision 4/CMP.7
Greenhouse gases, sectors and source categories, common metrics to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks, and other methodological issues

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 3, paragraph 9, and Articles 5, 7, 8, 20 and 21 of the Kyoto Protocol,

Also recalling decisions 1/CMP.1, 1/CMP.5 and 1/CMP.6,

Having considered proposals made by Parties relating to greenhouse gases, sectors and source categories, common metrics to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks, and other methodological issues,

Taking into account proposals made by Parties for elements of the draft decisions contained in the annex to the report of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its tenth session,

A. Greenhouse gases¹⁶

1. *Decides* that, for the second commitment period of the Kyoto Protocol, actual emissions of the species of hydrofluorocarbons and perfluorocarbons listed in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change,¹⁷ and of sulphur hexafluoride and nitrogen trifluoride, should be estimated where data or methodologies are available to Parties and reported, and included in the coverage of the quantified emission limitation and reduction commitments for that period;
2. *Recognizes* that there are other new greenhouse gases with high GWPs listed in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change that are not yet produced in significant quantities but which should be further monitored to identify whether it is necessary to address them as part of mitigation commitments;
3. *Encourages* Parties in a position to do so to report the emissions of such gases in their greenhouse gas inventories;
4. *Agrees* that in deciding whether to add additional greenhouse gases to those listed in Annex A to the Kyoto Protocol, the following considerations would be relevant:
 - (a) The current contribution and projections of future contributions to global warming of anthropogenic sources of a gas, expressed in terms of carbon dioxide equivalent;
 - (b) Practical considerations regarding the availability of data or agreed estimation methodologies, and additional resource needs for data collection and development of common methodologies;
 - (c) Potential for, or early recognition of trends in, substitution of greenhouse gases already listed in Annex A to the Kyoto Protocol.

¹⁶ Some of the paragraphs in this section may require a corresponding amendment to the Kyoto Protocol.

¹⁷ The list of gases and species of gases in table 2.14 of the errata to the contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

B. Common metrics

5. *Decides* that, for the second commitment period of the Kyoto Protocol, the global warming potentials used by Parties to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of the greenhouse gases listed in Annex A to the Kyoto Protocol shall be those listed in the column entitled “Global Warming Potential for Given Time Horizon” in table 2.14 of the errata to the contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, based on the effects of greenhouse gases over a 100-year time horizon, taking into account the inherent and complicated uncertainties involved in global warming potential estimates;

Note: table elaborated from: IPCC, Fourth Assessment report, Working Group I, Table 2.14 (Errata)

Industrial Designation or Common Name	Chemical Formula	Global Warming Potential for 100-year Time Horizon
Carbon dioxide	CO ₂	1
HFCs	See chemical formula for individual species ^a	See GWP for individual species ^a
Methane	CH ₄	25
Nitrogen trifluoride	NF ₃	17 200
Nitrous oxide	N ₂ O	298
PFCs	See chemical formula for individual species ^a	See GWP for individual species ^a
Sulphur hexafluoride	SF ₆	22 800

^a Chemical formulas and GWP for the individual species of HFCs and PFCs are available at <http://ipcc.ch/publications_and_data/ar4/wg1/en/errataserrata-errata.html>.

Abbreviations: GWP = global warming potential, HFCs = Hydrofluorocarbons, PFCs = Perfluorocarbons

6. *Notes* that alternative common metrics and the shortcomings in the use of GWPs are still being assessed by the Intergovernmental Panel on Climate Change in the context of its work on the Fifth Assessment Report;

7. *Also notes* that GWP is a well-defined metric based on radiative forcing that continues to be useful in a multigas approach; however, the GWP was not designed with a particular policy goal in mind and, depending on the specific policy goals, alternative metrics may be preferable;

8. *Further notes* the limitations in the use of GWP based on the 100-year time horizon in evaluating the contribution to climate change of emissions of greenhouse gases with short lifetimes;

9. *Notes* with appreciation the request of the Subsidiary Body for Scientific and Technological Advice that the secretariat organize, subject to the availability of resources, a workshop on common metrics to be held in the first half of 2012;

10. *Requests* the Subsidiary Body for Scientific and Technological Advice to conduct an assessment, based on the work of, inter alia, the Intergovernmental Panel on Climate Change,

of the implications of the choice of metrics used to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of the greenhouse gases listed in Annex A to the Kyoto Protocol for the third or subsequent commitment periods;

11. *Also requests* the Subsidiary Body for Scientific and Technological Advice to initiate such an assessment no later than 2015 and to present to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol its recommendations on the most appropriate metric and related values to be used by Parties with a view to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol adopting a decision on the metric and related values;

12. *Decides* that any decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol to change the metric or revise the values used by Parties to calculate carbon dioxide equivalence shall apply only to commitments under Article 3 of the Kyoto Protocol in respect of any commitment period adopted subsequent to that change or revision;

13. *Encourages* Parties to the Convention, the Kyoto Protocol and any related legal instruments to strive for a consistent approach in relation to the metric and related values used by Parties to calculate the carbon dioxide equivalence of greenhouse gases;

C. Application of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

14. *Acknowledges* that the Subsidiary Body for Scientific and Technological Advice, at its thirtieth session, agreed to launch a work programme in 2010 to revise the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories” (hereinafter referred to as the UNFCCC Annex I reporting guidelines) and to address the methodological issues related to reporting when using the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines), with a view to recommending a draft decision on revised UNFCCC Annex I reporting guidelines, for regular use starting in 2015, for adoption by the Conference of the Parties;

15. *Decides* that, starting with the second commitment period of the Kyoto Protocol, the methodologies for estimating anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for the greenhouse gases and sectors/source categories listed in Annex A to the Kyoto Protocol shall be consistent with the 2006 IPCC Guidelines as implemented through the revised UNFCCC Annex I reporting guidelines, to be adopted through the process referred to in paragraph 14 above;

16. *Also decides* that for the estimation and accounting of anthropogenic emissions by sources and removals by sinks of greenhouse gases under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol shall agree on supplementary methodologies, referred to in decision 2/CMP.7, paragraphs 8 and 9, at its tenth session at the latest, which shall be based on, inter alia, chapter 4 of the *Good Practice Guidance for Land Use, Land-Use Change and Forestry*;

17. *Further decides* that the time series of emissions by sources and removals by sinks of greenhouse gases, including base year emissions, shall be recalculated for the second commitment period.

*10th plenary meeting
11 December 2011*

Decision 1/CMP.8 Amendment to the Kyoto Protocol pursuant to its Article 3, paragraph 9 (the Doha Amendment)

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 3, paragraph 9, Article 20, paragraph 2, and Article 21, paragraph 7, of the Kyoto Protocol,

Recalling also decisions 1/CMP.1 and 1/CMP.7,

Recalling further decision 1/CP.17,

Emphasizing the role of the Kyoto Protocol in the mitigation efforts by Parties included in Annex I,

Welcoming the decision by a number of Parties included in Annex I to inscribe quantified emission limitation and reduction commitments for the second commitment period in the third column of Annex B,

Recognizing the urgent need for Parties to deposit their instruments of acceptance without delay in order to ensure the prompt entry into force of the amendment to the Kyoto Protocol contained in annex I to this decision,

Desiring to facilitate the broad participation of Parties included in Annex I in the second commitment period,

Recognizing also the need for continued smooth implementation of the Kyoto Protocol, including its mechanisms under Articles 6, 12 and 17, pending the entry into force of the amendment for the second commitment period,

Taking note of the declarations set out in annex II to this decision,

Taking note also of decision 1/CP.18,

Noting the importance of the work under the Ad Hoc Working Group on the Durban Platform for Enhanced Action to adopt a protocol, another legal instrument or an agreed outcome with legal force as soon as possible but no later than 2015, to come into effect and be implemented from 2020, as well as the workplan on enhancing mitigation ambition with a view to ensuring the highest possible mitigation efforts by all Parties, pursuant to decision 1/CP.17,

I.

1. *Adopts*, in accordance with Articles 20 and 21 of the Kyoto Protocol, the amendment set out in annex I to this decision;
2. *Requests* the secretariat to communicate the adopted amendment to the Depositary for circulation to all Parties for acceptance, in accordance with Articles 20 and 21 of the Kyoto Protocol;
3. *Calls* on all Parties to deposit as soon as possible with the Depositary their instruments of acceptance in respect of the amendment pursuant to Article 20 of the Kyoto Protocol with a view to expedite its entry into force;
4. *Reaffirms* that the second commitment period will begin on 1 January 2013 and *decides* that it will end on 31 December 2020;

II.

5. *Recognizes* that Parties may provisionally apply the amendment pending its entry into force in accordance with Articles 20 and 21 of the Kyoto Protocol, and *decides* that Parties will provide notification of any such provisional application to the Depositary;

6. *Decides also* that Parties that do not provisionally apply the amendment under paragraph 5 will implement their commitments and other responsibilities in relation to the second commitment period, in a manner consistent with their national legislation or domestic processes, as of 1 January 2013 and pending the entry into force of the amendment in accordance with Articles 20 and 21 of the Kyoto Protocol;

III.

7. *Decides* that each Party included in Annex I will revisit its quantified emission limitation and reduction commitment for the second commitment period at the latest by 2014. In order to increase the ambition of its commitment, such Party may decrease the percentage inscribed in the third column of Annex B of its quantified emission limitation and reduction commitment, in line with an aggregate reduction of greenhouse gas emissions not controlled by the Montreal Protocol by Parties included in Annex I of at least 25 to 40 per cent below 1990 levels by 2020;

8. *Decides also* that in order to ensure that an increase in ambition referred to in Article 3, paragraphs 1 ter and 1 quater, is effective, the Party concerned shall either adjust the calculation of its assigned amount or cancel, upon the establishment of its assigned amount, a number of assigned amount units (AAUs) equivalent to the decrease in its quantified emission limitation and reduction commitment inscribed in the third column in Annex B as contained in annex I to this decision through transferring these units to a cancellation account established in its national registry for this purpose, and communicating such adjustment of the calculation or transfer to the secretariat;

9. *Requests* each Party with a quantified emission limitation and reduction commitment inscribed in the third column of Annex B as contained in annex I to this decision to submit to the secretariat, by 30 April 2014, information relating to its intention to increase the ambition of its commitment, including progress made towards achieving its quantified emission limitation and reduction commitment, the most recently updated projections for greenhouse gas emissions until the end of the second commitment period, and the potential for increasing ambition;

10. *Decides further* that the information submitted by Parties included in Annex I in accordance with paragraph 9 above shall be considered by Parties at a high level ministerial round table to be held during the first sessional period in 2014, and *requests* the secretariat to prepare a report on the round table for consideration by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its tenth session;

11. *Takes note* of the estimated budgetary implications of the activities to be undertaken by the secretariat pursuant to the provisions contained in paragraph 10 above and requests that the actions of the secretariat called for in in paragraph 10 above be undertaken subject to the availability of financial resources;

IV.

12. *Clarifies* that, for the second commitment period, starting from 1 January 2013, Parties not included in Annex I continue to be able to participate in ongoing project activities

under Article 12 of the Kyoto Protocol and in any project activities to be registered after 31 December 2012 in accordance with the provisions of the annex to decision 3/CMP.1;

13. *Clarifies also* that for the purposes of the second commitment period, from 1 January 2013 onwards, a Party included in Annex I may continue to participate in ongoing project activities under Article 12 and in any project activities to be registered after 31 December 2012, but only a Party with a quantified emission limitation and reduction commitment inscribed in the third column of Annex B as contained in annex I to this decision shall be eligible to transfer and acquire certified emission reductions (CERs) in accordance with decision 3/CMP.1 and with paragraph 15 below;

14. *Decides* that a Party referred to in paragraphs 15 and 16 below shall be eligible to use CERs to contribute to compliance with part of its commitment under Article 3 of the Kyoto Protocol for the second commitment period upon the entry into force for that Party of the amendment contained in annex I to this decision and upon that Party meeting the requirements set out in paragraph 31 of the annex to decision 3/CMP.1;

15. *Decides*, with respect to joint implementation under Article 6 and emissions trading under Article 17 of the Kyoto Protocol, that:

(a) As of 1 January 2013, only a Party with a commitment inscribed in the third column of Annex B as contained in annex I to this decision whose eligibility has been established in accordance with the provisions of paragraph 3 of the annex to decision 11/CMP.1 in the first commitment period, shall be eligible to transfer and acquire CERs, AAUs, emission reduction units (ERUs) and removal units (RMUs) valid for the second commitment period under Article 17 of the Kyoto Protocol, subject to the provisions of paragraph 3(b) of the annex to decision 11/CMP.1;

(b) Paragraph 2(b) of the annex to decision 11/CMP.1 shall apply to such Party only upon calculation and recording of its assigned amount for the second commitment period;

16. *Requests* the Subsidiary Body for Implementation to consider modalities for expediting the continued issuance, transfer and acquisition of ERUs under Article 6 for the second commitment period with respect to Parties referred to in paragraph 15 above and modalities for expediting the establishment of eligibility of Parties referred to in paragraph 15 above whose eligibility has not been established in the first commitment period;

17. *Decides* that the provisions of the second sentence of paragraph 31(e) of the annex to decision 3/CMP.1, the second sentence of subparagraph 21(e) of the annex to decision 9/CMP.1 and the second sentence of paragraph 2(e) of the annex to decision 11/CMP.1 shall be extended to apply to the second commitment period;

18. *Decides also* with regard to paragraphs 6–10 of the annex to decision 11/CMP.1 that for the purposes of the second commitment period:

(a) They shall apply to each Party referred to in paragraphs 15 and 16 above only upon calculation and recording of its assigned amount for the second commitment period;

(b) Any references to Article 3, paragraphs 7 and 8, of the Kyoto Protocol shall be read as references to Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol;

(c) The reference to “five times its most recently reviewed inventory” in paragraph 6 of the annex to decision 11/CMP.1 shall be read as “eight times its most recently reviewed inventory”;

19. *Decides further* that paragraph 23 of the annex to decision 13/CMP.1 shall not apply for the purposes of the second commitment period;

V.

20. *Decides* that the share of proceeds to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation referred to in Article 12, paragraph 8, of the Kyoto Protocol and decision 17/CP.7, paragraph 15(a), shall be maintained at 2 per cent of the CERs issued for project activities;

21. *Decides also* that for the second commitment period, the Adaptation Fund shall be further augmented through a 2 per cent share of the proceeds levied on the first international transfers of AAUs and the issuance of ERUs for Article 6 projects immediately upon the conversion to ERUs of AAUs or RMUs previously held by Parties;

22. *Reaffirms* that in accordance with decision 17/CP.7, clean development mechanism project activities in least developed country Parties shall continue to be exempt from the share of proceeds to assist with the costs of adaptation;

VI.

23. *Decides* that each Party included in Annex I with a commitment inscribed in the third column of Annex B as contained in annex I to this decision shall establish a previous period surplus reserve account in its national registry;

24. *Decides also* that where the emissions of a Party referred to in paragraph 23 above in a commitment period are less than its assigned amount under Article 3, the difference shall, on request of that Party, be carried over to the subsequent commitment period, as follows:

(a) Any ERUs or CERs held in that Party's national registry that have not been retired for that commitment period or cancelled may be carried over to the subsequent commitment period, up to a maximum for each unit type of 2.5 per cent of the assigned amount calculated pursuant to Article 3, paragraphs 7 and 8;

(b) Any AAUs held in that Party's national registry that have not been retired for that commitment period or cancelled shall be added to the assigned amount for that Party for the second commitment period. That part of a Party's assigned amount consisting of AAUs held in that Party's national registry that has not been retired for that commitment period or cancelled shall be transferred to its previous period surplus reserve account for the subsequent commitment period, to be established in its national registry;

25. *Decides further* that units in a Party's previous period surplus reserve account may be used for retirement during the additional period for fulfilling commitments of the second commitment period up to the extent by which emissions during the second commitment period exceed the assigned amount for that commitment period, as defined in Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol;

26. *Decides* that units may be transferred and acquired between previous period surplus reserve accounts. A Party referred to in paragraph 23 above may acquire units from other Parties' previous period surplus reserve accounts into its previous period surplus reserve account up to 2 per cent of its assigned amount for the first commitment period pursuant to Article 3, paragraph 7 and 8;

VII.

27. *Takes note* of decision 2/CMP.8 on the implications of the implementation of decisions 2/CMP.7 to 5/CMP.7 on the previous decisions of the Conference of the Parties

serving as the meeting of the Parties to the Kyoto Protocol on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8;

28. *Requests* the Subsidiary Body for Scientific and Technological Advice to take into account the provisions of this decision in its work pursuant to decision 2/CMP.8;

29. *Requests also* the secretariat and the relevant bodies under the Kyoto Protocol to take all necessary measures to facilitate the implementation of this decision;

30. *Decides* that the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol has fulfilled the mandate set out in decision 1/CMP.1 and that its work is hereby concluded.

Decision 2/CMP.8

Implications of the implementation of decisions 2/CMP.7 to 5/CMP.7 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling its decisions 2/CMP.1, 3/CMP.1, 9/CMP.1, 11/CMP.1, 12/CMP.1, 13/CMP.1, 14/CMP.1, 15/CMP.1, 16/CMP.1, 17/CMP.1, 18/CMP.1, 19/CMP.1, 20/CMP.1, 22/CMP.1, 27/CMP.1, 6/CMP.3, 1/CMP.7, 2/CMP.7, 3/CMP.7, 4/CMP.7 and 5/CMP.7,

Also recalling, in particular, its decision that the second commitment period under the Kyoto Protocol shall begin on 1 January 2013,¹⁸

Emphasizing the importance of commencing the implementation of the second commitment period without delay,

1. *Agrees* that decision 5/CMP.7 does not result in any modification to the previous decisions;
2. *Decides* that each Party with a quantified emission limitation and reduction commitment inscribed in the third column of Annex B to the Kyoto Protocol, as contained in annex I to decision 1/CMP.8, shall submit to the secretariat, by 15 April 2015, a report to facilitate the calculation of its assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, of the Kyoto Protocol for the second commitment period and to demonstrate its capacity to account for its emissions and assigned amount (hereinafter referred to as the report to facilitate the calculation of the assigned amount);
3. *Also decides* that for the second commitment period, the report to facilitate the calculation of the assigned amount shall include the information specified in annex I to this decision;
4. *Further decides* that for the purposes of reporting land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol for the second commitment period, each Party included in Annex I shall include the information specified in annex II to this decision in its annual greenhouse gas inventory in accordance with Article 5, paragraph 2, of the Kyoto Protocol, which shall be submitted starting with the annual inventory for the first year of the second commitment period;
5. *Decides* that each Party with a quantified emission limitation and reduction commitment inscribed in the third column of Annex B to the Kyoto Protocol shall submit its first standard electronic format for reporting Kyoto Protocol units for the second commitment period in conjunction with its first annual inventory submission for that commitment period;
6. *Requests* the Subsidiary Body for Scientific and Technological Advice to continue to assess and address the implications of the implementation of decisions 2/CMP.7 to 4/CMP.7, as well as those of decision 1/CMP.8, on the relevant decisions adopted for the first commitment period, with the aim of finalizing its consideration and proposing for consideration and adoption by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its ninth session any changes to such decisions;

¹⁸ Decision 1/CMP.7, paragraph 1.

7. *Notes* that some of the work referred to in paragraph 6 above might only be completed by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its tenth session;
8. *Also requests* the Subsidiary Body for Scientific and Technological Advice to initiate consideration of any supplementary reporting tables required for the reporting of land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol for the second commitment period in parallel with the consideration of any supplementary methodological guidance resulting from the work of the Intergovernmental Panel on Climate Change referred to in decision 2/CMP.7, paragraph 8, and in the conclusions of the Subsidiary Body for Scientific and Technological Advice at its thirty-third session,¹⁹ with the aim of completing this work by the ninth session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol;
9. *Invites* Parties to submit to the secretariat, by 15 February 2013, views on and proposals or elements of proposals to address the implications referred to in paragraphs 6 and 8 above;
10. *Requests* the secretariat, subject to the availability of financial resources, to implement the measures necessary to enable the implementation of this decision, including, as appropriate:
- (a) To organize a workshop, to be held prior to the thirty-eighth session of the Subsidiary Body for Scientific and Technological Advice, with the aim of facilitating the work of the Subsidiary Body for Scientific and Technological Advice referred to in paragraph 6 above;
 - (b) To prepare a report on the workshop referred to in paragraph 10(a) above for consideration by the Subsidiary Body for Scientific and Technological Advice at its thirty-eighth session;
 - (c) To organize a workshop, to be held prior to the thirty-ninth session of the Subsidiary Body for Scientific and Technological Advice, with the aim of facilitating the work on the common reporting format tables for land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol;
 - (d) To prepare a report on the workshop referred to in paragraph 10(c) above for consideration by the Subsidiary Body for Scientific and Technological Advice at its thirty-ninth session;
 - (e) To make the submissions referred to in paragraph 9 above publicly available on the UNFCCC website and to compile them into a miscellaneous document before the workshop referred to in paragraph 10(a) above;
11. *Takes note* of the estimated budgetary implications of the activities to be undertaken by the secretariat referred to in paragraph 10 above;
12. *Requests* that the actions of the secretariat called for in this decision be undertaken subject to the availability of financial resources.

¹⁹ FCCC/SBSTA/2010/13, paragraph 72.

Annex I

Report to facilitate the calculation of the assigned amount

1. The report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, of the Kyoto Protocol for the second commitment period and to demonstrate the capacity of each Party with a quantified emission limitation and reduction commitment inscribed in the third column of Annex B to account for its emissions and assigned amounts shall contain the following information:

(a) Complete inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHGs) not controlled by the Montreal Protocol, recalculated in accordance with decision 4/CMP.7 for all years from 1990, or another approved base year or period under Article 3, paragraph 5, of the Kyoto Protocol, to the most recent year available, and prepared in accordance with Article 5, paragraph 2, of the Kyoto Protocol, and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and the Conference of the Parties (COP). If the report is submitted at the same time as the submission of the Party's annual GHG inventories, only one inventory submission should be provided and both reports should be submitted in conjunction;

(b) The identification of its selected base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride in accordance with Article 3, paragraph 8, of the Kyoto Protocol, if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period, and the identification of its selected base year for nitrogen trifluoride in accordance with Article 3, paragraph 8bis, of the Kyoto Protocol, for all Parties included in Annex I with a quantified emission limitation and reduction target for the second commitment period;

(c) The agreement under Article 4 of the Kyoto Protocol for the second commitment period, where the Party has reached such an agreement to fulfil its commitments under Article 3 of the Kyoto Protocol jointly with other Parties;

(d) The calculation of its assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, of the Kyoto Protocol, on the basis of its inventory referred to in paragraph 1(a) above, which is due by 15 April 2015;

(e) The calculation of its commitment period reserve in accordance with decision 11/CMP.1 or any subsequent revision thereof related to the calculation of the commitment period reserve;

(f) The identification of its selection of single minimum values for tree crown cover, land area and tree height for use in accounting for its activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, if the Party included in Annex I did not select a definition of forest for the first commitment period, together with a justification of the consistency of those values with the information that has been historically reported to the Food and Agriculture Organization of the United Nations or other international bodies, and in the case of difference, an explanation of why and how such values were chosen, in accordance with decisions 16/CMP.1 and 2/CMP.7. If the Party included in Annex I selected its forest definition for the first commitment period, the definition for the second commitment period shall be the same;

(g) The identification of its election of activities under Article 3, paragraph 4, of the Kyoto Protocol for inclusion in its accounting for the second commitment period, in addition to those activities under Article 3, paragraph 4, of the Kyoto Protocol that were elected in the first commitment period, together with information on how its national system under Article 5, paragraph 1, of the Kyoto Protocol will identify land areas associated with

all additional elected activities and how the Party ensures that land that was accounted for under activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in the first commitment period continues to be accounted for in subsequent commitment periods, in accordance with decisions 16/CMP.1 and 2/CMP.7;

(h) The identification of whether, for each activity under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, it intends to account annually or for the entire commitment period;

(i) The forest management reference level as inscribed in the appendix to the annex to decision 2/CMP.7, any technical corrections as contained in the inventory report for the first year of the second commitment period and references to those sections in the national inventory report where such information is reported consistent with the requirements of decision 2/CMP.7, annex, paragraph 14;²⁰

(j) Information on how emissions from harvested wood products originating from forests prior to the start of the second commitment period have been calculated in the reference level in accordance with decision 2/CMP.7, annex, paragraph 16;

Note: Decision 2/CMP.7, annex, paragraph 16

16. Emissions that occur during the second commitment period from harvested wood products removed from forests prior to the start of the second commitment period shall also be accounted for. In the case the forest management reference level is based on a projection, a Party may choose not to account for the emissions from harvested wood products originating from forests prior to the start of the second commitment period, and shall ensure consistency in the treatment of the harvested wood products pool in the second commitment period in accordance with paragraph 14 above. Emissions from harvested wood products already accounted for during the first commitment period on the basis of instantaneous oxidation shall be excluded. The treatment of harvested wood products in the construction of a projected forest management reference level shall be on the basis of provisions outlined in paragraph 29 below and shall not be on the basis of instantaneous oxidation.² [footnote 2: Taking into account the provisions of paragraph 32 below.]

(k) An indication of whether it intends to apply the provisions to exclude emissions from natural disturbances for the accounting for afforestation and reforestation under Article 3, paragraph 3, of the Kyoto Protocol and/or forest management under Article 3, paragraph 4, of the Kyoto Protocol during the second commitment period in accordance with decision 2/CMP.7, annex, paragraph 33, and any relevant supplementary methodological guidance developed by the Intergovernmental Panel on Climate Change and adopted by the CMP and the COP, including:

(i) Country-specific information on the background level of emissions associated with annual natural disturbances that have been included in its forest management reference level;

(ii) Information on how the background level(s) for afforestation and reforestation under Article 3, paragraph 3, of the Kyoto Protocol and/or forest management under Article 3, paragraph 4, of the Kyoto Protocol have been estimated, and information

²⁰ Parties shall include the submission pursuant to decision 2/CMP.6, paragraph 4, and the corresponding technical assessment report pursuant to decision 2/CMP.6, paragraph 5, as annexes to the report. Any technical corrections resulting from recommendations in the technical assessment report shall be reported in the inventory submission for the first year of the second commitment period.

on how it avoids the expectation of net credits or net debits during the commitment period, including information on how a margin is established, if a margin is needed;

(l) A description of its national system in accordance with Article 5, paragraph 1, of the Kyoto Protocol, reported in accordance with the “Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”, if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period;

(m) A description of its national registry, reported in accordance with the “Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”, if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period

Annex II

Information on land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in annual greenhouse gas inventories

1. Each Party included in Annex I shall include in its annual greenhouse gas (GHG) inventory information on anthropogenic greenhouse gas emissions by sources and removals by sinks from land use, land-use change and forestry (LULUCF) activities under Article 3, paragraph 3, of the Kyoto Protocol, forest management under Article 3, paragraph 4, of the Kyoto Protocol and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol²¹ in accordance with Article 5, paragraph 2, of the Kyoto Protocol as elaborated by any relevant supplementary methodological guidance developed by the Intergovernmental Panel on Climate Change (IPCC) and adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and the Conference of the Parties (COP). Estimates for activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, shall be clearly distinguished from anthropogenic emissions from the sources listed in Annex A to the Kyoto Protocol. In reporting the above-mentioned information, each Party included in Annex I shall include the reporting requirements specified in paragraphs 3–6 below, taking into consideration the information communicated as part of the report to facilitate the calculation of the assigned amount referred to in paragraph 2 of this decision and the selected values in accordance with decision 16/CMP.1, annex, paragraph 16.

Decision 16/CMP.1, annex, paragraph 16

16. Each Party included in Annex I shall, for the purposes of applying the definition of “forest” as contained in paragraph 1 (a) above, select a single minimum tree crown cover value between 10 and 30 per cent, a single minimum land area value between 0.05 and 1 hectare and a single minimum tree height value between 2 and 5 metres. The selection of a Party shall be fixed for the duration of the first commitment period. The selection shall be included as an integral part of its report to enable the calculation of its assigned amount pursuant to Article 3, paragraphs 7 and 8, in accordance with decision 19/CP.7, and shall include the values for tree crown cover, tree height and the minimum land area. Each Party shall justify in its reporting that such values are consistent with the information that has historically been reported to the Food and Agriculture Organization of the United Nations or other international bodies, and if they differ, explain why and how such values were chosen.

2. General information to be reported for activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, shall include:

(a) Information on how inventory methodologies have been applied taking into account the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, and any relevant supplementary methodological guidance developed by the IPCC and adopted by the CMP and the COP, and recognizing the principles as laid out in decision 16/CMP.1;

(b) The geographical location of the boundaries of the areas that encompass:

²¹ The elected activities shall be the same as those identified in the Party’s report referred to in paragraph 2 of this decision.

(i) Units of land subject to activities under Article 3, paragraph 3, of the Kyoto Protocol;

(ii) Units of land subject to activities under Article 3, paragraph 3, of the Kyoto Protocol which would otherwise be included in land subject to forest management or elected activities under Article 3, paragraph 4, of the Kyoto Protocol under the provisions of decision 2/CMP.7, annex, paragraph 9;

(iii) Land subject to forest management under Article 3, paragraph 4, in the second commitment period and to any elected activities under Article 3, paragraph 4;

The information aims to ensure that units of land and areas of land are identifiable. Parties are encouraged to elaborate on this information on the basis of any relevant decisions of the CMP and the COP on methodological guidance associated with LULUCF;

(c) The spatial assessment unit used for determining the area of accounting for afforestation, reforestation and deforestation;

(d) Information on anthropogenic GHG emissions by sources and removals by sinks resulting from activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, for all geographical locations reported in the current and previous years, under paragraph 3(b) above, since the beginning of the commitment period or the onset of the activity, whichever comes later. In the latter case the year of the onset of the activity shall also be included. Once land is accounted for under activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, or any elected activities under Article 3, paragraph 4, reporting shall continue throughout subsequent and contiguous commitment periods;

(e) Information on which, if any, of the following pools – above-ground biomass, below-ground biomass, litter, deadwood and/or soil organic carbon – were not accounted for, together with verifiable information that demonstrates that these unaccounted pools were not a net source of anthropogenic GHG emissions;

(f) When a Party applies the provisions for natural disturbances to its accounting in the second commitment period, information demonstrating that emissions from natural disturbances in any single year exceed the background level(s), including a margin, where a margin is needed pursuant to decision 2/CMP.7, annex, paragraph 33. For this purpose, a Party shall, inter alia, include information in accordance with decision 2/CMP.7, annex, paragraphs 33 and 34:

(i) Showing that all lands subject to the exclusion due to natural disturbances are identified, including their georeferenced location, year and types of disturbances;

(ii) Showing how annual emissions resulting from natural disturbances and the subsequent removals during the commitment period in those areas are estimated and excluded from the accounting;

(iii) Showing that no land-use change has occurred on lands for which the provisions contained in decision 2/CMP.7, annex, paragraph 33, are applied and explaining the methods and criteria for identifying any future land-use changes on those land areas during the second commitment period;

(iv) Demonstrating that the events or circumstances were beyond the control of, and not materially influenced by, the Party in the commitment period, by demonstrating practicable efforts to prevent, manage or control the events or circumstances that led to the application of the provisions contained in decision 2/CMP.7, annex, paragraph 33;

(v) Demonstrating efforts taken to rehabilitate, where practicable, the land for which the provisions contained in decision 2/CMP.7, annex, paragraph 33, are applied;

(vi) Showing that emissions associated with salvage logging were not excluded from accounting.

(g) If a Party accounts for GHG emissions by sources and removals by sinks from the harvested wood products pool other than by instantaneous oxidation, information on emissions and removals resulting from changes in the harvested wood products pool accounted for in accordance with decision 2/CMP.7. The emission and removal estimates shall be provided separately for activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4. For this purpose, a Party shall, inter alia, include the following information in accordance with decision 2/CMP.7, annex, paragraphs 16 and 27–32:

(i) Information on activity data for the harvested wood products categories used for estimating the harvested wood products pool removed from domestic forests, for domestic consumption and for export, as appropriate;

(ii) Information on half-lives used in estimating the emissions and removals for these categories in accordance with decision 2/CMP.7, annex, paragraph 29 or 30, or, alternatively, information on methodologies used to account for harvested wood products in accordance with decision 2/CMP.7, annex, paragraph 30, showing that the methodologies used are at least as detailed or accurate as the first-order decay method with default half-lives provided in decision 2/CMP.7, annex, paragraph 29;

(iii) If the forest management reference level is based on a projection, information on whether emissions from harvested wood products originating from forests prior to the start of the second commitment period have been included in the accounting;

(iv) Information on how emissions from the harvested wood products pool that have been accounted for during the first commitment period on the basis of instantaneous oxidation have been excluded from the accounting for the second commitment period;

(v) Information showing that harvested wood products resulting from deforestation have been accounted on the basis of instantaneous oxidation;

(vi) Information showing that carbon dioxide emissions from harvested wood products in solid waste disposal sites, where these emissions are separately accounted for, and from wood harvested for energy purposes have been accounted on the basis of instantaneous oxidation;

(vii) Information showing that the emissions and removals resulting from changes in the harvested wood products pool accounted for do not include imported harvested wood products, irrespective of their origin.

3. Information should also be provided which indicates whether anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, factor out removals from:

(a) Elevated carbon dioxide concentrations above pre-industrial levels;

(b) Indirect nitrogen deposition;

(c) The dynamic effects of age structure resulting from activities prior to 1 January 1990.

4. Specific information to be reported for activities under Article 3, paragraph 3, shall include:

(a) Information that demonstrates that activities under Article 3, paragraph 3, began on or after 1 January 1990 and before 31 December of the last year of the commitment period, and are directly human-induced;

(b) Information on how harvesting or forest disturbance that is followed by the re-establishment of a forest is distinguished from deforestation.

5. Specific information to be reported for forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, shall include:

(a) A demonstration that activities under Article 3, paragraph 4, have occurred since 1 January 1990 and are human induced;

(b) For Parties included in Annex I that elect cropland management and/or grazing land management and/or revegetation and/or wetland drainage and rewetting, anthropogenic GHG emissions by sources and removals by sinks for each year of the commitment period and for the base year for each of the elected activities on the geographical locations reported under paragraph 2(b) above;

(c) Information that demonstrates that emissions by sources and removals by sinks resulting from forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, are not accounted for under activities under Article 3, paragraph 3;

(d) Information on how all emissions arising from the conversion of natural forests to planted forests are accounted for in accordance with any supplementary methodological guidance developed by the IPCC and adopted by the CMP;

(e) Information that demonstrates methodological consistency between the reference level and reporting for forest management during the second commitment period, including the area accounted for, the treatment of harvested wood products, and the accounting of any emissions from natural disturbances;

(f) Any technical corrections made pursuant to decision 2/CMP.7, annex, paragraph 14, to ensure consistency between the reference level and reporting for forest management during the second commitment period;

(g) If a Party includes in its accounting of forest management under Article 3, paragraph 4, anthropogenic GHG emissions by sources and removals by sinks resulting from the harvest and conversion of forest plantations to non-forest land, information to demonstrate that it has met the requirements set out in decision 2/CMP.7, annex, paragraphs 37–39, and any relevant supplementary methodological guidance developed by the IPCC and adopted by the CMP, including:

(i) The identification of all lands and associated carbon pools subject to decision 2/CMP.7, annex, paragraph 37, including the georeferenced location and year of conversion;

(ii) A demonstration that the forest plantation was first established through direct human-induced planting and/or seeding of non-forest land before 1 January 1990, and, if the forest plantation was re-established, that this last occurred on forest land through direct human-induced planting and/or seeding after 1 January 1960;

(iii) A demonstration that a new forest of at least equivalent area to the harvested forest plantation is established through direct human-induced planting and/or seeding of non-forested land that did not contain forest on 31 December 1989;

(iv) A demonstration that this newly established forest will reach at least the equivalent carbon stock that was contained in the harvested forest plantation at the time of harvest, within the normal harvesting cycle of the harvested forest plantation, and, if not, a debit would be generated under Article 3, paragraph 4

*9th plenary meeting
8 December 2012*

Decision 6/CMP.9

Guidance for reporting information on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Articles 5, 7 and 8 of the Kyoto Protocol,

Also recalling decisions 6/CMP.3, 2/CMP.6, 2/CMP.7, 3/CMP.7, 4/CMP.7, 1/CMP.8 and 2/CMP.8,

Being aware of decisions 11/CMP.1, 13/CMP.1, 15/CMP.1, 16/CMP.1, 17/CMP.1, 18/CMP.1, 19/CMP.1 and 27/CMP.1,

1. *Adopts* the common reporting format²² tables contained in the annex for the purpose of submission of information on anthropogenic greenhouse gas emissions by sources and removals by sinks from land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, pursuant to Article 5, paragraph 2, of the Kyoto Protocol in the second commitment period;

2. *Recognizes* that the information provided in the “Information table for accounting for activities under Articles 3.3 and 3.4 of the Kyoto Protocol” included in the set of tables in the annex shall result neither in the issuance nor in cancellation of removal units for the second commitment period under the Kyoto Protocol for Parties included in Annex I without a quantified emission limitation or reduction commitment inscribed in the third column of Annex B in the Doha Amendment, as contained in annex I to decision 1/CMP.8;

3. *Requests* the secretariat to develop reporting software as part of the CRF Reporter for the tables referred to in paragraph 1 above to enable reporting by Parties under the Kyoto Protocol by 15 April 2015 in accordance with paragraph 2 of decision 2/CMP.8;

4. *Also requests* the secretariat to make available to Parties included in Annex I, by June 2014 at the latest, the upgraded CRF Reporter in order to enable them to submit their inventories by the due date of 15 April 2015; in case the upgraded CRF Reporter is not available by June 2014, Parties may submit their greenhouse gas inventory after 15 April 2015 but not later than the corresponding delay in the CRF Reporter availability;

5. *Reaffirms* that, in accordance with decisions 2/CMP.6 and 2/CMP.7, the principles contained in paragraph 1 of decision 16/CMP.1 continue to govern the treatment of land use, land-use change and forestry activities;

Decision 16/CMP.1, paragraph 1

1. Affirms that the following principles govern the treatment of land use, land-use change and forestry activities:

- (a) That the treatment of these activities be based on sound science
- (b) That consistent methodologies be used over time for the estimation and reporting of these activities
- (c) That the aim stated in Article 3, paragraph 1, of the Kyoto Protocol not be changed by accounting for land use, land-use change and forestry activities
- (d) That the mere presence of carbon stocks be excluded from accounting
- (e) That the implementation of land use, land-use change and forestry activities contributes to the conservation of biodiversity and sustainable use of natural resources

²² The common reporting format is a standardized format to be used by Parties for the electronic reporting of estimates of greenhouse gas emissions and removals and any other relevant information.

- (f) That accounting for land use, land-use change and forestry does not imply a transfer of commitments to a future commitment period
- (g) That reversal of any removal due to land use, land-use change and forestry activities be accounted for at the appropriate point in time
- (h) That accounting excludes removals resulting from: (i) elevated carbon dioxide concentrations above their pre-industrial level; (ii) indirect nitrogen deposition; and (iii) the dynamic effects of age structure resulting from activities and practices before the reference year;

6. *Decides* that for the second commitment period, reforestation activities under Article 3, paragraph 3, of the Kyoto Protocol will be limited to those occurring on lands that did not contain forest on 31 December 1989;

7. *Also decides* that the provisions contained in decision 16/CMP.1 and its annex shall not apply for the purposes of the second commitment period except for the principles in paragraph 1 of decision 16/CMP.1 and the provisions of paragraphs 1 and 16 of the annex to decision 16/CMP.1;

8. *Further decides* that, for the purpose of providing information on anthropogenic greenhouse gas emissions by sources and removals by sinks from land use, land-use change and forestry activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and elected activities, if any, under Article 3, paragraph 4, of the Kyoto Protocol in accordance with Article 5, paragraph 2, of the Kyoto Protocol in the second commitment period, Parties included in Annex I shall apply the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories”, in accordance with decision 4/CMP.7;

9. *Decides* that, for the purpose of providing information referred to in paragraph 8 above in the second commitment period, Parties included in Annex I shall apply, as appropriate, the Intergovernmental Panel on Climate Change (IPCC) *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol* in a manner consistent with decision 2/CMP.7, and consistent with annex I to decision 24/CP.19, “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and this decision;

10. *Also decides* that the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* shall apply for providing information on wetland drainage and rewetting elected activity under Article 3, paragraph 4, of the Kyoto Protocol in accordance with paragraph 11 of the annex to decision 2/CMP.7; the use of the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* is encouraged but not mandatory for any other activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol;

11. *Further decides* that, for the purpose of the second commitment period, all references to the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* or the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* in decision 15/CMP.1 shall be read as references to the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and the *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*; references to chapter 7 of the *IPCC Good Practice*

Guidance and Uncertainty Management in National Greenhouse Gas Inventories shall be read as chapter 4 of volume 1 of the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*;

12. *Decides* that the quantity amounting to 3.5 per cent of the base year greenhouse gas emissions excluding land use, land-use change and forestry referred to in paragraph 13 of the annex to decision 2/CMP.7 shall be calculated on the basis of the base year or period emissions reported in the annual greenhouse gas inventory report due by 15 April 2015, shall be included in the information communicated as part of the report to facilitate the calculation of a Party's assigned amount for the second commitment period, taking into account any corrections or adjustments made during the review process of that report under Article 8 of the Kyoto Protocol, and shall remain fixed for the second commitment period.

Annex

Common reporting format tables

Owing to the complexity and importance of colour coding in the common reporting format tables, they are not included in this document but are available on the UNFCCC website at <http://unfccc.int/national_reports/accounting_reporting_and_review_under_the_kyoto_protocol/items/7969.php>.

*9th plenary meeting
23 November 2013*

**Decision 11/CMP.1 in conjunction with decision 1/CMP.8
Modalities, rules and guidelines for emissions trading
under Article 17 of the Kyoto Protocol**

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Aware of its decisions 2/CMP.1, 3/CMP.1, 9/CMP.1, 13/CMP.1, 15/CMP.1, 16/CMP.1, 19/CMP.1, 20/CMP.1, and 22/CMP.1 and decisions 3/CP.7 and 24/CP.7,

1. *Decides* to confirm and give full effect to any actions taken pursuant to decision 18/CP.7 and to any other relevant decisions by the Conference of the Parties, as appropriate;
2. *Urges* the Parties included in Annex II to the Convention to facilitate the participation in emissions trading under Article 17 of the Kyoto Protocol of Parties included in Annex I to the Convention with commitments inscribed in Annex B to the Kyoto Protocol which are undergoing the process of transition to a market economy.

ANNEX

Modalities, rules and guidelines for emissions trading under Article 17 of the Kyoto Protocol¹

1. For the purpose of the present annex the definitions contained in Article 12 and the provisions of Article 14 shall apply. Furthermore:

(a) An “emission reduction unit” or “ERU” is a unit issued pursuant to the relevant provisions in the annex to decision 13/CMP.1 and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5;

(b) A “certified emission reduction” or “CER” is a unit issued pursuant to Article 12 and requirements thereunder, as well as the relevant provisions in the annex to decision 3/CMP.1, and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5;

(c) An “assigned amount unit” or “AAU” is a unit issued pursuant to the relevant provisions in the annex to decision 13/CMP.1 and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5;

(d) A “removal unit” or “RMU” is a unit issued pursuant to the relevant provisions in the annex to decision 13/CMP.1 and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5.

2. Subject to the provisions of paragraph 3 below, a Party³ included in Annex I with a commitment inscribed in Annex B is eligible to transfer and/or acquire ERUs, CERs, AAUs, or RMUs issued in accordance with the relevant provisions, if it is in compliance with the following eligibility requirements:

(a) It is a Party to the Kyoto Protocol

(b) Its assigned amount pursuant to Article 3, paragraphs 7 and 8, has been calculated and recorded in accordance with decision 13/CMP.1

Note: in accordance to decision 1/CMP.8, paragraph 15(b), this sub-paragraph 2(b) shall apply to such Party only upon calculation and recording of its assigned amount for the second commitment period

(c) It has in place a national system for the estimation of anthropogenic emissions by sources and anthropogenic removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, in accordance with Article 5, paragraph 1, and the requirements in the guidelines decided thereunder

¹ The annex to decision 13/CMP.1 contains operational provisions and procedures relevant to this annex.

² In the context of this annex, “Article” refers to an Article of the Kyoto Protocol, unless otherwise specified.

³ In the context of this annex, “Party” refers to a Party to the Kyoto Protocol, unless otherwise specified.

(d) It has in place a national registry in accordance with Article 7, paragraph 4, and the requirements in the guidelines decided thereunder

(e) It has submitted annually the most recent required inventory, in accordance with Article 5, paragraph 2, and Article 7, paragraph 1, and the requirements in the guidelines decided thereunder, including the national inventory report and the common reporting format. For the first commitment period, the quality assessment needed for the purpose of determining eligibility to use the mechanisms shall be limited to the parts of the inventory pertaining to emissions of greenhouse gases from sources/sector categories from Annex A to the Kyoto Protocol and the submission of the annual inventory on sinks

(f) It submits the supplementary information on assigned amount in accordance with Article 7, paragraph 1, and the requirements in the guidelines decided thereunder and makes any additions to, and subtractions from, assigned amount pursuant to Article 3, paragraphs 7 and 8, including for the activities under Article 3, paragraphs 3 and 4, in accordance with Article 7, paragraph 4, and the requirements in the guidelines decided thereunder.

3. A Party included in Annex I with a commitment inscribed in Annex B shall be considered:

(a) To meet the eligibility requirements referred to in paragraph 2 above after 16 months have elapsed since the submission of its report to facilitate the calculation of its assigned amount pursuant to Article 3, paragraphs 7 and 8, and to demonstrate its capacity to account for its emissions and assigned amount, in accordance with the modalities adopted for the accounting of assigned amount under Article 7, paragraph 4, unless the enforcement branch of the Compliance Committee finds in accordance with decision 24/CP.7 that the Party does not meet these requirements, or, at an earlier date, if the enforcement branch of the Compliance Committee has decided that it is not proceeding with any questions of implementation relating to these requirements indicated in reports of the expert review teams under Article 8 of the Kyoto Protocol, and has transmitted this information to the secretariat;

(b) To continue to meet the eligibility requirements referred to in paragraph 2 above unless and until the enforcement branch of the Compliance Committee decides that the Party does not meet one or more of the eligibility requirements, has suspended the Party's eligibility and has transmitted this information to the secretariat.

Decision 1/CMP.8 (extract)

12. Clarifies that, for the second commitment period, starting from 1 January 2013, Parties not included in Annex I continue to be able to participate in ongoing project activities under Article 12 of the Kyoto Protocol and in any project activities to be registered after 31 December 2012 in accordance with the provisions of the annex to decision 3/CMP.1;

13. Clarifies also that for the purposes of the second commitment period, from 1 January 2013 onwards, a Party included in Annex I may continue to participate in ongoing project activities under Article 12 and in any project activities to be registered after 31 December 2012, but only a Party with a quantified emission limitation and reduction commitment inscribed in the third column of Annex B as contained in annex I to this decision shall be eligible to transfer and acquire certified emission reductions (CERs) in accordance with decision 3/CMP.1 and with paragraph 15 below;

14. Decides that a Party referred to in paragraphs 15 and 16 below shall be eligible to use CERs to contribute to compliance with part of its commitment under Article 3 of the Kyoto Protocol for the second commitment period upon the entry into force for that Party of the amendment contained in annex I to this decision and upon that Party meeting the requirements set out in paragraph 31 of the annex to decision 3/CMP.1;

15. Decides, with respect to joint implementation under Article 6 and emissions trading under Article 17 of the Kyoto Protocol, that:

(a) As of 1 January 2013, only a Party with a commitment inscribed in the third column of Annex B as contained in annex I to this decision whose eligibility has been established in accordance with the provisions of

paragraph 3 of the annex to decision 11/CMP.1 in the first commitment period, shall be eligible to transfer and acquire CERs, AAUs, emission reduction units (ERUs) and removal units (RMUs) valid for the second commitment period under Article 17 of the Kyoto Protocol, subject to the provisions of paragraph 3(b) of the annex to decision 11/CMP.1;

(b) Paragraph 2(b) of the annex to decision 11/CMP.1 shall apply to such Party only upon calculation and recording of its assigned amount for the second commitment period;

16. Requests the Subsidiary Body for Implementation to consider modalities for expediting the continued issuance, transfer and acquisition of ERUs under Article 6 for the second commitment period with respect to Parties referred to in paragraph 15 above and modalities for expediting the establishment of eligibility of Parties referred to in paragraph 15 above whose eligibility has not been established in the first commitment period;

17. Decides that the provisions of the second sentence of paragraph 31(e) of the annex to decision 3/CMP.1, the second sentence of subparagraph 21(e) of the annex to decision 9/CMP.1 and the second sentence of paragraph 2(e) of the annex to decision 11/CMP.1 shall be extended to apply to the second commitment period;

18. Decides also with regard to paragraphs 6–10 of the annex to decision 11/CMP.1 that for the purposes of the second commitment period:

(a) They shall apply to each Party referred to in paragraphs 15 and 16 above only upon calculation and recording of its assigned amount for the second commitment period;

(b) Any references to Article 3, paragraphs 7 and 8, of the Kyoto Protocol shall be read as references to Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol;

(c) The reference to “five times its most recently reviewed inventory” in paragraph 6 of the annex to decision 11/CMP.1 shall be read as “eight times its most recently reviewed inventory”;

19. Decides further that paragraph 23 of the annex to decision 13/CMP.1 shall not apply for the purposes of the second commitment period;

4. The secretariat shall maintain a publicly accessible list of Parties that meet the eligibility requirements and of Parties that have been suspended.

5. Transfers and acquisitions between national registries shall be made under the responsibility of the Parties concerned in accordance with the provisions in decision 13/CMP.1. A Party that authorizes legal entities to transfer and/or acquire under Article 17 shall remain responsible for the fulfilment of its obligations under the Kyoto Protocol and shall ensure that such participation is consistent with the present annex. The Party shall maintain an up-to-date list of such entities and make it available to the secretariat and the public through its national registry. Legal entities may not transfer and/or acquire under Article 17 during any period of time in which the authorizing Party does not meet the eligibility requirements or has been suspended.

Note: in accordance with decision 1/CMP.8, paragraph 18(a), paragraphs 6 – 10 below shall apply to each Party with a commitment inscribed in the third column of Annex B as contained in annex I to decision 1/CMP.8 whose eligibility has been established in accordance with the provisions of paragraph 3 of the annex to decision 11/CMP.1 in the first commitment period only upon calculation and recording of its assigned amount for the second commitment period;

6. Each Party included in Annex I shall maintain, in its national registry, a commitment period reserve which should not drop below 90 per cent of the Party’s assigned amount calculated pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol, or 100 per cent of eight times its most recently reviewed inventory, whichever is lowest.

7. The commitment period reserve shall consist of holdings of ERUs, CERs, AAUs and/or RMUs for the relevant commitment period which have not been cancelled in accordance with decision 13/CMP.1. .

8. Upon establishment of its assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, and until expiration of the additional period for fulfilling commitments, a Party shall not make a transfer which would result in these holdings being below the required level of the commitment period reserve.

9. If calculations under paragraph 6 above, or cancellations of ERUs, CERs, AAUs and/or RMUs, raise the required level of the commitment period reserve above the Party's holdings of ERUs, CERs, AAUs and/or RMUs valid for the relevant commitment period, which have not been cancelled, the Party shall be notified by the secretariat and, within 30 days of this notification, shall bring its holdings to the required level.

10. Any provisions relating to the commitment period reserve or other limitations to transfers under Article 17 shall not apply to transfers by a Party of ERUs issued into its national registry which were verified in accordance with the verification procedure under the Article 6 Supervisory Committee.

11. The secretariat shall perform functions as requested.

Decision 13/CMP.1 in conjunction with decision 3/CMP.11 Modalities for the accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol

Note: Decision 3/CMP.11, paragraphs 3 and 4:

3. Clarifies that, for the purpose of the second commitment period, unless otherwise specified in this decision, any references in decision 13/CMP.1 (...) to **Parties included in Annex I** or to **Parties** shall be understood as referring to Parties included in Annex I with commitments inscribed in the third column of Annex B;
4. Also clarifies that, for the purpose of the second commitment period, unless otherwise specified in this decision, any references in decision 13/CMP.1 (...) to **Parties included in Annex I** or to **Parties** are not applicable to the Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 7, paragraph 4, of the Kyoto Protocol,

Recalling decision 19/CP.7,

Being aware of its decisions 2/CMP.1, 3/CMP.1, 9/CMP.1, 11/CMP.1, 15/CMP.1, 16/CMP.1, 19/CMP.1, 20/CMP.1, and 22/CMP.1, and decisions 2/CMP.7, 24/CP.7 and 6/CMP.9,

1. Adopts the modalities for the accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol, as contained in the annex to the present decision;
2. For the purpose of the second commitment period, after completion of the initial review under Article 8 of the report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, in accordance with paragraphs 2–4 of decision 2/CMP.8, and resolution of any question of implementation relating to adjustments under Article 5, paragraph 2, or its assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of each Party shall be recorded in the database for the compilation and accounting of emissions and assigned amounts referred to in paragraph 50 of the annex to present decision and shall remain fixed for the commitment period;
3. *Decides* that each Party included in Annex I with commitments inscribed in the third column of Annex B shall submit to the secretariat, upon expiration of the additional period for fulfilling commitments, the report referred to in paragraph 49 of the annex to the present decision;
4. *Requests* the secretariat to begin publishing the annual compilation and accounting reports referred to in paragraph 61 of the annex to the present decision after completion of the initial review under Article 8 and resolution of any question of implementation relating to adjustments under Article 5, paragraph 2, or its assigned amount pursuant to Article 3, paragraphs 7 and 8 , and to forward them to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, the Compliance Committee and each Party concerned;
5. *Requests* the secretariat to publish, after the additional period for fulfilling commitments, the final compilation and accounting reports referred to in paragraph 62 of the annex to the present decision and forward them to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, the Compliance Committee and each Party concerned.

ANNEX

Modalities for the accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol²³

I. Modalities

A. Definitions

1. An “emission reduction unit” or “ERU” is a unit issued pursuant to the relevant provisions in these modalities for the accounting of assigned amounts and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5.
2. A “certified emission reduction” or “CER” is a unit issued pursuant to Article 12 and requirements thereunder, as well as the relevant provisions in the annex to decision 3/CMP.1, and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5.
3. An “assigned amount unit” or “AAU” is a unit issued pursuant to the relevant provisions in these modalities for the accounting of assigned amounts and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5.
4. A “removal unit” or “RMU” is a unit issued pursuant to the relevant provisions in these modalities for the accounting of assigned amounts and is equal to one metric tonne of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5.

B. Calculation of the assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis

5. The assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, for the second commitment period, from 2013 to 2020, for each Party included in Annex I with a commitment inscribed in the third column of Annex B shall be equal to the percentage inscribed for it in the third column of Annex B of its aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases from the sources listed in Annex A to the Kyoto Protocol in the base year, multiplied by eight, taking into account the following:

(c) The base year shall be 1990 except for those Parties undergoing the process of transition to a market economy that have selected a historical base year or period other than 1990, in accordance with Article 3, paragraph 5, for those Parties that have selected 1995 as the base year for total emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, in accordance with Article 3, paragraph 8, and 1995 or 2000 as the base year for total emissions of nitrogen trifluoride, in accordance with Article 3, paragraph 8 bis;

(d) Those Parties for which land-use change and forestry (all emissions by sources and removals by sinks under category 4 of the *Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories (hereinafter referred to as the UNFCCC Annex I inventory reporting guidelines)*²⁴ as contained in the common reporting format tables constituted a net source of greenhouse gas emissions in the base year or period shall include in their emissions during that year or period the aggregate anthropogenic carbon dioxide equivalent emissions by sources minus removals by sinks in that year or period from land-use change (all emissions by sources minus removals by sinks reported in relation to the conversion of forests (deforestation));

(e) Those Parties that have reached an agreement in accordance with Article 4 to fulfil their commitments under Article 3 jointly shall use the respective emission level allocated to each of the Parties in that agreement instead of the percentage inscribed for it in the third column of Annex B.

²³ “Article” in these modalities refers to an article of the Kyoto Protocol, unless otherwise specified.

²⁴ Decision 24/CP.19, annex I.

6. Note: Decision 3/CMP.11, annex I, paragraph 3 indicates that this paragraph does not apply for the second commitment period.
7. Note: Decision 3/CMP.11, annex I, paragraph 3 indicates that this paragraph does not apply for the second commitment period.
8. Note: Decision 3/CMP.11, annex I, paragraph 3 indicates that this paragraph does not apply for the second commitment period.

► 8 bis. The report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, referred to in paragraph 2 of decision 2/CMP.8 shall contain the following additional information, in addition to the list in annex I to decision 2/CMP.8.

► (n) The calculation of the difference between the assigned amount for the second commitment period and average annual emissions for the first three years of the preceding commitment period multiplied by eight, pursuant to Article 3, paragraph 7 ter, and in accordance with paragraphs 8 ter and 8 quater below.

Decision 2/CMP.8, annex I - Report to facilitate the calculation of the assigned amount

1. The report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, of the Kyoto Protocol for the second commitment period and to demonstrate the capacity of each Party with a quantified emission limitation and reduction commitment inscribed in the third column of Annex B to account for its emissions and assigned amounts shall contain the following information:

(a) Complete inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHGs) not controlled by the Montreal Protocol, recalculated in accordance with decision 4/CMP.7 for all years from 1990, or another approved base year or period under Article 3, paragraph 5, of the Kyoto Protocol, to the most recent year available, and prepared in accordance with Article 5, paragraph 2, of the Kyoto Protocol, and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and the Conference of the Parties (COP). If the report is submitted at the same time as the submission of the Party's annual GHG inventories, only one inventory submission should be provided and both reports should be submitted in conjunction;

(b) The identification of its selected base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride in accordance with Article 3, paragraph 8, of the Kyoto Protocol, if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period, and the identification of its selected base year for nitrogen trifluoride in accordance with Article 3, paragraph 8bis, of the Kyoto Protocol, for all Parties included in Annex I with a quantified emission limitation and reduction target for the second commitment period;

(c) The agreement under Article 4 of the Kyoto Protocol for the second commitment period, where the Party has reached such an agreement to fulfil its commitments under Article 3 of the Kyoto Protocol jointly with other Parties;

(d) The calculation of its assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, of the Kyoto Protocol, on the basis of its inventory referred to in paragraph 1(a) above, which is due by 15 April 2015;

(e) The calculation of its commitment period reserve in accordance with decision 11/CMP.1 or any subsequent revision thereof related to the calculation of the commitment period reserve;

(f) The identification of its selection of single minimum values for tree crown cover, land area and tree height for use in accounting for its activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, if the Party included in Annex I did not select a definition of forest for the first commitment period, together with a justification of the consistency of those values with the information that has been historically reported to the Food and Agriculture Organization of the United Nations or other international bodies, and in the case of difference, an explanation of why and how such values were chosen, in accordance with decisions 16/CMP.1 and 2/CMP.7. If the Party included in Annex I selected its forest definition for the first commitment period, the definition for the second commitment period shall be the same;

(g) The identification of its election of activities under Article 3, paragraph 4, of the Kyoto Protocol for inclusion in its accounting for the second commitment period, in addition to those activities under Article 3, paragraph 4, of the Kyoto Protocol that were elected in the first commitment period, together with information on how its national system under Article 5, paragraph 1, of the Kyoto Protocol will identify land areas associated with all additional elected activities and how the Party ensures that land that was accounted for under activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in the first commitment period continues to be accounted for in subsequent commitment periods, in accordance with decisions 16/CMP.1 and 2/CMP.7;

(h) The identification of whether, for each activity under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, it intends to account annually or for the entire commitment period;

(i) The forest management reference level as inscribed in the appendix to the annex to decision 2/CMP.7, any technical corrections as contained in the inventory report for the first year of the second commitment period and references to those sections in the national inventory report where such information is reported consistent with the requirements of decision 2/CMP.7, annex, paragraph 14;

(j) Information on how emissions from harvested wood products originating from forests prior to the start of the second commitment period have been calculated in the reference level in accordance with decision 2/CMP.7, annex, paragraph 16;

(k) An indication of whether it intends to apply the provisions to exclude emissions from natural disturbances for the accounting for afforestation and reforestation under Article 3, paragraph 3, of the Kyoto Protocol and/or forest management under Article 3, paragraph 4, of the Kyoto Protocol during the second commitment period in accordance with decision 2/CMP.7, annex, paragraph 33, and any relevant supplementary methodological guidance developed by the Intergovernmental Panel on Climate Change and adopted by the CMP and the COP, including:

(i) Country-specific information on the background level of emissions associated with annual natural disturbances that have been included in its forest management reference level;

(ii) Information on how the background level(s) for afforestation and reforestation under Article 3, paragraph 3, of the Kyoto Protocol and/or forest management under Article 3, paragraph 4, of the Kyoto Protocol have been estimated, and information on how it avoids the expectation of net credits or net debits during the commitment period, including information on how a margin is established, if a margin is needed;

(l) A description of its national system in accordance with Article 5, paragraph 1, of the Kyoto Protocol, reported in accordance with the "Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol", if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period;

(m) A description of its national registry, reported in accordance with the "Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol", if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period.

B bis. Cancellation pursuant to Article 3, paragraph 7 ter

► 8 ter. The reference to the assigned amount for the second commitment period referred to in Article 3, paragraph 7 ter, shall be understood as referring to the assigned amount for the second commitment period calculated pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis.

► 8 quater. For the purpose of Article 3, paragraph 7 ter, the units cancelled shall be assigned amount units (AAUs) issued by the Party for the second commitment period.

► 8 quinquies. Where a Party applies the cancellation pursuant to Article 3, paragraph 7 ter, the commitment period reserve for the second commitment period under paragraph 6 of the annex to decision 11/CMP.1 for that Party shall not drop below 90 per cent of eight times its average annual emissions for the first three years of the second commitment period, or 100 per cent of eight times its most recently reviewed inventory, whichever is lower.

► 8 sexes. The reference to assigned amount in decision 1/CMP.8, paragraph 25, for a Party that is undergoing the process of transition to a market economy and is not fulfilling its commitments under Article 3 jointly, in accordance with Article 4 of the Kyoto Protocol, shall be understood as referring to the assigned amount for the second commitment period, calculated pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, adjusted by the number of assigned amount units cancelled in accordance with paragraph 23 ter of decision 13/CMP.1 as revised by this decision.

► 8 septies. Any Party that is undergoing the process of transition to a market economy and is not fulfilling its commitments under Article 3 jointly, in accordance with Article 4 of the Kyoto Protocol, and for which the reference to assigned amount in decision 1/CMP.8 is understood as referring to the assigned amount for the second commitment period, calculated pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, and adjusted by the number of assigned amount units cancelled in accordance with paragraph 23 ter of decision 13/CMP.1, as revised by this decision in accordance with paragraph 8 sexies above, shall not transfer units from its previous period surplus reserve account to other previous period surplus reserve accounts and may use assigned amount units from its previous period surplus reserve account for retirement in accordance with paragraph 25 of decision 1/CMP.8 and paragraph 8 sexies above.

Decision 3/CMP.11, paragraph 11

11. Decides that each of the Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 of the Kyoto Protocol jointly, in accordance with Article 4 of the Kyoto Protocol, shall clarify in their reports, so as to facilitate the calculation of the assigned amount submitted pursuant to decision 2/CMP.8, how the information listed in annex I to that decision, the application of Article 3, paragraph 7 ter, including its technical implementation, and chapter VI of decision 1/CMP.8 are determined. Such clarification shall describe, in detail, methodologies and, if applicable, any relevant assumptions applied by those Parties for their joint fulfilment in relation to:

- (a) The application of paragraphs 23–26 of decision 1/CMP.8;
- (b) The calculation of base year emissions in accordance with Article 3, paragraphs 5, 7 bis, 8 and 8 bis;
- (c) The calculation of those Parties' assigned amounts in accordance with Article 3, paragraphs 7 bis, 8 and 8 bis, and the respective emission level allocated to each of the Parties as set out in the agreement pursuant to Article 4, paragraph 1;
- (d) The calculation of those Parties' commitment period reserves in accordance with decision 11/CMP.1, decision 1/CMP.8, paragraph 18, and this decision;
- (e) The application and calculation pursuant to paragraph 13 in the annex of decision 2/CMP.7;

C. Recording of the assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis

9. After initial review under Article 8 and resolution of any questions of implementation relating to adjustments or the calculation of its assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of each Party shall be recorded in the database for the compilation and accounting of emissions and assigned amounts referred to in paragraph 50 below.

► 9 bis. After initial review under Article 8 and resolution of any questions of implementation relating to adjustments or the calculation of its assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, any positive difference between the assigned amount for the second commitment period for a Party included in Annex I and its average annual emissions for the first three years of the preceding commitment period multiplied by eight of each Party shall be recorded in the database for the compilation and accounting of emissions and assigned amounts referred to in paragraph 50 below.

10. Once recorded in the compilation and accounting database referred to in paragraph 50 below, the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of each Party shall remain fixed for the commitment period.

► 10 bis. Once recorded in the compilation and accounting database referred to in paragraph 50 below, the quantity to be cancelled under Article 3, paragraph 7 ter, for each Party shall remain fixed for the second commitment period.

D. Additions to, and subtractions from, the assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, for the accounting of the compliance assessment

11. At the end of the additional period for fulfilling commitments, the following additions to the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of a Party shall be made in accordance with Article 3, paragraphs 3, 4, 10, 12 and 13, for the accounting of the compliance assessment for the commitment period:

- (a) Acquisitions by the Party of ERUs in accordance with Articles 6 and 17

- (b) Net acquisitions by the Party of CERs, where it acquires more CERs in accordance with Articles 12 and 17 than it transfers in accordance with Article 17
- (c) Acquisitions by the Party of AAUs in accordance with Article 17
- (d) Acquisitions by the Party of RMUs in accordance with Article 17

► (d) bis. Any acquisition by a Party of AAUs from previous period surplus reserve accounts of other Parties shall be in accordance with decision 1/CMP.8

(e) Issuance by the Party of RMUs on the basis of its activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and its elected activities under Article 3, paragraph 4, where such activities result in a net removal of greenhouse gases, as reported in accordance with Article 7, reviewed in accordance with Article 8, taking into account any adjustments applied under Article 5, paragraph 2, accounted in accordance with decisions 2/CMP.7 and 6/CMP.9 and subject to any question of implementation relating to those activities having been resolved

(f) Carry-over by the Party of emission reduction units (ERUs), certified emission reduction (CER) units and/or AAUs from the previous commitment period, in accordance with paragraphs 23–26 of decision 1/CMP.8.

12. At the end of the additional period for fulfilling commitments, the following subtractions from the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of a Party shall be made in accordance with Article 3, paragraphs 3, 4 and 11, for the accounting of the compliance assessment for the commitment period:

- (a) Transfers by the Party of ERUs in accordance with Articles 6 and 17
- (b) Transfers by the Party of AAUs in accordance with Article 17
- (c) Transfers by the Party of RMUs in accordance with Article 17

(d) Cancellation by the Party of ERUs, CERs, AAUs and/or RMUs on the basis of its activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and its elected activities under Article 3, paragraph 4, where such activities result in a net source of greenhouse gas emissions, as reported in accordance with Article 7, reviewed in accordance with Article 8, taking into account any adjustments applied under Article 5, paragraph 2, and accounted in accordance with decisions 2/CMP.7 and 6/CMP.9

(e) Cancellation by the Party of ERUs, CERs, AAUs and/or RMUs following determination by the Compliance Committee that the Party was not in compliance with its commitment under Article 3, paragraph 1, for the previous commitment period, in accordance with decision 24/CP.7

► (e) bis. For the second commitment period of the Kyoto Protocol, cancellation by the Party of AAUs under Article 3, paragraphs 1 ter and 1 quater;

► (e) ter. For the second commitment period of the Kyoto Protocol, cancellation by the Party of AAUs under Article 3, paragraph 7 ter

(f) Other cancellations by the Party of ERUs, CERs, AAUs and/or RMUs

► (g) Transfers by the Party of AAUs from its previous period surplus reserve account to the previous period surplus reserve accounts of other Parties in accordance with paragraph 26 of decision 1/CMP.8

► (h) Transfer by the Party of AAUs from the previous period surplus reserve account to the retirement account in accordance with paragraphs 23–26 of decision 1/CMP.8

► (i) Voluntary cancellation by the Party of any units under paragraph 21(e) of the annex to decision 13/CMP.1

► (j) Cancellation of units that remain after the expiration of the additional period for fulfilment commitments and carry-overs under paragraph 36 of the annex to decision 13/CMP.1

- ▶(k) Cancellation of temporary CERs (tCERs) by the Party after their expiry under paragraph 53 of the annex to decision 5/CMP.1
- ▶(l) Cancellation of long-term CERs (lCERs) by the Party after their expiry under paragraph 53 of the annex to decision 5/CMP.1
- ▶(m) Cancellation by the Party of lCERs held in holding accounts where there has been a reversal of removals by sinks for the project activity concerned under paragraph 49 of the annex to decision 5/CMP.1 and paragraph 3 of appendix D to decision 5/CMP.1
- ▶(n) Cancellation of lCERs by the Party held in holding accounts where a certification report for the project activity concerned has not been provided under paragraph 50 of the annex to decision 5/CMP.1 and paragraph 3 of appendix D to decision 5/CMP.1
- ▶(o) Cancellation of AAUs, CERs, ERUs, removal units (RMUs) and/or tCERs for the purpose of replacing tCERs prior to expiry under paragraphs 41–43 of the annex to decision 5/CMP.1
- ▶(p) Cancellation of AAUs, CERs, ERUs and/or RMUs for the purpose of replacing lCERs prior to expiry under paragraph 47(a) of the annex to decision 5/CMP.1
- ▶(q) Cancellation of AAUs, CERs, ERUs, RMUs and/or lCERs from the same project activity for the purpose of replacing lCERs where there has been a reversal of removals by sinks under paragraph 47(b) of the annex to decision 5/CMP.1
- ▶(r) Cancellation of AAUs, CERs, ERUs, RMUs and/or lCERs from the same project activity for the purpose of replacing lCERs where a certification report has not been provided under paragraph 47(c) of the annex to decision 5/CMP.1

E. Basis for the compliance assessment

13. Each Party included in Annex I with a commitment inscribed in the third column of Annex B shall retire ERUs, CERs, AAUs and/or RMUs for the purpose of demonstrating its compliance with its commitment under Article 3, paragraph 1 bis.

14. The assessment, after the expiration of the additional period for fulfilling commitments, of the compliance of a Party included in Annex I with a commitment inscribed in the third column of Annex B with its commitment under Article 3, paragraph 1 bis, shall be based on the comparison of the quantity of ERUs, CERs, AAUs and/or RMUs, valid for the commitment period in question, retired by the Party in accordance with paragraph 13 above, with its aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases, and from the sources, listed in Annex A to the Kyoto Protocol during the commitment period as reported in accordance with Article 7 and reviewed in accordance with Article 8, taking into account any adjustments in accordance with Article 5, paragraph 2, as recorded in the compilation and accounting database referred to in paragraph 50 below.

Note: decision 3/CMP.11, appendix I, paragraph 9: For the purpose of the second commitment period, the assessment referred to in paragraph 14 of the annex to decision 13/CMP.1 shall be carried out taking into account also paragraph 25 of decision 1/CMP.8

Decision 1/CMP.8

23. Decides that each Party included in Annex I with a commitment inscribed in the third column of Annex B as contained in annex I to this decision shall establish a previous period surplus reserve account in its national registry;

24. Decides also that where the emissions of a Party referred to in paragraph 23 above in a commitment period are less than its assigned amount under Article 3, the difference shall, on request of that Party, be carried over to the subsequent commitment period, as follows:

(a) Any ERUs or CERs held in that Party's national registry that have not been retired for that commitment period or cancelled may be carried over to the subsequent commitment period, up to a maximum for each unit type of 2.5 per cent of the assigned amount calculated pursuant to Article 3, paragraphs 7 and 8;

(b) Any AAUs held in that Party's national registry that have not been retired for that commitment period or cancelled shall be added to the assigned amount for that Party for the second commitment period. That part of a Party's assigned amount consisting of AAUs held in that Party's national registry that has not been retired for that commitment period or cancelled shall be transferred to its previous period surplus reserve account for the subsequent commitment period, to be established in its national registry;

25. Decides further that units in a Party's previous period surplus reserve account may be used for retirement during the additional period for fulfilling commitments of the second commitment period up to the extent by which emissions during the second commitment period exceed the assigned amount for that commitment period, as defined in Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol;

26. Decides that units may be transferred and acquired between previous period surplus reserve accounts. A Party referred to in paragraph 23 above may acquire units from other Parties' previous period surplus reserve accounts into its previous period surplus reserve account up to 2 per cent of its assigned amount for the first commitment period pursuant to Article 3, paragraph 7 and 8;

F. Carry-over

15. After expiration of the additional period for fulfilling commitments and where the final compilation and accounting report referred to in paragraph 62 below indicates that the quantity of ERUs, CERs, AAUs and/or RMUs retired by the Party included in Annex I with a commitment inscribed in the third column of Annex B in accordance with paragraph 13 above is at least equivalent to its anthropogenic carbon dioxide equivalent emissions of the greenhouse gases, and from the sources, listed in Annex A to the Kyoto Protocol for that commitment period, the Party may carry over to the subsequent commitment period:

(a) Any ERUs held in its national registry, which have not been converted from RMUs and have not been retired for that commitment period or cancelled, to a maximum of 2.5 per cent of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of that Party

(b) Any CERs held in its national registry, which have not been retired for that commitment period or cancelled, to a maximum of 2.5 per cent of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of that Party

(c) Any AAUs held in its national registry, which have not been retired for that commitment period or cancelled.

16. RMUs may not be carried over to the subsequent commitment period.

F bis Share of proceeds

► 16 bis The share of proceeds pursuant to paragraphs 20 and 21 of decision 1/CMP.8 shall be calculated in accordance with the following:

► (a) The quantity of units levied as a share of the proceeds on the issuance of CERs from project activities, on the first international transfers of AAUs and on the issuance of ERUs, shall be calculated as 2 per cent of the amount of units issued or transferred in each transaction, rounded up to the next higher integer value;

► (b) The quantity of units levied as a share of the proceeds on the first international transfer of AAUs shall be included in the quantity of AAUs transferred. The quantity of units levied as a share of the proceeds on the issuance of ERUs for Article 6 projects shall be included in the quantities of ERUs issued for the project concerned;

► (c) The transfers to the Adaptation Fund account pursuant to paragraphs 20–22 of decision 1/CMP.8 shall not be subject to the share of proceeds;

► (d) The first international transfers of units between previous period surplus reserve accounts shall not be subject to the share of proceeds;

► (e) The term “first international transfer” refers to the first external transfer of each individual AAU from the originating registry to the registry of another Party, tracked by its serial number.

II. Registry requirements

A. National registries

Note: decision 3/CMP.11, paragraph 14: “Also decides that a Party included in Annex I without a quantified emission limitation or reduction commitment inscribed in the third column of Annex B shall continue to provide relevant information on its national registry, or changes thereto, including information on the units in its registry, by submitting the standard electronic format tables in conjunction with its annual inventory submission for the second commitment period, in accordance with decisions 13/CMP.1 and 15/CMP.1 and annex I to this decision, if its registry is connected to the international transaction log at any time during the relevant calendar year;”

17. Each Party included in Annex I with a commitment inscribed in the third column of Annex B shall establish and maintain a national registry to ensure the accurate accounting of the issuance, holding, transfer, acquisition, cancellation and retirement of ERUs, CERs, AAUs and RMUs and the carry-over of ERUs, CERs and AAUs.

18. Each Party shall designate an organization as its registry administrator to maintain the national registry of that Party. Any two or more Parties included in Annex I with commitments inscribed in the third column of Annex B may voluntarily maintain their respective national registries in a consolidated system, provided that each national registry remains distinct.

19. A national registry shall be in the form of a standardized electronic database which contains, inter alia, common data elements relevant to the issuance, holding, transfer, acquisition, cancellation and retirement of ERUs, CERs, AAUs and RMUs and the carry-over of ERUs, CERs and AAUs. The structure and data formats of national registries shall conform to technical standards to be adopted by the COP/MOP for the purpose of ensuring the accurate, transparent and efficient exchange of data between national registries, the clean development mechanism (CDM) registry and the international transaction log.

20. Each ERU, CER, AAU and RMU shall be held in only one account in one registry at a given time.

21. Each national registry shall have the following accounts:

- (a) At least one holding account for the Party
- (b) At least one holding account for each legal entity authorized by the Party to hold ERUs, CERs, AAUs and/or RMUs under its responsibility
- (c) At least one cancellation account for each commitment period for the purposes of cancelling ERUs, CERs, AAUs and/or RMUs under paragraph 12 (d) above
- (d) One cancellation account for each commitment period for the purposes of cancelling ERUs, CERs, AAUs and/or RMUs under paragraph 12 (e) above
 - (d) bis One cancellation account for each commitment period for the purpose of cancelling AAUs under Article 3, paragraphs 1 ter and 1 quater;
 - (d) ter. One cancellation account for the second commitment period for the purpose of cancelling AAUs pursuant to Article 3, paragraph 7 ter;
 - (d) quater. One previous period surplus reserve account for holdings of AAUs, in accordance with paragraphs 23–26 of decision 1/CMP.8;
- (e) At least one cancellation account for each commitment period for the purposes of cancelling ERUs, CERs, AAUs and/or RMUs under paragraph 12 (f) above

- (f) One retirement account for each commitment period
 - ▶ (g) One cancellation account for voluntary cancellation by the Party of any units under paragraph 21(e) above
 - ▶ (h) One cancellation account for the purpose of cancelling units that remain after the expiration of the additional period for fulfilment commitments and carry-overs under paragraph 36 below
 - ▶ (i) One cancellation account for the purpose of cancellation of tCERs by the Party after their expiry under paragraph 53 of the annex to decision 5/CMP.1
 - ▶ (j) One cancellation account for the purpose of cancellation of ICERs by the Party after their expiry under paragraph 53 of the annex to decision 5/CMP.1
 - ▶ (k) One cancellation account for the purpose of cancellation of ICERs by the Party held in holding accounts where there has been a reversal of removals by sinks for the project activity concerned under paragraph 49 of the annex to decision 5/CMP.1 and paragraph 3 of appendix D to decision 5/CMP.1
 - ▶ (l) One cancellation account for the purpose of cancellation of ICERs by the Party held in holding accounts where a certification report for the project activity concerned has not been provided under paragraph 50 of the annex to decision 5/CMP.1 and paragraph 3 of appendix D to decision 5/CMP.1
 - ▶ (m) One replacement account for the purpose of cancelling AAUs, CERs, ERUs, RMUs and/or tCERs for the purpose of replacing tCERs prior to expiry under paragraph 43 of the annex to decision 5/CMP.1
 - ▶ (n) One replacement account for the purpose of cancelling AAUs, CERs, ERUs and/or RMUs for the purpose of replacing ICERs prior to expiry under paragraph 47(a) of the annex to decision 5/CMP.1
 - ▶ (o) One replacement account for the purpose of cancelling AAUs, CERs, ERUs, RMUs and/or ICERs from the same project activity for the purpose of replacing ICERs where there has been a reversal of removals by sinks under paragraph 47(b) of the annex to decision 5/CMP.1
 - ▶ (p) One replacement account for the purpose of cancelling AAUs, CERs, ERUs, RMUs and/or ICERs from the same project activity for the purpose of replacing ICERs where a certification report has not been provided under paragraph 47(c) of the annex to decision 5/CMP.1
22. Each account within a national registry shall have a unique account number comprising the following elements:
- (a) Party identifier: the Party in whose national registry the account is maintained, identified by means of the two-letter country code defined by the International Organization for Standardization (ISO 3166)
 - (b) A unique number: a number unique to that account for the Party in whose national registry the account is maintained.

B. Issuance of ERUs, AAUs and RMUs

23. Note: decision 3/CMP.11, annex I, paragraph 13, indicates that this paragraph does not apply for the second commitment period.
- ▶ 23 bis. For the purpose of the second commitment period, each Party included in Annex I shall issue in its national registry a quantity of AAUs equivalent to the assigned amount of that Party pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, calculated and reported in accordance with paragraph 5 bis above, and paragraph 3 of decision 2/CMP.8.
 - ▶ 23 ter. For the purpose of the second commitment period, the transfer of units for cancellation in accordance with Article 3, paragraph 7 ter shall occur immediately upon issuance of the assigned amount units referred to in the previous paragraph.
24. Each AAU shall have a unique serial number comprising the following elements:

- (a) Commitment period: the commitment period for which the AAU is issued
- (b) Party of origin: the Party issuing the AAU, identified by means of the two-letter country code defined by ISO 3166
- (c) Type: an element identifying the unit as an AAU
- (d) Unit: a number unique to the AAU for the identified commitment period and Party of origin.

25. Each Party included in Annex I with a commitment inscribed in the third column of Annex B shall issue in its national registry RMUs equivalent to the net removals of anthropogenic greenhouse gases resulting from its activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and its elected activities under Article 3, paragraph 4, accounted in accordance with decisions 2/CMP.7 and 6/CMP.9 as reported under Article 7, paragraph 1, following completion of the review in accordance with Article 8, taking into account any adjustments applied in accordance with Article 5, paragraph 2, and resolution of any questions of implementation relating to the reported net removals of anthropogenic greenhouse gases. Each Party shall elect for each activity, prior to the start of the commitment period, to issue such RMUs annually or for the entire commitment period. The decision of a Party shall remain fixed for the second commitment period.

26. Where a question of implementation is identified by an expert review team under Article 8 in relation to the calculation of the net removals of greenhouse gases from the activities of a Party under Article 3, paragraph 3 or 4, or where adjustments exceed thresholds to be decided according to paragraph 2 of decision 22/CP.7, the Party shall not issue the RMUs relating to the reported net removals of anthropogenic greenhouse gases for each activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, until the question of implementation is resolved.

27. Each RMU shall have a unique serial number comprising the following elements:

- (a) Commitment period: the commitment period for which the RMU is issued
- (b) Party of origin: the Party included in Annex I with a commitment inscribed in the third column of Annex B issuing the RMU, identified by means of the two-letter country code defined by ISO 3166
- (c) Type: an element identifying the unit as an RMU
- (d) Activity: the type of activity for which the RMU was issued
- (e) Unit: a number unique to the RMU for the identified commitment period and Party of origin.

28. Each Party included in Annex I with a commitment inscribed in the third column of Annex B shall ensure that the total quantity of RMUs issued into its registry pursuant to Article 3, paragraph 4, for the commitment period does not exceed the limits established for that Party as set out in decisions 2/CMP.7 and 6/CMP.9.

29. Prior to their transfer, each Party with a commitment inscribed in the third column of Annex B shall issue ERUs into its national registry by converting AAUs or RMUs previously issued by that Party and held in its national registry. An AAU or RMU shall be converted into an ERU by adding a project identifier to the serial number and changing the type indicator in the serial number to indicate an ERU. Other elements of the serial number of the AAU or RMU shall remain unchanged. The project identifier shall identify the specific Article 6 project for which the ERU is issued, using a number unique to the project for the Party of origin, including whether the relevant reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks were verified under the Article 6 Supervisory Committee.

C. Transfer, acquisition, cancellation, retirement and carry-over

30. For the purpose of the second commitment period, ERUs, CERs, AAUs and RMUs may be transferred between registries in accordance with decisions 3/CMP.1, 9/CMP.1, 11/CMP.1 and 1/CMP.8, and may be transferred within registries.

31. Each Party included in Annex I with a commitment inscribed in the third column of Annex B shall ensure that its net acquisitions of CERs from afforestation and reforestation activities under Article 12 for the second commitment period do not exceed the limits established for that Party as set out in decisions 2/CMP.7 and 6/CMP.9.

32. Each Party included in Annex I with a commitment inscribed in the third column of Annex B shall cancel CERs, ERUs, AAUs and/or RMUs equivalent to the net emissions of anthropogenic greenhouse gases resulting from its activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and its elected activities under Article 3, paragraph 4, accounted in accordance with decisions 2/CMP.7 and 6/CMP.9 as reported under Article 7, paragraph 1, following completion of the review in accordance with Article 8, taking into account any adjustments applied in accordance with Article 5, paragraph 2, and resolution of any questions of implementation relating to the reported net emissions of anthropogenic greenhouse gases, in accordance with paragraph 12 (d) above, by transferring the ERUs, CERs, AAUs and/or RMUs to the appropriate cancellation account in its national registry. Each Party shall cancel ERUs, CERs, AAUs and/or RMUs for each activity for the same period for which it has elected to issue RMUs for that activity.

33. Each Party included in Annex I with a commitment inscribed in the third column of Annex B may cancel ERUs, CERs, AAUs and/or RMUs so they cannot be used in fulfilment of commitments under Article 3, paragraph 1 bis, in accordance with paragraph 12 (f) above, by transferring ERUs, CERs, AAUs and/or RMUs to a cancellation account in its national registry. Legal entities, where authorized by the Party, may also transfer ERUs, CERs, AAUs and RMUs into a cancellation account.

► 33 bis. Each Party included in Annex I with a commitment inscribed in the third column of Annex B may cancel AAUs under Article 3, paragraphs 1 ter and 1 quater, so they cannot be used in fulfilment of commitments under Article 3, paragraph 1 bis, in accordance with paragraph 12(e) bis above, by transferring them to the appropriate cancellation account in its national registry. Legal entities, where authorized by the Party, may also transfer AAUs into the cancellation account.

► 33 ter. Each Party included in Annex I with a commitment inscribed in the third column of Annex B shall cancel AAUs pursuant to Article 3, paragraph 7 ter, in accordance with paragraph 12(e) ter above, by transferring them to the appropriate cancellation account in its national registry.

34. For the purpose of the second commitment period, prior to the end of the additional period for fulfilling commitments, each Party included in Annex I with a commitment inscribed in the third column of Annex B shall retire ERUs, CERs, AAUs and/or RMUs valid for that commitment period for use towards meeting its commitments under Article 3, paragraph 1 bis, in accordance with paragraph 13 above and paragraph 25 of decision 1/CMP.8, by transferring ERUs, CERs, AAUs and/or RMUs to the retirement account for that commitment period in its national registry.

35. ERUs, CERs, AAUs and RMUs transferred to cancellation accounts or the retirement account for a commitment period may not be further transferred or carried over to the subsequent commitment period. ERUs, CERs, AAUs and RMUs transferred to cancellation accounts may not be used for the purpose of demonstrating the compliance of a Party with its commitment under Article 3, paragraph 1 bis.

36. For the purpose of the second commitment period, each Party included in Annex I with a commitment inscribed in the third column of Annex B may carry over to the subsequent commitment period, in accordance with paragraph 15 of the annex to decision 13/CMP.1 and paragraphs 23–26 of decision 1/CMP.8, ERUs, CERs and/or AAUs held in its registry, that have not been cancelled or retired for a commitment period or that are not held in its previous period surplus reserve account. Each ERU, CER and/or AAU carried over in this manner shall maintain its original serial number and shall be valid in the subsequent commitment period. ERUs, CERs, AAUs and RMUs held in the national registry of a Party that have not been carried over in this manner or retired for the commitment period shall be cancelled in accordance with paragraph 12 (f) of the annex to decision 13/CMP.1 once the additional period for fulfilling commitments has ended.

37. Where the Compliance Committee determines that the Party included in Annex I with a commitment inscribed in the third column of Annex B is not in compliance with its commitment under Article 3, paragraph 1 bis, for a commitment period, the Party shall transfer the quantity of ERUs, CERs, AAUs and/or RMUs calculated in accordance with decision 24/CP.7 into the relevant cancellation account, in accordance with paragraph 12 (e) above.

D. Transaction procedures

38. The secretariat shall establish and maintain an international transaction log to verify the validity of transactions, including issuance, transfer and acquisition between registries, cancellation and retirement of ERUs, CERs, AAUs and RMUs and the carry-over of ERUs, CERs and AAUs.

39. A Party included in Annex I with a commitment inscribed in the third column of Annex B shall initiate issuance of AAUs or RMUs by directing its national registry to issue AAUs or RMUs into a specific account within that registry. The Executive Board of the CDM shall initiate issuance of CERs by directing the CDM registry to issue CERs into its pending account in accordance with the requirements in Article 12 and requirements thereunder, as well as the relevant provisions in the annex to decision 3/CMP.1. A Party included in Annex I shall initiate issuance of ERUs by directing its national registry to convert specified AAUs or RMUs into ERUs within an account of that national registry. Subject to notification by the transaction log that there are no discrepancies pertaining to the issuance, the issuance shall be completed when specific ERUs, CERs, AAUs or RMUs are recorded in the specified account and, in the case of ERUs, the specified AAUs or RMUs are removed from the account.

40. A Party included in Annex I with a commitment inscribed in the third column of Annex B shall initiate any transfer of ERUs, CERs, AAUs or RMUs, including those to cancellation and retirement accounts, by directing its national registry to transfer specified ERUs, CERs, AAUs or RMUs to a specific account within that registry or another registry. The Executive Board of the CDM shall initiate any transfer of CERs held in the CDM registry by directing it to transfer specified CERs to a specific account within that registry or another registry. Subject to notification by the transaction log, where applicable, that there are no discrepancies pertaining to the transfer, the transfer shall be completed when the specified ERUs, CERs, AAUs or RMUs are removed from the transferring account and are recorded in the acquiring account.

41. Upon the initiation of any issuance, transfer between registries, cancellation or retirement of ERUs, CERs, AAUs or RMUs, and prior to the completion of those transactions:

(a) The initiating registry shall create a unique transaction number comprising: the commitment period for which the transaction is proposed; the Party identifier for the Party initiating the transaction (using the two-letter country code defined by ISO 3166); and a number unique to that transaction for the commitment period and initiating Party;

(b) The initiating registry shall send a record of the proposed transaction to the transaction log and, in the case of transfers to another registry, to the acquiring national registry. The record shall include: the transaction number; the transaction type (issuance, transfer, cancellation or retirement, further distinguished in accordance with the categories in paragraphs 11 and 12 above); the serial numbers of the relevant ERUs, CERs, AAUs or RMUs; and the relevant account numbers.

42. Upon receipt of the record, for the second commitment period the transaction log shall conduct an automated check to verify that there is no discrepancy:

(a) All transactions: units previously retired or cancelled; units existing in more than one registry; units for which a previously identified discrepancy has not been resolved; units improperly carried over or improperly transferred to previous period surplus reserve accounts; units improperly issued, including those which infringe the limits contained in decisions 2/CMP.7 and 6/CMP.9; and the authorization of legal entities involved to participate in the transaction;

(b) In the case of transfers between registries: the eligibility of Parties involved in the transaction to participate in joint implementation, the clean development mechanism and international emissions trading under Articles 6, 12 and 17 of the Kyoto Protocol; infringement of the commitment period reserve of the transferring Party; and infringements of the limits to transfer units between previous period surplus reserve accounts of different Parties as set out in paragraph 26 of decision 1/CMP.8;

(c) In the case of acquisitions of CERs from land use, land-use change and forestry projects under Article 12: infringement of the limits contained in decisions 2/CMP.7 and 6/CMP.9;

(d) In the case of a retirement of CERs: the eligibility of the Party in accordance with paragraph 14 of decision 1/CMP.8 to use CERs to contribute to its compliance under Article 3, paragraph 1 bis.

43. Upon completion of the automated check, the transaction log shall notify the initiating and, in the case of transfers to another registry, the acquiring registry of the results of the automated check. Depending on the outcome of the check, the following procedures shall apply:

(a) If a discrepancy is notified by the transaction log, the initiating registry shall terminate the transaction, notify the transaction log and, in the case of transfers to another registry, the acquiring registry of the termination. The transaction log shall forward a record of the discrepancy to the secretariat for consideration as part of the review process for the relevant Party or Parties under Article 8

(b) In the event of a failure by the initiating registry to terminate the transaction, the ERUs, CERs, AAUs or RMUs involved in the transaction shall not be valid for use towards compliance with commitments under Article 3, paragraph 1 bis, until the problem has been corrected and any questions of implementation pertaining to the transaction have been resolved. Upon resolution of a question of implementation pertaining to a Party's transactions, that Party shall perform any necessary corrective action within 30 days

(c) If no discrepancy is notified by the transaction log, the initiating registry and, in the case of transfers to another registry, the acquiring registry shall complete or terminate the transaction and send the record and a notification of completion or termination of the transaction to the transaction log. In the case of transfers to another registry, the initiating and acquiring registries shall also send their records and notifications to each other

(d) The transaction log shall record, and make publicly available, all transaction records and the date and time of completion of each transaction, to facilitate its automated checks and the review under Article 8.

E. Publicly accessible information

44. Each national registry shall make non-confidential information publicly available and provide a publicly accessible user interface through the Internet that allows interested persons to query and view it.

45. The information referred to in paragraph 44 above shall include up-to-date information for each account number in that registry on the following:

(a) Account name: the holder of the account

(b) Account type: the type of account (holding, cancellation or retirement)

(c) Commitment period: the commitment period with which a cancellation or retirement account is associated

(d) Representative identifier: the representative of the account holder, using the Party identifier (the two-letter country code defined by ISO 3166) and a number unique to that representative within the Party's registry

(e) Note: decision 3/CMP.11, annex I, paragraph 16 indicates that this paragraph shall not apply for the second commitment period.

46. The information referred to in paragraph 44 above shall include the following Article 6 project information, for each project identifier against which the Party has issued ERUs:

(a) Project name: a unique name for the project

(b) Project location: the Party and town or region in which the project is located

(c) Years of ERU issuance: the years in which ERUs have been issued as a result of the Article 6 project

(d) Reports: downloadable electronic versions of all publicly available documentation relating to the project, including proposals, monitoring, verification and issuance of ERUs, where relevant, subject to the confidentiality provisions in decision 9/CMP.1.

47. The information referred to in paragraph 44 above shall include the following holding and transaction information relevant to the national registry, by serial number, for each calendar year (defined according to Greenwich Mean Time):

- (a) The total quantity of ERUs, CERs, AAUs and RMUs in each account at the beginning of the year
- ▶ (a) bis. The total quantity of AAUs in the previous period surplus reserve account at the beginning of the year
- (b) The total quantity of AAUs issued on the basis of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis
- (c) The total quantity of ERUs issued on the basis of Article 6 projects
- (d) The total quantity of ERUs, CERs, AAUs and RMUs acquired from other registries and the identity of the transferring accounts and registries
- (e) The total quantity of RMUs issued on the basis of each activity under Article 3, paragraphs 3 and 4
- (f) The total quantity of ERUs, CERs, AAUs and RMUs transferred to other registries and the identity of the acquiring accounts and registries
- (g) The total quantity of ERUs, CERs, AAUs and RMUs cancelled on the basis of activities under Article 3, paragraphs 3 and 4
- (h) The total quantity of ERUs, CERs, AAUs and RMUs cancelled following determination by the Compliance Committee that the Party is not in compliance with its commitment under Article 3, paragraph 1
- ▶ (h) bis. The total quantity of AAUs cancelled under Article 3, paragraphs 1 ter and 1 quarter
- ▶ (h) ter. The total quantity of AAUs cancelled under Article 3, paragraph 7 ter
- (i) The total quantity of other ERUs, CERs, AAUs and RMUs cancelled
- (j) The total quantity of ERUs, CERs, AAUs and RMUs retired
- (k) The total quantity of ERUs, CERs, and AAUs carried over from the previous commitment period
- (l) Current holdings of ERUs, CERs, AAUs and RMUs in each account.

48. The information referred to in paragraph 44 above shall include a list of legal entities authorized by the Party to hold ERUs, CERs, AAUs and/or RMUs under its responsibility.

III. Compilation and accounting of emission inventories and assigned amounts

A. Report upon expiration of the additional period for fulfilling commitments

49. Upon expiration of an additional period for fulfilling commitments, each Party included in Annex I with a commitment inscribed in the third column of Annex B shall report to the secretariat and make available to the public, in a standard electronic format, the following information. This information shall only include ERUs, CERs, AAUs and RMUs valid for the commitment period in question:

- (a) The total quantities of the categories of ERUs, CERs, AAUs and RMUs listed in paragraph 47 (a) to (j) above, for the current calendar year until the end of the additional period for fulfilling commitments (defined according to Greenwich Mean Time)
- (b) The total quantity and serial numbers of ERUs, CERs, AAUs and RMUs in its retirement account
- (c) The total quantity and serial numbers of ERUs, CERs and AAUs which the Party requests to be carried over to the subsequent commitment period.

B. Compilation and accounting database

50. The secretariat shall establish a database to compile and account for emissions and assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, and additions to, and subtractions from, assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, for the accounting of the compliance assessment, in accordance with paragraphs 11 and 12 above. The purpose of this database is to facilitate the assessment of the compliance of each Party included in Annex I with a commitment inscribed in the third column of Annex B with its commitment under Article 3, paragraph 1 bis.

51. A separate record shall be maintained in the database for each Party included in Annex I with a commitment inscribed in the third column of Annex B for each commitment period. Information on ERUs, CERs, AAUs and RMUs shall only include units valid for the commitment period in question and shall be recorded separately for each type of unit.

52. The secretariat shall record in the database for each Party included in Annex I with a commitment inscribed in the third column of Annex B the following information:

- (a) The assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis
- (b) For the second commitment period, the total allowable issuances of RMUs resulting from forest management activities under Article 3, paragraph 4, and limits on net acquisitions of CERs from afforestation and reforestation activities under Article 12 pursuant to decisions 2/CMP.7 and 6/CMP.9
- ▶ (c) For the purpose of the second commitment period, any positive difference between the assigned amount for the second commitment period for a Party included in Annex I and average annual emissions for the first three years of the preceding commitment period multiplied by eight, pursuant to Article 3, paragraph 7 ter;
- ▶ (d) For the purpose of the second commitment period, the forest management reference level inscribed in the appendix to the annex to decision 2/CMP.7;
- ▶ (e) For the purpose of the second commitment period, any cancellations of Kyoto Protocol units pursuant to paragraph 5(a) of section XV of the annex to decision 27/CMP.1 arising from non-compliance in the first commitment period.

53. The secretariat shall record in the database, for each Party included in Annex I with a commitment inscribed in the third column of Annex B, whether it is eligible to transfer and/or acquire ERUs, CERs, AAUs and RMUs pursuant to decisions 9/CMP.1 and 11/CMP.1 and to use CERs to contribute to its compliance under Article 3, paragraph 1 bis, pursuant to decision 3/CMP.1.

54. The secretariat shall annually record the following information relating to emissions for each Party included in Annex I with a commitment inscribed in the third column of Annex B, following the annual review under Article 8, the application of any adjustment under Article 5, paragraph 2, and the resolution of any questions of implementation pertaining to emission estimates:

- (a) Aggregate annual anthropogenic carbon dioxide equivalent emissions of the greenhouse gases, and from the sources, listed in Annex A to the Kyoto Protocol for each year of the commitment period that has been reported in accordance with Article 7
- (b) Any adjustments under Article 5, paragraph 2, recorded as the difference, in carbon dioxide equivalent terms, between the adjusted estimate and the inventory estimate reported under Article 7
- (c) Aggregate anthropogenic carbon dioxide equivalent emissions in the commitment period, calculated as the sum of the amounts in subparagraphs (a) and (b) above for all years of the commitment period to date.

55. The secretariat shall annually record in the database the following information for each Party included in Annex I with a commitment inscribed in the third column of Annex B relating to accounting for net emissions and removals of greenhouse gases resulting from its activities under Article 3, paragraph 3, forest management under Article 3, paragraph

4, and its elected activities under Article 3, paragraph 4, following the annual review under Article 8, the application of any adjustment under Article 5, paragraph 2, and the resolution of any relevant questions of implementation:

- (a) The calculation of whether the activities under Article 3, paragraphs 3 and 4, that have been reported in accordance with Article 7 result in net anthropogenic emissions or net anthropogenic removals of greenhouse gases pursuant to decisions 2/CMP.7 and 6/CMP.9
- (b) For those activities for which the Party has elected to account annually, the net anthropogenic emissions and removals of greenhouse gases pursuant to decisions 2/CMP.7 and 6/CMP.9 for the calendar year
- (c) For those activities for which the Party has elected to account for the entire commitment period, the net anthropogenic emissions and removals of greenhouse gases pursuant to decisions 2/CMP.7 and 6/CMP.9 for the calendar year
- (d) Any adjustments under Article 5, paragraph 2, recorded as the difference in carbon dioxide equivalent terms between the adjusted estimate and the estimate reported under Article 7
- (e) The total net anthropogenic emissions and removals of greenhouse gases pursuant to decisions 2/CMP.7 and 6/CMP.9 for the commitment period, calculated as the sum for all years of the commitment period to date of the amounts referred to in subparagraphs (b), (c) and (d) above
- (f) Technical corrections in accordance with paragraph 15 of decision 2/CMP.7;
- ▶ (g) For those activities for which the Party has elected to account annually, the net anthropogenic emissions and removals of greenhouse gases in accordance with decision 2/CMP.7 and the related accounting quantity for the calendar year;
- ▶ (h) For those activities for which the Party has elected to account for the entire commitment period, the net anthropogenic emissions and removals of greenhouse gases in accordance with decision 2/CMP.7 and the related accounting quantity at the end of the commitment period;
- ▶ (i) In the second commitment period, any changes to the total allowable issuance of RMUs resulting from forest management activities under Article 3, paragraph 4, due to technical corrections to forest management reference levels reported by a Party in accordance with paragraphs 14 and 15 of decision 2/CMP.7 and reviewed under Article 8 in accordance with decision 2/CMP.7.

56. Where a Party included in Annex I with a commitment inscribed in Annex B submits recalculated estimates of emissions and removals of greenhouse gases for a year of the commitment period, subject to the review in accordance with Article 8, the secretariat shall make appropriate amendments to the information contained in the database including, where relevant, the removal of previously applied adjustments.

57. The secretariat shall record and update the required level of the commitment period reserve for each Party included in Annex I with a commitment inscribed in the third column of Annex B, in accordance with decision 11/CMP.1.

58. The secretariat shall annually record in the database for each Party included in Annex I with a commitment inscribed in the third column of Annex B the following information relating to transactions, for the previous calendar year and to date for the commitment period, following completion of the annual review under Article 8, including the application of any corrections, and resolution of any relevant questions of implementation:

- (a) Total transfers of ERUs, CERs, AAUs and RMUs
- (b) Total acquisitions of ERUs, CERs, AAUs and RMUs
- (c) Net acquisitions of CERs resulting from afforestation and reforestation activities under Article 12
- (d) Total issuances of RMUs relating to each activity under Article 3, paragraphs 3 and 4
- (e) Total issuances of ERUs on the basis of Article 6 projects

- (f) Total of ERUs, CERs and AAUs carried over from the previous commitment period
- (g) Total cancellations of ERUs, CERs, AAUs and RMUs relating to each activity under Article 3, paragraphs 3 and 4
- (h) Total cancellations of ERUs, CERs, AAUs and RMUs following determination by the Compliance Committee that the Party is not in compliance with its commitment under Article 3, paragraph 1 bis
 - ▶ (h) bis. For the purpose of the second commitment period, total cancellations of AAUs cancelled under Article 3, paragraphs 1 ter and 1 quarter;
 - ▶ (h) ter. For the purpose of the second commitment period, total cancellations of AAUs cancelled under Article 3, paragraph 7 ter.
- (i) Total of any other cancellations of ERUs, CERs, AAUs and RMUs
- (j) Total retirements of ERUs, CERs, AAUs and RMUs.

59. Upon expiration of the additional period for the fulfilment of commitments, and following review under Article 8 of the report submitted by the Party under paragraph 49 above, including the application of any corrections, and the resolution of any relevant questions of implementation, the secretariat shall record in the database the following information for each Party included in Annex I with a commitment inscribed in the third column of Annex B:

- (a) The total additions to, or subtractions from, the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, for the accounting of the compliance assessment, in accordance with paragraphs 11 and 12 above
- (b) The total quantity of ERUs, CERs, AAUs and RMUs in the retirement account of the Party for that commitment period.

60. Upon completion of the Article 8 review of the annual inventory for the last year of the commitment period, and the resolution of any related question of implementation, the secretariat shall record in the database the aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases, and from the sources, listed in Annex A to the Kyoto Protocol of the Party included in Annex I with a commitment inscribed in Annex B for the commitment period.

C. Compilation and accounting reports

61. The secretariat shall publish an annual compilation and accounting report for each Party included in Annex I with a commitment inscribed in the third column of Annex B and forward it to the COP/MOP, the Compliance Committee and the Party concerned.

62. After the commitment period and the additional period for fulfilling commitments, the secretariat shall publish a final compilation and accounting report for each Party included in Annex I with a commitment inscribed in the third column of Annex B and forward it to the COP/MOP, the Compliance Committee and the Party concerned, indicating:

- (a) The aggregate anthropogenic carbon dioxide equivalent emissions of the Party for the commitment period as recorded under paragraph 60 above;
- (b) The total quantity of ERUs, CERs, AAUs and RMUs in the retirement account of the Party for the commitment period, as recorded under paragraph 59 (b) above;
- (c) Where applicable, the quantities of ERUs, CERs and AAUs in the registry available for carry-over to the subsequent commitment period;
- (d) Where applicable, the quantity in tonnes by which the aggregate anthropogenic carbon dioxide equivalent emissions exceed the total quantity of ERUs, CERs, AAUs and RMUs in the retirement account of the Party for the commitment period.

Decision 3/CMP.11
Annex II
Standard electronic format for reporting information on
Kyoto Protocol units²⁵

Note: Decision 3/CMP.11, paragraphs 3 and 4:

3. Clarifies that, for the purpose of the second commitment period, unless otherwise specified in this decision, any references to Parties included in Annex I or to Parties shall be understood as referring to Parties included in Annex I with commitments inscribed in the third column of Annex B;
4. Also clarifies that, for the purpose of the second commitment period, unless otherwise specified in this decision, any references to Parties included in Annex I or to Parties are not applicable to the Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period

I. General reporting instructions

1. Each Party included in Annex I with a quantified emissions limitation or reduction commitment inscribed in the third column of Annex B shall annually report tables in a standard electronic format (SEF) to the secretariat electronically. Any related information of a non-quantitative nature shall be submitted separately. Unless otherwise indicated, Parties shall submit information for the previous calendar year (based on Universal Coordinated Time). This is referred to as the “reported year” (e.g. in the 2017 SEF submission, the “reported year” will be the 2016 calendar year).
2. For the second commitment period of the Kyoto Protocol, each Party included in Annex I shall submit its first SEF for reporting Kyoto Protocol units for the second commitment period in conjunction with its first annual inventory submission for that commitment period.²⁶
3. Each Party included in Annex I shall submit the SEF annually until the expiration of the additional period for the fulfilment of commitments for the relevant commitment period.
4. If a Party included in Annex I is undertaking transactions for two or more commitment periods simultaneously, then the Party shall provide a separate, complete report for each commitment period. Each report shall contain information on only those Kyoto Protocol units valid for that commitment period.²⁷
5. All values recorded in the SEF tables shall be positive, whole units. Negative values shall not be entered.
6. Not all unit types are relevant to each account, transaction or event type. Where a cell is shaded in a table, the information or transaction does not apply to that particular unit type.
7. All tables shall be filled in completely. If no units of a particular type occurred for a transaction in the previous year, the Party shall enter “NO” in the cell for “not occurring”.
8. In the interest of readability, descriptive titles are used in the SEF to refer to specific account and transaction types. Explanations of those descriptive titles and references to the

²⁵ Assigned amount units (AAUs), emission reduction units (ERUs), removal units (RMUs), and certified emission reductions (CERs), including temporary certified emission reductions (tCERs) and long-term certified emission reductions (lCERs).

²⁶ In accordance with decision 2/CMP.8, paragraph 5.

²⁷ AAUs, ERUs, RMUs and CERs, including tCERs and lCERs.

pertinent provisions under the Kyoto Protocol are provided in the instructions on individual tables contained in chapter II below.

II. Instructions on individual tables

A. Table 1. Total quantities of Kyoto Protocol units by account type at beginning of reported year

9. In table 1, each Party included in Annex I shall provide information on the total quantity of Kyoto Protocol units contained in its national registry, by account type and by unit type, as at 1 January of the reported year.

10. Each Party included in Annex I shall report on the total quantities of Kyoto Protocol units, by unit type, held in each of the following account types:

(a) “Party holding accounts” (paragraph 21(a) of the annex to decision 13/CMP.1);

(b) “Entity holding accounts” (paragraph 21(b) of the annex to decision 13/CMP.1);

(c) “Retirement account” (paragraph 21(f) of the annex to decision 13/CMP.1);

(d) “Previous period surplus reserve account” (paragraph 23 of decision 1/CMP.8);

(e) “Article 3.3/3.4 net source cancellation accounts”, for the cancellation of Kyoto Protocol units as a result of emissions from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol (paragraph 21(c) of the annex to decision 13/CMP.1 and decision 2/CMP.7);

(f) “Non-compliance cancellation account”, for the cancellation of Kyoto Protocol units following a determination by the Compliance Committee that the Party included in Annex I is not in compliance with its commitment under Article 3, paragraph 1 (paragraphs 12(e) and 21(d) of the annex to decision 13/CMP.1);

(g) “Voluntary cancellation account”, for voluntary cancellations (paragraph 21(e) of the annex to decision 13/CMP.1);

(h) “Cancellation account for remaining units after carry-over”, to cancel units that remain after the expiration of the additional period for fulfilling commitments and the carry-overs, if any, have been undertaken (paragraph 36 of the annex to decision 13/CMP.1);

(i) “Article 3.1 ter and quater ambition increase cancellation account”, for cancellations pursuant to paragraph 8 of decision 1/CMP.8;

(j) “Article 3.7 ter cancellation account”, for cancellations pursuant to Article 3, paragraph 7 ter;

(k) “tCER cancellation account for expiry”, to cancel temporary certified emission reduction (tCERs) after their expiry (paragraph 53 of the annex to decision 5/CMP.1);

(l) “ICER cancellation account for expiry”, to cancel long-term certified emission reduction (ICERs) after their expiry (paragraph 53 of the annex to decision 5/CMP.1);

(m) “ICER cancellation account for reversal of removals”, to cancel ICERs held in holding accounts where there has been a reversal of removals by sinks for the project activity concerned (paragraph 49 of the annex to decision 5/CMP.1 and paragraph 3 of appendix D to decision 5/CMP.1);

(n) “ICER cancellation account for non-submission of certification report”, to cancel ICERs held in holding accounts where a certification report for the project activity concerned has not been provided (paragraph 50 of the annex to decision 5/CMP.1 and paragraph 3 of appendix D to decision 5/CMP.1).

11. In addition, each Party included in Annex I shall report on the total quantities of Kyoto Protocol units, by unit type, held in each of the replacement account types specified in the following paragraphs of the annex to decision 5/CMP.1:

(o) “tCER replacement account for expiry”, to cancel assigned amount units (AAUs), certified emission reduction (CERs), emission reduction units (ERUs), removal units (RMUs) and/or tCERs for the purpose of replacing tCERs prior to expiry (para. 43);

(p) “ICER replacement account for expiry”, to cancel AAUs, CERs, ERUs and/or RMUs for the purpose of replacing ICERs prior to expiry (para. 47(a));

(q) “ICER replacement account for reversal of removals”, to cancel AAUs, CERs, ERUs, RMUs and/or ICERs from the same project activity for the purpose of replacing ICERs where there has been a reversal of removals by sinks (para. 47(b));

(r) “ICER replacement account for non-submission of certification report”, to cancel AAUs, CERs, ERUs, RMUs and/or ICERs from the same project activity for the purpose of replacing ICERs when a certification report has not been provided (para. 47(c)).

B. Table 2(a). Annual internal transactions

12. In table 2(a), Annex I Parties shall report information on the total quantity of Kyoto Protocol units involved in internal transactions (those that did not involve another registry) that occurred between 1 January and 31 December of the reported year, as described below, including any corrective transactions.

13. Under the “Article 6 issuance and conversion” section, Annex I Parties shall report information relating to joint implementation projects under the Kyoto Protocol in accordance with the following paragraphs of the annex to decision 9/CMP.1:

(a) For “Party-verified projects” (also referred to as “track one” projects) Annex I Parties shall report information pertaining to projects for which emission reductions or the enhancement of removals have been verified by the host Party in accordance with paragraph 23 of the annex to decision 9/CMP.1:

(i) Each Party included in Annex I shall report under “Additions” the total quantity of ERUs issued pursuant to paragraph 29 of the annex to decision 13/CMP.1;

(ii) The Party shall report under “Subtractions” the corresponding quantity of AAUs converted, or, in the case of land use, land-use change and forestry (LULUCF) projects, the corresponding quantity of RMUs converted, pursuant to paragraph 29 of the annex to decision 13/CMP.1;

(b) For “Independently verified projects” (also referred to as “track two” projects), Annex I Parties shall report information pertaining to projects for which emission reductions or the enhancement of removals have been verified through the procedure under the Article 6 Supervisory Committee in accordance with paragraphs 30–45 of the annex to decision 9/CMP.1:

(i) Each Party included in Annex I shall report under “Additions” the total quantity of ERUs issued pursuant to paragraph 29 of the annex to decision 13/CMP.1;

(ii) The Party shall report under “Subtractions” the corresponding quantity of AAUs converted, or, in the case of LULUCF projects, the corresponding quantity of RMUs converted, pursuant to paragraph 29 of the annex to decision 13/CMP.1.

14. Under the section “Article 3.3 and 3.4 issuance or cancellation”, each Party included in Annex I shall report the quantity of RMUs issued or the units cancelled for its LULUCF activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, by individual activity, in accordance with the annex to decision 16/CMP.1 and decision 2/CMP.7, and with its election of activities pursuant to paragraph 8(c) and (d) of the annex to decision 13/CMP.1 and paragraphs 7 and 8 of the annex to decision 2/CMP.7:

(a) For any activity resulting in a net removal, each Party included in Annex I shall report under “Additions” the total quantity of RMUs issued pursuant to paragraph 25 of the annex to decision 13/CMP.1 and decision 2/CMP.7;

(b) For any activity resulting in net emissions, each Party shall report under “Subtractions” the total quantities of AAUs, ERUs, RMUs and/or CERs cancelled pursuant to paragraph 32 of the annex to decision 13/CMP.1 and decision 2/CMP.7.

15. Under the section “Article 12 afforestation and reforestation”, each Party included in Annex I shall report information relating to afforestation and reforestation project activities under the clean development mechanism (CDM), as specified in the relevant paragraphs of the annex to decision 5/CMP.1:²⁸

(a) “Replacement of expired tCERs”, the total quantities of AAUs, CERs, ERUs, RMUs and/or tCERs that were transferred to the tCER replacement account (para. 44);

(b) “Replacement of expired ICERs”, the total quantities of AAUs, CERs, ERUs and/or RMUs that were transferred to the ICER replacement account for replacement of expiring ICERs (para. 47(a));

(c) “Replacement of ICERs for reversal of removals”, the total quantities of AAUs, CERs, ERUs, RMUs and/or ICERs that were transferred to the ICER replacement account for reversal of removals (para. 47(b));

(d) “Cancellation of ICERs for reversal of removals”, the total quantities of ICERs that were cancelled following a reversal of removals (para. 49 and appendix D, para. 3);

(e) “Replacement of ICERs for non-submission of certification report”, the total quantities of AAUs, CERs, ERUs, RMUs and/or ICERs that were transferred to the ICER replacement account for non-submission of certification report (para. 50 and appendix D, para. 3);

(f) “Cancellation of ICERs for non-submission of certification report”, the total quantities of ICERs that were cancelled following a non-submission of certification report (para. 50 and appendix D, para. 3).

16. Under “Other cancellation”, each Party included in Annex I shall report the total quantities of Kyoto Protocol units, by type, that were cancelled for the following reasons:²⁹

(a) “Voluntary cancellation”, for voluntary cancellations (para. 21(e) of the annex to decision 13/CMP.1);

²⁸ Additional information relating to afforestation and reforestation project activities is reported in table 3.

²⁹ Cancellations following determination of non-compliance are reported in table 5(a).

(b) “Article 3.1 ter and quater ambition increase cancellation”, for cancellations pursuant to paragraph 8 of decision 1/CMP.8.³⁰

17. Each Party included in Annex I shall sum the quantities of Kyoto Protocol units in each column and report these under “Sub-total”.

18. In the box “Retirement”, each Party included in Annex I shall report the following information:

(a) Under the line “Retirement”, the total quantities of Kyoto Protocol units, by type, that were transferred from its national holding account to its retirement account. These values shall not be included in the main body of table 2(a);

(b) Under the line “Retirement from PPSR”, the total quantities of AAUs that were transferred from its previous period surplus reserve (PPSR) account to its retirement account. These values shall not be included in the main body of table 2(a);

(c) Under the line “Total”, the total quantities of units that were transferred to its retirement account.

C. Table 2(b). Total annual external transactions

19. In table 2(b), Annex I Parties shall report information on the total quantities of Kyoto Protocol units involved in external transactions (those that involved another registry) that occurred between 1 January and 31 December of the reported year, including any corrective transactions.

20. Under “Total transfers and acquisitions”, each Party included in Annex I shall include a separate row for each registry (Party or CDM registry) to which it transferred, from which it acquired or from which it was forwarded Kyoto Protocol units during the previous year:

(a) Each Party shall report the quantities of all Kyoto Protocol units acquired from a registry, including any units transferred from the Adaptation Fund account or forwarded from the CDM registry, by type, under “Additions”;

(b) Each Party shall report the total quantities of Kyoto Protocol units transferred to that registry, including transfers to the share of proceeds pursuant to paragraph 21 of decision 1/CMP.8, cancellations for excess issuance of a CDM project activity³¹ and cancellations of units following a reversal of storage³² or non-submission of certification report³³ for a carbon dioxide capture and storage (CCS) project activity, under “Subtractions” on the same line.

21. Each Party included in Annex I shall sum the quantities of Kyoto Protocol units in each column and report these under “Sub-total”.

³⁰ Cancellations to increase ambition in accordance with paragraph 8 of decision 1/CMP.8 are also reported in table 5(a).

³¹ Paragraph 52 of the annex to decision 5/CMP.1.

³² Paragraph 24(b) of the annex to decision 10/CMP.7.

³³ Paragraph 27 of the annex to decision 10/CMP.7.

D. Table 2(c). Annual transactions between previous period surplus reserve accounts

22. Under “Transfers and acquisitions between PPSR accounts”, each Party included in Annex I shall include a separate row for each registry to which it transferred AAUs from its PPSR account or from which it acquired AAUs located in a PPSR account during the previous year:

(a) The quantity of AAUs acquired shall be reported under “Additions”. This quantity shall also be reported under the “Total transfers and acquisitions” section of table 2(b);

(b) The quantity of AAUs transferred shall be reported under “Subtractions”. This quantity shall also be reported under the “Total transfers and acquisitions” section of table 2(b).

23. Each Party included in Annex I shall sum the quantities of Kyoto Protocol units in each column and report these under “Sub-total”.

E. Table 2(d). Share of proceeds transactions under decision 1/CMP.8, paragraph 21 - Adaptation Fund

24. The term “first international transfer” refers to the first external transfer of each individual AAU from the originating registry to the registry of another Party, tracked by its serial number.

25. Each Party included in Annex I shall report the quantity of units transferred and of units issued for which a share of the proceeds levy applies and the related quantity of units contributed to the Adaptation Fund in accordance with paragraph 21 of decision 1/CMP.8 as follows:

(a) Under “First international transfers of AAUs”, “Amount transferred or converted”, each Party shall report the total quantity of AAUs transferred for the first time from its registry to another registry tracked by serial number. Under “First international transfers of AAUs”, “Amount contributed as Share of Proceeds (SoP) to the Adaptation Fund”, each Party shall report the total quantity of AAUs contributed to the Adaptation Fund. These transfers shall also be included in the “Transfers and acquisitions” section of table 2(b);

(b) Under “Issuance of ERUs from Party-verified projects”, “Amount transferred or converted”, each Party shall report the total quantity of ERUs relating to projects where emission reductions or enhancements of removals have been verified by the host Party in accordance with paragraph 23 of the annex to decision 9/CMP.1. Under “Issuance of ERUs from Party-verified projects”, “Amount contributed as SoP to the Adaptation Fund”, each Party shall report the total quantity of ERUs issued relating to projects where emission reductions or enhancements of removals have been verified by the host Party in accordance with paragraph 23 of the annex to decision 9/CMP.1 and contributed to the Adaptation Fund. These transfers shall also be included under the “Transfers and acquisitions” section of table 2(b);

(c) Under “Issuance of independently verified ERUs”, “Amount transferred or converted”, each Party shall report the total quantity of ERUs that had been independently verified by the Article 6 Supervisory Committee. Under “Issuance of independently verified ERUs”, “Amount contributed as SoP to the Adaptation Fund”, each Party shall report the total quantity of ERUs issued that were independently verified by the Article 6 Supervisory

Committee and contributed to the Adaptation Fund. These transfers shall also be included under the “Transfers and acquisitions” section of table 2(b).

F. Table 2(e). Total annual transactions

26. Each Party included in Annex I shall add the subtotals of tables 2(a) and 2(b) and report the corresponding quantities under “Total” in table 2(e).

G. Table 3. Annual expiry, cancellation and replacement

27. In table 3, Annex I Parties shall report information on the expiry, cancellation and replacement of tCERs, ICERs and CERs from CCS project activities in accordance with the modalities and procedures for afforestation and reforestation project activities under the CDM (decision 5/CMP.1) and the modalities and procedures for CCS in geological formations as CDM project activities (decision 10/CMP.7). Annex I Parties shall include all transactions that occurred between 1 January and 31 December of the reported year, including any corrective transactions.

28. Each Party included in Annex I shall report the following information under the section “Temporary CERs”:

(a) “Expired in retirement and replacement accounts”: the quantity of tCERs that expired in the reported year in the retirement account and the tCER replacement accounts for the previous commitment period and the quantity of units that were used to replace them. These tCERs will have been valid for the previous commitment period and will expire in the final year of the commitment period;

(b) “Expired in holding accounts”: the quantity of tCERs that expired in the reported year in all Party and entity holding accounts for the previous commitment period and the quantity of units that were cancelled as a result.

29. Each Party included in Annex I shall report the following information under the section “Long-term CERs”:

(a) “Expired in retirement and replacement accounts”, the quantity of ICERs that expired in the reported year in the retirement account and the ICER replacement accounts for previous commitment periods and the quantity of units that were used to replace them. These ICERs will have been valid for the previous commitment period;

(b) “Expired in holding accounts”, the quantity of ICERs that expired in all Party and entity holding accounts and the quantity of units that were cancelled as a result. These ICERs will have been valid for the previous commitment period;

(c) “Subject to reversal of removals”, in the event that the Party has received notification(s) of a reversal of removals under a project activity from the Executive Board of the clean development mechanism (CDM Executive Board), the quantity of ICERs that the Party is required to replace pursuant to the notification(s) and the quantity of units that the Party used for replacement or cancellation as a result of these notifications;

(d) “Subject to non-submission of certification report”, in the event that the Party included in Annex I has received notification(s) of non-submission of certification report under a project activity from the CDM Executive Board, the quantity of ICERs that the Party is required to replace pursuant to the notification(s) and the quantity of units that the Party used for replacement or cancellation as a result of the notification(s).

30. Each Party included in Annex I shall report the following information under the section “Carbon Capture and Storage CERs”:

(a) “Subject to net reversal of storage”, in the event that the Party has received notification(s) of a net reversal of storage of a CCS project activity from the CDM Executive Board, the quantity of units that the Party included in Annex I is required to cancel pursuant to that notification and the quantity of units that the Party included in Annex I used for cancellation as a result of these notifications. The units used to meet this requirement are transferred to the CDM registry and are therefore not reported in table 2(a). These units used to meet this requirement shall also be reported in table 2(b);

(b) “Subject to non-submission of certification report”, in the event that the Party included in Annex I has received notification(s) of non-submission of certification report for a CCS project activity from the CDM Executive Board, the quantity of units that the Party included in Annex I is required to replace pursuant to the notification(s) and the quantity of units that the Party included in Annex I used for cancellation as a result of the notification(s). The units used to meet this requirement are transferred to the CDM registry and are therefore not reported in table 2(a). These units used to meet this requirement shall also be reported in table 2(b).

31. Annex I Parties shall sum the quantities of Kyoto Protocol units in each column and report these under “Total”.

H. Table 4. Total quantities of Kyoto Protocol units by account type at end of reported year

32. In table 4, Annex I Parties shall include information on the total quantities of Kyoto Protocol units in each account type, by unit type, in the national registry at 31 December of the reported year.

33. The structure of table 4 follows the structure of table 1.

I. Table 5(a). Summary information on additions and subtractions

34. In table 5(a), Annex I Parties shall report cumulative information for the reported year and previously reported years to facilitate the recording of information for the commitment period in the compilation and accounting database in accordance with the annex to decision 13/CMP.1 and this decision.

35. Each Party included in Annex I shall report the following information:

(a) “Assigned amount units issued”, “Additions”, the total quantity of AAUs issued on the basis of its assigned amount under Article 3, paragraphs 7 bis, 8 and 8 bis;

(b) “Article 3, paragraph 7 ter, cancellations”, “Subtractions”, the total quantity of AAUs cancelled in accordance with Article 3, paragraph 7 ter;

(c) “Cancellation following increase in ambition”, the total quantity of AAUs cancelled in accordance with paragraph 8 of decision 1/CMP.8;

(d) “Cancellation of remaining units after carry-over”, the total quantity of units, per unit type, cancelled after expiration of the additional period for fulfilling commitments and carry-overs, if any, have been undertaken (decision 13/CMP.1, annex, para. 36);

(e) “Non-compliance cancellation”, if applicable, the quantities of Kyoto Protocol units, by type, that the Party cancelled pursuant to a determination by the Compliance Committee that the Party is not in compliance with its commitment under Article 3, paragraph

1, for the previous commitment period pursuant to paragraph 37 of the annex to decision 13/CMP.1;³⁴

(f) “Carry-over”, under “Additions” and if applicable, the total quantities of ERUs and/or CERs that were carried over from the previous commitment period; under “Subtractions” the total quantities of ERUs and/or CERs that were carried over to the subsequent commitment period;

(g) “Carry-over to PPSR”, under “Additions” and if applicable, the total quantities of AAUs that were carried over from the previous commitment period to the PPSR account; under “Subtractions” the total quantities of AAUs that were carried over to the subsequent commitment period from the PPSR account.

J. Table 5(b). Summary information on annual transactions

36. In table 5(b), each Party included in Annex I shall provide summary information on annual transactions for the reported year and previously reported years for the commitment period:

(a) For the reported year, each Party shall report the total quantities of Kyoto Protocol units, by type, from table 2(e);

(b) For all years prior to the reported year, the Party shall report the total quantities of Kyoto Protocol units, as reported in table 5(b) in the previous SEF tables;

(c) Under “Total”, each Party shall report the sum to date of all transactions.

K. Table 5(c). Summary information on annual transactions between previous period surplus reserve accounts

37. In table 5(c), each Party included in Annex I shall provide summary information on annual transactions between PPSR accounts for the reported year and for all previously reported years for the commitment period:

(a) For the reported year, each Party shall report the total quantities of AAUs, from table 2(c);

(b) For all years prior to the reported year, the Party shall report the total quantities of AAUs, as reported in table 5(c) in the previous SEF tables;

(c) Under “Total”, each Party shall report the sum to date of all transactions.

L. Table 5(d). Summary information on expiry, cancellation and replacement

38. In table 5(d), Annex I Parties shall provide summary information relating to the replacement and cancellations of tCERs, ICERs and CERs from CCS project activities for each reported year for the commitment period.

39. For the reported year, each Party included in Annex I shall report:

³⁴ This information will not be available until completion of the compliance assessment for the previous commitment period, following the expiration of the additional period for the fulfilment of commitments.

(a) Under “Requirement to replace or cancel”, the total quantities of tCERs, ICERs or CERs from CCS project activities that expired, were subject to a reversal of removals or a reversal of storage or a non-submission of certification report in that year;

(b) Under “Replacement”, the total quantities of Kyoto Protocol units, by type, cancelled to replace tCERs or ICERs. These quantities should match those reported under “Total” in table 3;

(c) Under “Cancellation”, the total quantities of Kyoto Protocol units, by type, cancelled to replace tCERs, ICERs or to respond to a reversal of storage or non-submission of certification report for CCS project activities. These quantities should match those reported under “Total” in table 3.

40. For all years prior to the reported year, the Party included in Annex I shall repeat the information under “Requirement to replace or cancel” and under “Replacement” and “Cancellation” as reported in the previous SEF.

41. Under “Total”, each Party included in Annex I shall report the sum of each column. At the end of the commitment period, the total quantities of tCERs, ICERs and CERs from CCS project activities should match the total quantities of Kyoto Protocol units under “Replacement” and “Cancellation”.

M. Table 5(e). Summary information on retirement

42. In table 5(e), Annex I Parties shall provide summary information on retirement to facilitate the compliance assessment at the end of the additional period for fulfilling commitments.

43. For the reported year, each Party included in Annex I shall report under “Retirement”, the total quantities of Kyoto Protocol units, by type, retired in that year for the purpose of demonstrating its compliance with its commitment under Article 3, paragraph 1, of the Kyoto Protocol. These quantities should match those reported under “Retirement”, “Total”, in table 2(a).

44. For all years prior to the reported year, the Party included in Annex I shall repeat the information as reported in the previous SEF.

45. Under “Total”, each Party included in Annex I shall report the sum of each column.

N. Table 6. Memo item: Corrective transactions undertaken in the reported year

46. In tables 6(a) to 6(c), Annex I Parties shall report any corrective transactions undertaken in the reported year relating to previously reported years, including transactions to address a correction to the compilation and accounting database applied by the Compliance Committee, pursuant to paragraph 5(b) in chapter V of the annex to decision 27/CMP.1. It should be noted that quantities of Kyoto Protocol units reported here are included in the annual transactions reported in tables 2 and 3 and are reported in tables 6(a) to 6(c) as a memo item for the purpose of transparency. Parties shall provide explanations for these transactions in accompanying text, as required by paragraph 8 of section E of the guidelines for reporting under Article 7 of the Kyoto Protocol.

II. Standard electronic format tables

47. The SEF tables are not included in this document but can be downloaded from the UNFCCC website.³⁵

Note: the SEF tables from the web are reproduced in the next pages

		Party					
		Submission year					
		Reported year					
		Commitment period					
Table 1. Total quantities of Kyoto Protocol units by account type at beginning of reported year							
Account type		Unit type					
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Party holding accounts						
2	Entity holding accounts						
3	Retirement account						
4	Previous period surplus reserve account						
5	Article 3.3/3.4 net source cancellation accounts						
6	Non-compliance cancellation account						
7	Voluntary cancellation account						
8	Cancellation account for remaining units after carry-over						
9	Article 3.1 ter and quater ambition increase cancellation account						
10	Article 3.7 ter cancellation account						
11	tCER cancellation account for expiry						
12	ICER cancellation account for expiry						
13	ICER cancellation account for reversal of storage						
14	ICER cancellation account for non-submission of certification report						
15	tCER replacement account for expiry						
16	ICER replacement account for expiry						
17	ICER replacement account for reversal of storage						
18	ICER replacement account for non-submission of certification report						
	Total						

³⁵http://unfccc.int/national_reports/accounting_reporting_and_review_under_the_kyoto_protocol/items/7969.php.

Party
 Submission year
 Reported year
 Commitment period

Table 2 (a). Annual internal transactions

	Transaction type	Additions						Subtractions					
		Unit type						Unit type					
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Article 6 issuance and conversion													
1	Party-verified projects												
2	Independently verified projects												
Article 3.3 and 3.4 issuance or cancellation													
3	3.3 Afforestation and reforestation												
4	3.3 Deforestation												
5	3.4 Forest management												
6	3.4 Cropland management												
7	3.4 Grazing land management												
8	3.4 Revegetation												
9	3.4 Wetland drainage and rewetting												
Article 12 afforestation and reforestation													
10	Replacement of expired tCERs												
11	Replacement of expired ICERs												
12	Replacement for reversal of storage												
13	Cancellation for reversal of storage												
14	Replacement for non-submission of certification report												
15	Cancellation for non-submission of certification report												
Other cancellation													
16	Voluntary cancellation												
17	Article 3.1 ter and quater ambition increase cancellation												
Sub-total													

	Transaction type	Retirement					
		Unit type					
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Retirement						
2	Retirement from PPSR						
Total							

Party
 Submission year
 Reported year
 Commitment period

Table 2 (b). Total annual external transactions

	Additions						Subtractions					
	Unit type						Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Total transfers and acquisitions												
[Registry name]												
[Registry name]												
[Registry name]												
[Registry name]												
Sub-total												

Table 2 (c). Annual transactions between PPSR accounts

	Additions						Subtractions					
	Unit type						Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Transfers and acquisitions between PPSR accounts												
[Registry name]												
[Registry name]												
[Registry name]												
[Registry name]												
Sub-total												

Table 2 (d). Share of proceeds transactions under decision 1/CMP.8, paragraph 21 - Adaptation Fund

	Amount transferred or converted						Amount contributed as SoP to the Adaptation Fund					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
First international transfers of AAUs												
Issuance of ERUs from Party-verified projects												
Issuance of independently verified ERUs												

Table 2 (e). Total annual transactions

Total (Sum of sub-totals in table 2a and table 2b)												
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Party
 Submission year
 Reported year
 Commitment period

Table 3. Annual expiry, cancellation and replacement

Transaction or event type	Requirement to replace or cancel			Replacement						Cancellation					
	Unit type			Unit type						Unit type					
	tCERs	ICERs	CERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Temporary CERs															
Expired in retirement and replacement accounts															
Expired in holding accounts															
Long-term CERs															
Expired in retirement and replacement accounts															
Expired in holding accounts															
Subject to reversal of storage															
Subject to non-submission of certification report															
Carbon Capture and Storage CERs															
Subject to net reversal of storage															
Subject to non-submission of certification report															
Total															

Party
 Submission year
 Reported year
 Commitment period

Table 4. Total quantities of Kyoto Protocol units by account type at end of reported year

	Account type	Unit type					
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Party holding accounts						
2	Entity holding accounts						
3	Retirement account						
4	Previous period surplus reserve account						
5	Article 3.3/3.4 net source cancellation accounts						
6	Non-compliance cancellation account						
7	Voluntary cancellation account						
8	Cancellation account for remaining units after carry-over						
9	Article 3.1 ter and quater ambition increase cancellation account						
10	Article 3.7 ter cancellation account						
11	tCER cancellation account for expiry						
12	ICER cancellation account for expiry						
13	ICER cancellation account for reversal of storage						
14	ICER cancellation account for non-submission of certification report						
15	tCER replacement account for expiry						
16	ICER replacement account for expiry						
17	ICER replacement account for reversal of storage						
18	ICER replacement account for non-submission of certification report						
	Total						

Party
 Submission year
 Reported year
 Commitment period

Table 5 (a). Summary information on additions and subtractions

		Additions						Subtractions						
		Unit type						Unit type						
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	
1	Assigned amount units issued													
2	Article 3, paragraph 7 ter, cancellations													
3	Cancellation following increase in ambition													
4	Cancellation of remaining units after carry-over													
5	Non-compliance cancellation													
6	Carry-over													
7	Carry-over to PPSR													
	Total													

Table 5 (b). Summary information on annual transactions

		Additions						Subtractions						
		Unit type						Unit type						
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	
1	Year 1 (2013)													
2	Year 2 (2014)													
3	Year 3 (2015)													
4	Year 4 (2016)													
5	Year 5 (2017)													
6	Year 6 (2018)													
7	Year 7 (2019)													
8	Year 8 (2020)													
9	Year 2021													
10	Year 2022													
11	Year 2023													
...	...													
	Total													

Table 5 (c). Summary information on annual transactions between PPSR accounts

		Additions						Subtractions						
		Unit type						Unit type						
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	
1	Year 1 (2013)													
2	Year 2 (2014)													
3	Year 3 (2015)													
4	Year 4 (2016)													
5	Year 5 (2017)													
6	Year 6 (2018)													
7	Year 7 (2019)													
8	Year 8 (2020)													
9	Year 2021													
10	Year 2022													
11	Year 2023													
...	...													
	Total													

Table 5 (d). Summary information on expiry, cancellation and replacement

		Requirement to replace or cancel			Replacement						Cancellation					
		Unit type			Unit type						Unit type					
		tCERs	ICERs	CERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Year 1 (2013)															
2	Year 2 (2014)															
3	Year 3 (2015)															
4	Year 4 (2016)															
5	Year 5 (2017)															
6	Year 6 (2018)															
7	Year 7 (2019)															
8	Year 8 (2020)															
9	Year 2021															
10	Year 2022															
11	Year 2023															
...	...															
	Total															

Table 5 (e). Summary information on retirement

	Year	Retirement					
		Unit type					
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Year 1 (2013)						
2	Year 2 (2014)						
3	Year 3 (2015)						
4	Year 4 (2016)						
5	Year 5 (2017)						
6	Year 6 (2018)						
7	Year 7 (2019)						
8	Year 8 (2020)						
9	Year 2021						
10	Year 2022						
11	Year 2023						
...	...						
	Total						

Party
 Submission year
 Reported year
 Commitment period

Table 6 (a). Memo item: Corrective transactions relating to additions and subtractions

	Transactions	Additions						Subtractions					
		Unit type						Unit type					
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Transactions												

Table 6 (b). Memo item: Corrective transactions relating to replacement

	Transactions	Requirement for replacement		Replacement					
		Unit type		Unit type					
		tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Transactions								

Table 6 (c). Memo item: Corrective transactions relating to retirement

	Transactions	Retirement					
		Unit type					
		AAUs	ERUs	RMUs	CERs	tCERs	ICERs
1	Transactions						

Decision 15/CMP.1 in conjunction with 3/CMP.11 Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol

Note:

Decision 3/CMP.11, paragraph 2: Also decides that, for the purpose of the second commitment period, decision 15/CMP.1 shall apply *mutatis mutandis*, except where otherwise specified in decisions 1/CMP.8 and 2/CMP.8 and in this decision;

Decision 3/CMP.11, paragraph 5: For the second commitment period, in 15/CMP.1:

- (a) “Article 3, paragraph 1” changes to “Article 3, paragraph 1 bis”;
- (b) “Article 3, paragraphs 7 and 8” changes to “Article 3, paragraphs 7 bis, 8 and 8 bis”
- (c) “first commitment period” changes to “second commitment period” except in para. 3(e)
- (d) “activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4” changes to “activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4”
- (e) 2006 IPCC Guidelines as implemented through the UNFCCC Annex I GHG reporting guidelines and the *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*
- (f) “decision 16/CMP.1” changes to “decisions 2/CMP.7 and 6/CMP.9”

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 7 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change,

Recalling that Parties have affirmed that the principles in decision 2/CMP.7 and decision 6/CMP.9 govern the treatment of land use, land-use change and forestry activities in the annex to that decision,

Having considered decision 22/CP.7,

Recognizing the importance of transparent reporting for facilitating the review process under Article 8 of the Kyoto Protocol,

1. *Adopts* the guidelines for the preparation of information under Article 7 of the Kyoto Protocol as contained in the annex to the present decision;
2. *Decides* that each Party included in Annex I with a commitment inscribed in Annex B, bearing in mind Article 7, paragraph 3, of the Kyoto Protocol and the needs of the review under Article 8 of the Kyoto Protocol, shall start reporting the information under Article 7, paragraph 1, of the Kyoto Protocol with the inventory submission due under the Convention for the first year of the commitment period after the Protocol has entered into force for that Party, but may start reporting this information from the year following the submission of the information referred to in paragraph 6 of the annex to decision 13/CMP.1 on a voluntary basis;
3. *Decides* that a Party included in Annex I shall fail to meet the methodological and reporting requirements under Article 7, paragraph 1, for the purpose of the eligibility

requirements under paragraph 21 of the guidelines adopted under decision 16/CP.7, paragraph 31 of the guidelines adopted under decision 17/CP.7, and paragraph 2 of the guidelines adopted under decision 18/CP.7 if:

(a) The Party concerned has failed to submit an annual inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, including the national inventory report and the common reporting format, within six weeks of the submission date established by the Conference of the Parties;

(b) The Party concerned has failed to include an estimate for an Annex A source category (as defined in chapter 4 of volume I of the 2006 IPCC Guidelines) that individually accounted for 7 per cent or more of the Party's aggregate emissions, defined as the aggregate submitted emissions of the gases and from the sources listed in Annex A to the Kyoto Protocol, in the most recent of the Party's reviewed inventories in which the source was estimated;

(c) For any single year during the commitment period, the aggregate adjusted greenhouse gas emissions for the Party concerned exceed the aggregate submitted emissions, defined as aggregate submitted emissions of the gases and from the sources listed in Annex A to the Kyoto Protocol, by more than 7 per cent;

(d) At any time during the commitment period the sum of the numerical values of the percentages calculated according to subparagraph (c) above for all years of the commitment period for which the review has been conducted exceeds 20;

(e) An adjustment for any key source category (as defined in chapter 4 of volume 1 of the 2006 IPCC Guidelines) of the Party concerned that accounted for 2 per cent or more of the Party's aggregate emissions of the gases from the sources listed in Annex A was calculated during the inventory review in three subsequent years, unless the Party has requested assistance from the facilitative branch of the Compliance Committee in addressing this problem, prior to the beginning of the first commitment period, and the assistance is being provided;

4. *Requests* the secretariat to prepare a report relating to paragraph 4 of section VI.1 of the annex to decision 5/CP.6, based on information contained in national communications from Parties and other relevant sources, for consideration by the Subsidiary Body for Scientific and Technological Advice. This report shall be prepared each time that the review process under Article 8 of the Kyoto Protocol relating to national communications and supplementary information from Parties included in Annex I is completed.

ANNEX

Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol¹

I. Reporting of supplementary information under Article 7, paragraph 1²

A. Applicability

1. The provisions of these guidelines shall apply for each Party included in Annex I which is also a Party to the Kyoto Protocol.

B. General approach

2. Each Party included in Annex I shall include the necessary supplementary information required by these guidelines, for the purpose of ensuring compliance with Article 3, in its annual inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, prepared in accordance with Article 5, paragraph 2, and submitted in accordance with decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP), taking into account any relevant decisions of the Conference of the Parties (COP). A Party included in Annex I need not separately submit an inventory under Article 12, paragraph 1 (a), of the Convention.

C. Objectives

3. The objectives of these guidelines are:

(a) To enable Parties included in Annex I to meet their commitments for reporting information in accordance with Article 7, paragraph 1;

(b) To promote the reporting of consistent, transparent, comparable, accurate and complete information by Parties included in Annex I;

(c) To facilitate the preparation of the information to be submitted to the COP/MOP by Parties included in Annex I;

(d) To facilitate the review under Article 8 of inventories and supplementary information under Article 7, paragraph 1, from Parties included in Annex I.

D. Greenhouse gas inventory information

4. Each Party included in Annex I shall describe in its annual inventory any steps taken to improve estimates in areas that were previously adjusted.

5. Each Party included in Annex I shall include in its annual³ greenhouse gas inventory information on anthropogenic greenhouse gas emissions by sources and removals by sinks from land use, land-use change and forestry activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4 and, any, elected activities

¹ Note that additional reporting requirements are included in the annex to decision 13/CMP.1.

² "Article" in these guidelines refers to an Article of the Kyoto Protocol, unless otherwise specified.

³ It is recognized in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines), as implemented through the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories" and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol that the current practice on land use, land-use change and forestry does not in every situation request annual data collection for the purpose of preparing annual inventories based on a sound scientific basis.

under Article 3, paragraph 4, in accordance with Article 5, paragraph 2, as elaborated by any good practice guidance in accordance with relevant decisions of the COP/MOP on land use, land-use change and forestry. Estimates for Article 3, paragraphs 3 and 4, shall be clearly distinguished from anthropogenic emissions from the sources listed in Annex A to the Kyoto Protocol. In reporting the information requested above, each Party included in Annex I shall include the reporting requirements specified in paragraphs 6 to 9 below, taking into consideration the selected values in accordance with paragraph 16 of the annex to decision 16/CMP.1.

Note: Decision 2/CMP.8, paragraph 4: “Further decides that for the purposes of reporting land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol for the second commitment period, each Party included in Annex I shall include the information specified in annex II to this decision in its annual greenhouse gas inventory in accordance with Article 5, paragraph 2, of the Kyoto Protocol, which shall be submitted starting with the annual inventory for the first year of the second commitment period”

6. Note: For the purpose of the second commitment period, decision 2/CMP.8, annex II is to be considered.

7. Note: For the purpose of the second commitment period, decision 2/CMP.8, annex II is to be considered.

8. Note: For the purpose of the second commitment period, decision 2/CMP.8, annex II is to be considered.

9. Note: For the purpose of the second commitment period, decision 2/CMP.8, annex II is to be considered.

Decision 2/CMP.8, Annex II

Information on land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in annual greenhouse gas inventories

1. Each Party included in Annex I shall include in its annual greenhouse gas (GHG) inventory information on anthropogenic greenhouse gas emissions by sources and removals by sinks from land use, land-use change and forestry (LULUCF) activities under Article 3, paragraph 3, of the Kyoto Protocol, forest management under Article 3, paragraph 4, of the Kyoto Protocol and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol in accordance with Article 5, paragraph 2, of the Kyoto Protocol as elaborated by any relevant supplementary methodological guidance developed by the Intergovernmental Panel on Climate Change (IPCC) and adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and the Conference of the Parties (COP). Estimates for activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, shall be clearly distinguished from anthropogenic emissions from the sources listed in Annex A to the Kyoto Protocol. In reporting the above-mentioned information, each Party included in Annex I shall include the reporting requirements specified in paragraphs 3–6 below, taking into consideration the information communicated as part of the report to facilitate the calculation of the assigned amount referred to in paragraph 2 of this decision and the selected values in accordance with decision 16/CMP.1, annex, paragraph 16.

2. General information to be reported for activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, shall include:

(a) Information on how inventory methodologies have been applied taking into account the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, and any relevant supplementary methodological guidance developed by the IPCC and adopted by the CMP and the COP, and recognizing the principles as laid out in decision 16/CMP.1;

(b) The geographical location of the boundaries of the areas that encompass:

- (i) Units of land subject to activities under Article 3, paragraph 3, of the Kyoto Protocol;
- (ii) Units of land subject to activities under Article 3, paragraph 3, of the Kyoto Protocol which would otherwise be included in land subject to forest management or elected activities under Article 3, paragraph 4, of the Kyoto Protocol under the provisions of decision 2/CMP.7, annex, paragraph 9;

- (iii) Land subject to forest management under Article 3, paragraph 4, in the second commitment period and to any elected activities under Article 3, paragraph 4;

The information aims to ensure that units of land and areas of land are identifiable. Parties are encouraged to elaborate on this information on the basis of any relevant decisions of the CMP and the COP on methodological guidance associated with LULUCF;

(c) The spatial assessment unit used for determining the area of accounting for afforestation, reforestation and deforestation;

(d) Information on anthropogenic GHG emissions by sources and removals by sinks resulting from activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, for all geographical locations reported in the current and previous years, under paragraph 3(b) above, since the beginning of the commitment period or the onset of the activity, whichever comes later. In the latter case the year of the onset of the activity shall also be included. Once land is accounted for under activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, or any elected activities under Article 3, paragraph 4, reporting shall continue throughout subsequent and contiguous commitment periods;

(e) Information on which, if any, of the following pools – above-ground biomass, below-ground biomass, litter, deadwood and/or soil organic carbon – were not accounted for, together with verifiable information that demonstrates that these unaccounted pools were not a net source of anthropogenic GHG emissions;

(f) When a Party applies the provisions for natural disturbances to its accounting in the second commitment period, information demonstrating that emissions from natural disturbances in any single year exceed the background level(s), including a margin, where a margin is needed pursuant to decision 2/CMP.7, annex, paragraph 33. For this purpose, a Party shall, inter alia, include information in accordance with decision 2/CMP.7, annex, paragraphs 33 and 34:

- (i) Showing that all lands subject to the exclusion due to natural disturbances are identified, including their georeferenced location, year and types of disturbances;
- (ii) Showing how annual emissions resulting from natural disturbances and the subsequent removals during the commitment period in those areas are estimated and excluded from the accounting;
- (iii) Showing that no land-use change has occurred on lands for which the provisions contained in decision 2/CMP.7, annex, paragraph 33, are applied and explaining the methods and criteria for identifying any future land-use changes on those land areas during the second commitment period;
- (iv) Demonstrating that the events or circumstances were beyond the control of, and not materially influenced by, the Party in the commitment period, by demonstrating practicable efforts to prevent, manage or control the events or circumstances that led to the application of the provisions contained in decision 2/CMP.7, annex, paragraph 33;
- (v) Demonstrating efforts taken to rehabilitate, where practicable, the land for which the provisions contained in decision 2/CMP.7, annex, paragraph 33, are applied;
- (vi) Showing that emissions associated with salvage logging were not excluded from accounting.

(g) If a Party accounts for GHG emissions by sources and removals by sinks from the harvested wood products pool other than by instantaneous oxidation, information on emissions and removals resulting from changes in the harvested wood products pool accounted for in accordance with decision 2/CMP.7. The emission and removal estimates shall be provided separately for activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4. For this purpose, a Party shall, inter alia, include the following information in accordance with decision 2/CMP.7, annex, paragraphs 16 and 27–32:

- (i) Information on activity data for the harvested wood products categories used for estimating the harvested wood products pool removed from domestic forests, for domestic consumption and for export, as appropriate;
- (ii) Information on half-lives used in estimating the emissions and removals for these categories in accordance with decision 2/CMP.7, annex, paragraph 29 or 30, or, alternatively, information on methodologies used to account for harvested wood products in accordance with decision 2/CMP.7, annex, paragraph 30, showing that the methodologies used are at least as detailed or accurate as the first-order decay method with default half-lives provided in decision 2/CMP.7, annex, paragraph 29;
- (iii) If the forest management reference level is based on a projection, information on whether emissions from harvested wood products originating from forests prior to the start of the second commitment period have been included in the accounting;

- (iv) Information on how emissions from the harvested wood products pool that have been accounted for during the first commitment period on the basis of instantaneous oxidation have been excluded from the accounting for the second commitment period;
- (v) Information showing that harvested wood products resulting from deforestation have been accounted on the basis of instantaneous oxidation;
- (vi) Information showing that carbon dioxide emissions from harvested wood products in solid waste disposal sites, where these emissions are separately accounted for, and from wood harvested for energy purposes have been accounted on the basis of instantaneous oxidation;
- (vii) Information showing that the emissions and removals resulting from changes in the harvested wood products pool accounted for do not include imported harvested wood products, irrespective of their origin.

3. Information should also be provided which indicates whether anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, factor out removals from:

- (a) Elevated carbon dioxide concentrations above pre-industrial levels;
- (b) Indirect nitrogen deposition;
- (c) The dynamic effects of age structure resulting from activities prior to 1 January 1990.

4. Specific information to be reported for activities under Article 3, paragraph 3, shall include:

- (a) Information that demonstrates that activities under Article 3, paragraph 3, began on or after 1 January 1990 and before 31 December of the last year of the commitment period, and are directly human-induced;
- (b) Information on how harvesting or forest disturbance that is followed by the re-establishment of a forest is distinguished from deforestation

5. Specific information to be reported for forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, shall include:

- (a) A demonstration that activities under Article 3, paragraph 4, have occurred since 1 January 1990 and are human induced;
- (b) For Parties included in Annex I that elect cropland management and/or grazing land management and/or revegetation and/or wetland drainage and rewetting, anthropogenic GHG emissions by sources and removals by sinks for each year of the commitment period and for the base year for each of the elected activities on the geographical locations reported under paragraph 2(b) above;
- (c) Information that demonstrates that emissions by sources and removals by sinks resulting from forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, are not accounted for under activities under Article 3, paragraph 3;
- (d) Information on how all emissions arising from the conversion of natural forests to planted forests are accounted for in accordance with any supplementary methodological guidance developed by the IPCC and adopted by the CMP;
- (e) Information that demonstrates methodological consistency between the reference level and reporting for forest management during the second commitment period, including the area accounted for, the treatment of harvested wood products, and the accounting of any emissions from natural disturbances;
- (f) Any technical corrections made pursuant to decision 2/CMP.7, annex, paragraph 14, to ensure consistency between the reference level and reporting for forest management during the second commitment period;
- (g) If a Party includes in its accounting of forest management under Article 3, paragraph 4, anthropogenic GHG emissions by sources and removals by sinks resulting from the harvest and conversion of forest plantations to non-forest land, information to demonstrate that it has met the requirements set out in decision 2/CMP.7, annex, paragraphs 37–39, and any relevant supplementary methodological guidance developed by the IPCC and adopted by the CMP, including:
 - (i) The identification of all lands and associated carbon pools subject to decision 2/CMP.7, annex, paragraph 37, including the georeferenced location and year of conversion;
 - (ii) A demonstration that the forest plantation was first established through direct human-induced planting and/or seeding of non-forest land before 1 January 1990, and, if the forest plantation was re-established, that this last occurred on forest land through direct human-induced planting and/or seeding after 1 January 1960;
 - (iii) A demonstration that a new forest of at least equivalent area to the harvested forest plantation is established through direct human-induced planting and/or seeding of non-forested land that did not contain forest on 31 December 1989;

(iv) A demonstration that this newly established forest will reach at least the equivalent carbon stock that was contained in the harvested forest plantation at the time of harvest, within the normal harvesting cycle of the harvested forest plantation, and, if not, a debit would be generated under Article 3, paragraph 4

E. Information on emission reduction units, certified emission reductions, temporary certified emission reductions, long-term certified emission reductions, assigned amount units and removal units⁸

10. Each Party included in Annex I that is considered to have met the requirements to participate in the mechanisms shall report the supplementary information in this section of the guidelines beginning with information for the first calendar year in which it transferred or acquired emission reduction units (ERUs), certified emission reductions (CERs), temporary certified emission reductions (tCERs), long-term certified emission reductions (lCERs), assigned amount units (AAUs) and removal units (RMUs) in accordance with decision 13/CMP.1⁹ and decision 5/CMP.1. This information shall be reported in conjunction with the inventory submission due under the Convention in the following year and until the first inventory submission due under the Protocol.

11. Note: 3/CMP.11, annex III, paragraph 1, indicates that this paragraph 11 does not apply for the second commitment period.

12. Each Party included in Annex I shall report on any discrepancies¹⁰ identified by the transaction log pursuant to paragraph 43 of the annex to decision 13/CMP.1 and paragraph 54 of the annex to decision 5/CMP.1, specifying whether the relevant transactions were completed or terminated and, in the case where transactions were not terminated, the transaction number(s) and serial numbers and quantities of ERUs, CERs, tCERs, lCERs, AAUs and RMUs concerned. The Party may also provide its explanation for not terminating the transaction.

13. Each Party included in Annex I shall report on any notification it has received from the Executive Board of the clean development mechanism (CDM) directing the Party to replace lCERs in accordance with paragraph 49 of the annex to decision 5/CMP.1.

14. Each Party included in Annex I shall report on any notification it has received from the Executive Board of the CDM directing the Party to replace lCERs in accordance with paragraph 50 of the annex to decision 5/CMP.1.

15. Each Party included in Annex I shall report on any record of non-replacement identified by the transaction log in accordance with paragraph 56 of the annex to decision 5/CMP.1, specifying whether the replacement was subsequently undertaken and, in the case where replacement was not undertaken, the serial numbers and quantities of the tCERs and lCERs concerned. The Party should provide its explanation for not undertaking the replacement.

16. Each Party included in Annex I shall report the serial numbers and quantities of ERUs, CERs, tCERs, lCERs, AAUs and RMUs held in the national registry at the end of that year that are not valid for use towards compliance with commitments under Article 3, paragraph 1 *bis*, pursuant to paragraph 43 (b) of the annex to decision 13/CMP.1.

17. Each Party included in Annex I shall report on any actions and the date of such actions taken to correct any problem that caused a discrepancy to occur, any changes to the national registry to prevent a discrepancy from reoccurring, and the resolution of any previously identified questions of implementation pertaining to transactions.

⁸ These terms are defined in paragraphs 1–4 of the annex to decision 13/CMP.1 and paragraph 1 of the annex to decision 5/CMP.1.

⁹ In accordance with paragraph 40 of the annex to decision 5/CMP.1, unless otherwise stated in that annex, all other provisions that pertain to CERs in the guidelines under Articles 7 and 8, as well as the modalities for the accounting of assigned amounts under Article 7, paragraph 4, shall also apply to tCERs and lCERs.

¹⁰ Not including any record of non-replacement, which is to be reported separately under paragraph 15 below.

18. For the purpose of the second commitment period, each Party included in Annex I shall report the calculation of its commitment period reserve in accordance with the annex to decision 18/CP.7, 11/CMP.1 and paragraph 18 of decision 1/CMP.8.

19. For the purpose of the second commitment period, each Party included in Annex I shall provide access, upon request of expert review teams, to information held in the national registry relating to holding accounts referred to in paragraph 21(b) of the annex to decision 13/CMP.1, and other types of accounts and transactions for the previous calendar year, that substantiates the supplementary information reported under paragraphs above and paragraph 12 of the annex to decision 15/CMP.1.

20. Each Party included in Annex I shall, for the year of submission of the annual inventory for the last year of the commitment period, report the supplementary information described in this section of the guidelines that relates to the accounting of assigned amounts for that commitment period, in conjunction with the report upon expiration of the additional period for fulfilling commitments referred to in paragraph 49 of the annex to decision 13/CMP.1.

F. Changes in national systems in accordance with Article 5, paragraph 1

21. Each Party included in Annex I shall include in its national inventory report information on any changes that have occurred in its national system compared with information reported in its last submission, including information submitted in accordance with paragraphs 30 to 31 of these guidelines.

G. Changes in national registries

Note: decision 3/CMP.11, paragraph 14: “*Also decides that a Party included in Annex I without a quantified emission limitation or reduction commitment inscribed in the third column of Annex B shall continue to provide relevant information on its national registry, or changes thereto, including information on the units in its registry, by submitting the standard electronic format tables in conjunction with its annual inventory submission for the second commitment period, in accordance with decisions 13/CMP.1 and 15/CMP.1 and annex I to this decision, if its registry is connected to the international transaction log at any time during the relevant calendar year; ”*”

22. Each Party included in Annex I with a commitment inscribed in Annex B shall include in its national inventory report information on any changes that have occurred in its national registry, compared with information reported in its last submission, including information submitted in accordance with paragraph 32 of these guidelines.

H. Minimization of adverse impacts in accordance with Article 3, paragraph 14

23. Each Party included in Annex I shall provide information relating to how it is striving, under Article 3, paragraph 14, of the Kyoto Protocol, to implement its commitments mentioned in Article 3, paragraph 1 *bis*, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention.

24. Parties included in Annex II, and other Parties included in Annex I that are in a position to do so, shall incorporate information on how they give priority, in implementing their commitments under Article 3, paragraph 14, to the following actions, based on relevant methodologies referred to in paragraph 11 of decision 31/CMP.1:

(a) The progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse-gas-emitting sectors, taking into account the need for energy price reforms to reflect market prices and externalities

(b) Removing subsidies associated with the use of environmentally unsound and unsafe technologies

(c) Cooperating in the technological development of non-energy uses of fossil fuels, and supporting developing country Parties to this end

(d) Cooperating in the development, diffusion, and transfer of less-greenhouse-gas-emitting advanced fossil-fuel technologies, and/or technologies, relating to fossil fuels, that capture and store greenhouse gases, and encouraging their wider use; and facilitating the participation of the least developed countries and other non-Annex I Parties in this effort

(e) Strengthening the capacity of developing country Parties identified in Article 4, paragraphs 8 and 9, of the Convention for improving efficiency in upstream and downstream activities relating to fossil fuels, taking into consideration the need to improve the environmental efficiency of these activities

(f) Assisting developing country Parties which are highly dependent on the export and consumption of fossil fuels in diversifying their economies.

► 24 bis. Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period shall continue to provide information relating to how they are striving, under Article 3, paragraph 14, of the Kyoto Protocol, to implement their commitments mentioned in Article 3, paragraph 1, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention, in accordance with this decision.

25. Where the information referred to in paragraphs 23 and 24 above has been provided in earlier submissions, the Party included in Annex I shall include information in its national inventory report on any changes that have occurred, compared with the information reported in its last submission.

26. The secretariat shall annually compile the supplementary information mentioned in paragraphs 23 to 25 above.

II. Reporting of supplementary information under Article 7, paragraph 2

A. Applicability

27. The provisions of these guidelines shall apply for each Party included in Annex I which is also a Party to the Kyoto Protocol.

B. General approach

28. Each Party included in Annex I shall include the necessary supplementary information required under these guidelines to demonstrate compliance with its commitments under the Protocol in its national communication submitted under Article 12 of the Convention, with the time frames for the obligations established by the Kyoto Protocol, and with the relevant decisions of the COP and the COP/MOP.

C. Objectives

29. The objectives of these guidelines are:

(a) To enable Parties included in Annex I to meet their commitments for reporting information in accordance with Article 7, paragraph 2;

(b) To promote the reporting of consistent, transparent, comparable, accurate and complete information by Parties included in Annex I;

(c) To facilitate the preparation of the information to be submitted to the COP/MOP by Parties included in Annex I;

(d) To facilitate the review under Article 8 of national communications and of the supplementary information under Article 7, paragraph 2, from Parties included in Annex I.

D. National systems in accordance with Article 5, paragraph 1

30. Each Party included in Annex I shall provide a description of how it is performing the general and specific functions defined in the guidelines for national systems under Article 5, paragraph 1. The description shall contain the following elements:

- (a) The name and contact information for the national entity and its designated representative with overall responsibility for the national inventory of the Party
- (b) The roles and responsibilities of various agencies and entities in relation to the inventory development process, as well as the institutional, legal and procedural arrangements made to prepare the inventory
- (c) A description of the process for collecting activity data, for selecting emission factors and methods, and for the development of emission estimates
- (d) A description of the process and the results of key source identification and, where relevant, archiving of test data
- (e) A description of the process for the recalculation of previously submitted inventory data
- (f) A description of the quality assurance and quality control plan, its implementation and the quality objectives established, and information on internal and external evaluation and review processes and their results in accordance with the guidelines for national systems
- (g) A description of the procedures for the official consideration and approval of the inventory.

31. Where the Party included in Annex I has not performed all functions, the Party shall provide an explanation of which functions were not performed or were only partially performed and information on the action planned or taken to perform these functions in the future.

E. National registries

32. Each Party included in Annex I shall provide a description of how its national registry performs the functions defined in the annex to decision 13/CMP.1 and the annex to decision 5/CMP.1,¹¹ and complies with the requirements of the technical standards for data exchange between registry systems as adopted by the COP/MOP. The description shall include the following information:

- (a) The name and contact information of the registry administrator designated by the Party to maintain the national registry
- (b) The names of the other Parties with which the Party cooperates by maintaining their national registries in a consolidated system
- (c) A description of the database structure and capacity of the national registry
- (d) A description of how the national registry conforms to the technical standards for data exchange between registry systems for the purpose of ensuring the accurate, transparent and efficient exchange of data between national registries, the clean development mechanism registry and the transaction log (decision 19/CP.7, paragraph 1)¹²
- (e) A description of the procedures employed in the national registry to minimize discrepancies in the issuance, transfer, acquisition, cancellation and retirement of ERUs, CERs, tCERs, ICERs, AAUs and/or RMUs, and replacement of tCERs and ICERs, and of the steps taken to terminate transactions where a discrepancy is notified and to correct problems in the event of a failure to terminate the transactions

¹¹ In accordance with paragraph 40 of the annex to decision 5/CMP.1, unless otherwise stated in that annex, all other provisions that pertain to CERs in the guidelines under Articles 7 and 8, as well as the modalities for the accounting of assigned amount under Article 7, paragraph 4, also apply to tCERs and ICERs.

¹² See decision 24/CP.8.

- (f) An overview of security measures employed in the national registry to prevent unauthorized manipulations and to prevent operator error and of how these measures are kept up to date
- (g) A list of the information publicly accessible by means of the user interface to the national registry
- (h) The Internet address of the interface to its national registry
- (i) A description of measures taken to safeguard, maintain and recover data in order to ensure the integrity of data storage and the recovery of registry services in the event of a disaster
- (j) The results of any test procedures that might be available or developed with the aim of testing the performance, procedures and security measures of the national registry undertaken pursuant to the provisions of decision 19/CP.7 relating to the technical standards for data exchange between registry systems.

F. Supplimentarity relating to the mechanisms pursuant to Articles 6, 12 and 17

33. Each Party included in Annex I shall provide information on how its use of the mechanisms is supplemental to domestic action, and how its domestic action thus constitutes a significant element of the effort made to meet its quantified limitation and reduction commitments under Article 3, paragraph 1 bis, in accordance with the provisions of decision 5/CP.6.

G. Policies and measures in accordance with Article 2

34. In providing information under part II, section V, of the guidelines for the preparation of national communications by Parties included in Annex I to the Convention (FCCC/CP/1999/7), each Party included in Annex I shall specifically address policies and measures implemented and/or further elaborated as well as cooperation with other such Parties in achieving its quantified emission limitation and reduction commitment under Article 3, in order to promote sustainable development. Such reporting shall take into account any relevant decision by the COP and the COP/MOP resulting from the process for further consideration of the issue of policies and measures (decision 13/CP.7).

35. With respect to aviation and marine bunker fuels, each Party included in Annex I shall, in pursuit of Article 2, paragraph 2, of the Kyoto Protocol, identify the steps it has taken to promote and/or implement any decisions by the International Civil Aviation Organization and the International Maritime Organization in order to limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels.

36. Each Party included in Annex I shall also provide information not reported elsewhere under these guidelines on how it strives to implement policies and measures under Article 2 of the Kyoto Protocol in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention.

H. Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures

37. Each Party included in Annex I shall report any relevant information on its domestic and regional legislative arrangements and enforcement and administrative procedures, established pursuant to the implementation of the Kyoto Protocol, according to its national circumstances. This information shall include:

- (a) A description of any domestic and regional legislative arrangements and enforcement and administrative procedures the Party has in place to meet its commitments under the Kyoto Protocol, including the legal authority for such programmes, how they are implemented, and procedures for addressing cases of non-compliance under domestic law
- (b) A description of any provisions to make information on these legislative arrangements and enforcement and administrative procedures (e.g. rules on enforcement and administrative procedures, action taken) publicly accessible

(c) A description of any institutional arrangements and decision-making procedures that it has in place to coordinate activities relating to participation in the mechanisms under Articles 6, 12 and 17, including the participation of legal entities.

38. Each Party included in Annex I shall provide a description of any national legislative arrangements and administrative procedures that seek to ensure that the implementation of activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, also contribute to the conservation of biodiversity and sustainable use of natural resources.

I. Information under Article 10

39. Each Party included in Annex I shall report its activities, actions and programmes undertaken in fulfilment of its commitments under Article 10.

40. Each Party included in Annex I shall report on the steps it has taken to promote, facilitate and finance the transfer of technology to developing countries and to build their capacity, taking into account Article 4, paragraphs 3, 5 and 7, of the Convention, in order to facilitate the implementation of Article 10 of the Kyoto Protocol.

J. Financial resources

41. Each Party included in Annex II shall provide information on the implementation of Article 11 of the Kyoto Protocol, in particular information on what new and additional financial resources have been provided, in what way these resources are new and additional, and how that Party has taken into account the need for adequacy and predictability in the flow of these resources.

42. Each Party included in Annex II shall provide information on its contribution to the entity or entities entrusted with the operation of the financial mechanism.

43. Any Party included in Annex I that has provided funding for the adaptation fund established in accordance with decision 10/CP.7 shall report on its financial contributions to this fund. In doing so, the Party shall take into account the information reported in accordance with paragraph 6 of decision 10/CP.7.

III. Language

44. The information reported in accordance with these guidelines shall be submitted in one of the official languages of the United Nations. Parties included in Annex I are encouraged to submit a translation of the information under Article 7, paragraph 1, in English, in order to facilitate the annual review of the inventory information under Article 8.

IV. Updating

45. These guidelines shall be reviewed and revised, as appropriate, by consensus, in accordance with decisions of the COP/MOP, taking into account any relevant decisions of the COP.

*2nd plenary meeting
30 November 2005*

**Decision 16/CMP.1 in conjunction with decisions 6/CMP.9
and 3/CMP.11**
Land use, land-use change and forestry

Decision 6/CMP.9, paragraph 7, decided that the provisions contained in decision 16/CMP.1 and its annex shall not apply for the purposes of the second commitment period except for the principles in paragraph 1 of decision 16/CMP.1 and the provisions of paragraphs 1 and 16 of the annex to decision 16/CMP.1

1. Affirms that the following principles govern the treatment of land use, land-use change and forestry activities:
 - (a) That the treatment of these activities be based on sound science;
 - (b) That consistent methodologies be used over time for the estimation and reporting of these activities;
 - (c) That the aim stated in Article 3, paragraph 1, of the Kyoto Protocol not be changed by accounting for land use, land-use change and forestry activities;
 - (d) That the mere presence of carbon stocks be excluded from accounting;
 - (e) That the implementation of land use, land-use change and forestry activities contributes to the conservation of biodiversity and sustainable use of natural resources;
 - (f) That accounting for land use, land-use change and forestry does not imply a transfer of commitments to a future commitment period;
 - (g) That reversal of any removal due to land use, land-use change and forestry activities be accounted for at the appropriate point in time;
 - (h) That accounting excludes removals resulting from: (i) elevated carbon dioxide concentrations above their pre-industrial level; (ii) indirect nitrogen deposition; and (iii) the dynamic effects of age structure resulting from activities and practices before the reference year.

ANNEX

Definitions, modalities, rules and guidelines relating to land use, land-use change and forestry activities under the Kyoto Protocol

C. Definitions

1. For land use, land-use change and forestry activities under Article 3,³⁶ paragraphs 3 and 4, the following definitions shall apply:

(a) “Forest” is a minimum area of land of 0.05–1.0 hectare with tree crown cover (or equivalent stocking level) of more than 10–30 per cent with trees with the potential to reach a minimum height of 2–5 metres at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10–30 per cent or tree height of 2–5 metres are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest

(b) “Afforestation” is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources

(c) “Reforestation” is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989

(d) “Deforestation” is the direct human-induced conversion of forested land to non-forested land

(e) “Revegetation” is a direct human-induced activity to increase carbon stocks on sites through the establishment of vegetation that covers a minimum area of 0.05 hectares and does not meet the definitions of afforestation and reforestation contained here

(f) “Forest management” is a system of practices for stewardship and use of forest land aimed at fulfilling relevant ecological (including biological diversity), economic and social functions of the forest in a sustainable manner

(g) “Cropland management” is the system of practices on land on which agricultural crops are grown and on land that is set aside or temporarily not being used for crop production

(h) “Grazing land management” is the system of practices on land used for livestock production aimed at manipulating the amount and type of vegetation and livestock produced.

³⁶ “Article” in this annex refers to an Article of the Kyoto Protocol, unless otherwise specified.

E. General

16. Each Party included in Annex I shall, for the purposes of applying the definition of “forest” as contained in paragraph 1 (a) above, select a single minimum tree crown cover value between 10 and 30 per cent, a single minimum land area value between 0.05 and 1 hectare and a single minimum tree height value between 2 and 5 metres. The selection of a Party shall be fixed for the duration of the first commitment period. The selection shall be included as an integral part of its report to enable the calculation of its assigned amount pursuant to Article 3, paragraphs 7 and 8, in accordance with decision 19/CP.7, and shall include the values for tree crown cover, tree height and the minimum land area. Each Party shall justify in its reporting that such values are consistent with the information that has historically been reported to the Food and Agriculture Organization of the United Nations or other international bodies, and if they differ, explain why and how such values were chosen.

Decision 18/CMP.1 in conjunction with decisions 3/CMP.11 and 4/CMP.11
Criteria for cases of failure to submit information relating to estimates of greenhouse gas emissions by sources and removals by sinks from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

Note:

Decision 3/CMP.11, paragraph 2: *Also decides* that, for the purpose of the second commitment period, decision 18/CMP.1 shall apply mutatis mutandis, except where otherwise specified in decisions 1/CMP.8 and 2/CMP.8 and in this decision;

Decision 4/CMP.11, paragraph 3: For the purpose of the second commitment period:

- (a) “Article 3, paragraphs 7 and 8” changes to “Article 3, paragraphs 7 bis, 8 and 8 bis”
- (g) All references to decision 13/CMP.1 shall be read as references to decision 13/CMP.1 in conjunction with decision 3/CMP.11
- (i) All references to activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, shall be read as references to activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4;

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Having considered decisions 11/CP.7, 19/CP.7 and 22/CP.7,

1. *Decides* that a Party included in Annex I to the Convention shall not issue removal units pursuant to paragraph 26 of the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 for a specific activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4 and any elected activity under Article 3, paragraph 4, associated with a year of the commitment period, if the magnitude of the adjustments to that activity, as defined in the annex to this decision, exceeds 9 per cent for that year;
2. *Decides* that for any adjustments relating to an activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4; associated with a year of the commitment period, the review reports under Article 8 of the Kyoto Protocol shall include the magnitude of the adjustments to that activity as the percentage calculated in accordance with the previous paragraph.

ANNEX

1. The magnitude (M) of the adjustments to an activity for a year of the commitment period, expressed as a percentage, is measured as the absolute value of the “adjusted net estimate for that activity minus the submitted net estimate for the activity”, divided by the sum of the absolute values of all submitted components for that activity, multiplied by 0.18.¹

2. Mathematically, this is expressed by the following equation:

$$M(\%) = \frac{|Net_{adjusted} - Net_{submitted}|}{\sum_j |COMP_{submitted,j}|} \times 0.18 \times 100$$

where:

$Net_{adjusted}$ = the estimate of net emissions/removals for the activity after application of any adjustments, expressed in tonnes of carbon dioxide (CO₂) equivalent

$Net_{submitted}$ = the estimate of net emissions/removals for the activity as submitted by the Party, expressed in tonnes of CO₂ equivalent

$COMP_{submitted,j}$ = estimate for component ‘j’ of a specific activity under Article 3, paragraphs 3 and 4, as reported by the Party in the common reporting format tables for supplementary data for land use, land-use change and forestry activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4; that represents either aggregate estimates of carbon-stock change in individual carbon pools or aggregated estimates of emissions from an individual category, expressed in tonnes CO₂ equivalent. Specifically,

- For tables 4(KP-I), components are the aggregate totals for each carbon-stock change column for the activity; gains and losses should be considered separate components, where applicable
- For tables 4(KP-II), components are the aggregate emissions for the activity from nitrogen (N) fertilization, drainage of soils, disturbance associated with land-use conversion, lime application or biomass burning.

¹ This value was selected as an indicator of the average share of the land use, land-use change and forestry emissions and removals relative to total emissions for Parties included in Annex I to the Convention.

Decision 19/CMP.1 in conjunction with decisions 3/CMP.11 and 4/CMP.11
Guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol

Note:

Decision 3/CMP.11, paragraph 2: For the purpose of the second commitment period decision 19/CMP.1 shall apply mutatis mutandis except where otherwise specified in decisions 1/CMP.8 and 2/CMP.8 and in this decision;

Decision 4/CMP.11, paragraph 3:, for the purpose of the second commitment period, the following changes shall apply to decision 19/CMP.1:

(a) “Article 3, paragraphs 7 and 8” changes to “Article 3, paragraphs 7 bis, 8 and 8 bis”;

(b) All references to the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the Revised 1996 IPCC Guidelines) as elaborated by the Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (hereinafter referred to as the IPCC good practice guidance), the IPCC Guidelines as elaborated by the IPCC good practice guidance, the IPCC Guidelines and any good practice guidance or the IPCC good practice guidance, shall be read as references to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and the *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol* and the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9

(d) All references to “source categories” shall be read as references to “categories”;

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 5, paragraph 1, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, in particular its provision that each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol,

Recognizing the importance of such national systems for the implementation of other provisions of the Kyoto Protocol,

Having considered decision 20/CP.7, adopted by the Conference of the Parties at its seventh session,

1. *Adopts* the guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol as contained in the annex to the present decision;
2. *Urges* Parties included in Annex I to implement the guidelines as soon as possible.

ANNEX

Guidelines for national systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, paragraph 1, of the Kyoto Protocol¹

I. Applicability

1. The provisions of these guidelines shall apply for each Party included in Annex I to the Convention which is also a Party to the Kyoto Protocol. Parties' implementation of national system requirements may differ according to national circumstances, but shall include the elements described in these guidelines. Any differences in implementation shall not impair the performance of the functions described in these guidelines.

II. Definitions

A. Definition of national system

2. A national system includes all institutional, legal and procedural arrangements made within a Party included in Annex I for estimating anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and for reporting and archiving inventory information.

B. Other definitions

3. The meaning of the following terms in these guidelines for national systems² is the same as in the glossary of the Intergovernmental Panel on Climate Change (IPCC) good practice guidance, accepted by the IPCC at its sixteenth session:⁴

(a) **Good practice** is a set of procedures intended to ensure that greenhouse gas inventories are accurate in the sense that they are systematically neither over- nor underestimated as far as can be judged, and that uncertainties are reduced as far as possible. Good practice covers choice of estimation methods appropriate to national circumstances, quality assurance and quality control at the national level, quantification of uncertainties, and data archiving and reporting to promote transparency

(b) **Quality control (QC)** is a system of routine technical activities to measure and control the quality of the inventory as it is being developed. The QC system is designed to:

- (i) Provide routine and consistent checks to ensure data integrity, correctness and completeness;
- (ii) Identify and address errors and omissions;
- (iii) Document and archive inventory material and record all QC activities.

Quality control activities include general methods such as accuracy checks on data acquisition and calculations and the use of approved standardized procedures for emission calculations, measurements, estimating uncertainties, archiving information and reporting. Higher tier QC activities also include technical reviews of categories, activity and emission factor data and methods

¹ "Article" in these guidelines refers to an Article of the Kyoto Protocol, unless otherwise specified.

² The guidelines for national systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, paragraph 1, of the Kyoto Protocol are referred to herein as "guidelines for national systems".

⁴ Montreal, 1–8 May 2000.

(c) **Quality assurance** (QA) activities include a planned system of review procedures conducted by personnel not directly involved in the inventory compilation development process, to verify that data quality objectives were met, ensure that the inventory represents the best possible estimate of emissions and sinks given the current state of scientific knowledge and data available, and support the effectiveness of the QC programme

(d) **Key category** is one that is prioritized within the national inventory because its estimate has a significant influence on a country's total inventory of greenhouse gases in terms of the absolute level of emissions, the trend in emissions and removals, or uncertainty in emissions or removals. Whenever the term key category is used, it includes both source and sink categories

(e) **Decision tree** is a flow-chart describing the specific ordered steps which need to be followed to develop an inventory or an inventory component in accordance with the principles of good practice.

4. **Recalculation**, consistent with the UNFCCC reporting guidelines on annual inventories, is a procedure for re-estimating anthropogenic greenhouse gas (GHG)⁵ emissions by sources and removals by sinks of previously submitted inventories⁶ as a consequence of changes in methodologies, changes in the manner in which emission factors and activity data are obtained and used, or the inclusion of new source and sink categories.

III. Objectives

5. The objectives of national systems under Article 5, paragraph 1, for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, referred to below as national systems, are:

(a) To enable Parties included in Annex I to estimate anthropogenic GHG emissions by sources and removals by sinks, as required by Article 5, and to report these emissions by sources and removals by sinks in accordance with Article 7, paragraph 1, and relevant decisions of the Conference of the Parties (COP) and/or the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP);

(b) To assist Parties included in Annex I in meeting their commitments under Articles 3 and 7;

(c) To facilitate the review of the information submitted under Article 7 by Parties included in Annex I, as required by Article 8;

(d) To assist Parties included in Annex I to ensure and improve the quality of their inventories.

IV. Characteristics

6. National systems should be designed and operated to ensure the transparency, consistency, comparability, completeness and accuracy of inventories as defined in the guidelines for the preparation of inventories by Parties included in Annex I, in accordance with relevant decisions of the COP and/or COP/MOP.

7. National systems should be designed and operated to ensure the quality of the inventory through planning, preparation and management of inventory activities. Inventory activities include collecting activity data, selecting methods and emission factors appropriately, estimating anthropogenic GHG emissions by sources and removals by sinks, implementing uncertainty assessment and quality assurance/quality control (QA/QC) activities, and carrying out procedures for the verification of the inventory data at the national level, as described in these guidelines for national systems.

8. National systems should be designed and operated to support compliance with Kyoto Protocol commitments relating to the estimation of anthropogenic GHG emissions by sources and removals by sinks.

⁵ References to greenhouse gases (GHG) in these guidelines for national systems refer to GHGs not controlled by the Montreal Protocol.

⁶ "National GHG inventories" are referred to simply as "inventories" in these guidelines for the sake of brevity.

9. National systems should be designed and operated to enable Parties included in Annex I to consistently estimate anthropogenic emissions by all sources and removals by all sinks of all GHGs, as covered by the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” (hereinafter referred to as the UNFCCC reporting guidelines) and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (hereinafter referred to as the Wetlands Supplement), as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, in accordance with relevant decisions of the COP and/or COP/MOP.

V. General functions

10. In the implementation of its national system, each Party included in Annex I shall:

(a) Establish and maintain the institutional, legal and procedural arrangements necessary to perform the functions defined in these guidelines for national systems, as appropriate, between the government agencies and other entities responsible for the performance of all functions defined in these guidelines;

(b) Ensure sufficient capacity for timely performance of the functions defined in these guidelines for national systems, including data collection for estimating anthropogenic GHG emissions by sources and removals by sinks and arrangements for technical competence of the staff involved in the inventory development process;

(c) Designate a single national entity with overall responsibility for the national inventory;

(d) Prepare national annual inventories and supplementary information in a timely manner in accordance with Article 5 and Article 7, paragraphs 1 and 2, and relevant decisions of the COP and/or COP/MOP;

(e) Provide information necessary to meet the reporting requirements defined in the guidelines under Article 7 in accordance with the relevant decisions of the COP and/or COP/MOP.

VI. Specific functions

11. In order to meet the objectives and perform the general functions described above, each Party included in Annex I shall undertake specific functions relating to inventory planning, preparation and management.⁷

A. Inventory planning

12. As part of its inventory planning, each Party included in Annex I shall:

(a) Designate a single national entity with overall responsibility for the national inventory;

(b) Make available the postal and electronic addresses of the national entity responsible for the inventory;

(c) Define and allocate specific responsibilities in the inventory development process, including those relating to choice of methods, data collection, particularly activity data and emission factors from statistical services and other entities, processing and archiving, and QC and QA. This definition shall specify the roles of, and cooperation between, government agencies and other entities involved in the preparation of the inventory, as well as the institutional, legal and procedural arrangements made to prepare the inventory;

(d) Elaborate an inventory QA/QC plan which describes specific QC procedures to be implemented during the inventory development process, facilitate the overall QA procedures to be conducted, to the extent possible, on the entire inventory and establish quality objectives;

⁷ For the purpose of these guidelines for national systems, the inventory development process encompasses inventory planning, preparation and management. These steps of the inventory development process are considered in these guidelines only in order to clearly identify the functions to be performed by the national systems, as described in paragraphs 12 to 17 of the present guidelines.

(e) Establish processes for the official consideration and approval of the inventory, including any recalculations, prior to its submission and to respond to any issues raised by the inventory review process under Article 8.

13. As part of its inventory planning, each Party included in Annex I should consider ways to improve the quality of activity data, emission factors, methods and other relevant technical elements of inventories. Information obtained from the implementation of the QA/QC programme, the review process under Article 8 and other reviews should be considered in the development and/or revision of the QA/QC plan and the quality objectives.

B. Inventory preparation

14. As part of its inventory preparation, each Party included in Annex I shall:

(a) Identify key categories following the methods described in chapter 4.3, volume 1, of the 2006 IPCC Guidelines);

(b) Prepare estimates in accordance with the methods described in the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, and ensure that appropriate methods are used to estimate emissions from key categories;

(c) Collect sufficient activity data, process information and emission factors as are necessary to support the methods selected for estimating anthropogenic GHG emissions by sources and removals by sinks;

(d) Make a quantitative estimate of inventory uncertainty for each category and for the inventory in total, following the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9;

(e) Ensure that any recalculations of previously submitted estimates of anthropogenic GHG emissions by sources and removals by sinks are prepared in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 and relevant decisions of the COP and/or COP/MOP;

(f) Compile the national inventory in accordance with Article 7, paragraph 1, and relevant decisions of the COP and/or COP/MOP;

(g) Implement general inventory QC procedures (tier 1) in accordance with its QA/QC plan following the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9.

15. As part of its inventory preparation, each Party included in Annex I should:

(a) Apply category-specific QC procedures (tier 2) for key categories and for those individual categories in which significant methodological and/or data revisions have occurred, in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9;

(b) Provide for a basic review of the inventory by personnel that have not been involved in the inventory development, preferably an independent third party, before the submission of the inventory, in accordance with the planned QA procedures referred to in paragraph 12 (d) above;

(c) Provide for a more extensive review of the inventory for key categories, as well as categories where significant changes in methods or data have been made;

(d) Based on the reviews described in paragraph 15 (b) and (c) above and periodic internal evaluations of the inventory preparation process, re-evaluate the inventory planning process in order to meet the established quality objectives referred to in paragraph 12 (d).

C. Inventory management

16. As part of its inventory management, each Party included in Annex I shall:

(a) Archive inventory information for each year in accordance with relevant decisions of the COP and/or COP/MOP. This information shall include all disaggregated emission factors, activity data, and documentation about how these factors and data have been generated and aggregated for the preparation of the inventory. This information shall also include internal documentation on QA/QC procedures, external and internal reviews, documentation on annual key categories and key category identification and planned inventory improvements;

(b) Provide review teams under Article 8 with access to all archived information used by the Party to prepare the inventory, in accordance with relevant decisions of the COP and/or COP/MOP;

(c) Respond to requests for clarifying inventory information resulting from the different stages of the review process of the inventory information, and information on the national system, in a timely manner in accordance with Article 8.

17. As part of its inventory management, each Party included in Annex I should make the archived information accessible by collecting and gathering it at a single location.

VII. Updating of the guidelines

18. These guidelines shall be reviewed and revised, as appropriate, by consensus, in accordance with decisions of the COP/MOP, taking into account any relevant decisions of the COP.

Decision 20/CMP.1 in conjunction with 4/CMP.11 Good practice guidance and adjustments under Article 5, paragraph 2, of the Kyoto Protocol

Notes:

Decision 4/CMP.11, paragraph 2: for the purpose of the second commitment period, decision 20/CMP.1 shall apply mutatis mutandis, except where otherwise specified in decisions 1/CMP.8 and 2/CMP.8 and in this decision;

Decision 4/CMP.11, paragraph 3: for the purpose of the second commitment period, the following changes shall apply to decision 20/CMP.1:

(a) All references to Article 3, paragraphs 7 and 8, shall be read as references to Article 3, paragraphs 7 bis, 8 and 8 bis;

(b) All references to older IPCC Guidelines and good practice guidance shall be read as references to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, except references in paragraph 1 of decision 20/CMP.1;

(i) All references to activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, shall be read as references to activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4;

Decision 4/CMP.11, paragraph 7, clarifies that for the purpose of the second commitment period, the adjustments referred to in the revised “Good practice guidance and adjustments under Article 5, paragraph 2, of the Kyoto Protocol” are not applicable to the Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period;

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 5, paragraph 2, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change,

Further recalling decisions 1/CP.3, 2/CP.3, 1/CP.4, 8/CP.4 and 5/CP.6 of the Conference of the Parties,

Having considered decision 21/CP.7 adopted by the Conference of the Parties at its seventh session,

1. Note: 4/CMP.11, annex II, paragraph 1, indicates that this paragraph does not apply for the second commitment period.

2. Note: 4/CMP.11, annex II, paragraph 1, indicates that this paragraph does not apply for the second commitment period.

3. *Decides* that adjustments referred to in Article 5, paragraph 2, of the Kyoto Protocol shall be applied only when inventory data submitted by Annex I Parties are found to be incomplete and/or are prepared in a way that is not consistent with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the “Guidelines for the preparation of national

communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” (hereinafter referred to as the UNFCCC reporting guidelines) and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (hereinafter referred to as the Wetlands Supplement), as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 and any good practice guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol;

4. *Decides* that the calculation of adjustments shall commence only after an Annex I Party has been provided with opportunities to correct any deficiencies in accordance with the time frame and procedures set forth in the guidelines for inventory review under Article 8;

5. *Decides* that the adjustment procedure shall result in estimates that are conservative for the Party concerned so as to ensure that anthropogenic emissions are not underestimated and anthropogenic removals by sinks and anthropogenic base year emissions are not overestimated;

6. *Emphasizes* that adjustments are intended to provide an incentive for Annex I Parties to provide complete and accurate annual greenhouse gas inventories prepared in accordance with the 2006 IPCC Guidelines and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement. Adjustments are intended to correct inventory problems for the purpose of accounting emissions inventories and assigned amounts of the Annex I Parties. Adjustments are not intended to substitute for the obligation of an Annex I Party to estimate and report greenhouse gas inventories in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 and any good practice guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol;

7. *Decides* that adjusted estimates shall be calculated in accordance with the technical guidance on methodologies for adjustments contained in the annex to this decision. Such technical guidance shall ensure consistency and comparability and that similar methods are used for similar problems as far as possible across all inventories reviewed under Article 8;

8. *Decides* that any adjustments applied to the base year inventory estimates of an Annex I Party shall be used in the calculation of the Party’s assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, in accordance with the modalities for the accounting of assigned amount under Article 7, paragraph 4, and shall not be replaced by a revised estimate subsequent to the establishment of the Party’s assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis;

9. *Decides* that any adjustments applied to the inventory for a year of the commitment period of the Annex I Party shall be used in the annual compilation and accounting of emission inventories and assigned amounts;

10. *Decides* that in the event of a disagreement between the Annex I Party and the expert review team regarding the adjustment, the issue will be forwarded to the Compliance Committee;

11. *Decides* that an Annex I Party may submit a revised estimate for a part of its inventory of a year of the commitment period to which an adjustment was previously applied, provided that the revised estimate is submitted, at the latest, in conjunction with the inventory for the final year of the commitment period. Subject to a review under Article 8 and the acceptance of the revised estimate by the expert review team, the revised estimate shall replace the adjusted estimate. In the event of a disagreement between the Annex I Party and the expert

review team regarding the revised estimate, the issue will be forwarded to the Compliance Committee, which will resolve the disagreement in accordance with the procedures and mechanisms on compliance. The option for an Annex I Party to submit a revised estimate for a part of its inventory to which an adjustment was previously applied should not prevent Annex I Parties from making best efforts to correct the problem at the time it was initially identified and in accordance with the time frame set forth in the guidelines for review under Article 8.

► 11 bis. Further decides that Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period may submit a revised estimate for a part of their inventory or a single year during the review process, noting that the application of the adjustments is not applicable to such Parties. Subject to a review under Article 8 of the Kyoto Protocol and the acceptance of the revised estimate by the expert review team, the revised estimate shall replace the previous estimate. The option for a Party to submit a revised estimate for a part of its inventory should not prevent such a Party from making its best efforts to correct the problem at the time it was initially identified and in accordance with the time frame set forth in the guidelines for review under Article 8 of the Kyoto Protocol.

ANNEX

Technical guidance on methodologies for adjustments under Article 5, paragraph 2, of the Kyoto Protocol

I. Objective

1. The objective of this technical guidance on methodologies for adjustments under Article 5, paragraph 2, of the Kyoto Protocol¹ is:

- (a) To provide for adjusted estimates that fully meet the requirements of decision 20/CMP.1;
- (b) To ensure that adjustments are applied consistently,² comparably and transparently, taking into account the time frames provided in the guidelines for review under Article 8, and that, as far as possible, similar methods are used for similar problems across all inventories subject to adjustments under Article 8.

II. General approach

2. This technical guidance establishes general and specific procedures and methods for use by expert review teams to calculate adjustments. These procedures and methods are supplemented by inventory review resources listed in appendix I to this technical guidance, which will also facilitate consistency in calculation of adjustments by expert review teams.

A. Procedures

3. The calculation and application of adjustments shall follow paragraphs 3–11 of decision 20/CMP.1.

4. Adjustments shall be applied, taking into account section II.B below, only when inventory data submitted by Parties included in Annex I to the Convention (Annex I Parties) including supplementary inventory data on Article 3, paragraphs 3 and 4, are found to be incomplete and/or are prepared in a way that is not consistent with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (hereinafter referred to as the Wetlands Supplement), as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, and any good practice guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP).

5. Expert review teams shall, under their collective responsibility, calculate, document and recommend adjustments in accordance with the provisions for the review of annual inventories under Article 8 and this technical guidance. A compilation of the provisions relevant to the timing and reporting of adjustments from these guidelines is included in appendix II to this technical guidance.

¹ All articles referred to in this technical guidance are those of the Kyoto Protocol. Adjustments under Article 5, paragraph 2, of the Kyoto Protocol are hereinafter referred to as adjustments.

² In this context, consistency means that the application of adjustments should be consistent across Parties and by all expert review teams.

6. The expert review team should collectively decide on the methodological approach for calculation of any adjustment, including relevant components of the adjustment method (such as data sources, drivers⁴ and clusters⁵ used).
7. Expert review teams should apply the appropriate adjustment method, selected from table 1, in a simple manner, given the limited time available for the calculation of adjustments according to the provisions for the review of annual inventories in the guidelines for review under Article 8 (see paragraph 3 of appendix II).
8. Expert review teams should apply this technical guidance in a consistent and comparable manner and, as far as possible, use similar methods for similar problems across all inventories reviewed under Article 8, taking into account the provisions for obtaining conservative estimates, as described in paragraphs 51 and 52 below.
9. To enhance consistency in the application of adjustments for any given Party, the same adjustment method should be used, whenever possible, in cases where the same inventory problem was adjusted in an earlier year (e.g. for the base year or for an earlier year of the commitment period). This provision applies to both the basic adjustment method,⁶ and the main components used in the calculation of the adjustment, as appropriate, such as the source of international data, drivers, clusters and any other inventory parameter used.
10. Any adjustments to estimates of emissions and removals for purposes of establishing the assigned amount under Article 3, paragraphs 7 bis, 8 and 8 bis, will only be applied during the review of the report to facilitate the calculation of the assigned amount.
11. Adjustments should be applied only for individual inventory years, specifically the base year or the latest year of the commitment period under review, and not for an entire time series or group of years, except for cases described in paragraphs 12 and 13 (b)–(c) below.
12. Adjustments should not be retroactively applied for any year preceding the inventory year subject to review, except in cases where recalculated estimates for previous commitment period years and/or instances relating to paragraph 13 (c) below were submitted by the Party together with the inventory information of the inventory year subject to review. Where the Party submits recalculated estimates for commitment period years prior to the inventory year subject to review, adjustments may be applied retroactively for those estimates that have not yet been reviewed, if the provisions of paragraph 4 above apply to these recalculated estimates.
13. For estimates of emissions and removals resulting from activities under Article 3, paragraphs 3 and 4, adjustments may be applied to an individual year or for a group of years, as follows:
- (a) For activities for which the Party has chosen to account annually, any adjustments should be applied during the annual review for the latest submitted inventory;
- (b) For activities for which the Party has chosen to account for the entire commitment period, any adjustments should be considered and applied for any individual year or for any group of years of the commitment period, as necessary, only during the annual review for the final year of the commitment period. Adjustments shall not be considered or applied during any annual review prior to that for the final year of the commitment period;
- (c) For cropland management, grazing land management, revegetation and wetland drainage and rewetting under Article 3, paragraph 4, any adjustment to the emissions or removals in the base year resulting from these activities should be considered and applied according to the choice made by a Party regarding the periodicity of accounting of these

⁴ For the purpose of this technical guidance, *driver* refers to indicative data other than activity data or other inventory parameters used in the calculation of emission or removal estimates, that are correlated with emissions or removals, such as gross domestic product (GDP), population, associated production data, wells drilled, GDP per capita. The criteria for selecting drivers for the purpose of adjustments are given in paragraph 40.

⁵ For the purpose of this technical guidance, *cluster* refers to inventory-related data from a group of countries. The criteria for selecting clusters for the purpose of adjustments are given in paragraph 39.

⁶ For the purpose of this technical guidance, *basic adjustment methods* are those methods that provide an emission or removal estimate before the application of a conservativeness factor described in section III.D below.

activities (e.g. annually or at the end of the commitment period). In the case that the Party has chosen to account annually for these activities and submits recalculated estimates, adjustments may be applied retroactively for the base year, provided these recalculated estimates have not yet been subject to review and the provisions of paragraph 4 above apply to these recalculated estimates.

► 13 bis. Adjustments shall be applied to technical corrections to forest management reference levels when reported data on forest management or forest land remaining forest land used to establish the reference level are recalculated, and the recalculations have not resulted in a technical correction to the reference level which ensures methodological consistency between the corrected forest management reference level and the reported estimates for forest management. The methods and conservativeness factors shall be applied to adjustments to technical corrections for forest management using the guidance in the attachment. When an adjustment to a forest management emission/removals estimate also results in an adjustment to the technical correction, conservativeness factors should not be applied to the technical correction.

14. The selection of data and other components required for an adjustment method should take into account the time series for any such component.

15. Even if some aspects of a particular case are not fully covered by this technical guidance, the experts calculating the adjustment shall adhere to paragraphs 3–11 of decision 20/CMP.1 and, as closely as possible, to this technical guidance.

B. Applicability of adjustments

16. In considering the need for an adjustment, expert review teams should adhere to standard inventory review approaches, which also include assessment of the time series for a given estimate.

17. If the expert review team finds that an estimate submitted by a Party leads to an underestimation of emissions or overestimation of removals in the base year or in the forest management reference level after any technical correction, or an overestimation of emissions or underestimation of removals in a year of the commitment period or forest management reference level after any technical correction, an adjustment calculated in accordance with paragraph 54 below should not be applied.

18. Similarly, if the expert review team finds that an estimate submitted by a Party leads to an underestimation of removals resulting from any activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4, or any elected activities under Article 3, paragraph 4, in a year of the commitment period, or an overestimation of removals in the base year for any elected activity under Article 3, paragraph 4 (cropland management, grazing land management, revegetation and wetland drainage and rewetting), the adjustment calculated in accordance with paragraph 54 below should not be applied if such a calculation would result in an adjusted estimate that is less conservative than the original estimate submitted by the Party.

19. An adjustment procedure should be initiated if the information provided by the Party is not sufficiently transparent, taking into account the provisions of paragraph 4 above.

20. If the expert review team identifies a deviation from the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 that is caused by the allocation of estimates to a wrong category or activity under Article 3, paragraph 3 or 4, adjustments should not be applied in the following cases:⁷

- (a) If reallocation to the correct category does not affect total emissions from sources included in Annex A to the Kyoto Protocol
- (b) If the reallocation does not affect the accounting of emissions and/or removals from any individual activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4.

⁷ In these cases, reallocation is recommended to the Party as part of the review of annual inventories under Article 8.

21. If a Party has chosen not to account for a given carbon pool for an activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4, or an elected activity under Article 3, paragraph 4, an adjustment for this pool should not be applied for reasons of incompleteness as long as the Party has demonstrated, in accordance with paragraph 26 of the annex to decision 2/CMP.7, that the pool in question is not a source.

III. Methods and conservativeness

22. In general, expert review teams shall calculate each adjustment at the level at which the problem is identified, e.g. the IPCC category level or for the specific component in question. If the problem is limited to only one IPCC category, only the estimate for that source or sink should be adjusted. Similarly, if only one component of a given estimate is problematic (such as inconsistent, incorrect or misapplied emission factors or other inventory parameters, or activity data), the review team should replace only that component in calculating the adjusted estimate. For land use, land-use change and forestry (LULUCF) estimates, consideration should be given to the spatial disaggregation of estimates, where relevant and applicable.

23. If the necessary input data or parameters are not available at the IPCC category level at which the problem is identified, or the problem involves more than one component of an emission or removal estimation method used by the Party, or the complexity of the methodology used does not allow replacing only the problematic component in question, more aggregate data should be used as the basis for the adjustment. However, expert review teams should make every effort to make the adjustment at the levels at which the problems were identified, in order to avoid making data that do not qualify for an adjustment subject to the adjustment.

A. Choice of methods

24. If an emission or removal estimate needs to be adjusted,⁸ the expert review team should choose one of the basic adjustment methods in this technical guidance for the calculation of an estimate for purposes of adjustment.

25. In choosing the basic adjustment method and the input data that are appropriate for a specific adjustment case, expert review teams should, in general, follow the methods listed in priority order in table 1, as appropriate, unless otherwise indicated in the sector-specific elements included in chapter IV. If the requirements for the highest priority adjustment method according to the table are not available, the next preferred adjustment method should be used.

26. If a consistent time series of estimates prepared in accordance with 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 is available and no more than two years' estimates are missing, a simple extrapolation of this time series would be the most appropriate adjustment method.

27. If an adjustment is triggered by lack of transparency, and this lack of transparency precludes the expert review team from assessing possible cases of over- or underestimation or from assessing the cause of the potential deviation from the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 (such as inappropriate activity data, emission factors or methods), expert review teams should also apply the basic adjustment methods in the order of priority listed in table 1.

Table 1. Basic adjustment methods to obtain an emission/removal estimate (in order of priority)

Basic adjustment method	Requirements/applicability
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⁸ For example, if an emission or removal estimate is missing, if the estimation method used by the Party was not in conformity with the Revised 1996 IPCC Guidelines as elaborated by the IPCC good practice guidance, or if there is a problem with more than one component (emission factor, activity data or other parameter) of the estimation method used by the Party.

1	Default IPCC tier 1	Obtain activity data, emission factors and other estimation parameters following the prioritizations indicated in paragraphs 33 and 34 below
2	Extrapolation of emissions or removals	Only for a missing/inappropriate estimate for the year in question if a consistent time series of emission or removal estimates is available
3	Extrapolation/interpolation of emissions or removals based on a driver	Only for a missing/inappropriate estimate for the year in question if a consistent time series of emission or removal estimates and a corresponding driver are available
4	Correlation of emissions or removals between source/sink categories or gases within an inventory	Emission or removal estimate for the gas/source/sink category that is correlated to the emissions or removals that need adjustment
5	Average emission or removal rate from a cluster of countries based on a driver	Driver for the country in question and emission or removal rate per driver for a cluster of countries

Note: The methods in this table are those methods that provide an emission or removal estimate before the application of a conservativeness factor described in section III.D below. Further details on the basic adjustment methods listed in this table are given in section III.C below.

28. In the case where none of the basic adjustment methods listed in table 1 is suitable for a given adjustment case, expert review teams may use other adjustment methods. If adjustment methods other than those included in this technical guidance are applied, expert review teams should report the reason for not using any of the basic adjustment methods of this technical guidance and should justify why they consider the method chosen as appropriate.

B. Choice of data and other components

29. In choosing any input data for calculating an adjustment, expert review teams should give, as appropriate, preference to the national data available in the respective Party's inventory submission or made available by the Party before or during the review, provided that these data were not the cause for the adjustment.

30. Expert review teams should not conduct time-consuming searches for national data that have not been made available to the review team by the Party, or generate new country-specific data.

31. If national data as indicated in paragraph 29 above are not available or are not deemed suitable for the respective adjustment case, expert review teams should select data from the recommended international data sources included in the inventory review resources listed in appendix I.

32. The international data sources to be included in the inventory review resources listed in appendix I should meet most of the following criteria:

- (a) The organizations that make the data available are recognized intergovernmental organizations (e.g. United Nations, Food and Agriculture Organization of the United Nations, International Energy Agency (IEA))
- (b) The data are regularly updated, maintained and disseminated
- (c) The data are originally generated by the countries themselves (national statistics)
- (d) The data are widely applicable to Annex I Parties
- (e) The data are easily accessible by the secretariat and expert review teams (e.g. through Internet or CD-ROM), in a timely manner and at reasonable cost

- (f) Sufficient information is available to assess the applicability of activity data, drivers, emission factors or other estimation parameters (e.g. descriptions of how the data are collected, which definitions are used, geographic coverage).

1. Choice of activity data

33. If the calculation of an adjustment requires the use or replacement of activity data, e.g. either as input to the IPCC tier 1 default methodology or because the activity data are the cause of the adjustment, and if no national data are available, expert review teams should use, in order of preference:

- (a) Recommended international data sources as included in the inventory review resources listed in appendix I
- (b) Extrapolation (interpolation) methods if the international data sources do not provide data for the year in question, in which case the activity data should be obtained as follows (in order of preference):
- (i) Extrapolation (interpolation) of national activity data, if these data are available as required in paragraph 29 above, and were collected in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol, and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9
- (ii) Extrapolation (interpolation) of data from recommended international data sources included in the inventory review resources listed in appendix I
- (iii) Extrapolation (interpolation) using drivers or surrogate data from the inventory review resources listed in appendix I
- (c) Activity data based on appropriate drivers (e.g. activity data per capita) from a cluster of countries following the provisions of paragraphs 35–38 below.

2. Choice of emission factors or other inventory parameters

34. If the calculation of an adjustment requires the use or replacement of an emission factor or other inventory parameter, e.g. either as input to the IPCC tier 1 default methodology or because the emission factor or other inventory parameter itself is the cause of the adjustment, the expert review team should use, in order of preference:

(a) IPCC default values from the 2006 IPCC Guideline, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement³⁷ or other recommended international data sources included in the inventory review resources listed in appendix I to that document, and consistent with the IPCC good practice guidance. If emission factors or other inventory parameters from other international data sources are used, the expert review team should, in the review report, justify and document the reason for their use.

(b) Extrapolation (interpolation) of the national emission factor, implied emission factor or average carbon-stock-change factor or other inventory parameter from earlier years as reported in the common reporting format (CRF) or national inventory report if the factor in question was prepared in accordance with the 2006 IPCC Guidelines

(c) Average implied emission factor or average carbon-stock-change factor or other inventory parameter from a cluster of countries obtained as described in paragraphs 35–38 below.

3. Choice of drivers and clusters

35. If the calculation of an adjustment requires the use of a driver, the expert review team should use the recommended drivers as included in the inventory review resources listed in appendix I.

³⁷ When wetland drainage and rewetting has been elected, the Wetlands Supplement should have the highest order of preference for applicable categories.

36. If an average inventory parameter from a cluster of countries is used, expert review teams should follow the recommended approaches and tools for clustering of inventory data as included in the inventory review resources listed in appendix I. The inclusion in the inventory review resources listed in appendix I of drivers and approaches and tools for clustering of inventory data should be subject to guidance by lead reviewers in accordance with the provisions of appendix I.

37. Expert review teams should report the reason for the use of drivers and clusters and demonstrate the appropriateness of the cluster and/or the correlation between the driver and the emissions or removals. The use of drivers or approaches and tools for clustering of inventory data other than those recommended in the inventory review resources listed in appendix I should be explained and justified.

38. When using an average inventory parameter from a cluster of countries, assumptions made in choosing the cluster should be documented, as should how the given inventory average parameter compares with the default parameter or range provided in the *2006 IPCC Guidelines*, the *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol* and the *Wetlands Supplement*, as applicable, where available. Similarly, when clustering is related to the use of a driver (application of an average driver-based emission or removal rate) from a cluster of countries, assumptions made for the composition of the cluster and the established relationship with the driver should be documented.

39. The clusters⁹ to be used in the adjustment process should, to the extent possible, be selected according to the following criteria, taking into account expert judgement:

- (a) Only Annex I Parties that have undergone an individual review, and for which the relevant data were deemed accurate during the review process and for which no adjustment to any inventory parameter of the gases or categories concerned was made, should be included. Inventory data from the Party subject to adjustment should be excluded from the cluster
- (b) The cluster should cover a minimum number of countries, as specified in the recommended approaches and tools for clustering of inventory data
- (c) The grouping of countries into clusters should, to the extent possible, take into account similar national circumstances. National circumstances could relate to, inter alia, climatic conditions, economic development, operation or management practices, types of oil and gas activity, or the age of equipment or installations and their technical features, forest, land-use and soil characteristics, depending on the source or sink category in question.

40. The drivers to be used in the adjustment process should, to the extent possible, be selected according to the following criteria:

- (a) The driver shall be adequately correlated with the emissions or removals concerned
- (b) The significance of the relationship between the driver used and the emissions or removals calculated needs to be demonstrated, taking into account national circumstances.

C. Details and variations on the basic adjustment methods

41. The following section provides further guidance on the application of the basic adjustment methods described in section III.A above. Because this section covers possible variations of those methods, the numbering and ordering do not match the list in table 1.

1. Default IPCC tier 1 methods

⁹ Because of the need to use reviewed data from other countries, clustering will only be possible for one year prior to the year in question. This implies that clustering would have to be combined with extrapolation techniques.

42. This basic adjustment method refers to tier 1 methods in the 2006 IPCC Guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement. The Wetlands Supplement should be consulted only in cases where the Party has elected the activity wetland drainage and rewetting and in cases where the Party applies methods from the Wetlands Supplement on a voluntary basis. This adjustment method will only be applicable if activity data are available from national sources in accordance with paragraph 29 above or from international data sources as described in paragraph 31 above, or are obtained as described in paragraph 33 above. An emission factor or other inventory parameter as required by the method and obtained as described in paragraph 34 above should be used.

2. Extrapolation and interpolation methods

43. If extrapolation and/or interpolation methods are used, the expert review team should follow the guidance on trend extrapolation and interpolation provided in the 2006 IPCC Guidelines, in particular, section 5.3 of Chapter 5 of volume 1 of the 2006 IPCC Guidelines.

44. *Extrapolation of emission or removal estimates* is applicable if inventory estimates are missing or not prepared in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 for the beginning (base year) and/or the end (latest inventory year) of the time series, and reviewed and time-series-consistent values are available for most years of the time series.

45. *Extrapolation of inventory parameters* (e.g. activity data): in addition to applying extrapolation methods to emission or removal estimates it may be necessary to use extrapolation at the level of activity data, emission factors or other inventory parameters, depending on the circumstances (see paragraphs 33 and 34 above).

46. *Extrapolation of emissions or removals using drivers or surrogate data* can be applied if inventory estimates are available for some years (at a minimum for all years but two) of the time series but are missing or not prepared in accordance with the 2006 IPCC Guidelines for the required year (base year and/or latest inventory year). The emissions or removals need to be strongly correlated with other well-known and more readily available indicative data (drivers).

47. *Interpolation* is applicable for calculating an adjustment for a given inventory year provided that reviewed values of the adjacent years are available. This method would most likely be applied in exceptional cases only, but could be applicable to activity data, emission factors or other inventory parameters, depending on the circumstances.

3. Adjustment methods based on correlation of emissions/removals between categories or gases

48. *Correlation of emissions or removals between categories or gases* within an inventory could in some cases be used to estimate emissions or removals of a specific gas or from a specific category. For example, CH₄ and N₂O emissions from fuel combustion activities could be calculated from CO₂ emissions, if available.

4. Adjustment methods based on clustering of countries

49. *Application of average inventory parameters from a cluster of countries* with comparable national circumstances for the sector in question could be used to correct any inventory parameter (e.g. emission factor) that was found not to be in accordance with 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, or as input to the IPCC tier 1 method. The inventory review resources listed in appendix I provide recommended approaches and tools for clustering inventory data. If an adjustment has to be made for a given country, expert review teams should assign the Party in question to the cluster of countries to which it would most likely belong according to its national circumstances.

50. *Application of an average driver-based emission/removal rate from a cluster of countries* can be used if an emission or removal estimate is missing entirely or was not prepared in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions

24/CP.19 and 6/CMP.9, but data for a parameter driving the emissions or removals from that source or sink are available for the country in question. The estimate is derived by establishing a relationship between emissions/removals and an appropriate driver for the cluster of countries with comparable national circumstances, and applying this relationship to the Party in question. If data for the driver are not available for the year in question, the driver should be extrapolated as described in paragraph 46 above.

D. Conservative approach

51. The choice of adjustment methods and application of inventory parameters relevant to the calculation of adjustments should result in conservative estimates, in that emission estimates for the base year are not overestimated, and that emission estimates for a year of the commitment period are not underestimated relative to the likely true value of the emissions of the Party concerned.

52. Similarly, the choice of adjustment methods and application of inventory parameters relevant to the calculation of adjustments should result in conservative estimates, in that removal estimates for the base year are not underestimated, and that removal estimates for a year of the commitment period are not overestimated relative to the likely true value of the removals of the Party concerned.

53. As a principle to achieve conservative estimates, the calculation of an adjustment for a commitment period year should not result in an emission estimate that is lower or a removal estimate that is higher than that originally submitted by the Party, and an adjustment for an estimate of the base year should not result in an emission estimate that is higher or a removal estimate that is lower than the originally submitted estimate.

54. To ensure conservativeness for the purpose of adjustments, a conservativeness factor should be applied to the specific component of the estimation method used by the Party or to the emission/removal estimate generated by the basic adjustment methods described in section III.A of this technical guidance. For illustration purposes, this approach may be expressed as:

$$M \times CF = \text{Adjusted estimate}$$

Where M is the component of an estimation method used by a Party, or the emission or removal estimate generated by a basic adjustment method in this technical guidance, and CF is the conservativeness factor.

55. The conservativeness factor should be selected from the tables of conservativeness factors provided in appendix III to this technical guidance. In the case that the tables do not provide a conservativeness factor for a given source/sink category, a conservativeness factor for a category with similar characteristics should be used.

56. For cases where only one component of an estimation method used by a Party is replaced, the expert review team should apply the conservativeness factor to that component, in accordance with paragraph 22 above. In other cases, the expert review team should apply the conservativeness factor to the emission or removal estimate generated by the basic adjustment method, in accordance with paragraph 24 above.

57. If, exceptionally, an expert review team considers that, in its expert judgement, the estimate generated by applying the basic approach referred to in paragraph 54 above is not conservative or is overly conservative for the Party concerned,¹⁰ the expert review team may use an alternative approach for applying conservativeness, and, where applicable, in accordance with the provisions of paragraphs 22 and 28 above. The expert review team shall justify and document the technical reason for its decision, and for its choice of the alternative approach used, and include this information in the review report.

¹⁰ That is, the expert review team believes that the likely true value of the emissions or removals from a source/sink for a year of the commitment period is higher or much lower than the adjusted estimate generated, or the true value of the emissions from a source in the base year is lower or much higher than the adjusted estimate generated, taking into account any guidance from lead reviewers on this matter.

IV. Sector-specific elements

58. When calculating adjustments, expert review teams should follow the provisions of chapter III taking into account the sector-specific elements given below, as appropriate. The provisions of this chapter apply to the calculation of the adjustments before applying the conservativeness factor described in section III.D above.

A. Fuel combustion

59. When adjusting CO₂ emissions from one or several disaggregated IPCC categories, care should be taken that total CO₂ emissions are in accordance with the total fuel consumption, which is generally better known than the fuel consumption in each of the disaggregated IPCC categories.

60. In the event that total CO₂ emissions from fuel combustion need to be adjusted, the reference approach is the preferred option for calculating an adjustment. Reference approach estimates should preferably be taken from the Party. If this is not considered appropriate, emission estimates from the IEA can be used.

61. Note: decision 4/CMP.11, annex II, paragraph 14, indicates that this paragraph does not apply for the second commitment period.

B. Industrial processes and product use

62. The expert review team should consider the possibility of double counting (for instance, the use of lime in iron and steel production) and avoid any double counting through the application of adjustments.

63. If adjusting hydrofluorocarbon (HFC), perfluorocarbon (PFC), nitrogen trifluoride (NF₃) and sulphur hexafluoride (SF₆) estimates from the consumption of halocarbons, NE₃ and SF₆, consideration should be given to the uncertainty of sales figures (e.g. for sales of these chemicals to the foam blowing industry) and other parameters (such as the composition of the mix in coolants) as given in the 2006 IPCC Guidelines.

C. Agriculture

64. Note: decision 4/CMP.11, annex II, paragraph 14, indicates that this paragraph does not apply for the second commitment period.

65. The expert review team should note that when adjusting emissions from manure management systems, savannah burning, or field burning of agricultural residues, the same activity data should be used for CH₄ as for N₂O.

66. Similarly, consistent livestock data should be used for CH₄ and N₂O emissions from enteric fermentation and manure management, and for N₂O emissions from animal manure applied to soils.

D. Land use, land-use change and forestry

67. When using data from a cluster of countries, data should be selected on the basis of the similarity of these countries in relation to:

- (a) National circumstances such as climatic conditions, vegetation types, management regimes, national policies and others
- (b) Choices in relation to definitions, data acquisition methods, and reporting of carbon pools¹¹ and of activities in accordance with decision 2/CMP.7 and decision 6/CMP.9.

¹¹ If a Party has chosen not to account for a given carbon pool for an activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, an adjustment for this pool should not be applied for reasons of incompleteness as long as the Party has demonstrated, in accordance with paragraph 26 of the annex to decision 2/CMP.7, that the pool in question is not a source.

68. Note: decision 4/CMP.11, annex II, paragraph 14, indicates that this paragraph does not apply for the second commitment period.

69. Estimates of emissions and removals in the LULUCF sector and from LULUCF activities may be based not on annual data but on extrapolations and may be recalculated at a later stage. For this reason, the application of an adjustment to the base year of cropland management, grazing land management, revegetation and wetland drainage and rewetting through an extrapolation should be done with care, given that data may not be reported for the years between the base year and the commitment period. If an extrapolation is needed for the base year of these activities, the expert review team could use as a driver the time series for the LULUCF sector included in the annual inventory submission under the Convention.

70. When expert review teams are choosing a basic adjustment method from table 1 for the LULUCF sector, they should carefully assess whether the IPCC tier 1 methods are indeed the most appropriate methods to derive a conservative estimate.

E. Waste

71. Data on populations and/or urban populations, and GDP per capita, could be used in some cases to estimate the volume of solid waste, taking into account national circumstances. Urban population and protein consumption data could be used to obtain activity data to estimate emissions from domestic wastewater handling. Production data associated with the main industries in a specific country could be used as a possible driver to estimate the amount of industrial wastewater, taking into account differences in technologies (e.g. emission per unit production).

72. For activity data, a cluster of countries based mainly on waste management practices could be used for estimating certain types of data, such as the waste generation rate, but not for estimating other types of data, such as the amount of waste incinerated or the amount of waste deposited, because these data largely depend on national environmental waste management policies.

73. When adjusting emissions from waste incineration, the applicability of drivers is very limited.

74. Note: decision 4/CMP.11, annex II, paragraph 14, indicates that this paragraph does not apply for the second commitment period.

APPENDIX I

List of inventory review resources relevant for the calculation of adjustments

1. This appendix lists inventory review resources relevant for the calculation of adjustments using the adjustment methods and approaches described in the technical guidance.
2. The information contained in the inventory review resources listed here will be maintained by the UNFCCC secretariat and made available to expert review teams by electronic means. This information will be updated periodically following the collective recommendation of lead reviewers on ways to improve the review process,¹ including the consistent application of the technical guidance by expert review teams.
 - A. Resources for supporting the review of greenhouse gas (GHG) inventories
 1. Recommendations for improving the technical review of GHG inventories and for applying common approaches in the review by expert review teams (*resulting from meetings of lead reviewers*)
 2. Recommended international data sources (*for activity data, drivers, emission factors and other estimation parameters*)
 3. Recommended approaches and tools for clustering of inventory data
 4. Recommended drivers (*prepared on the basis of data obtained from external data sources that have adequate correlation with GHG estimates*).
 - B. Specific resources for the calculation of adjustments
 1. Information on previous adjustment calculations by expert review teams.

¹ This would also include any guidance for identifying departures from the IPCC good practice guidance.

APPENDIX II

Provisions for review under Article 8 of the Kyoto Protocol that relate to adjustments

I. Timing

1. Within the review of the inventory, the expert review team shall list all the problems identified, indicating which would need an adjustment, and send this list to the Annex I Party no later than 25 weeks from the submission due date of the annual inventory. This list should be prepared under the collective responsibility of the expert review team.
2. The Annex I Party shall comment on these questions within six weeks and, where requested by the review team, may provide revised estimates.
3. If adjustments are still needed, the expert review team shall calculate adjustments in accordance with this technical guidance, in consultation with the Party concerned, and shall prepare a draft individual inventory review report which includes, where appropriate, adjusted estimates and related information, within eight weeks of the receipt of the comments on the questions posed, and shall send the draft report to the Party concerned.
4. The Annex I Party shall be provided with four weeks to comment on the draft individual inventory review report and, where appropriate, on whether, and for what reasons, it accepts or rejects the adjustment. If the Party concerned disagrees with the proposed adjustment(s) the expert review team should send the notification from the Party, along with the recommendation of the expert review team, in its final report to the COP/MOP and the Compliance Committee, which will resolve the disagreement in accordance with the procedures and mechanisms on compliance.

II. Reporting

5. The following information on adjustments shall be reported by the expert review teams in the review reports:
 - (a) The original estimate, if applicable
 - (b) The underlying problem
 - (c) The adjusted estimate
 - (d) The rationale for the adjustment¹
 - (e) The assumptions, data and methodology used to calculate the adjustment
 - (f) A description of how the adjustment is conservative
 - (g) The expert review team's identification of possible ways for the Annex I Party to address the underlying problem
 - (h) The magnitude of the numerical values relating to an adjusted problem as:
 - (i) The percentage by which the aggregate adjusted GHG emissions for an Annex I Party exceed the aggregate submitted emissions, defined as aggregate submitted emissions of the gases and from the sources listed in Annex A to the Kyoto Protocol, for any single year²
 - (ii) The sum of the numerical values of the percentages calculated in paragraph 5 (h) above for all years of the commitment period for which the review has been conducted

¹ This includes procedures for selection of the calculation methods used for the adjustments.

² "Any single year" refers to the years of the commitment period.

- (i) Any adjustments relating to any activity under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, taking into account any decision of the COP/MOP relating to cases of failure to submit information on these activities
- (j) The number of reviews that identified and adjusted the problem previously, and the percentage that the key category contributed to the aggregate submitted emissions, defined as aggregate submitted emissions of the gases and from the sources listed in Annex A to the Kyoto Protocol
- (k) An indication whether the adjustment was agreed upon by the Annex I Party and the expert review team.

APPENDIX III

Tables of conservativeness factors

1. This appendix provides two sets of tables of conservativeness factors to be used in the calculation of adjustments to ensure that adjusted estimates are conservative, in accordance with paragraphs 51 and 52 of the technical guidance. The first set of tables (tables 1 and 2) covers conservativeness factors for sources included in Annex A to the Kyoto Protocol. The second set of tables (tables 3.a, 3.b, 4.a and 4.b) covers conservativeness factors for emissions and removals from land use, land-use change and forestry (LULUCF). For both sets of tables, these conservativeness factors are provided in two parts:

- (a) For Annex A sources, one for use in the calculation of adjustments for an base year emission estimate and a commitment period recovery estimate (e.g. landfill gas recovery) and one for the calculation of adjustments of emissions for a year of the commitment period and base year's recovery estimates
- (b) For estimates of emissions and removals from LULUCF, separate factors are provided for emissions and removals, for use in the calculation of adjustments to the LULUCF sector during the review of the report to facilitate the calculation of the assigned amount (tables 3.a and 3.b), and for use in the calculation of adjustments of activities under Article 3, paragraphs 3 and 4 (tables 4.a and 4.b).

2. In all tables, conservativeness factors are provided for emission factors or other estimation parameters, activity data, and emission or removal estimates for each IPCC category and Article 3, paragraph 3 and 4 activity, and corresponding gas.

3. When a given category is not covered in the table, the provision of paragraph 55 of the technical guidance applies, such as for categories "other" under energy, industrial processes and product use, agriculture, LULUCF and waste.

4. The conservativeness factors in these tables will be updated, as required, following the collective recommendation of lead reviewers, subject to approval by the Subsidiary Body for Scientific and Technological Advice.

1. Application of conservativeness factors to estimates from LULUCF (tables 3.a, 3.b, 4.a, 4.b)

5. According to paragraphs 22 and 23 of the technical guidance, adjustments should be applied at the lowest level possible at which the problem is identified. Therefore, there might be a need to apply adjustments to individual components (e.g. emission factors, inventory parameters or activity data) as well as to estimates of carbon stock changes from individual carbon pools.

6. To ensure that the selection of the conservativeness factors from the tables of conservativeness factors for LULUCF contributes to a conservative adjustment in line with paragraph 53 of the guidance, the expert review team should determine whether the individual component or the carbon stock change from the individual pool subject to adjustment leads to an increase of either emissions or removals, and choose the conservativeness factor accordingly from the respective tables, taking into account the year to which the adjustment is applied (base year or year of the commitment period, as appropriate). For any component or carbon stock change that contributes to increasing emissions, conservativeness factors should be selected from tables 3.a, 4.a or 4.b as appropriate; for any component or carbon stock change that contributes to increasing removals, conservativeness factors should be selected from tables 3.b, 4.a or 4.b, as appropriate.

2. Background information on the preparation of the tables of conservativeness factors

7. The conservativeness factors are derived from uncertainty values and parameters provided in the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, and in some cases are determined by expert judgement for the purpose of this technical guidance, as indicated below:

- (a) If the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the

Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 provides an uncertainty range for a component, this range for that component is used;

- (b) If the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 provides an uncertainty range for emissions or removals from a particular category or a combined uncertainty range can be calculated from the uncertainty values and/or ranges of the input parameters using the tier 1 method, the range generated by applying the uncertainty value for the category is used;
- (c) In cases where 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 does not provide an uncertainty range for an estimate or a combined uncertainty range cannot be calculated because necessary information is not available, an assessed uncertainty range determined by expert judgement for the purposes of this technical guidance is used.

8. Different conservativeness factors are provided for use in adjustments to estimate for a base year and for a year of the commitment period. The conservativeness factors are calculated using the 25th or 75th percentile of the range generated by an uncertainty value for the gas and category, as appropriate, for use in an adjustment for the base year, or a year of the commitment period, assuming a log-normal distribution.

9. The uncertainty values have been grouped into five sets of uncertainty bands, with corresponding conservativeness factors, by assigning a given uncertainty value to a given band. These bands relate to the underlying uncertainties, as follows:

Estimated uncertainty range (%)	Assigned uncertainty band (%)	Conservativeness factors for emissions in the base year and/or removals in a year of the commitment period	Conservativeness factor for emissions in a year of the commitment period and/or removals in the base year
Less than or equal to 10	7	0.98	1.02
Greater than 10 and less than or equal to 30	20	0.94	1.06
Greater than 30 and less than or equal to 50	40	0.89	1.12
Greater than 50 and less than or equal to 100	75	0.82	1.21
Greater than 100	150	0.73	1.37

► **Tables of conservativeness factors**

Table 1

Conservativeness factors for adjustments to emission estimates in the base year or recovery estimates in the commitment period (for sources in Annex A to the Kyoto Protocol)

	Emission factors							Activity data	Emission estimates						
	CO2	CH4	N2O	HFCs	PFCs	SF6	NF3		CO2	CH4	N2O	HFCs	PFCs	SF6	NF3
1. Energy															
A. Fuel combustion (sectoral approach)															
1. Energy industries	0.98	0.82	0.73					0.98	0.94	0.82	0.73				
2. Manufacturing industries and construction	0.98	0.82	0.73					0.94	0.94	0.73	0.73				
3.a Domestic aviation and navigation	0.98	0.89	0.82					0.82	0.82	0.73	0.73				
3.b-c Road transport and railways	0.98	0.89	0.82					0.94	0.94	0.89	0.73				
4. Other sectors	0.98	0.82	0.73					0.94	0.94	0.73	0.73				
5. Other	0.98	0.82	0.73					0.82	0.94	0.73	0.73				
Biomass (all fuel combustion sources)		0.82	0.82					0.82		0.73	0.73				
Off-road vehicles	0.98	0.73	0.73					0.89	0.82	0.73	0.73				
Fuel combustion (reference approach)	0.98							0.98	0.98						
B. Fugitive emissions from fuels															
1. Solid fuels	0.73	0.73						0.98	0.73	0.73					
2. Oil and natural gas	0.73	0.73	0.73					0.98	0.73	0.73	0.73				
C. CO ₂ Transport and storage	0.82							0.98	0.73						
2. Industrial processes and product use															
A. Mineral industry	0.94							0.94	0.94						
B. Chemical industry	0.98	0.73	0.89	0.89	0.82	0.82	0.82	0.94	0.94	0.73	0.89	0.89	0.73	0.73	0.73
C. Metal industry	0.98	0.82		0.98	0.82	0.82		0.98	0.94	0.73		0.94	0.82	0.82	
D. Non-energy products from fuels and solvent use	0.89							0.94	0.82						
E. Electronics industry					0.73	0.73	0.73	0.94					0.73	0.73	0.73
F. Product uses as substitutes for ozone depleting substances				0.82	0.82			0.82				0.82	0.82		
G. Other product manufacture and use			0.98		0.89	0.89		0.89			0.94		0.82	0.82	
H. Other															
3. Agriculture															
A. Enteric fermentation		0.89						0.98		0.89					
B. Manure management		0.89	0.82					0.98		0.89	0.82				
C. Rice cultivation		0.89						0.94		0.89					
D. Agricultural soils			0.73					0.82			0.73				
E. Prescribed burning of savannas		0.94	0.94					0.82		0.82	0.82				
F. Field burning of agricultural residues		0.94	0.94					0.82		0.82	0.82				
G. Liming	0.98							0.94	0.94						
H. Urea application	0.89							0.94	0.82						
I. Other															
5. Waste															
A. Solid waste disposal	0.89	0.89						0.82		0.73					
B. Biological treatment of solid waste		0.73	0.73					0.94		0.73	0.73				
C. Incineration and open burning of waste	0.89	0.82	0.89					0.82	0.73	0.73	0.73				
D. Wastewater treatment and discharge		0.89	0.89					0.98		0.82	0.82				
E. Other															

► Table 2

Conservativeness factors for adjustments to emission estimates in the commitment year or recovery estimates in the base year (for sources in Annex A to the Kyoto Protocol)

	Emission factors							Activity data	Emission estimates						
	CO2	CH4	N2O	HFCs	PFCs	SF6	NF3		CO2	CH4	N2O	HFCs	PFCs	SF6	NF3
1. Energy															
A. Fuel combustion (sectoral approach)															
1. Energy industries	1.02	1.21	1.37						1.02	1.06	1.21	1.37			
2. Manufacturing industries and construction	1.02	1.21	1.37						1.06	1.06	1.37	1.37			
3.a Domestic aviation and navigation	1.02	1.12	1.21						1.21	1.21	1.37	1.37			
3.b-c Road transport and railways	1.02	1.12	1.21						1.06	1.06	1.12	1.37			
4. Other sectors	1.02	1.21	1.37						1.06	1.06	1.37	1.37			
5. Other	1.02	1.21	1.37						1.21	1.06	1.37	1.37			
Biomass (all fuel combustion sources)		1.21	1.21						1.21		1.37	1.37			
Off-road vehicles	1.02	1.37	1.37						1.12	1.21	1.37	1.37			
Fuel combustion (reference approach)	1.02								1.02	1.02					
B. Fugitive emissions from fuels															
1. Solid fuels	1.37	1.37							1.02	1.37	1.37				
2. Oil and natural gas	1.37	1.37	1.37						1.02	1.37	1.37	1.37			
C. CO ₂ Transport and storage	1.21								1.02	1.37					
2. Industrial processes and product use															
A. Mineral industry	1.06								1.06	1.06					
B. Chemical industry	1.02	1.37	1.12	1.12	1.21	1.21	1.21		1.06	1.06	1.37	1.12	1.12	1.37	1.37
C. Metal industry	1.02	1.21		1.02	1.21	1.21			1.02	1.06	1.37		1.06	1.21	1.21
D. Non-energy products from fuels and solvent use	1.12								1.06	1.21					
E. Electronics industry					1.37	1.37	1.37		1.06					1.37	1.37
F. Product uses as substitutes for Ozone Depleting Substances				1.21	1.21				1.21				1.21	1.21	
G. Other product manufacture and use			1.02		1.12	1.12			1.12			1.06		1.21	1.21
H. Other															
3. Agriculture															
A. Enteric fermentation		1.12							1.02		1.12				
B. Manure management		1.12	1.21						1.02		1.12	1.21			
C. Rice cultivation		1.12							1.06		1.12				
D. Agricultural soils			1.37						1.21			1.37			
E. Prescribed burning of savannas		1.06	1.06						1.21		1.21	1.21			
F. Field burning of agricultural residues		1.06	1.06						1.21		1.21	1.21			
G. Liming	1.02								1.06	1.06					
H. Urea application	1.12								1.06	1.21					
I. Other															
5. Waste															
A. Solid waste disposal	1.12	1.12							1.21		1.37				
B. Biological treatment of solid waste		1.37	1.37						1.06		1.37	1.37			
C. Incineration and open burning of waste	1.12	1.21	1.12						1.21	1.37	1.37	1.37			
D. Wastewater treatment and discharge		1.12	1.12						1.02		1.21	1.21			
E. Other															

► Table 3

Conservativeness factors for net emissions for adjustments to the land use, land-use change and forestry sector during the review of the report to facilitate the calculation of the assigned amount under Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol^a

	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃
4. Land use, land-use change and forestry															
A.1. Forest land remaining forest land															
Carbon stock change in living biomass	0.89							0.98	0.89						
Carbon stock change in dead wood	0.73							0.98	0.73						
Carbon stock change in litter	0.82							0.98	0.82						
Net carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net carbon stock change in soils: organic soils ^b	0.73							0.94	0.73						
A.2. Land converted to forest land															
Carbon stock change in living biomass	0.89							0.94	0.89						
Carbon stock change in dead wood	0.73							0.94	0.73						
Carbon stock change in litter	0.82							0.94	0.82						
Net carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net carbon stock change in soils: organic soils	0.73							0.94	0.73						
B.1. Cropland land remaining cropland															
Carbon stock change in living biomass	0.82							0.98	0.82						
Carbon stock change in dead organic matter	0.73							0.98	0.73						
Carbon stock change in litter	0.82							0.98	0.82						
Net carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net carbon stock change in soils: organic soils ^b	0.82							0.94	0.82						
B.2. Land converted to crop land															
Carbon stock change in living biomass	0.82							0.94	0.82						
Carbon stock change in dead wood	0.73							0.94	0.73						
Carbon stock change in litter	0.82							0.94	0.82						
Net carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net carbon stock change in soils: organic soils ^b	0.82							0.94	0.82						
C.1. Grassland remaining grassland															
Carbon stock change in living biomass															
(Root-to-shoot ratio)	0.73							0.98	0.73						
(All other parameters)	0.82							0.98	0.82						
Carbon stock change in dead organic matter	0.73							0.98	0.73						
Carbon stock change in litter	0.82							0.98	0.82						
Net carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net carbon stock change in soils: organic soils ^b	0.82							0.94	0.82						
C.2. Land converted to grassland															
Carbon stock change in living biomass															
(Root-to-shoot ratio)	0.73							0.94	0.73						
(All other parameters)	0.82							0.94	0.82						
Carbon stock change in dead organic matter	0.73							0.94	0.73						
Carbon stock change in litter	0.82							0.94	0.82						
Net carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net carbon stock change in soils: organic soils ^b	0.82							0.94	0.82						

	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃
D.1. Wetlands remaining wetlands															
D.1.1 Peat extraction remaining peat extraction															
Carbon stock change in dead organic matter	0.73							0.82	0.73						
Carbon stock change in litter	0.73							0.82	0.73						
Net carbon stock change in soils: mineral soils	0.73		0.89					0.82	0.73	0.73					
Net carbon stock change in soils: organic soils	0.73		0.89					0.82	0.73	0.73					
D.1.2 Flooded land remaining flooded land ^c															
D.2. Land converted to wetlands															
Carbon stock change in living biomass	0.73							0.94	0.73						
Carbon stock change in dead organic matter	0.73							0.94	0.73						
Carbon stock change in litter	0.73							0.94	0.73						
Net carbon stock change in soils: mineral soils	0.73							0.94	0.73						
Net carbon stock change in soils: organic soils	0.73							0.94	0.73						
D.2.1 Lands converted to peat extraction															
Carbon stock change in living biomass	0.73							0.82	0.73						
Carbon stock change in dead organic matter	0.73							0.82	0.73						
Carbon stock change in litter	0.73							0.82	0.73						
Net carbon stock change in soils: mineral soils	0.73		0.89					0.82	0.73	0.73					
Net carbon stock change in soils: organic soils	0.73		0.89					0.82	0.73	0.73					
D.2.2 Land converted to flooded land															
Carbon stock change in living biomass	0.82							0.89	0.82						
Carbon stock change in dead organic matter	NA							0.89							
Carbon stock change in litter	NA							0.89							
Net carbon stock change in soils: mineral soils	NA							0.89							
Net carbon stock change in soils: organic soils	NA							0.89							
E.1. Settlements remaining settlements															
Carbon stock change in living biomass ^d	0.89							0.89	0.82						
Carbon stock change in dead organic matter	0.73							0.98	0.73						
Carbon stock change in litter	0.73							0.98	0.73						
Net carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net carbon stock change in soils: organic soils ^b	0.82							0.98	0.82						
E.2. Land converted to settlements															
Carbon stock change in living biomass ^d	0.89							0.89	0.82						
Carbon stock change in dead organic matter	0.73							0.98	0.73						
Carbon stock change in litter	0.73							0.98	0.73						
Net carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net carbon stock change in soils: organic soils ^b	0.82							0.94	0.82						
F.1. Other land remaining other land ^c															
F.2. Land converted to other land															
Carbon stock change in living biomass	0.89							0.89	0.82						
Carbon stock change in dead organic matter	0.73							0.94	0.73						
Carbon stock change in litter	0.73							0.94	0.73						
Net carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net carbon stock change in soils: organic soils ^b	0.82							0.94	0.82						
Cross-cutting categories															
Direct N ₂ O emissions from N inputs to managed soils			0.73					0.94		0.73					
Emissions and removals from drainage and rewetting and other management of organic and mineral soils															
Drained organic soils ^c	0.73	0.73	0.73					0.94	0.73	0.73	0.73				
Rewetted organic soils	0.73	0.73	NA					0.94	0.73	0.73					
Direct N ₂ O emissions from N mineralization/immobilization associated with loss/gain of soil organic matter			0.73					0.94			0.73				
Indirect N ₂ O emissions from managed soils			0.73					0.94			0.73				
Biomass burning	0.82	0.82	0.82					0.89	0.73	0.73	0.73				
Harvested wood products	0.89							0.89	0.82						

Note: Entries are marked “NA” because Parties are either not required to report this category in the greenhouse gas inventories or are not required to include it in their national totals.

Abbreviations: NA = Not applicable.

^a Net emissions include net decreases in carbon stocks in individual carbon pools.

^b In accordance with the Intergovernmental Panel on Climate Change (IPCC) 2013 *Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* (chapter 2), the uncertainty for drained organic soils is 20%, and conservativeness factors are 0.94. The uncertainty for CO₂ emissions is higher than 150% for drained and rewetted inland organic soils (conservativeness factors of 0.73) as presented in this table under “emissions and removals from drainage and rewetting”.

^c No methodologies are available in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter the 2006 IPCC Guidelines).

^d In accordance with the 2006 IPCC Guidelines, the activity data for this subcategory (living biomass) is not land area but crown area or number of trees depending on the methodology.

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Information on CO₂ is also included here, although emissions/removals may be reported in the land use remaining in the same category and land converted to a new land use category.

Table 4

Conservativeness factors for net removals for adjustments to the land use, land-use change and forestry sector during the review of the report to facilitate the calculation of the assigned amount under Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol^a

	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃
4. Land use, land-use change and forestry															
A.1. Forest land remaining forest land															
Carbon stock change in living biomass	1.12							1.02	1.12						
Carbon stock change in dead wood	1.37							1.02	1.37						
Carbon stock change in litter	1.21							1.02	1.21						
Net carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net carbon stock change in soils: organic soils ^b	1.37							1.06	1.37						
A.2. Land converted to forest land															
Carbon stock change in living biomass	1.12							1.06	1.12						
Carbon stock change in dead wood	1.37							1.06	1.37						
Carbon stock change in litter	1.21							1.06	1.21						
Net carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net carbon stock change in soils: organic soils	1.37							1.06	1.37						
B.1. Cropland land remaining cropland															
Carbon stock change in living biomass	1.21							1.02	1.21						
Carbon stock change in dead organic matter	1.37							1.02	1.37						
Carbon stock change in litter	1.21							1.02	1.21						
Net carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net carbon stock change in soils: organic soils ^b	1.21							1.06	1.21						
B.2. Land converted to crop land															
Carbon stock change in living biomass	1.21							1.06	1.21						
Carbon stock change in dead organic matter	1.37							1.06	1.37						
Carbon stock change in litter	1.21							1.06	1.21						
Net carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net carbon stock change in soils: organic soils ^b	1.21							1.06	1.21						
C.1. Grassland remaining grass land															
Carbon stock change in living biomass															
(Root-to-shoot ratio)	1.37							1.02	1.37						
(All other parameters)	1.21							1.02	1.21						
Carbon stock change in dead organic matter	1.37							1.02	1.37						
Carbon stock change in litter	1.21							1.02	1.21						
Net carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net carbon stock change in soils: organic soils ^b	1.21							1.06	1.21						
C.2. Land converted to grassland															
Carbon stock change in living biomass															
(Root-to-shoot ratio)	1.37							1.06	1.37						
(All other parameters)	1.21							1.06	1.21						
Carbon stock change in dead organic matter	1.37							1.06	1.37						
Carbon stock change in litter	1.21							1.06	1.21						
Net carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net carbon stock change in soils: organic soils ^b	1.21							1.06	1.21						

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	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃
D.1. Wetlands remaining wetlands															
D.1.1 Peat extraction remaining peat extraction															
Carbon stock change (carbon stock change) in dead organic matter	1.37							1.21	1.37						
Carbon stock change in litter	1.37							1.21	1.37						
Net carbon stock change in soils: mineral soils	1.37		1.12					1.21	1.37	1.37					
Net carbon stock change in soils: organic soils	1.37		1.12					1.21	1.37	1.37					
D.1.2 Flooded land remaining flooded land ^e															
D.2. Land converted to wetlands															
Carbon stock change in living biomass	1.37							1.06	1.37						
Carbon stock change in dead organic matter	1.37							1.06	1.37						
Carbon stock change in litter	1.37							1.06	1.37						
Net carbon stock change in soils: mineral soils	1.37							1.06	1.37						
Net carbon stock change in soils: organic soils	1.37							1.06	1.37						
D.2.1 Lands converted to peat extraction															
Carbon stock change in living biomass	1.37							1.21	1.37						
Carbon stock change in dead organic matter	1.37							1.21	1.37						
Carbon stock change in litter	1.37							1.21	1.37						
Net carbon stock change in soils: mineral soils	1.37		1.12					1.21	1.37	1.37					
Net carbon stock change in soils: organic soils	1.37		1.12					1.21	1.37	1.37					
D.2.2 Land converted to flooded land															
Carbon stock change in living biomass	1.21							1.12	1.21						
Carbon stock change in dead organic matter	NA							1.12							
Carbon stock change in litter	NA							1.12							
Net carbon stock change in soils: mineral soils	NA							1.12							
Net carbon stock change in soils: organic soils	NA							1.12							
E.1. Settlements remaining settlements															
Carbon stock change in living biomass ^d	1.12							1.12	1.21						
Carbon stock change in dead organic matter	1.37							1.02	1.37						
Carbon stock change in litter	1.37							1.02	1.37						
Net carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net carbon stock change in soils: organic soils ^b	1.21							1.02	1.21						
E.2. Land converted to settlements															
Carbon stock change in living biomass ^d	1.12							1.12	1.21						
Carbon stock change in dead organic matter	1.37							1.02	1.37						
Carbon stock change in litter	1.37							1.02	1.37						
Net carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net carbon stock change in soils: organic soils ^b	1.21							1.06	1.21						
F.1. Other land remaining other land ^e															
F.2. Land converted to other land															
Carbon stock change in living biomass	1.12							1.12	1.21						
Carbon stock change in dead organic matter	1.37							1.06	1.37						
Carbon stock change in litter	1.37							1.06	1.37						
Net carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net carbon stock change in soils: organic soils ^b	1.21							1.06	1.21						
Cross-cutting categories															
Direct N ₂ O emissions from N inputs to managed soils			1.37					1.06		1.37					
Emissions and removals from drainage and rewetting and other management of organic and mineral soils															
Drained organic soils ^c	1.37	1.37	1.37					1.06	1.37	1.37	1.37				
Rewetted organic soils	1.37	1.37	NA					1.06	1.37	1.37					
Direct N ₂ O emissions from N mineralization/immobilization associated with loss/gain of soil organic matter			1.37					1.06			1.37				
Indirect N ₂ O emissions from managed soils			1.37					1.06			1.37				
Biomass burning	1.21	1.21	1.21					1.12	1.37	1.37	1.37				
Harvested wood products	1.12							1.12	1.21						

Note: Entries are marked “NA” because Parties are either not required to report this category in the greenhouse gas inventories or are not required to include it in their national totals.

Abbreviations: NA = Not applicable.

^a Net removals include net decreases in carbon stocks in individual carbon pools.

^b In accordance with the Intergovernmental Panel on Climate Change (IPCC) 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (chapter 2), the uncertainty for drained organic soils is 20%, and conservativeness factors are 1.06. The uncertainty for CO₂ emissions is higher than 150% for drained and rewetted inland organic soils (conservativeness factors of 1.37) as presented in this table under “emissions and removals from drainage and rewetting”

^c No methodologies are available in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter the 2006 IPCC Guidelines).

^d In accordance with the 2006 IPCC Guidelines, the activity data for this subcategory (living biomass) is not land area, but crown area or number of trees depending on the methodology.

Information on CO₂ is also included here, although emissions/removals may be reported in the land use remaining in the same category and land converted to a new land use category.

► Table 5

Conservativeness factors for adjustments to land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol: Conservativeness factors for removals^a in a year of the commitment period/emissions^a in the base year^b

	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃
Afforestation and reforestation (total)															
Carbon stock change in above-ground biomass	0.89							0.94	0.89						
Carbon stock change in below-ground biomass	0.89							0.94	0.89						
Carbon stock change in litter	0.82							0.94	0.82						
Carbon stock change in dead wood	0.73							0.94	0.73						
Net carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net carbon stock change in soils: organic soils ^c	0.73							0.94	0.73						
Harvest wood products	0.89							0.82	0.73						
(Land subject to natural disturbances) ^d															
Carbon stock change in above-ground biomass	0.89							0.94	0.89						
Carbon stock change in below-ground biomass	0.89							0.94	0.89						
Carbon stock change in litter	0.82							0.94	0.82						
Carbon stock change in dead wood	0.73							0.94	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net Carbon stock change in soils: organic soils ^c	0.73							0.94	0.73						
Harvest wood products	0.89							0.82	0.73						
Deforestation (total) ^e															
Carbon stock change in above-ground biomass ^f	0.73							0.94	0.73						
Carbon stock change in below-ground biomass	0.82							0.94	0.82						
Carbon stock change in litter	0.73							0.94	0.73						
Carbon stock change in dead wood	0.73							0.94	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net Carbon stock change in soils: organic soils ^c	0.82							0.94	0.82						
Harvest wood products	0.89							0.82	0.73						
Forest management (total) ^g															
Carbon stock change in above-ground biomass	0.89							0.98	0.89						
Carbon stock change in below-ground biomass	0.89							0.98	0.89						
Carbon stock change in litter	0.82							0.98	0.82						
Carbon stock change in dead wood	0.73							0.98	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net Carbon stock change in soils: organic soils ^c	0.73							0.94	0.73						
Harvest wood products	0.89							0.82	0.73						
(Newly established forest (CEF-ne)) ^g															
Carbon stock change in above-ground biomass	0.89							0.94	0.89						
Carbon stock change in below-ground biomass	0.89							0.94	0.89						
Carbon stock change in litter	0.82							0.94	0.82						
Carbon stock change in dead wood	0.73							0.94	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net Carbon stock change in soils: organic soils ^c	0.73							0.94	0.73						
Carbon stock at harvesting ^h															
Harvest wood products	0.89							0.82	0.73						
(Harvested and converted forest plantations (CEF-hc)) ⁱ															
Carbon stock change in above-ground biomass	0.73							0.94	0.73						
Carbon stock change in below-ground biomass	0.82							0.94	0.82						
Carbon stock change in litter	0.73							0.94	0.82						
Carbon stock change in dead wood	0.73							0.94	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net Carbon stock change in soils: organic soils ^c	0.82							0.94	0.82						
Harvest wood products	0.89							0.82	0.73						

	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃
Forest management (Land subject to natural disturbances) ³¹	0.73														
Carbon stock change in above-ground biomass	0.82							0.94	0.82						
Carbon stock change in below-ground biomass	0.73							0.94	0.73						
Carbon stock change in litter	0.73							0.94	0.73						
Carbon stock change in dead wood	0.82							0.94	0.82						
Net Carbon stock change in soils: mineral soils	0.82							0.94	0.82						
Net Carbon stock change in soils: organic soils ^c	0.89							0.94	0.82						
Harvest wood products	0.89							0.82	0.73						
Technical correction ^l															
Cropland management ^k															
Carbon stock change in above-ground biomass	0.82							0.98	0.82						
Carbon stock change in below-ground biomass	0.82							0.98	0.82						
Carbon stock change in litter	0.82							0.98	0.82						
Carbon stock change in dead wood	0.73							0.98	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net Carbon stock change in soils: organic soils ^c	0.82							0.94	0.82						
Grazingland management ^k															
Carbon stock change in above-ground biomass	0.82							0.98	0.82						
Carbon stock change in below-ground biomass	0.73							0.98	0.73						
Carbon stock change in litter	0.82							0.98	0.82						
Carbon stock change in dead wood	0.73							0.98	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net Carbon stock change in soils: organic soils ^c	0.82							0.94	0.82						
Revegetation ^k															
Carbon stock change in above-ground biomass	0.82							0.98	0.82						
Carbon stock change in below-ground biomass	0.73							0.98	0.73						
Carbon stock change in litter	0.73							0.98	0.73						
Carbon stock change in dead wood	0.73							0.98	0.73						
Net Carbon stock change in soils: mineral soils	0.82							0.98	0.82						
Net Carbon stock change in soils: organic soils ^c	0.82							0.94	0.82						
Wetland drainage and rewetting ^k															
Carbon stock change in above-ground biomass	0.73							0.94	0.73						
Carbon stock change in below-ground biomass	0.73							0.94	0.73						
Carbon stock change in litter	0.73							0.94	0.73						
Carbon stock change in dead wood	0.73							0.94	0.73						
Net Carbon stock change in soils: mineral soils	0.73	0.73	0.73					0.94	0.73	0.73	0.73				
Net Carbon stock change in soils: organic soils ^c	0.73	0.73	NA					0.94	0.73	0.73					
Harvest wood products															
From afforestation/reforestation	0.89							0.82	0.73						
From deforestation	0.89							0.82	0.73						
From forest management	0.89							0.82	0.73						
Cross-cutting categories															
Direct and indirect N ₂ O emissions from N fertilization			0.73					0.94		0.73					
CH ₄ and N ₂ O emissions from drained and rewetted organic soils ^l															
Drained organic soils ^l	0.73	0.73	0.73					0.94	0.73	0.73	0.73				
Rewetted organic soils ^l	0.73	0.73	NA					0.94	0.73	0.73					
N ₂ O emissions from N mineralization/immobilization due to carbon loss/gain associated with land-use conversions and management change in mineral soils			0.73					0.94			0.73				
Greenhouse gas emissions from biomass burning (CO ₂ , CH ₄ , N ₂ O)	0.82	0.82	0.82					0.89	0.73	0.73	0.73				

Note: Entries are marked “NA” because Parties are either not required to report this category in the greenhouse gas inventories or are not required to include it in their national totals.

Abbreviations: NA = Not applicable.

^a Net emissions and removals include net increases and net decreases in carbon stocks in individual carbon pools (in a year during the commitment period and in the base year, respectively).

^b For the base year, conservativeness factors given in this table apply to cropland management, grazing land management, wetland drainage and rewetting and revegetation under Article 3, paragraph 4, of the Kyoto Protocol.

^c In accordance with the Intergovernmental Panel on Climate Change (IPCC) 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (chapter 2), the uncertainty for drained organic soils is 20%, and conservativeness factors are 0.94/1.06. The uncertainty for CO₂ emissions is higher than 150% for drained and rewetted inland organic soils (conservativeness factors of 0.73/1.37) as presented in this table under “emissions and removals from drainage and rewetting”.

^d In cases where adjustments are calculated for other variables related to this category in common reporting format (CRF) table 4(KP-IA.1.1), the conservativeness factor for the specific pool should be applied. This applies, in particular, to the areas subject to natural disturbances in the year that it was first reported: background levels, margins,

the emissions in the inventory that can be excluded and subsequent removals in the inventory year. For salvage logging, the conservativeness factors for harvest wood products should apply.

^e In cases where adjustments are calculated for other variables related to this category in CRF table 4(KP-1)A.2, the conservativeness factor for the specific pool should be applied. This applies, in particular, to the areas subject to natural disturbances in the year that it was first reported: background levels, margins, the emissions in the inventory that can be excluded, and subsequent removals in inventory year. For salvage logging, the conservativeness factors for harvest wood products should apply.

^f The same conservativeness factors apply for deforested land previously reported under afforestation/reforestation and forest management and subject to natural disturbances.

^g In cases where adjustments are calculated for other variables related to this category in CRF tables 4(KP-1)B.1, 4(KP-1)B.1.1 and 4(KP-1)B.1.2, the conservativeness factor for the specific pool should be applied.

^h For all these cases, assume the uncertainties for the specific pool that are being adjusted.

ⁱ The conservativeness factors for deforestation were assumed for this activity.

^j In cases where adjustments are calculated for the technical correction, the conservativeness factor for the specific pool should be applied.

^k The uncertainty for activity data for the base year is 50%, and the conservativeness factors are 0.89/1.12.

^l Information on CO₂ is also included here, although emissions/removals may be reported in the land use remaining in the same category and land converted to a new land-use category.

► Table 6

Conservativeness factors for adjustments to land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol: Conservativeness factors for removals^a in a year during the commitment period/emissions^a in the base year^b

	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SE ₆	NF ₃
Afforestation and reforestation (total)															
Carbon stock change in above-ground biomass	1.12							1.06	1.12						
Carbon stock change in below-ground biomass	1.12							1.06	1.12						
Carbon stock change in litter	1.21							1.06	1.21						
Carbon stock change in dead wood	1.37							1.06	1.37						
Net carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net carbon stock change in soils: organic soils ^c	1.37							1.06	1.37						
Harvest wood products	1.12							1.21	1.37						
(Land subject to natural disturbances) ^d															
Carbon stock change in above-ground biomass	1.12							1.06	1.12						
Carbon stock change in below-ground biomass	1.12							1.06	1.12						
Carbon stock change in litter	1.21							1.06	1.21						
Carbon stock change in dead wood	1.37							1.06	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net Carbon stock change in soils: organic soils ^c	1.37							1.06	1.37						
Harvest wood products	1.12							1.21	1.37						
Deforestation (total) ^e															
Carbon stock change in above-ground biomass ^f	1.37							1.06	1.37						
Carbon stock change in below-ground biomass	1.21							1.06	1.21						
Carbon stock change in litter	1.37							1.06	1.37						
Carbon stock change in dead wood	1.37							1.06	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net Carbon stock change in soils: organic soils ^c	1.21							1.06	1.21						
Harvest wood products	1.12							1.21	1.37						
Forest management (total) ^g															
Carbon stock change in above-ground biomass	1.12							1.02	1.12						
Carbon stock change in below-ground biomass	1.12							1.02	1.12						
Carbon stock change in litter	1.21							1.02	1.21						
Carbon stock change in dead wood	1.37							1.02	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net Carbon stock change in soils: organic soils ^c	1.37							1.06	1.37						
Harvest wood products	1.12							1.21	1.37						
(Newly established forest (CEF-ne)) ^g															
Carbon stock change in above-ground biomass	1.12							1.06	1.12						
Carbon stock change in below-ground biomass	1.12							1.06	1.12						
Carbon stock change in litter	1.21							1.06	1.21						
Carbon stock change in dead wood	1.37							1.06	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net Carbon stock change in soils: organic soils ^c	1.37							1.06	1.37						
Carbon stock at harvesting ^h															
Harvest wood products	1.12							1.21	1.37						
(Harvested and converted forest plantations (CEF-hc)) ⁱ															
Carbon stock change in above-ground biomass	1.37							1.06	1.37						
Carbon stock change in below-ground biomass	1.21							1.06	1.21						
Carbon stock change in litter	1.37							1.06	1.21						
Carbon stock change in dead wood	1.37							1.06	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net Carbon stock change in soils: organic soils ^c	1.21							1.06	1.21						
Harvest wood products	1.12							1.21	1.37						

Decision 20/CMP.1

	Emission factors							Activity data	Emission estimates						
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃		CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃
Forest management (Land subject to natural disturbances) ^{3a}	1.37														
Carbon stock change in above-ground biomass	1.21							1.06	1.21						
Carbon stock change in below-ground biomass	1.37							1.06	1.37						
Carbon stock change in litter	1.37							1.06	1.37						
Carbon stock change in dead wood	1.21							1.06	1.21						
Net Carbon stock change in soils: mineral soils	1.21							1.06	1.21						
Net Carbon stock change in soils: organic soils ^c	1.12							1.06	1.21						
Harvest wood products	1.12							1.21	1.37						
Technical correction ^l															
Cropland management ^k															
Carbon stock change in above-ground biomass	1.21							1.02	1.21						
Carbon stock change in below-ground biomass	1.21							1.02	1.21						
Carbon stock change in litter	1.21							1.02	1.21						
Carbon stock change in dead wood	1.37							1.02	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net Carbon stock change in soils: organic soils ^c	1.21							1.06	1.21						
Grazingland management ^k															
Carbon stock change in above-ground biomass	1.21							1.02	1.21						
Carbon stock change in below-ground biomass	1.37							1.02	1.37						
Carbon stock change in litter	1.21							1.02	1.21						
Carbon stock change in dead wood	1.37							1.02	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net Carbon stock change in soils: organic soils ^c	1.21							1.06	1.21						
Revegetation ^k															
Carbon stock change in above-ground biomass	1.21							1.02	1.21						
Carbon stock change in below-ground biomass	1.37							1.02	1.37						
Carbon stock change in litter	1.37							1.02	1.37						
Carbon stock change in dead wood	1.37							1.02	1.37						
Net Carbon stock change in soils: mineral soils	1.21							1.02	1.21						
Net Carbon stock change in soils: organic soils ^c	1.21							1.06	1.21						
Wetland drainage and rewetting ^h															
Carbon stock change in above-ground biomass	1.37							1.06	1.37						
Carbon stock change in below-ground biomass	1.37							1.06	1.37						
Carbon stock change in litter	1.37							1.06	1.37						
Carbon stock change in dead wood	1.37							1.06	1.37						
Net Carbon stock change in soils: mineral soils	1.37	1.37	1.37					1.06	1.37	1.37	1.37				
Net Carbon stock change in soils: organic soils ^c	1.37	1.37	NA					1.06	1.37	1.37					
Harvest wood products															
From afforestation/reforestation	1.12							1.21	1.37						
From deforestation	1.12							1.21	1.37						
From forest management	1.12							1.21	1.37						
Cross-cutting categories															
Direct and indirect N ₂ O emissions from N fertilization			1.37					1.06		1.37					
CH ₄ and N ₂ O emissions from drained and rewetted organic soils ^l															
Drained organic soils ^l	1.37	1.37	1.37					1.06	1.37	1.37	1.37				
Rewetted organic soils ^l	1.37	1.37	NA					1.06	1.37	1.37					
N ₂ O emissions from N mineralization/immobilization due to carbon loss/gain associated with land-use conversions and management change in mineral soils			1.37					1.06		1.37					
Greenhouse gas emissions from biomass burning (CO ₂ , CH ₄ , N ₂ O)	1.21	1.21	1.21					1.12	1.37	1.37	1.37				

Note: Entries are marked "NA" because Parties are either not required to report this category in the greenhouse gas inventories or are not required to include it in their national totals.

Abbreviations: NA = Not applicable.

^a Net missions and removals include net increases and net decreases in carbon stocks in individual carbon pools (in a year during the commitment period and in the base year, respectively).

^b For the base year, conservativeness factors given in this table apply to cropland management, grazing land management, wetland drainage and rewetting, and revegetation under Article 3, paragraph 4, of the Kyoto Protocol.

^c In cases where adjustments are calculated for other variables related to this category in common reporting format (CRF) table 4(KP-I)A.1.1, the conservativeness factor for the specific pool should be applied. This applies, in particular, to the areas subject to natural disturbances in the year that it was first reported: background levels, margins, the emissions in the inventory that can be excluded and subsequent removals in the inventory year. For salvage logging the conservativeness factors for harvest wood products should apply.

^d The same conservativeness factors apply for deforested land previously reported under afforestation/reforestation and forest management and subject to natural disturbances.

^e In case where adjustments are calculated for other variables related to this category in CRF table 4(KP-I)A.2, the conservativeness factor for the specific pool should be applied. This applies, in particular, to the areas subject to natural

disturbances in the year that it was first reported: background levels, margins, the emissions in the inventory that can be excluded, and subsequent removals in the inventory year. For salvage logging the conservativeness factors for harvest wood products should apply.

^f In accordance with the Intergovernmental Panel on Climate Change (IPCC) 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (chapter 2), the uncertainty for drained organic soils is 20%, and conservativeness factors are 0.94/1.06. The uncertainty for CO₂ emissions is higher than 150% for drained and rewetted inland organic soils (conservativeness factors of 0.73/1.37) as presented in this table under “emissions and removals from drainage and rewetting”.

^g In cases where adjustments are calculated for other variables related to this category in CRF table 4(KP-D)B.1, the conservativeness factor for the specific pool should be applied.

^h For all these cases, assume the uncertainties for the specific pool that are being adjusted.

ⁱ The conservativeness factors for deforestation were assumed for this activity. In cases where adjustments are calculated for other variables related to this category in CRF table 4(KP-D)B.1, the conservativeness factor for the specific pool should be applied.

^j In case that adjustments are calculated for the technical correction, the conservativeness factor for the specific pool should be applied.

^k The uncertainty for activity data for the base year is 50%, and the conservativeness factors are 0.89/1.12.

Information on CO₂ is also included here, although emissions/removals may be reported in the land use remaining in the same category and land converted to a new land-use category..

Decision 21/CMP.1

Issues relating to adjustments under Article 5, paragraph 2, of the Kyoto Protocol

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Having considered decisions 21/CP.7, 23/CP.7, 20/CP.9 and 15/CP.11,

1. *Requests* that lead reviewers, as defined in paragraphs 36–42 of the guidelines for review under Article 8 of the Kyoto Protocol (decision 23/CP.7), collectively consider and make recommendations on:
 - (a) Means to improve the consistent application, by expert review teams, of the technical guidance on methodologies for adjustments under Article 5, paragraph 2, of the Kyoto Protocol, especially the approaches to ensure conservativeness of adjusted estimates;
 - (b) The development and regular update of the information in the inventory review resources listed in appendix I to the technical guidance;
 - (c) Means to ensure a common approach in applying the provisions of paragraph 57 of the technical guidance and to limit the flexibility given to the expert review teams in this regard, if considered necessary;
 - (d) Updating, as appropriate, before the beginning of reporting for the commitment period and thereafter, whenever necessary, the tables of conservativeness factors included in appendix III to the technical guidance, including the underlying construction and structure of the uncertainty bands of those tables;
2. *Requests* the secretariat to include any recommendations from the collective consideration of the lead reviewers in their annual report, referred to in paragraph 40 of the guidelines for review under Article 8 of the Kyoto Protocol, to the Subsidiary Body for Scientific and Technological Advice for its consideration;
3. *Requests* the Subsidiary Body for Scientific and Technological Advice, following the consideration of the report referred to in paragraph 2 above, to take any appropriate action pursuant to the recommendations from lead reviewers referred to in paragraph 1 (c) and (d) above;
4. *Requests* the secretariat, following the collective recommendation of lead reviewers, to regularly update the information in the inventory review resources listed in appendix I to the technical guidance;
5. *Requests* the secretariat to archive information on adjustments contained in review reports and other relevant information, and make it available and easily accessible for expert review teams;
6. *Decides* that with respect to any adjustments applied retroactively in accordance with paragraph 12 of the technical guidance, only the adjustment applied for the inventory year under review shall be relevant for the eligibility requirement laid out in paragraph 3 (e) of decision 15/CMP.1.

Decision 22/CMP.1 in conjunction with 4/CMP.11 Guidelines for review under Article 8 of the Kyoto Protocol

Note:

Decision 4/CMP.1, paragraph 2: for the purpose of the second commitment period, decision 22/CMP.1 shall apply mutatis mutandis, except where otherwise specified in decisions 1/CMP.8 and 2/CMP.8 and in this decision;

Decision 4/CMP.1, paragraph 3: for the purpose of the second commitment period, the following changes shall apply to decision and 22/CMP.1:

(a) All references to Article 3, paragraphs 7 and 8, shall be read as references to Article 3, paragraphs 7 bis, 8 and 8 bis;

(b) All references to previous IPCC Guidelines or good practice guidance shall be read as references to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, except references in paragraph 1 of decision 20/CMP.1;

(d) All references to “source categories” shall be read as references to “categories”;

(e) All references to “initial review” shall be read as references to “review of the report to facilitate the calculation of the assigned amount”; except that in paragraph 125 of the annex to decision 22/CMP.1;

(g) All references to decision 13/CMP.1 shall be read as references to decision 13/CMP.1 in conjunction with decision 3/CMP.11, except those in paragraphs 2 and 5 of decision 22/CMP.1 and paragraphs 85(a) and (c), 86(a) and (c), 87(a), 89(a) and 92 of the annex to decision 22/CMP.1;

(h) All references to paragraphs 6, 7 and 8 of the annex to decision 13/CMP.1 shall be read as references to paragraph 2 of and annex I to decision 2/CMP.8, except those in paragraphs 2 and 5 of decision 22/CMP.1;

(q) For the purpose of the second commitment period, all references to decision 15/CMP.1 in part III of the annex to decision 22/CMP.1 shall be read as references to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11;

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 8 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change,

Having considered decision 23/CP.7, adopted by the Conference of the Parties at its seventh session,

Recognizing the importance of the review process under Article 8 for the implementation of other provisions of the Kyoto Protocol,

1. *Adopts* the guidelines for review under Article 8 of the Kyoto Protocol as contained in the annex to the present decision;
2. *Decides* that for each Party included in Annex I the review prior to the first commitment period shall be initiated upon receipt of the report as mentioned in paragraph 6 of the annex to decision 13/CMP.1. The review prior to the commitment period for each

Party, including the procedures for adjustments under Article 5, paragraph 2, between the expert review team and the Party, shall be completed within 12 months of the initiation of the review and a report shall be forwarded expeditiously to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol and the Compliance Committee. Further expertise and resources shall be provided to ensure the quality of the review in the case where review has to take place for several Parties at the same time;

3. *Decides* to start the periodic review for each Party included in Annex I when it submits its first national communication under the Kyoto Protocol;
4. *Decides* to start the annual review for each Party included in Annex I in the year that the Party commences reporting under Article 7, paragraph 1;
5. *Decides* to start the annual review in the year following the submission of the report referred to in paragraph 6 of the annex to decision 13/CMP.1 for those Parties included in Annex I that started reporting information under Article 7, paragraph 1, on a voluntary basis earlier than required under Article 7, paragraph 3;
6. *Invites* Parties that opt to submit information for review before January 2007 to notify the secretariat at their earliest convenience in order to facilitate the timely establishment of the expert review teams.

ANNEX**Guidelines for review under Article 8 of the Kyoto Protocol¹****Part I: General approach to review****A. Applicability**

1. Each Party included in Annex I to the Convention which is also a Party to the Kyoto Protocol will be subject to review of information submitted under Article 7 in accordance with the provisions of these guidelines. For these Parties, the review process established under these guidelines shall encompass any existing review under the Convention.

B. Objectives

2. The objectives for review under Article 8 of the Kyoto Protocol are:
- (a) To establish a process for a thorough, objective and comprehensive technical assessment of all aspects of the implementation of the Kyoto Protocol by Parties included in Annex I;
 - (b) To promote consistency and transparency in the review of information submitted by Parties included in Annex I under Article 7 of the Kyoto Protocol;
 - (c) To assist Parties included in Annex I in improving their reporting of information under Article 7 and the implementation of their commitments under the Kyoto Protocol;
 - (d) To provide the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP), and the Compliance Committee, with a technical assessment of the implementation of the Kyoto Protocol by Parties included in Annex I.

C. General approach

3. The provisions of these guidelines shall apply to the review of information submitted by Parties included in Annex I under Article 7, relevant decisions of the COP/MOP and relevant decisions of the Conference of the Parties (COP) specific to Parties included in Annex I.

4. The expert review team shall provide a thorough and comprehensive technical assessment of all aspects of the implementation by a Party of the Kyoto Protocol and identify any potential problems in, and factors influencing, the fulfilment of commitments. The expert review team shall conduct technical reviews to provide information expeditiously to the COP/MOP and the Compliance Committee in accordance with the procedures in these guidelines.

5. At any stage in the review process, expert review teams may put questions to, or request additional or clarifying information from, the Parties included in Annex I regarding a potential problem identified by the team. The expert review team should offer advice to Parties included in Annex I on how to correct problems that they identify, taking into account the national circumstances of the Party. The expert review team shall also provide technical advice to the COP/MOP or the Compliance Committee, upon request.

6. Parties included in Annex I should provide the expert review team with access to information necessary to substantiate and clarify the implementation of their commitments under the Kyoto Protocol, in accordance with relevant guidelines adopted by the COP and/or the COP/MOP and, during the in-country visits, should also provide appropriate working facilities. Parties included in Annex I should make every reasonable effort to respond to all questions and requests from the expert review team for additional clarifying information relating to identified problems and correct such problems within the time limits set out in these guidelines.

¹ “Article” in these guidelines refers to an Article of the Kyoto Protocol or an Article in the Doha Amendment to the Kyoto Protocol (annex I to decision 1/CMP.8), unless otherwise specified.

1. Questions of implementation

7. If the expert review team identifies potential problems during the review, it shall put questions to the Party included in Annex I regarding these potential problems and offer advice to the Party on how to correct them. The Party may correct the problems or provide additional information within the time frame set out in these guidelines. Subsequently, a draft of each review report shall be forwarded to the Party subject to review for comment.

8. Only if an unresolved problem pertaining to language of a mandatory nature in these guidelines influencing the fulfilment of commitments still exists after the Party included in Annex I has been provided with opportunities to correct the problem within the time frames established under the relevant review procedures, shall that problem be listed as a question of implementation in the final review reports. An unresolved problem pertaining to language of a non-mandatory nature in these guidelines shall be noted in the final review report, but shall not be listed as a question of implementation.

2. Confidentiality

9. Pursuant to a request from the expert review team for additional data or information or access to data used in the preparation of the inventory, a Party included in Annex I may indicate whether such information and data are confidential. In such a case, the Party should provide the basis for protecting such information, including any domestic law, and upon receipt of assurance that the data will be maintained as confidential by the expert review team, shall submit the confidential data in accordance with domestic law and in a manner that allows the expert review team access to sufficient information and data for the assessment of conformity with the Intergovernmental Panel on Climate Change (IPCC) 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories" (hereinafter referred to as the UNFCCC reporting guidelines) and the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (hereinafter referred to as the Wetlands Supplement), as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 and any good practice guidance adopted by the COP/MOP. Any confidential information and data submitted by a Party in accordance with this paragraph shall be maintained as confidential by the expert review team, in accordance with any decisions on this matter adopted by the COP/MOP.

10. An expert review team member's obligation not to disclose confidential information shall continue after termination of his or her service on the expert review team.

D. Timing and procedures

1. Review of the report to facilitate the calculation of the assigned amount

11. Each Party included in Annex I with a commitment inscribed in the third column of the table contained in Annex B in the Doha Amendment shall be subject to a review of the report to facilitate the calculation of its assigned amount pursuant to paragraph 2 of decision 2/CMP.8 for the second commitment period together with the inventory submission for the first year of the second commitment period.

12. The expert review team shall review the following information contained or referenced in the report to facilitate the calculation of assigned amount referred to in paragraph 2 of decision 2/CMP.8:

(a) The calculation of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, in accordance with paragraph 2 of annex I to decision 3/CMP.11, and the calculation of the commitment period reserve, for conformity with the modalities for the accounting of assigned amounts under Article 7, paragraph 4, in accordance with the procedures contained in part III of these guidelines.³⁸

► (b) The information provided in accordance with paragraphs 1(f) to 1(k) in annex I to decision 2/CMP.8 related to the accounting of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol:

► (c) With regard to Parties included in Annex I with a commitment inscribed in the third column of the table contained in Annex B in the Doha Amendment which did not have a quantified emission limitation and reduction target in the first commitment period:

- i. The national system pursuant to Article 5, paragraph 1, in accordance with the procedures contained in part IV of these guidelines;
- ii. The national registry pursuant to Article 7, paragraph 4, in accordance with the procedures contained in part V of these guidelines;

► (d) This review shall replace the review of the same elements in the annual inventory review conducted in conjunction with this review. For Parties that have reached an agreement to fulfil their commitments under Article 3 jointly, in accordance with Article 4, the completeness of information referred to in paragraph 11 of decision 3/CMP.11.

13. The first national communication due under the Convention after the Kyoto Protocol has entered into force for that Party will be reviewed prior to the first commitment period in accordance with the provisions of paragraph 19 below.²

► 14. For Parties included in Annex I with a commitment inscribed in the third column of the table contained in Annex B in the Doha Amendment which did not have a quantified emission limitation and reduction target in the first commitment period, the review of the report to facilitate the calculation of the assigned amount for the second commitment period shall be conducted as an in-country visit. For other Parties included in Annex I the review shall be conducted either as a centralized review or as an in-country visit, giving priority to in-country visits for those Parties that have not been reviewed in such a way in recent years.

2. Annual review

15. Each Party included in Annex I shall be subject to an annual review of:

- (a) The annual inventory, including the national inventory report and the common reporting format (CRF), for conformity with Article 5, paragraph 2, in accordance with the procedures contained in part II of these guidelines
- (b) The following supplementary information, in accordance with the guidelines for the preparation of the information required under Article 7, section I:
 - (i) Information provided during the commitment period for land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, for conformity with the requirements of relevant decisions of the COP/MOP, in accordance with the procedures contained in part II of these guidelines
 - (ii) Information on assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, emission reduction units, certified emission reductions, assigned amount units and removal units, in accordance with the procedures contained in part III of these guidelines
 - (iii) Information provided on national systems or changes thereof in accordance with the procedures contained in part IV of these guidelines;

³⁸ References to “these guidelines” hereinafter shall be understood as referring to the guidelines contained in the annex to decision 22/CMP.1, as amended by the current decision.

² This will be the case if this national communication is submitted prior to the first commitment period.

(iv) Information provided on national registries or changes thereof in accordance with the procedures contained in part V of these guidelines.

► (iv) bis When a Party included in Annex I without a quantified emission limitation and reduction commitment for the second commitment period reports information on its national registry in accordance with decision 15/CMP.1, that information shall be reviewed

(v) Information provided on matters relating to Article 3, paragraph 14, and supplementary information in accordance with the procedures contained in part VI of these guidelines.

16. The annual review, including adjustment procedures as part of the review of the annual or base year inventory, shall be concluded within one year of the due date for submission of the information to be reported under Article 7, paragraph 1.

17.

Note: decision 4/CMP.11, annex I, paragraph 7, indicates that this paragraph does not apply for the second commitment period.

18. The elements described in paragraph 15 above shall be reviewed together for each Party included in Annex I by a single expert review team.

3. Periodic review

19. Each national communication submitted under the Kyoto Protocol by a Party included in Annex I shall be subject to a scheduled in-country review in accordance with part VII of these guidelines.³

E. Expert review teams and institutional arrangements

1. Expert review teams

20. Each submission under Article 7 shall be assigned to a single expert review team that shall be responsible for performing the review in accordance with the procedures and time frames established in these guidelines. A submission by a Party included in Annex I shall not be reviewed in two successive review years by expert review teams with identical composition.

21. Each expert review team shall provide a thorough and comprehensive technical assessment of information submitted under Article 7 and shall, under its collective responsibility, prepare a review report, assessing the implementation of the commitments of the Party included in Annex I and identifying any potential problems in, and factors influencing, the fulfilment of commitments. The expert review teams shall refrain from making any political judgement. If needed, the expert review teams shall calculate adjustments in accordance with any guidance under Article 5, paragraph 2, adopted by the COP/MOP, in consultation with the Party concerned.

22. Expert review teams shall be coordinated by the secretariat and shall be composed of experts selected on an ad hoc basis from the UNFCCC roster of experts and will include lead reviewers. Expert review teams formed for the tasks carried out under the provisions of these guidelines may vary in size and composition, taking into account the national circumstances of the Party under review and the different expertise needs of each review task.

³ It is likely that the fourth national communication will be the first national communication under the Kyoto Protocol and that such review will occur prior to the first commitment period: Article 7, paragraph 3, states that each Party included in Annex I shall submit the information required under Article 7, paragraph 2, as part of the first national communication due under the Convention after the Protocol has entered into force for it and after adoption of guidelines for the preparation of information under Article 7. This Article also states that the COP/MOP shall determine the frequency of submission of national communications, taking into account any timetable for submission of national communications decided upon by the COP. Decision 11/CP.4 requests Parties included in Annex I to submit a third national communication by 30 November 2001 and subsequent national communications on a regular basis, at intervals of three to five years, to be decided at a future session, and requires that each of those national communications should be subject to an in-depth review coordinated by the secretariat.

23. Participating experts shall serve in their personal capacity.
24. Participating experts shall have recognized competence in the areas to be reviewed according to these guidelines. The training to be provided to experts, and the subsequent assessment after the completion of the training⁴ and/or any other means needed to ensure the necessary competence of experts for participation in expert review teams shall be designed and operationalized in accordance with relevant decisions of the COP and the COP/MOP.
25. Experts selected for a specific review activity shall neither be nationals of the Party under review, nor be nominated or funded by that Party.
26. Experts shall be nominated by Parties to the Convention to the roster of experts and, as appropriate, by intergovernmental organizations, in accordance with guidance provided for this purpose by the COP.
27. Participating experts from Parties not included in Annex I and Parties included in Annex I with economies in transition shall be funded according to the existing procedures for participation in UNFCCC activities. Experts from other Parties included in Annex I shall be funded by their governments.
28. In the conduct of the review, expert review teams shall adhere to these guidelines and work on the basis of established and published procedures agreed upon by the Subsidiary Body for Scientific and Technological Advice (SBSTA), including quality assurance and control and confidentiality provisions.

2. Competences

29. Competences required of members of the expert review teams for the review of annual information submitted under Article 7, paragraph 1, are:
- (a) Greenhouse gas inventories in general and/or specific sectors (energy, industrial processes and products use, agriculture, land use, land-use change and forestry, and waste);
 - (b) National systems, national registries, information on assigned amounts and information related to Article 3, paragraph 14.
30. Competences required of members of the expert review teams for the review of national communications and the supplementary information under Article 7, paragraph 2, are in those areas referred to in paragraph 135 (b) and (c) of these guidelines.

3. Composition of the expert review teams

31. The secretariat shall select the members of the review teams to review the annual information submitted under Article 7, paragraph 1, and to review national communications and the supplementary information under Article 7, paragraph 2, in a way that the collective skills of the team address the areas mentioned in paragraphs 29 and 30 above, respectively.
32. The secretariat shall select the members of the expert review teams with a view to achieving a balance between experts from Annex I and non-Annex I Parties in the overall composition of the expert review teams, without compromising the selection criteria referred to in paragraph 31 above. The secretariat shall make every effort to ensure geographical balance among those experts selected from non-Annex I Parties and among those experts selected from Annex I Parties.
33. The secretariat shall ensure that in any expert review team one co-lead reviewer shall be from a Party included in Annex I and one from a Party not included in Annex I.
34. Without compromising the selection criteria stated in paragraphs 31, 32 and 33 above, the formation of expert review teams should ensure, to the extent possible, that at least one member is fluent in the language of the Party under review.

⁴ Those experts that opt not to participate in the training have to undergo a similar assessment successfully in order to enable them to qualify for participation in expert review teams.

35. The secretariat shall prepare an annual report to the SBSTA on the composition, including the selection of experts for the review teams and the lead reviewers, and the actions taken to ensure the application of the selection criteria stated in paragraphs 31 and 32 above.

4. Lead reviewers

36. Lead reviewers shall act as co-lead reviewers for the expert review teams under these guidelines.

37. Lead reviewers should ensure that the reviews in which they participate are performed according to the review guidelines and are performed consistently across Parties by each expert review team. They also should ensure the quality and the objectivity of the thorough and comprehensive technical assessments in the reviews and to provide for continuity, comparability and timeliness of the review.

38. Lead reviewers may be offered additional training to that referred to in paragraph 24 above to enhance their skills.

39. With the administrative support of the secretariat, lead reviewers shall, for each review activity:

- (a) Prepare a brief work plan for the review activity;
- (b) Verify that the reviewers have all the necessary information provided by the secretariat prior to the review activity;
- (c) Monitor the progress of the review activity;
- (d) Coordinate queries of the expert review team to the Party and coordinate the inclusion of the answers in the review reports;
- (e) Provide technical advice to the ad hoc experts, if needed;
- (f) Ensure that the review is performed and the review report is prepared in accordance with the relevant guidelines;
- (g) For inventory reviews, verify that the review team gives priority to individual categories for review in accordance with the guidelines.

40. Lead reviewers collectively shall also:

- (a) Prepare an annual report to the SBSTA with suggestions on how to improve the review process in the light of paragraph 2 of the present guidelines;
- (b) Advise on the standardized data comparisons of inventory information referred to in paragraph 67 below.

41. Lead reviewers shall comprise experts from Parties to the Convention nominated to the UNFCCC roster by Parties, and their collective skills shall address the areas mentioned in paragraph 29 above. During the period when national communications and the supplementary information under Article 7, paragraph 2, are reviewed, additional experts from Parties to the Convention nominated to the UNFCCC roster by Parties will act as lead reviewers whose collective skills relate to the areas referred to in paragraph 30 above.

42. Lead reviewers shall be assigned for a minimum period of two years and a maximum period of three years to ensure the continuity and consistency of the review process. Half of the lead reviewers shall be assigned initially for a term of two years and the other half for a term of three years. The terms of service of lead reviewers for a given period of service shall be designed and operationalized in accordance with relevant decisions of the COP and the COP/MOP.

5. Ad hoc review experts

43. Ad hoc review experts shall be selected from those nominated by Parties or, exceptionally and only when the required expertise for the task is not available among them, from the relevant intergovernmental organizations belonging

to the UNFCCC roster of experts for specific annual or periodic reviews by the secretariat. They shall perform individual review tasks in accordance with the duties set out in their nomination.

44. Ad hoc review experts shall, as necessary, perform desk review tasks in their home countries and participate in in-country visits, centralized reviews and in review meetings.

6. Guidance by the SBSTA

45. The SBSTA shall provide general guidance to the secretariat on the selection of experts and coordination of the expert review teams and to the expert review teams on the expert review process. The reports mentioned in paragraphs 35 and 40 (a) above are intended to provide the SBSTA with inputs for elaborating such guidance.

F. Reporting and publication

46. The expert review team shall, under its collective responsibility, produce the following review reports for each Party included in Annex I:

- (a) For the review of the report to facilitate the calculation of the assigned amount, a report on the review of the elements described in paragraph 12 (a) to 12 (d) above in accordance with parts II, III, IV and V of these guidelines
- (b) For the annual review, a status report after the initial check of the annual inventory and a final report on the annual review of the elements in paragraph 15 above in accordance with parts II, III, IV, V and VI of these guidelines
- (c) For the periodic review, a report on the review of the national communication in accordance with part VII of these guidelines.

47. Review reports for each Party included in Annex I shall follow a format and outline comparable to that set out in paragraph 48 below and shall include the specific elements described in parts II to VII of these guidelines.

48. All final review reports prepared by the expert review team, except for status reports, shall include the following elements:

- (a) An introduction and summary
- (b) A description of the technical assessment of each of the elements reviewed according to the relevant sections on the scope of the review in parts II to VII of these guidelines, including:
 - (i) A description of any potential problems in, and factors influencing the fulfilment of, commitments identified during the review
 - (ii) Any recommendations provided by the expert review team to solve the potential problems
 - (iii) An assessment of any efforts by the Party included in Annex I to address any potential problems identified by the expert review team during the current review or during previous reviews that have not been corrected
 - (iv) Any questions of implementation of the commitments under the Kyoto Protocol
- (c) Possible recommendations by the expert review team on the conduct of the review in subsequent years, including which parts may need to be considered in more depth
- (d) Information on any other issue of concern deemed relevant by the expert review team
- (e) The sources of information used in the formulation of the final report.

49. Following their completion, all final review reports, including status reports on initial checks on annual inventories, shall be published and forwarded by the secretariat, together with any written comments on the final review

report by the Party which is subject of the report, to the COP/MOP, the Compliance Committee and the Party concerned.

Part II: Review of annual inventories

A. Purpose

50. The purpose of the review of annual inventories of Parties included in Annex I is:
- (a) To provide an objective, consistent, transparent, thorough and comprehensive technical assessment of annual inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for conformity with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, and any good practice guidance adopted by the COP/MOP, and with the guidance included in annex II to decision 2/CMP.8 and in decision 6/CMP.9;
 - (b) To assess if adjustments under Article 5, paragraph 2, may be needed and, if so, to calculate adjustments in accordance with relevant decisions of the COP/MOP relating to Article 5, paragraph 2, of the Kyoto Protocol;
 - (c) To ensure that the COP/MOP and the Compliance Committee have reliable information on the annual inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol of each Party included in Annex I.

B. General procedures

51. The review should cover:
- (a) The annual inventory, including the national inventory report and the common reporting format (CRF)
 - (b) Supplementary information under Article 7, paragraph 1, incorporated in the Party's national inventory according to the guidance included in annex II to decision 2/CMP.8 and in decision 6/CMP.9.
- 52. Related to the organization of the inventory review in different phases and the scheduling of desk, centralized and in-country reviews, the same provisions as agreed in the "UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention" contained in the annex to decision 13/CP.20 shall apply.

Decision 13/CP.20, annex, General procedures

60. The annual technical review process comprises two stages which consider different aspects of the inventories in such a way that all of the purposes described above are achieved by the end of the process. The two stages are:
- (a) Initial assessment by the secretariat;
 - (b) Review of individual annual inventories by the ERT.
61. The stages of the technical review process complement each other so that, in general, for each Annex I Party, one stage is concluded before the next one is undertaken.
62. Three operational approaches may be used during the second stage of the technical review, namely desk reviews, centralized reviews and in-country reviews, assuming available resources. During a desk review, the inventory information of Annex I Parties will be sent to experts, who will conduct the reviews in their own countries. During a centralized review, the experts will meet in a single location to review the inventory information of Annex I Parties. During an in-country review, experts will visit an Annex I Party to review the inventory information of that Party.
63. The review of individual inventories of Annex I Parties will be conducted annually either as a desk review, as a centralized review or as an in-country review. The GHG inventory of each Annex I Party shall be

subject to a desk review at most once every three years. Desk reviews will be conducted only by experienced experts. The GHG inventory of each Annex I Party will be subject to an in-country review at least once every five years. In-country visits will be scheduled, planned and take place with the consent of, and in close coordination with, the Annex I Party subject to review. In general, during a centralized review, up to four GHG inventories should be reviewed; during a desk review up to two GHG inventories should be reviewed. In exceptional circumstances where an individual member of an ERT is unable to attend the centralized or in-country review, that member may contribute to that review from his/her desk. The scope of the individual review differs between years with desk reviews and years with centralized reviews as defined in paragraphs 75 and 76 below.

64. The ERT, based on the findings of the review, can recommend that the next review be an in-country review. The ERT shall provide in the review report a rationale for the additional in-country review as well as a list of questions and issues to be addressed during the in-country review. The in-country review shall then be scheduled for the year following the review that recommended such a visit.

65. Upon an Annex I Party's request, the secretariat shall organize an in-country review for that Party. The request for an in-country review shall be submitted to the secretariat no later than the inventory submission due date.

66. At all stages of the inventory review process, individual Annex I Parties under review will have the opportunity to clarify issues or provide additional information. The secretariat will send to these Annex I Parties drafts and the final version of their status report, assessment report and their individual inventory review report. The ERT shall provide a list of preliminary main findings to the Annex I Party at the end of the review week. The ERT shall produce the final version of the review report, taking into account the comments of the Annex I Party. Every effort will be made to reach agreement with each Annex I Party on the content of a report prior to its publication. In the case of an Annex I Party and the expert team being unable to agree on an issue, the Party may provide explanatory text to be included in a separate section of the final review report. All final review reports shall be published and forwarded by the secretariat, together with any written comments on the final review report by the Annex I Party that is the subject of the report, to the COP.

53. The individual inventory review shall occur in conjunction with the review of assigned amount, changes in national systems and changes in national registries as set out in part I of these guidelines.

54. The base year inventory shall be reviewed only once prior to the commitment period and adjusted if appropriate.

55. Note: decision 4/CMP.11, annex I, paragraph 16, indicates that this paragraph does not apply for the second commitment period.

56. Note: decision 4/CMP.11, annex I, paragraph 16, indicates that this paragraph does not apply for the second commitment period.

57. Note: decision 4/CMP.11, annex I, paragraph 16, indicates that this paragraph does not apply for the second commitment period.

58. If a Party included in Annex I fails to provide to the expert review team the data and information necessary for the assessment of conformity with 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 and any good practice guidance adopted by the COP/MOP, the expert review team shall assume that the estimate was not prepared in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 and any good practice guidance adopted by the COP/MOP.

C. Initial checks of annual inventories

1. Scope of the review

59. Note: decision 4/CMP.11, annex I, paragraph 17, indicates that this paragraph does not apply for the second commitment period.

60. The initial check shall be conducted consistent with the initial assessment included in part III of the “UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention” contained in the annex to decision 13/CP.20. The initial check shall in addition cover whether:

(a) A Party included in Annex I has failed to include an estimate for a source category (as defined in chapter 4 of volume 1 of the 2006 IPCC Guidelines) that individually accounted for 7 per cent or more of the Party’s aggregate emissions, defined as the aggregated submitted emissions of the gases and from the sources listed in annex A to the Kyoto Protocol as contained in the Doha Amendment, in the most recent of the Party’s reviewed inventories in which the source was estimated;

(b) An Annex I Party has failed to provide supplementary information in accordance with Annex II to decision 2/CMP.8 and decision 6/CMP.9.

2. Timing⁷

► 61. For the scope of the individual review, the same provisions as included in the “UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention”, contained in the annex to decision 13/CP.20 shall apply.

62. Note: decision 4/CMP.11, annex I, paragraph 18, indicates that this paragraph does not apply for the second commitment period.

63. Note: decision 4/CMP.11, annex I, paragraph 18, indicates that this paragraph does not apply for the second commitment period.

3. Reporting

64. The status report shall include:

- (a) The date of receipt of the inventory submission by the secretariat
- (b) An indication of whether the annual inventory, including the national inventory report and the CRF, has been submitted
- (c) An indication of whether any category or gas of a category is missing and, if so, an indication of the magnitude of the likely emissions of that category or gas, if possible relative to the last inventory for which the review has been completed
- (d) Identification of any inventory problems according to the categories listed in paragraph 60 (g) to (i) above.

D. **Individual inventory reviews**

1. Scope of the review

► 65. For the scope of the individual review, the same provisions as those included in the “UNFCCC Guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention” included in the annex to decision 13/CP.20 shall apply. In addition, the inventory review shall:

(a) Examine the application of the requirement of the 2006 IPCC Guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement as adopted by the COP/MOP and the “UNFCCC Guidelines for the technical review of greenhouse gas inventories from

⁷ For the review of the report to facilitate the calculation of the assigned amount, the time frames for the initial check may serve as an indication.

Parties included in Annex I to the Convention” contained in the annex to decision 13/CP.20 and relevant decisions of the Conference of the Parties on those requirements, and identify any divergence from these requirements;

► (b) Assess whether the functions of the national system have been established to facilitate the continuous improvement of the greenhouse gas inventory and whether Quality Assurance/Quality Control procedures in accordance with guidelines for national systems in accordance with decision 19/CMP.1 have been implemented;

(c) Assess the completeness and transparency of supplementary information in accordance with reporting under Article 7 of the Kyoto Protocol ;

► (d) Assess whether the supplementary information reported for activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4 and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol has been estimated, reported and accounted in line with the Kyoto Protocol Supplement, decision 2/CMP.7, annex II to decision 2/CMP.8 and decision 6/CMP.9.

66. Note: decision 4/CMP.11, annex I, paragraph 19, indicates that this paragraph does not apply for the second commitment period.

67. Note: decision 4/CMP.11, annex I, paragraph 19, indicates that this paragraph does not apply for the second commitment period.

2. Identification of problems

68. The individual inventory review shall identify any problems for which adjustments under Article 5, paragraph 2, would be appropriate and initiate procedures for calculation of adjustments.

69. Problems should be identified as a failure to follow agreed guidelines under Article 5, paragraph 2, in preparing greenhouse gas inventories, as a failure to follow the guidance included in annex II to decision 2/CMP.8 and in decision 6/CMP.9, and as a failure to follow agreed methodologies for estimating and reporting activities under Article 3, paragraphs 3 and 4, as adopted by the COP/MOP. These may be further subdivided as problems of:

(a) Transparency, as defined in the UNFCCC reporting guidelines on annual inventories,⁸ including:

- (i) Inadequate documentation and description of methodologies, assumptions and recalculations;
- (ii) Failure to disaggregate national activity data, emission factors and other factors used in national methods at the required level unless an issue of confidentiality exists;
- (iii) Failure to provide justifications for recalculations, references and information sources for key factors and data;

(b) Consistency, as defined in the UNFCCC reporting guidelines on annual inventories, including failure to provide consistent time-series in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9;

(c) Comparability, as defined in the UNFCCC reporting guidelines on annual inventories, including failure to use agreed reporting formats;

(d) Completeness, as defined in the UNFCCC reporting guidelines on annual inventories, including:

- (i) Gaps in the inventory estimates for categories or gases for which methods are provided in the IPCC guidelines, and the Wetlands Supplement, for Parties that have elected to account for wetland drainage and rewetting;

⁸ “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories” (FCCC/CP/1999/7) or any subsequent revision of these guidelines by the COP.

- (ii) Inventory data that do not provide full geographic coverage of sources and sinks of a Party included in Annex I;
 - (iii) Failure to provide full coverage of sources in a category;
- (e) Accuracy, as defined in the UNFCCC reporting guidelines on annual inventories, including failure to provide estimates of uncertainty and address uncertainty through the application of the good practice guidance.
70. The expert review team shall calculate:
- (a) The percentage by which the aggregate adjusted greenhouse gas emissions for a Party included in Annex I exceed the aggregate submitted emissions, defined as aggregate submitted emissions of the gases and from the sources listed in Annex A to the Kyoto Protocol, for any single year;
 - (b) The sum of the numerical values of the percentages calculated in paragraph 70 (a) above for all years of the commitment period for which the review has been conducted.
71. The expert review team shall identify whether the same key category as defined in chapter 4 of volume 1 of the 2006 IPCC Guidelines was adjusted in previous reviews and, if so, the team shall indicate the number of reviews that identified and adjusted the problem previously and the percentage that the key category contributes to the aggregate submitted emissions, defined as aggregate submitted emissions of the gases and from the sources listed in Annex A to the Kyoto Protocol.

3. Timing

72. The individual inventory review, including adjustment procedures, shall be concluded within one year of the due date of submission of the information to be reported under Article 7, paragraph 1.
73. The expert review team shall list all problems identified, indicating which would need an adjustment, and send this list to the Party included in Annex I no later than 25 weeks from the submission due date of the annual inventory, if the inventory was submitted at least six weeks after the submission due date.
74. The Party included in Annex I shall comment on these questions within six weeks and, where requested by the review team, may provide revised estimates.
75. The expert review team shall prepare a draft individual inventory review report, which includes, where appropriate, adjusted estimates calculated according to guidance under Article 5, paragraph 2, within eight weeks of the receipt of the comments on the questions posed and shall send the draft report to the Party concerned.
76. The Party included in Annex I shall be provided with four weeks to comment on the draft individual inventory review report and, where appropriate, on whether it accepts or rejects the adjustment.
77. The expert review team shall prepare a final individual inventory review report within four weeks of the receipt of the comments on the draft report.
78. If a Party included in Annex I, during the above steps, is able to comment earlier than in the time frames given above, the Party concerned may use the time saved to comment on the revised final report. A total of four additional weeks to comment may be granted to Parties included in Annex I whose national language is not one of the United Nations official languages.

4. Procedures for adjustments under Article 5, paragraph 2

79. Adjustments referred to in Article 5, paragraph 2, of the Kyoto Protocol shall be applied only when inventory data submitted by Parties included in Annex I are found to be incomplete and/or are prepared in a way that is not consistent with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 and any good practice guidance adopted by the COP/MOP.

80. The procedure for the calculation of adjustments shall be as follows:

(a) During the individual inventory review, the expert review team shall identify problems to which the criteria in the guidance for adjustments under Article 5, paragraph 2, apply. The expert review team shall officially notify the Party included in Annex I of the reason why an adjustment is considered necessary and provide advice on how the problem could be corrected;

(b) The adjustment procedure should only commence after the Party has had an opportunity to correct a problem and if the expert review team finds that the Party has not adequately corrected the problem through the provision of an acceptable revised estimate, within the time frames set out in paragraphs 74 and 76 above and if the expert review team assumes that the change resulting from the adjustment will be above the threshold given in paragraph 37 of the annex to decision 24/CP.19;

(c) The expert review team shall calculate adjustments in accordance with any guidance under Article 5, paragraph 2, adopted by the COP/MOP, in consultation with the Party concerned and within the time frame set out in these guidelines;⁹

(d) The expert review team shall officially notify the Party concerned of the calculated adjustment(s) within the time frame set out in these guidelines. This notification shall describe the assumptions, data and methodologies used to calculate the adjustment(s), as well as the value of the adjustment(s);

(e) Within the time frame set out in these guidelines, the Party concerned shall notify the secretariat of its intention to accept or reject the adjustment(s), with its rationale. Failure to respond by this date shall be considered as acceptance of the adjustment(s), as follows:

(i) If the Party concerned accepts the adjustment(s), the adjustment(s) shall be applied for the purpose of compilation and accounting of emissions inventories and assigned amounts;

(ii) If the Party concerned disagrees with the proposed adjustment(s), it should send a notification to the expert review team, including its rationale, and the expert review team should send the notification along with its recommendation in its final report to the COP/MOP and the Compliance Committee, which will resolve the disagreement in accordance with the procedures and mechanisms on compliance.

81. A Party included in Annex I may submit a revised estimate for a part of its inventory for a year of the commitment period to which an adjustment was previously applied, provided that the revised estimate is submitted, at the latest, in conjunction with the inventory for the year 2012.

82. Subject to a review under Article 8 and the acceptance of the revised estimate by the expert review team, the revised estimate shall replace the adjusted estimate. In the event of a disagreement between the Party included in Annex I and the expert review team regarding the revised estimate, the procedure set out in paragraph 80 (e) (ii) above shall be followed. The option for a Party included in Annex I to submit a revised estimate for a part of its inventory to which an adjustment was previously applied should not prevent Parties included in Annex I from making best efforts to correct the problem at the time it was initially identified and in accordance with the time frame set forth in the guidelines for review under Article 8.

5. Reporting

83. The following specific elements shall be included in the reports referred to in paragraph 46 (a) and (b) above:

- (a) A summary of the results of the inventory review, including a description of emission trends, key sources and methodologies and a general assessment of the inventory
- (b) Identification of any inventory problems according to the categories listed in paragraph 69 above and a description of factors influencing the fulfilment of the inventory-related obligations of the Party included in Annex I

⁹ Special arrangements in the composition of the expert review teams may be needed for the case where an adjustment needs to be calculated.

- (c) Information on adjustments, if applicable, including, inter alia,
 - (i) The original estimate, if applicable
 - (ii) The underlying problem
 - (iii) The adjusted estimate
 - (iv) The rationale for the adjustment
 - (v) The assumptions, data and methodology used to calculate the adjustment
 - (vi) A description of how the adjustment is conservative
 - (vii) The expert review team's identification of possible ways for the Party included in Annex I to address the underlying problem
 - (viii) The magnitude of the numerical values relating to an adjusted problem as identified under paragraph 70 above
 - (ix) Recurrence of adjustments as identified under paragraph 71 above
 - (x) An indication of whether the adjustment was agreed upon by the Party included in Annex I and the expert review team.

Part III: Review of information on assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, emission reduction units, certified emission reductions, assigned amount units and removal units

A. Purpose

84. The purpose of this review is:

(a) To provide an objective, consistent, transparent and comprehensive technical assessment of annual information on assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, emission reduction units (ERUs), certified emission reductions (CERs), temporary certified emission reductions (tCERs), long-term certified emission reductions (lCERs), assigned amount units (AAUs) and removal units (RMUs) for conformity with the provisions of the annexes to decision 13/CMP.1¹⁰ in conjunction with decision 3/CMP.11 and decision 5/CMP.1, with the technical standards for data exchange between registry systems and any further guidance adopted by the COP/MOP, and with section I.E of the annex to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11;

(b) To ensure that the COP/MOP and the Compliance Committee have reliable information on assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, ERUs, CERs, tCERs, lCERs, AAUs and RMUs of each Party included in Annex I.

B. General procedures

85. The review of information on assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, ERUs, CERs, tCERs, lCERs, AAUs and RMUs, shall comprise the following procedures:

- (a) A thorough review of the calculation of assigned amounts pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, as submitted through the report to facilitate the calculation of the assigned amount of each Party included in Annex I with a commitment inscribed in the third column of Annex B to the Doha

¹⁰ In accordance with paragraph 40 of the annex to decision 5/CMP.1, unless otherwise stated in that annex, all other provisions that pertain to certified emission reductions in the guidelines under Articles 7 and 8, as well as the modalities for the accounting of assigned amounts under Article 7, paragraph 4, also apply to tCERs and lCERs.

Amendment in accordance with paragraph 2 of decision 2/CMP.8 as part of the review of the report to facilitate the calculation of the assigned amount of each Party included in Annex I performed in accordance with the procedures contained in part I of these guidelines

- (b) An annual review of the information on ERUs, CERs, tCERS, ICERs, AAUs and RMUs and of information on discrepancies reported in accordance with section I.E of the annex to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11 for each Party included in Annex I
- (c) A desk or centralized review of the information of each Party included in Annex I to be reported upon expiration of the additional period for fulfilment of commitments in accordance with paragraph 49 of the annex to decision 13/CMP.1 and of the information referred to in paragraph 20 of the annex to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11.

C. Scope of the review

86. For each Party:

- (a) The review of the report to facilitate the calculation of the assigned amount shall cover the calculation of its assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, as reported in accordance with paragraph 2 of and annex I to decision 2/CMP.8;
- (b) The annual review shall cover the:
 - (i) Information on ERUs, CERs, tCERS, ICERs, AAUs and RMUs reported in accordance with section I.E of the annex to the decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11;
 - ▶ (ii) Standard independent assessment reports (SIAR) prepared by the secretariat, including information of any discrepancies or non-replacements indicated by these reports;
 - (ii) Information contained in the national registry that substantiates or clarifies the issues raised in the SIAR, if the SIAR prepared by the secretariat indicates any issues related to accounting, transactions, and reporting of units under the Kyoto Protocol. In such cases Parties included in Annex I shall provide the expert review team with effective access to their national registry during the review. The relevant parts of paragraphs 9 and 10 of part I of these guidelines shall also apply to this information.
- (c) The review upon expiration of the additional period for fulfilling commitments shall cover the report upon expiration of the additional period for fulfilling commitments in accordance with paragraph 49 of the annex to decision 13/CMP.1 and paragraph 59 of decision 5/CMP.1, including the information reported under paragraph 20 of the annex to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11, and shall include oversight of the preparation of the final compilation and accounting report for that Party published by the secretariat.

Identification of problems

87. During the review of the report to facilitate the calculation of the assigned amount the expert review team shall assess whether:

- (a) The information is complete and submitted in accordance with the relevant provisions of paragraph 2 of the annex I to decision 2/CMP.8, section I of the annex to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11, and relevant decisions of the COP/MOP;
- (b) The assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, is calculated in accordance with the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11, and is consistent with reviewed and adjusted inventory estimates;

- (c) The calculation of the required level of the commitment period reserve is in accordance with decision 3/CMP.11.

88. During the annual review the expert review team shall assess whether:

- (a) The information is complete and submitted in accordance with the guidance included in section I.E of the annex to decision 15/CMP.1 and in annex III to decision 3/CMP.11 and relevant decisions of the COP/MOP;

- (b) The information contained in the SIAR identifies any issues related to accounting, transactions and reporting of units under the Kyoto Protocol, whether these issues still exist and whether recommendations from previous reviews have been implemented by the Party;

- (c) Note: decision 4/CMP.11, annex I, paragraph 12, indicates that this sub-paragraph does not apply for the second commitment period.

- (d) Note: decision 4/CMP.11, annex I, paragraph 12, indicates that this sub-paragraph does not apply for the second commitment period.

- (e) Note: decision 4/CMP.11, annex I, paragraph 12, indicates that this sub-paragraph does not apply for the second commitment period.

- (f) Note: decision 4/CMP.11, annex I, paragraph 12, indicates that this sub-paragraph does not apply for the second commitment period.

- (g) Note: decision 4/CMP.11, annex I, paragraph 12, indicates that this sub-paragraph does not apply for the second commitment period.

- (h) The required level of the commitment period reserve, as reported, is calculated in accordance with decision 3/CMP.11;

- (i) Note: decision 4/CMP.11, annex I, paragraph 12, indicates that this sub-paragraph does not apply for the second commitment period.

- (j) Any discrepancy has been identified by the transaction log relating to transactions initiated by the Party, and if so the expert review team shall:

- (i) Verify that the discrepancy has occurred and been correctly identified by the transaction log;
- (ii) Assess whether the same type of discrepancy has occurred previously for that Party;
- (iii) Assess whether the transaction was completed or terminated;
- (iv) Examine the cause of the discrepancy and whether the Party or Parties has or have corrected the problem that caused the discrepancy;

► (v) Assess whether any discrepancy has been identified in the SIAR by the transaction log relating to transactions initiated by the Party, and if so the expert review team shall:

► (i) Examine the cause of the discrepancy and whether the Party or Parties has or have corrected the problem that caused the discrepancy;

(ii) Assess whether the problem that caused the discrepancy relates to the capacity of the national registry to ensure the accurate accounting, issuance, holding, transfer, acquisition, cancellation and retirement of ERUs, CERs, tCERS, ICERs, AAUs and RMUs, the replacement of tCERS and ICERs, and the carry-over of ERUs, CERs and AAUs, and if so, initiate a thorough review of the registry system in accordance with part V of these guidelines.

- (k) Any non-replacement of units has been identified in the SIAR, and if so the expert review team shall:
- (i) Examine the cause of the non-replacement and whether the Party has corrected the problem that caused the non-replacement;
 - (ii) Assess whether the problem that caused the non-replacement relates to the capacity of the national registry to ensure the accurate accounting, holding, transfer, acquisition, cancellation, and retirement of ERUs, CERs, tCERS, ICERs, AAUs and RMUs, and the replacement of tCERs and ICERs, and if so, initiate a thorough review of the registry system in accordance with part V of these guidelines.

89. During the review upon expiration of the additional period for fulfilling commitments, the expert review team shall review the information submitted by the Party under Article 7, paragraph 1, to assess whether:

- (a) The information is reported in accordance with paragraph 49 of the annex to decision 13/CMP.1;
- (b) The information is consistent with the information contained in the compilation and accounting database maintained by the secretariat and with the information contained in the Party's registry;
- (c) There are any problems or inconsistencies in the information provided by the Party in accordance with paragraph 88 above;
- (d) The quantity of AAUs, CERs, tCERS, ERUs and RMUs transferred into the tCER replacement account for the commitment period is equal to the quantity of tCERs in the retirement account, and in the tCER replacement account, that expired at the end of the commitment period;
- (e) The quantity of AAUs, CERs, ICERs, ERUs and RMUs transferred into the ICER replacement account for the commitment period is equal to the sum of the quantity of ICERs in the retirement account, and the quantity of ICERs in the ICER replacement account, that expired at the end of the commitment period, and the quantity of ICERs identified by the Executive Board of the CDM as requiring replacement within the registry for the commitment period.

90. During the review upon expiration of the additional period for fulfilling commitments, the expert review team shall review the information submitted in accordance with paragraph 20 of the annex to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11 in accordance with paragraph 88 above.

91. Following the completion of the steps set out in paragraph 89 above and, if possible, resolution of any problems relating to the reported information, and taking account of the information contained in the compilation and accounting database maintained by the secretariat, the expert review team shall assess whether aggregate anthropogenic carbon dioxide equivalent emissions for the commitment period exceed the quantities of ERUs, CERs, tCERS, ICERs, AAUs, and RMUs in the retirement account of the Party for the commitment period.

D. Timing

92. The review of the calculation of assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, as part of the review of the report to facilitate the calculation of the assigned amount shall be concluded within one year of the due date for submission of the report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, referred to in paragraph 2 of and annex I to decision 2/CMP.8 and shall follow the time frames and procedures established in paragraph 93 below.

93. The annual review of the information on ERUs, CERs, tCERS, ICERs, AAUs and RMUs reported in accordance with the guidance included in section I.E of the annex to decision 15/CMP.1 and in annex III to decision 3/CMP.11 shall be concluded within one year of the due date for the submission of the information under Article 7, paragraph 1, and include the following steps:

- (a) The expert review team shall list all problems identified, indicating which problems would need corrections to previous accounting of AAUs, ERUs, CERs, tCERS, ICERs or RMUs, and send this list to the Party included in Annex I no later than 25 weeks from the due date for submission of the annual inventory, if the information was submitted within six weeks after the submission due date

(b) The Party included in Annex I shall comment on these questions within six weeks and, where requested by the review team, may provide revisions to the accounting of AAUs, ERUs, CERs, tCERs, ICERs or RMUs. The expert review team shall prepare a draft review report within eight weeks of the receipt of the comments on the questions posed and shall send the draft report to the Party concerned for comments

(c) The Party included in Annex I shall provide its comments on the draft review report within four weeks of receipt of the report. The expert review team shall prepare a final review report within four weeks of the receipt of the comments on the draft report.

94. The review of the report upon expiration of the additional period for fulfilling commitments and of the information submitted in accordance with paragraph 20 of the annex to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11 shall be completed within 14 weeks of the due date for the submission of the information. The expert review team shall prepare a draft report within eight weeks of the due date for submission of the information. The Party concerned may comment on the draft report within four weeks of its receipt. The expert review team shall prepare a final review report within two weeks of receipt of comments on the draft report by the Party.

E. Reporting

95. The final review reports referred to in paragraphs 93 and 94 above shall include an assessment of the specific problems identified in accordance with paragraphs 87 to 91 above and shall follow the format and outline contained in paragraph 48 of part I of these guidelines, as appropriate.

Part IV: Review of national systems

A. Purpose

96. The purpose of the review of national systems is:

(a) To provide a thorough and comprehensive technical assessment of the capacity of a national system and the adequacy of its institutional, legal and procedural arrangements to produce an inventory of anthropogenic emissions by sources and removals by sinks in conformity with Article 5, paragraph 2;

(b) To assess the extent to which the guidelines for national systems under Article 5, paragraph 1, have been adhered to, and to assist Parties included in Annex I in meeting their commitments under Article 5, paragraph 1;

(c) To provide the COP/MOP and the Compliance Committee with reliable information on national systems established under Article 5, paragraph 1.

B. General procedures

97. The review of the national system shall be conducted in conjunction with the annual inventory review.

98. The review of national systems shall be conducted, as appropriate, through interviews with personnel involved in inventory planning, preparation and management, and through examination of relevant records and documentation, including use of the inventory CRF and preparation of the national inventory report.

99. Based on any findings during the individual inventory review and on findings relating to reported changes in national systems considered by the expert review team to be potentially significant in relation to an identified problem in the inventory of the Party included in Annex I, the expert review team may request an additional country visit to review the relevant components of the national system in conjunction with an in-country inventory review.

C. Scope of the review

1. In-country review

100. The expert review team shall conduct a thorough and comprehensive review of the national system of each Party included in Annex I. The review of national systems should cover:

(a) Activities undertaken by the Party included in Annex I to implement, and performance of, the general functions described in paragraph 10 of the guidelines for national systems,¹¹ and the specific functions relating to inventory planning, preparation and management in accordance with paragraphs 12 to 17 of those guidelines;

(b) Reported and archived information on national systems in accordance with guidelines under Article 5, paragraph 1, and Article 7, including plans and internal documentation relating to the functions mentioned in paragraph 100 (a) above.

2. Review of changes in national systems

101. Any significant changes in the functions of the national systems reported by Parties included in Annex I or identified by the expert review team during the in-country visit that may affect the preparation of greenhouse gas inventories in conformity with Article 5, paragraph 2, and the guidelines for national systems should be reviewed annually in conjunction with the annual inventory review. The scope of such a review shall follow the scope set out for the in-country review according to paragraph 100 above.

3. Identification of problems

102. The expert review team shall assess whether the Party included in Annex I has established and maintained the specific inventory planning components covered in paragraph 12 of the guidelines for national systems, on the basis of a review of the information provided on the national system under Article 7 and any additional information gathered.

103. The expert review team shall assess whether the Party included in Annex I has completed the inventory preparation components covered in paragraph 14 (a) and (d) of the guidelines for national systems, on the basis of the review of the information provided on the national system under Article 7 and any additional information gathered.

104. The expert review team shall assess whether the inventory preparation components covered in paragraph 14 (c), (e) and (g) of the guidelines for national systems are functioning adequately, on the basis of an assessment of the most recent annual inventory, its consistency with good practice, and any additional information gathered.

105. The expert review team shall assess whether the Party included in Annex I has archived inventory information according to the provisions of paragraphs 16 and 17 of the guidelines for national systems as part of its inventory management. The expert review team shall assess whether the archiving is functioning adequately on the basis of an assessment of:

(a) The completeness of archived information for a sample of categories as chosen by the expert review teams, including key categories, as defined in accordance with 2006 IPCC Guidelines;

(b) The ability of the Party included in Annex I to respond in a timely manner to requests for clarifying inventory information resulting from the different stages of the review process of the most recent inventory.

106. Based on the assessment carried out in accordance with paragraphs 102 to 105 above, expert review teams shall identify any potential problems in, and factors influencing, the fulfilment of commitments relating to the functions of national systems according to paragraphs 10, 12, 14 and 16 of the guidelines for national systems. In addition, the expert review teams shall recommend how deficiencies of functions described in paragraphs 13, 15 and 17 of the guidelines for national systems could be improved. These provisions shall apply to both in-country reviews and reviews of changes in national systems.

D. Timing

107. During the process of in-country visit, the expert review team shall list all problems identified, and notify the Party included in Annex I not later than six weeks after the country visit on the problems identified. The Party included in Annex I shall comment on these problems not later than within six weeks. The expert review team shall prepare a draft

¹¹ The guidelines for national systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, paragraph 1, of the Kyoto Protocol are referred to as “guidelines for national systems” in the present annex. The full text of the guidelines can be found attached to decision 19/CMP.1.

of a review report on the national system, within six weeks of the receipt of the comments on the questions posed. Any corrections, additional information or comments on the draft report received from the Party included in Annex I within four weeks after the report has been sent to the Party included in Annex I shall be subject to review and shall be included in the final inventory review report. The expert review team shall prepare a final report on the review of the national system within four weeks of the receipt of the comments on the draft report. The review of national systems shall be concluded within one year of the date of submission of the information.

108. The process of review of changes in national systems shall follow the timetable for the review of annual inventories defined in part II of these guidelines. If either the annual inventory review or the review of changes in national systems recommends an in-depth review of national systems, the process of inventory review of national systems should be conducted together with the following in-country review either of the annual inventory or of the periodic national communication, whichever is earlier.

E. Reporting

109. The following specific elements shall be included in the reports referred to in paragraph 46 (a) and (b) above:

- (a) An evaluation of the overall organization of the national system, including a discussion of the effectiveness and reliability of the institutional, procedural and legal arrangements for estimating greenhouse gas emissions
- (b) A technical assessment of the performance of each of the national system functions defined in paragraphs 10 to 17 of the guidelines for national systems, including an assessment of the system's strengths and weaknesses
- (c) Any recommendations by the review team for further improvement of the national system of the Party included in Annex I.

Part V: Review of national registries

A. Purpose

110. The purpose of the review of national registries is:

- (a) To provide a thorough and comprehensive technical assessment of the capacity of a national registry to ensure the accurate accounting of the issuance, holding, transfer, acquisition, cancellation and retirement of ERUs, CERs, tCERs, ICERs, AAUs and RMUs, the replacement of tCERs and ICERs, and the carry-over of ERUs, CERs and AAUs;
- (b) To assess the extent to which the registry requirements contained in the annex to decision 13/CMP.1,¹² in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1 and any decisions by the COP/MOP have been adhered to, and to assist Parties included in Annex I in meeting their commitments;
- (c) To assess the extent to which the national registry conforms to the technical standards for data exchange between registry systems adopted by the COP/MOP;
- (d) To provide the COP/MOP and the Compliance Committee with reliable information on national registries.

B. General procedures

111. The review of national registries shall take place in two parts:

¹² In accordance with paragraph 40 of the annex to decision 5/CMP.1, unless otherwise stated in that annex, all other provisions that pertain to certified emission reductions in the guidelines under Articles 7 and 8, as well as the modalities for the accounting of assigned amounts under Article 7, paragraph 4, also apply to tCERs and ICERs.

- (a) A thorough review of the national registry as part of the review of the report to facilitate the calculation of the assigned amount in accordance with paragraphs 11 to 14 in part I of these guidelines and in conjunction with its periodic review;
- (b) A desk or centralized review of any changes of the national registry reported in accordance with section I.G of the annex to decision 15/CMP.1 in conjunction with the annual review;

112. A thorough review of the national registry shall also be conducted if the final review reports under paragraph 48 in part I of these guidelines recommend a thorough review of the national registry or if findings relating to reported changes in national registries considered by the expert review team lead to the recommendation of a thorough review in the final review report. The expert review team shall use the standard set of electronic tests described in paragraph 116 below for this purpose. An in-country visit shall be conducted only if standardized electronic tests are not sufficient to identify the problems.

C. Scope of the review

113. The expert review team shall conduct a thorough and comprehensive review of the national registry of each Party included in Annex I. The review of the national registry should cover the extent to which the registry requirements contained in the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11, the annex to decision 5/CMP.1 and the technical standards for data exchange between registry systems adopted by the COP/MOP have been adhered to.

2. Review of changes in the national registry

114. The expert review team shall review the information submitted as supplementary information under Article 7, paragraph 1, and shall identify any significant changes in the national registry reported by the Party or any problems identified by the expert review team in the course of the review of ERUs, CERs, tCERs, ICERs, AAUs and RMUs and transaction log records that may affect the performance of the functions contained in the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11, the annex to decision 5/CMP.1 and the adherence to the technical standards for data exchange between registry systems in accordance with relevant COP/MOP decisions. This review should take place in conjunction with the annual review in accordance with the relevant procedures in paragraphs 115 to 117 below.

2. Identification of problems

115. The expert review team shall review the national registry, including the information provided on it, to assess whether:

- (a) The information on the national registry is complete and submitted in accordance with section I of the annex to decision 15/CMP.1, and with relevant decisions of the COP and the COP/MOP;
- (b) The registry conforms to the technical standards for data exchange between registry systems for the purpose of ensuring accurate, transparent and efficient exchange of data between national registries, the clean development registry and the international transaction log;
- (c) The transaction procedures, including those relating to the transaction log, are in accordance with the modalities for the accounting of assigned amounts under Article 7, paragraph 4, contained in the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1;
- (d) There are adequate procedures to minimize discrepancies in the issuance, transfer, acquisition, cancellation and retirement of ERUs, CERs, tCERs, ICERs, AAUs and RMUs, and in the replacement of tCERs and ICERs, and to take steps to terminate transactions where a discrepancy is notified, and to correct problems in the event of a failure to terminate the transactions;
- (e) There are adequate security measures to prevent and resolve unauthorized manipulations and minimize operator error, and procedures for updating them;
- (f) Information is publicly available in accordance with the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11;

(g) There are adequate measures to safeguard, maintain and recover data in order to ensure the integrity of data storage and the recovery of registry services in the event of a disaster.

116. During the thorough review, the expert review team shall use a test version of the transaction log and a standard set of electronic tests and sample data to assess the capacity of the registry to perform its functions, including all types of transactions, referred to in the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1, and to assess the adherence to the technical standards for data exchange between registry systems adopted by the COP/MOP. The expert review team may draw upon the results of any other testing relevant to the review of the registry.

117. Based on the assessments carried out in accordance with paragraphs 115 and 116 above, expert review teams shall identify any potential problems in, and factors influencing, the fulfilment of commitments relating to the performance of the functions of the national registry and the adherence to technical standards for data exchange between registry systems. In addition, the expert review team shall recommend how problems could be addressed.

D. Timing

118. During the thorough review, the expert review team shall list all the problems identified and shall notify the Party included in Annex I of the problems identified no later than six weeks after the start of the review or after the in-country visit, as appropriate. The Party included in Annex I shall comment on these problems within six weeks of the notification. The expert review team shall prepare a draft review report on the national registry within six weeks of the receipt of the comments on the questions posed. Any corrections, additional information or comments on the draft report received from the Party included in Annex I within four weeks after the report has been sent to that Party shall be subject to review and shall be included in the final inventory review report. The expert review team shall prepare a final report on the review of the national registry within four weeks of the receipt of the comments on the draft report. The review of the national registry shall be concluded within one year of the due date for submission of the information.

119. The review of changes in the national registry shall follow the time frames and procedures for the annual review of the information to be submitted in accordance with section I.E of the annex to decision 15/CMP.1 established in part III of these guidelines. If either the annual review or the review of changes in the national registry recommends a thorough review of the national registry, and if a country visit is considered necessary, this thorough review should be conducted together with the subsequent in-country visit of either the annual inventory or the periodic national communication, whichever is earlier.

E. Reporting

120. The final review reports shall include an evaluation of the overall functioning of the national registry and an assessment of the specific problems identified in accordance with paragraphs 115 to 117 above, and shall follow the format and outline in accordance with paragraph 48 of part I of these guidelines.

Part VI: Review of information on the minimization of adverse impacts in accordance with Article 3, paragraph 14

A. Purpose

121. The purpose of the review of information of each Party included in Annex I in relation to Article 3, paragraph 14, is:

(a) To provide a thorough objective and comprehensive technical assessment of the information submitted relating to how the Party included in Annex I is striving to implement its commitments under Article 3, paragraph 14;

(b) To assess trends and the extent to which the Party included in Annex I is striving to implement action to minimize adverse impacts on developing countries in accordance with Article 3, paragraph 14, and taking into account any relevant decisions by the COP and the COP/MOP;

(c) To assist Parties included in Annex I to improve their reporting of information under Article 3, paragraph 14;

(d) To ensure that the COP/MOP and the Compliance Committee have reliable information on the review of minimization of adverse impacts in accordance with Article 3, paragraph 14.

B. General procedures

122. The review of the information on the minimization of adverse impacts in accordance with Article 13, paragraph 14, shall take place in two parts:

- (a) An annual desk or centralized review of additional information submitted by Parties included in Annex I, conducted in conjunction with the annual inventory review
- (b) A thorough and comprehensive review through in-country visits, conducted in conjunction with the review of national communications.

C. Scope of the review

1. Annual review

123. The expert review team shall, inter alia:

(a) Check whether the Party included in Annex I submitted the supplementary information in accordance with paragraphs 23 and 25 of the annex to decision 15/CMP.1 on action relating to the minimization of adverse effects under Article 3, paragraph 14;

(b) For the first year that the Party included in Annex I provides the information mentioned in paragraph 123 (a) above, conduct a desk or centralized review to assess whether each Party included in Annex I has submitted consistent, complete and timely information. For subsequent years, conduct a desk or centralized review to assess whether Parties included in Annex I have submitted information on any changes that have occurred, compared with the information reported in their last submission;

(c) Notify the Party concerned of any questions the team has regarding information on actions relating to minimization of adverse effects under Article 3, paragraph 14, and relevant decisions of the COP and the COP/MOP;

(d) Assess the extent to which issues and questions raised by previous reports have been addressed and resolved;

(e) Recommend possible ways to improve the reporting of information, including possible recommendations to the workshop on reporting methodologies mentioned in decision 9/CP.7.

2. In-country visit

124. Each Party included in Annex I shall be subject to at least one in-country visit by an expert review team during the commitment period in conjunction with the review of the national communication.

125. The in-country review shall provide a detailed examination of supplementary information incorporated in the annual inventory, in accordance with paragraphs 23 and 25 of the annex to decision 15/CMP.1 compiled by the secretariat and reviewed in paragraph 124 above for all years since the initial review.

126. Based on the assessment carried out in accordance with paragraphs 123 and 124 above, expert review teams shall identify any potential problems in, and factors influencing, the fulfilment of commitments under Article 3, paragraph 14, and relevant decisions of the COP and the COP/MOP.

3. Identification of problems

127. The problems identified during the assessment relating to the supplementary information reported in accordance with paragraphs 23 and 25 of the annex to decision 15/CMP.1 shall be identified as relating to:

- (a) Transparency

- (b) Completeness
- (c) Timeliness.

128. Failure to submit supplementary information reported in accordance with paragraphs 23 and 25 of the annex to decision 15/CMP.1 shall be considered as a potential problem.

D. Timing

129. The process of the in-country review shall follow the timetable for the review of the national communication of the Party included in Annex I defined in part VII of these guidelines. The annual review process shall follow the timetable for the review of annual inventories defined in part II of these guidelines. The preparation of the reports should also follow these respective timetables.

E. Reporting

130. The following specific elements shall be included in the report referred to in paragraph 46 (a) and (b) above:

- (a) A technical assessment of the elements specified in paragraphs 123 and 125 above
- (b) An identification of problems in accordance with paragraphs 127 and 128 above
- (c) Any recommendations by the review team for further improvement of reporting by a Party included in Annex I.

Part VII: Review of national communications and information on other commitments under the Kyoto Protocol

A. Purpose

131. The purpose of the guidelines on the review of national communications of Parties included in Annex I, including information reported under Article 7, paragraph 2, is:

- (a) To provide a thorough and comprehensive technical assessment of national communications and information reported under Article 7, paragraph 2, of the Kyoto Protocol;
- (b) To examine in an objective and transparent manner whether quantitative and qualitative information was submitted by Parties included in Annex I in accordance with section II of the guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol;
- (c) To promote consistency in the review of the information contained in the national communications of Parties included in Annex I, including information reported under Article 7, paragraph 2;
- (d) To assist Parties included in Annex I to improve reporting of information under Article 7, paragraph 2, and the implementation of their commitments under the Protocol;
- (e) To ensure that the COP/MOP and the Compliance Committee have reliable information on the implementation of commitments under the Kyoto Protocol by each Party included in Annex I.

B. General procedures

132. Supplementary information under Article 7, paragraph 2, shall be incorporated into the national communications and shall be reviewed as part of the review of the communications. Each national communication submitted under the Kyoto Protocol by a Party included in Annex I shall be subject to a scheduled in-country periodic review.

133. Prior to the in-country visit, the expert review team shall conduct a desk or centralized review of the national communication of the Party included in Annex I. The review team shall notify the Party concerned of any questions the team has regarding the national communication and of any focal areas for the in-country visit.

C. Scope of the review

134. The review of the national communication shall also cover supplementary information reported under Article 7, paragraph 2.
135. The individual review shall:
- (a) Provide an assessment of the completeness of the national communication, including supplementary information reported under Article 7, paragraph 2, in accordance with the reporting requirements under Article 7, paragraph 2, and an indication of whether it was submitted on time;
 - (b) Provide a detailed examination of each part of the national communication, as well as procedures and methodologies used in the preparation of the information, such as:
 - (i) National circumstances relevant to greenhouse gas emissions and removals;
 - (ii) Policies and measures;
 - (iii) Projections and the total effect of policies and measures;
 - (iv) Vulnerability assessment, climate change impacts and adaptation measures;
 - (v) Financial resources;
 - (vi) Transfer of technology;
 - (vii) Research and systematic observation;¹³
 - (viii) Education, training and public awareness;
 - (c) Provide a detailed examination of supplementary information provided under Article 7, paragraph 2:
 - (i) Supplimentarity relating to the mechanisms pursuant to Articles 6, 12 and 17;
 - (ii) Policies and measures in accordance with Article 2;
 - (iii) Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures;
 - (iv) Information under Article 10;
 - (v) Financial resources;
 - (d) Identify any potential problems in and factors influencing, the fulfilment of commitments relating to each part of the national communication and to the reporting of supplementary information under Article 7, paragraph 2.
136. All common elements in paragraph 135 (b) and (c) above are to be reviewed in conjunction.

Identification of problems

137. The problems identified during the assessment relating to individual sections of the national communication, including supplementary information reported under Article 7, paragraph 2, shall be identified as relating to:
- (a) Transparency
 - (b) Completeness

¹³ Information provided under this heading includes a summary of the information provided on global climate observation systems.

- (c) Timeliness.

138. Failure to submit any section of the national communication shall be considered as a potential problem.

D. Timing

139. If a Party included in Annex I expects difficulties with the timeliness of its national communication submission, it should inform the secretariat before the due date of the submission. If the national communication is not submitted within six weeks after the due date, the delay shall be brought to the attention of the COP/MOP and the Compliance Committee and made public.

140. The expert review teams shall make every effort to complete the individual review of national communications within two years of the national communication submission for each Party included in Annex I.

141. If additional information is requested during the in-country visit, it should be provided by the Party included in Annex I within six weeks after the visit.

142. The expert review team for each Party included in Annex I shall, under its collective responsibility, produce a draft of the national communication review report following the format below to be finalized within eight weeks after the in-country visit.

143. The draft of each national communication review report will be sent to the Party included in Annex I subject to review for comment. The Party concerned shall be provided with four weeks of receipt of the draft report to provide comments on it.

144. The expert review team shall produce the finalized national communication review report taking into account comments of the Party included in Annex I within four weeks of receipt of the comments.

E. Reporting

145. The following specific elements shall be included in the report referred to in paragraph 46 (c) above:

- (a) A technical assessment of the elements specified in paragraph 135 (b) and (c) above
- (b) An identification of problems in accordance with paragraphs 137 and 138 above.

146. The secretariat shall produce a report on the compilation and synthesis of national communications for all Parties included in Annex I in accordance with the decisions of the COP/MOP.

Part VIII: Expedited procedure for the review for the reinstatement of eligibility to use the mechanisms

A. Purpose

147. The purpose of the review of information relating to a request, by a Party included in Annex I, for reinstatement of eligibility to use the mechanisms established under Articles 6, 12 and 17, pursuant to paragraph 2 of chapter X of the procedures and mechanisms relating to compliance, is:

- (a) To provide an objective, transparent, thorough and comprehensive technical assessment of information provided by a Party on matters relating to Articles 5 and 7 which led to the suspension of its eligibility to use the mechanisms;
- (b) To provide for an expedited review procedure for the reinstatement of eligibility to use the mechanisms for a Party included in Annex I which is able to demonstrate that it is no longer failing to meet eligibility requirements under Articles 6, 12 and 17;
- (c) To ensure that the enforcement branch of the Compliance Committee has reliable information to enable it to consider the request of a Party for the reinstatement of its eligibility to use the mechanisms.

B. General procedure

148. The review for the reinstatement of eligibility to use the mechanisms shall be an expedited procedure limited to the review of the matter or matters which led to the suspension of the eligibility. However, the expedited nature of this review procedure shall not compromise the thoroughness of the examination by the expert review team.

149. Any Party included in Annex I that has been suspended from eligibility to use the mechanisms may, at any time following suspension, submit information to the secretariat on the matter or matters which led to the suspension of eligibility. To enable the expert review team to perform its tasks, the information submitted by the Party concerned shall be additional to information previously submitted prior to or during the review that led to the suspension of eligibility. However, information previously submitted by the Party may also be included in the submission, if relevant. The information submitted by the Party shall be reviewed expeditiously in accordance with these guidelines.

150. The secretariat shall organize the review in the most expeditious way possible following the procedures established in these guidelines and taking into account the planned review activities in the regular review cycle. The secretariat shall convene an expert review team for conducting the expedited review procedures established in these guidelines in accordance with the relevant provisions of section E of part I of these guidelines and shall forward the information referred to in paragraph 149 above to this expert review team.

151. To ensure objectivity, the expert review team for the reinstatement of eligibility shall not be composed of the same members and lead reviewers who formed part of the expert review team that conducted the review which led to the suspension of eligibility of the Party concerned, and shall be composed of members with the necessary expertise for addressing the matter or matters contained in the Party's submission.

152. Depending on the issue that led to the suspension of the eligibility to participate in the mechanisms, the review shall be performed as a centralized review or an in-country review as provided for in parts II, III, IV and V of these guidelines, as deemed appropriate by the secretariat.¹⁴

C. Scope of the review

153. The review shall cover the information submitted by the Party. The expert review team may also consider any other information, including information previously submitted by the Party and any information relating to the Party's subsequent inventory, which the expert review team considers necessary in order to complete its task. The expert review team shall assess, consistent with the applicable provisions in parts II, III, IV or V of these guidelines, whether the question or questions of implementation that led to suspension of eligibility have been addressed and resolved.

154. If the expedited review for reinstatement of eligibility relates to the submission of a revised estimate for a part of its inventory to which an adjustment was previously applied, the expert review team shall assess whether the revised estimate is prepared in accordance with the 2006 IPCC Guidelines, as implemented through the UNFCCC reporting guidelines, the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and the Wetlands Supplement, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9 or whether the new information substantiates the original emission estimate provided by the Party.

D. Timing

155. A Party included in Annex I that intends to submit information under paragraph 149 above to the secretariat on the matter or matters which led to its suspension of eligibility should provide the secretariat with at least six weeks notice of the date on which it intends to submit such information. The secretariat, on receipt of such notice, should undertake the necessary preparations with the aim of ensuring that an expert review team is convened and ready to start consideration of the information within two weeks of the receipt of the submission of information under paragraph 149 above from the Party concerned.

¹⁴ For example, if the failure to have in place a national system for the estimation of anthropogenic emissions led to loss of eligibility and such a system has not previously been reviewed, the national system shall be reviewed in accordance with part IV of these guidelines, and such a review to include an in-country visit.

156. For the expedited procedure for the review for reinstatement of eligibility, the following time frames shall apply from the date of receipt of the information:

- (a) The expert review team shall prepare a draft expedited review report within five weeks of the receipt of information from the Party concerned
- (b) The Party concerned shall be provided with up to three weeks to comment upon the draft expedited review report. If the Party concerned notifies the expert review team, within that period of time, that it does not intend to provide comments, then the draft expedited review report becomes the final expedited review report upon receipt of such notification. If the Party concerned does not provide any comments within that period of time, the draft expedited review report becomes the final expedited review report
- (c) If comments by the Party are received within the time frame indicated above, the expert review team shall prepare a final expedited review report within three weeks of the receipt of comments on the draft report.

157. The time periods in paragraph 156 (a) to (c) above are considered maximum time periods. The expert review team and the Party should strive to complete the review in the shortest time possible. However, the expert review team may, with the agreement of the Party, extend the time periods in paragraph 156 (a) to (c) above for the expedited review procedure for an additional four weeks.

158. Where the start of the consideration of information by the expert review team is delayed due to the Party giving shorter notice than provided in paragraph 155 above, the expert review team may extend the time in paragraph 156 (a) up to the difference in time between the period for notification in paragraph 155 and the actual notification given by the Party.

E. Reporting

159. The expert review team shall, under its collective responsibility, produce a final review report on the reinstatement of eligibility in accordance with the relevant provisions of paragraph 48 of these guidelines and in accordance with the relevant provisions for review reports in parts II, III, IV or V of these guidelines depending on the specific reason for the suspension of eligibility.

160. The expert review team shall include a statement whether the team considered thoroughly all questions of implementation that led to the suspension of the eligibility in the time available for the reinstatement procedure and shall indicate whether there is or is not any longer a question of implementation with respect to the eligibility of the Party concerned to use the mechanisms established under Articles 6, 12 and 17.

Decision 2/CMP.11

Clarification of the text in section G (Article 3, paragraph 7 ter) of the Doha Amendment to the Kyoto Protocol

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Article 3, paragraph 7 ter, of the Amendment to the Kyoto Protocol contained in annex I to decision 1/CMP.8 (the Doha Amendment),

Taking note of the request from Kazakhstan to clarify the provision of Article 3, paragraph 7 ter, of the Doha Amendment,

1. *Clarifies* that Article 3, paragraph 7 ter, of the Amendment to the Kyoto Protocol contained in annex I to decision 1/CMP.8 (the Doha Amendment) is applicable, for the second commitment period, to Parties that did not have a quantified emission limitation or reduction commitment during the first commitment period of the Kyoto Protocol;

2. *Also clarifies* that, for the purpose of implementing Article 3, paragraph 7 ter, of the Doha Amendment, the reference in Article 3, paragraph 7 ter, of the Doha Amendment to “average annual emissions for the first three years of the preceding commitment period” refers to the average of the annual emissions of a Party for the years 2008, 2009 and 2010, and that Parties with a quantified emission limitation or reduction commitment inscribed in the third column of Annex B to the Kyoto Protocol contained in annex I to decision 1/CMP.8 shall clarify, in their reports to facilitate the calculation of the assigned amount submitted pursuant to decision 2/CMP.8, whether they have used, in the calculation of the average annual emissions for the first three years of the preceding commitment period:

(a) The gases and sources listed in Annex A to the Kyoto Protocol; or

(b) The same greenhouse gases, sectors and source categories as those used to calculate the assigned amount for the second commitment period;

3. *Decides* that, for a Party included in Annex I undergoing the process of transition to a market economy and without a quantified emission limitation or reduction commitment in the first commitment period of the Kyoto Protocol, the positive difference between the total emissions during the second commitment period and the assigned amount adjusted in accordance with Article 3, paragraph 7 ter, of the Doha Amendment shall be added to the quantity of assigned amount units to be taken into account for the purpose of the assessment referred to in decision 13/CMP.1, annex, paragraph 14, and that the added quantity shall be limited to the quantity of assigned amount units cancelled by that Party for the second commitment period of the Kyoto Protocol, in accordance with Article 3, paragraph 7 ter, of the Doha Amendment.

*8th plenary meeting
10 December 2015*

Decision 3/CMP.11
Implications of the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol, part I: implications related to accounting and reporting and other related issues

Note: the annexes to this decision are not copied to this user friendly document but the changes and additions indicated in the annexes have been implemented in the appropriate decisions.

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Articles 5, 7 and 8 of the Kyoto Protocol,

Also recalling decisions 2/CMP.6, 2/CMP.7, 3/CMP.7, 4/CMP.7, 1/CMP.8 and 2/CMP.8,

Being aware of decisions 11/CMP.1, 13/CMP.1, 15/CMP.1, 16/CMP.1, 18/CMP.1, 19/CMP.1 and 27/CMP.1,

1. *Decides* that, for the purpose of the second commitment period of the Kyoto Protocol and pending the entry into force of the Doha Amendment, contained in annex I to decision 1/CMP.8, any references in this decision and decision 2/CMP.8 to Annex A, Annex B, Article 3, paragraphs 1 bis, 1 ter, 1 quater, 7 bis, 7 ter, 8, 8 bis, 12 bis and 12 ter, and Article 4, paragraphs 2 and 3, unless otherwise specified, shall be understood as referring to those Articles and annexes as contained in the Doha Amendment, and that, upon the entry into force of the Doha Amendment, such references shall be read as references to the relevant Articles of the Kyoto Protocol as amended;
2. *Also decides* that, for the purpose of the second commitment period, decisions 13/CMP.1, 15/CMP.1, 18/CMP.1 and 19/CMP.1 shall apply *mutatis mutandis*, except where otherwise specified in decisions 1/CMP.8 and 2/CMP.8 and in this decision;
3. *Clarifies* that, for the purpose of the second commitment period, unless otherwise specified in this decision, any references in decision 13/CMP.1 and in annexes I and II to Parties included in Annex I or to Parties shall be understood as referring to Parties included in Annex I with commitments inscribed in the third column of Annex B;
4. *Also clarifies* that, for the purpose of the second commitment period, unless otherwise specified in this decision, any references in decision 13/CMP.1 and in annexes I and II to Parties included in Annex I or to Parties are not applicable to the Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period;
5. *Decides* that, for the purpose of the second commitment period, the following changes shall apply to decisions 13/CMP.1 and 15/CMP.1:

(a) All references to Article 3, paragraph 1, shall be read as references to Article 3, paragraph 1 bis, except those in paragraphs 12(e) and 47(h) of the annex to decision 13/CMP.1;

(b) All references to Article 3, paragraphs 7 and 8, shall be read as references to Article 3, paragraphs 7 bis, 8 and 8 bis, except that in paragraph 4 of decision 13/CMP.1;

(c) All references to the first commitment period shall be read as references to the second commitment period, except that in paragraph 3(e) of decision 15/CMP.1;

(d) All references to activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, shall be read as references to activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4;

(e) All references to the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* or to the Intergovernmental Panel on Climate Change *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* in decision 15/CMP.1 shall be read as references to the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines), as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and the *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*. References to chapter 7 of the Intergovernmental Panel on Climate Change *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* shall be read as references to chapter 4 of volume 1 of the 2006 IPCC Guidelines;

(f) All references to decision 16/CMP.1 shall be read as references to decision 2/CMP.7 and 6/CMP.9;

6. *Also decides* that, for the purpose of the second commitment period, paragraph 3(b) of decision 15/CMP.1 shall be replaced by the following paragraph:

3(b) The Party concerned has failed to include an estimate for an Annex A source category (as defined in chapter 4 of volume I of the 2006 IPCC Guidelines) that individually accounted for 7 per cent or more of the Party’s aggregate emissions, defined as the aggregate submitted emissions of the gases and from the sources listed in Annex A to the Kyoto Protocol, in the most recent of the Party’s reviewed inventories in which the source was estimated;

7. *Further decides* that decisions 14/CMP.1, 17/CMP.1 and 6/CMP.3 shall not apply for the purpose of the second commitment period;

8. *Decides* that Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period shall provide information on which voluntary activities under Article 3, paragraph 4, of the Kyoto Protocol they will include in their reporting, at the latest in their 2016 annual inventory submission;

9. *Adopts* the revisions to the modalities for the accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol³⁹ as set out in annex I;

10. *Recalls* that, pursuant to Article 4 of the Kyoto Protocol, each Party to an agreement to fulfil their commitments under Article 3 of the Kyoto Protocol shall jointly, in the event that the aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse

³⁹ Decision 13/CMP.1, annex.

gases listed in Annex A of the Parties to that agreement exceed their assigned amounts, be responsible for its own level of emissions as set out in that agreement;

11. *Decides* that each of the Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 of the Kyoto Protocol jointly, in accordance with Article 4 of the Kyoto Protocol, shall clarify in their reports, so as to facilitate the calculation of the assigned amount submitted pursuant to decision 2/CMP.8, how the information listed in annex I to that decision, the application of Article 3, paragraph 7 ter, including its technical implementation, and chapter VI of decision 1/CMP.8 are determined. Such clarification shall describe, in detail, methodologies and, if applicable, any relevant assumptions applied by those Parties for their joint fulfilment in relation to:

- (a) The application of paragraphs 23–26 of decision 1/CMP.8;
- (b) The calculation of base year emissions in accordance with Article 3, paragraphs 5, 7 bis, 8 and 8 bis;
- (c) The calculation of those Parties' assigned amounts in accordance with Article 3, paragraphs 7 bis, 8 and 8 bis, and the respective emission level allocated to each of the Parties as set out in the agreement pursuant to Article 4, paragraph 1;
- (d) The calculation of those Parties' commitment period reserves in accordance with decision 11/CMP.1, decision 1/CMP.8, paragraph 18, and this decision;
- (e) The application and calculation pursuant to paragraph 13 in the annex of decision 2/CMP.7;

12. *Adopts* the standard electronic format for reporting Kyoto Protocol units and the reporting instructions for the second commitment period contained in annex II for reporting in accordance with paragraph 11 of the annex to decision 15/CMP.1;

13. *Decides* that each Party included in Annex I with a quantified emission limitation or reduction commitment inscribed in the third column of Annex B shall annually report tables in a standard electronic format to the secretariat electronically; that any related information of a non-quantitative nature shall be submitted separately; and that, unless otherwise indicated, Parties shall submit information for the previous calendar year (based on Universal Coordinated Time), which is referred to as the "reported year" (e.g. in the 2017 standard electronic format submission, the "reported year" will be the 2016 calendar year);

14. *Also decides* that a Party included in Annex I without a quantified emission limitation or reduction commitment inscribed in the third column of Annex B shall continue to provide relevant information on its national registry, or changes thereto, including information on the units in its registry, by submitting the standard electronic format tables in conjunction with its annual inventory submission for the second commitment period, in accordance with decisions 13/CMP.1 and 15/CMP.1 and annex I to this decision, if its registry is connected to the international transaction log at any time during the relevant calendar year;

15. *Further decides* that, for the second commitment period, each Party included in Annex I with a quantified emission limitation or reduction commitment inscribed in the third column of Annex B shall submit its first standard electronic format for reporting Kyoto Protocol units for the second commitment period in conjunction with its first annual inventory submission for that commitment period, in accordance with paragraph 5 of decision 2/CMP.8;

16. *Decides* that the contribution of assigned amount units as a share of proceeds shall be executed in the most transparent manner, taking into account environmental integrity at the international level;

17. *Also decides* that, where a Party included in Annex I undertakes a corrective transaction to reflect a correction to the compilation and accounting database applied by the Compliance Committee, pursuant to chapter V, paragraph 5(b), of the annex to decision 27/CMP.1, the information in the compilation and accounting database shall be appropriately amended to avoid double counting, following the review of the corrective transaction in accordance with Article 8 of the Kyoto Protocol and the resolution of any questions of implementation;
18. *Further decides* to extend the code of practice for the treatment of confidential information for the review of inventories under Article 8 of the Kyoto Protocol to the review of information on assigned amounts under Article 8 of the Kyoto Protocol;
19. *Requests* the administrator of the international transaction log to develop an application to facilitate the submission of the standard electronic format referred to in paragraph 12 above and to report on progress made in the development and testing of that application in its next annual report;
20. *Adopts* the revisions to the “Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”⁴⁰ for the second commitment period contained in annex III

⁴⁰ Decision 15/CMP.1, annex.

Decision 4/CMP.11
Implications of the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol, part II: implications related to review and adjustments and other related issues

Note: the annexes to this decision are not copied to this user friendly document but the changes and additions indicated in the annexes have been implemented in the appropriate decisions.

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Recalling Articles 5, 7 and 8 of the Kyoto Protocol,

Also recalling decisions 2/CMP.6, 2/CMP.7, 3/CMP.7, 4/CMP.7, 1/CMP.8, 2/CMP.8 and 6/CMP.9,

Being aware of decisions 11/CMP.1, 13/CMP.1, 15/CMP.1, 16/CMP.1, 18/CMP.1, 19/CMP.1, 20/CMP.1, 21/CMP.1, 22/CMP.1, 23/CMP.1, 24/CMP.1, 25/CMP.1, 27/CMP.1 and 8/CMP.5,

1. *Decides* that, for the purpose of the second commitment period of the Kyoto Protocol and pending the entry into force of the Doha Amendment, contained in annex I to decision 1/CMP.8, any references in this decision to Annex A, Annex B, Article 3, paragraphs 1 bis, 1 ter, 1 quater, 7 bis, 7 ter, 8, 8 bis, 12 bis and 12 ter, and Article 4, paragraphs 2 and 3, unless otherwise specified, shall be understood as referring to those Articles and annexes as contained in the Doha Amendment, and that upon the entry into force of the Doha Amendment such references shall be read as references to the relevant Articles of the Kyoto Protocol as amended;

2. *Also decides* that, for the purpose of the second commitment period, decisions 20/CMP.1 and 22/CMP.1 shall apply mutatis mutandis, except where otherwise specified in decisions 1/CMP.8 and 2/CMP.8 and in this decision;

3. *Further decides* that, for the purpose of the second commitment period, the following changes shall apply to decisions 18/CMP.1, 19/CMP.1, 20/CMP.1 and 22/CMP.1:

(b) All references to Article 3, paragraphs 7 and 8, shall be read as references to Article 3, paragraphs 7 bis, 8 and 8 bis;

(c) All references to the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines) as elaborated by the *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance), the IPCC Guidelines as elaborated by the IPCC good practice guidance, the IPCC Guidelines and any good practice guidance or the IPCC good practice guidance, shall be read as references to the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” and the *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol and*

the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, as implemented in accordance with decisions 24/CP.19 and 6/CMP.9, except references in paragraph 1 of decision 20/CMP.1;

(d) All references to chapter 7 of the IPCC good practice guidance shall be read as references to chapter 4 of volume 1 of the 2006 IPCC Guidelines;

(e) All references to “source categories” shall be read as references to “categories”;

(f) All references to “initial review” shall be read as references to “review of the report to facilitate the calculation of the assigned amount”; except that in paragraph 125 of the annex to decision 22/CMP.1;

(g) All references to “industrial processes, solvent and other product use” shall be read as references to “industrial processes and product use”;

(h) All references to decision 13/CMP.1 shall be read as references to decision 13/CMP.1 in conjunction with decision 3/CMP.11, except those in paragraphs 2 and 5 of decision 22/CMP.1 and paragraphs 85(a) and (c), 86(a) and (c), 87(a), 89(a) and 92 of the annex to decision 22/CMP.1;

(i) All references to paragraphs 6, 7 and 8 of the annex to decision 13/CMP.1 shall be read as references to paragraph 2 of and annex I to decision 2/CMP.8, except those in paragraphs 2 and 5 of decision 22/CMP.1;

(j) All references to activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, shall be read as references to activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4;

(k) All references to decision 16/CMP.1 shall be read as references to decision 2/CMP.7 and decision 6/CMP.9;

(l) Reference to “section I of the guidelines for the preparation of the information required under Article 7” in paragraphs 50(a) and 69 of the annex to decision 22/CMP.1 shall be read as reference to “the guidance included in annex II to decision 2/CMP.8 and in decision 6/CMP.9”;

(m) Reference to “section I.D, greenhouse gas inventory information, of the guidelines for the preparation of the information required under Article 7” in paragraph 51 of the annex to decision 22/CMP.1 shall be read as reference to “guidance included in annex II to decision 2/CMP.8 and in decision 6/CMP.9”;

(n) Reference to “section I.E of the annex to decision 15/CMP.1” in paragraphs 88(a) and 93 of the annex to decision 22/CMP.1 shall be read as a reference to “guidance included in section I.E of the annex to decision 15/CMP.1 and in annex III to decision 3/CMP.11”;

(o) References to “section 7.3.2.2 of the Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories and section 5.6 of the Good Practice Guidance for Land Use, Land-Use Change and Forestry” shall be read as references to “section 5.3 of Chapter 5 of volume 1 of the 2006 IPCC Guidelines”;

(p) References to “paragraph 21 of the annex to decision 16/CMP.1” shall be read as references to “paragraph 26 of the annex to decision 2/CMP.7”;

(q) Reference to “IPCC good practice guidance (chapter 7, section 7.2)” in paragraph 14(a) of the annex to decision 19/CMP.1 shall be read as reference to “chapter 4.3, volume 1, of the 2006 IPCC Guidelines”;

(r) For the purpose of the second commitment period, all references to decision 15/CMP.1 in part III of the annex to decision 22/CMP.1 shall be read as references to decision 15/CMP.1 in conjunction with annex III to decision 3/CMP.11;

(s) References to “as reported in accordance with paragraph 6 of the annex to decision 13/CMP.1” in paragraph 85(a) of the annex to decision 22/CMP.1 shall be read as references to “as submitted through the report to facilitate the calculation of the assigned amount of each Party included in Annex I with a commitment inscribed in the third column of Annex B to the Doha Amendment in accordance with paragraph 2 of decision 2/CMP.8”;

(t) The definition of key source category in paragraph 3(d) of decision 19/CMP.1 shall be read as “Key category is one that is prioritized within the national inventory because its estimate has a significant influence on a country’s total inventory of greenhouse gases in terms of the absolute level of emissions, the trend in emissions and removals, or uncertainty in emissions or removals. Whenever the term key category is used, it includes both source and sink categories”;

4. *Adopts* the revisions to the “Guidelines for review under Article 8 of the Kyoto Protocol” for the second commitment period contained in annex I;

5. *Also adopts* the revisions to the “Good practice guidance and adjustments under Article 5, paragraph 2, of the Kyoto Protocol” for the second commitment period set out in annex II;

6. *Clarifies* that for the purpose of the second commitment period, the adjustments referred to in paragraph 5 above are not applicable to the Parties included in Annex I without quantified emission limitation and reduction commitments for the second commitment period;

7. *Requests* the secretariat, in view of the revision of the “Guidelines for review under Article 8 of the Kyoto Protocol”, to modify the relevant information technology tools, as needed, so as to support the implementation of the review process;

8. *Recognizes* that the deadline of June 2014, set out in decision 6/CMP.9, paragraph 4, for providing the upgraded CRF Reporter to Parties in order to enable them to submit their inventories, was not met;

9. *Notes* that the December 2014 software version of the CRF Reporter was not functioning⁴¹ in such a manner as to enable Annex I Parties to prepare their inventory submissions;

10. *Reiterates* that in 2015, Annex I Parties may submit their common reporting format tables after 15 April, but no later than the corresponding delay in CRF Reporter availability;

11. *Notes* that a delay in the submission of the common reporting format tables by a Party also delays the submission of the report to facilitate the calculation of its assigned amount referred to in decision 2/CMP.8, paragraph 2;

12. *Acknowledges* that Annex I Parties may submit the report to facilitate the calculation of the assigned amount referred to in paragraph 11 above and make the annual inventory submission after 15 April, but no later than the corresponding delay in CRF Reporter availability;

13. *Urges* Annex I Parties to submit the report to facilitate the calculation of the assigned amount referred to in decision 2/CMP.8, paragraph 2, as soon as practically possible.

⁴¹ Functioning software means that the data on greenhouse gas emissions/removals are reported accurately both in terms of CRF tables and Extensible Markup Language format.

Decision 5/CMP.11

Training programme for members of expert review teams participating in annual reviews under Article 8 of the Kyoto Protocol

The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,

Having considered decisions 22/CMP.1, 24/CMP.1, 8/CMP.5, 3/CMP.11 and 4/CMP.11,

Recognizing the importance of the training programme for members of expert review teams participating in annual reviews under Article 8 of the Kyoto Protocol, which builds on the training programme for greenhouse gas inventory review experts under the Convention,

11. *Requests* the secretariat to update and implement the courses on national systems, application of adjustments, modalities for the accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol, review of national registries and information on assigned amounts, and review of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol included in the training programme for members of expert review teams participating in annual reviews under Article 8 of the Kyoto Protocol, as outlined in the annex, to reflect any changes arising from the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 and any other relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, including the consideration of requirements for Parties included in Annex I without a quantified emission limitation and reduction commitment for the second commitment period under the Kyoto Protocol, and to implement the updated training programme as soon as possible, subject to the availability of financial resources, ensuring that the courses incorporate the rules and modalities applicable to the second commitment period under the Kyoto Protocol;

12. *Also requests* the secretariat to develop and implement the courses referred to in paragraph 1 above, if possible in time for the first inventory review of the second commitment period under the Kyoto Protocol, emphasizing the priority for the development of the course related to review of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol;

13. *Further requests* the secretariat to continue the current practice of including, in its annual report on the technical review of greenhouse gas inventories reported by Parties included in Annex I that are also Parties to the Kyoto Protocol to the Subsidiary Body for Scientific and Technological Advice, information on the updated training programme, in particular information on examination procedures and the selection of trainees and instructors, in order for Parties to assess the effectiveness of the programme;

14. *Encourages* Parties included in Annex I to the Convention that are also Parties to the Kyoto Protocol that are in a position to do so to provide financial support for the implementation of the training programme referred to in paragraph 1 above;

15. *Takes note* of the estimated budgetary implications of the activities to be undertaken by the secretariat referred to in paragraph 1 above;

16. *Requests* that the actions of the secretariat called for in this decision be undertaken subject to the availability of financial resources.

Annex

Training programme for members of expert review teams participating in annual reviews under Article 8 of the Kyoto Protocol

I. Details of the training programme

1. The courses of the training programme are intended to train members of expert review teams (ERTs) for the review of information submitted under Article 7 of the Kyoto Protocol. All training courses will be available online. For trainees without easy access to the Internet, courses will be distributed through electronic means; for courses that are facilitated by an instructor, trainees will communicate with the instructor by electronic means. At the request of a Party, the courses will also be made available for others interested in the review process, provided that this does not require additional resources. All courses will be available upon request to trainees year-round without facilitation by instructors.
2. All training courses will include an examination. Examination procedures will be standardized, objective and transparent. Examinations will take place online.
3. New greenhouse gas (GHG) inventory review experts who successfully complete the relevant requirements of the training programme will be invited to participate in a centralized or in-country review, working alongside experienced GHG inventory review experts.
4. Experts who do not pass an examination for a course at the first attempt may retake the examination one additional time, provided that the expert has fulfilled all of the tasks assigned during the course in a timely manner and that the retake does not incur additional costs for the secretariat.
5. Experts with relevant expertise will be invited to act as instructors for courses of the training programme, ensuring that their skills cover the subjects addressed in each course. They will provide advice and support by e-mail or other electronic means. The secretariat will seek to achieve a geographical balance among the instructors participating in the training programme.

II. Courses of the training programme

A. National systems

Description: This course covers guidelines for the review of national systems under Article 5, paragraph 1, of the Kyoto Protocol and related parts of guidelines under Articles 7 and 8 of the Kyoto Protocol.

Preparation: 2016.

Implementation: 2016–2022.

Target audience: Lead reviewers, generalists and GHG inventory review experts who have successfully completed the basic course for the technical review of GHG inventories of Parties included in Annex I to the Convention (Annex I Parties).

Type of course: E-learning, without instructor.

Examination requirements and format: New GHG inventory review experts and new lead reviewers must pass the examination before participating in ERTs. Online examination.

B. Application of adjustments

Description: This course covers decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol and technical guidance on methodologies for adjustments under Article 5, paragraph 2, of the Kyoto Protocol and related parts of guidelines under Articles 7 and 8 of the Kyoto Protocol.

Preparation: 2016.

Implementation: 2016–2022.

Target audience: Lead reviewers, experienced GHG inventory review experts and GHG inventory review experts who have successfully completed the basic course for the technical review of GHG inventories of Annex I Parties.

Type of course: E-learning, facilitated by an instructor.

Examination requirements and format: New GHG inventory review experts and new lead reviewers must pass the examination before participating in ERTs. Online examination.

C. Modalities for the accounting of assigned amounts under Article 7, paragraph 4

Description: This course provides guidance for members of ERTs reviewing information provided in the initial report for the second commitment period of the Kyoto Protocol, the calculation of the assigned amount pursuant to Article 3, paragraphs 7 bis, 7 ter, 8 and 8 bis of the Kyoto Protocol, the commitment period reserve, and the national registries for conformity with the modalities for the accounting of assigned amounts under Article 7, paragraph 4.

Preparation: 2016.

Implementation: 2016–2022.

Target audience: Members of ERTs reviewing national registries and assigned amount information, generalists and lead reviewers.

Type of course: E-learning, without instructor.

Examination requirements and format: Examination required for new members of ERTs. Online examination.

D. Review of national registries and information on assigned amounts

Description: This course provides guidance for members of ERTs reviewing annual information on assigned amounts pursuant to Article 3, paragraphs 7 bis, 7 ter, 8 and 8 bis, of the Kyoto Protocol, information on Kyoto Protocol units and the standard electronic format, for conformity with Article 7, paragraph 4, of the Kyoto Protocol. In addition, the course provides guidance on the review of national registries, including of changes in national registries reported by Parties in accordance with decisions 15/CMP.1, 1/CMP.8 and 4/CMP.11 and of conformity with the technical standards for data exchange between registry systems.

Preparation: 2016.

Implementation: 2016–2022.

Target audience: Members of ERTs reviewing national registries and assigned amount information, generalists and lead reviewers.

Type of course: E-learning, facilitated by an instructor, subject to the availability of resources.

Examination requirements and format: New generalists, new lead reviewers and any new members of ERTs who will review national registries and annual information on assigned amounts must pass the examination before participating in ERTs. Online examination.

E. Review of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

Description: This course provides guidance for members of ERTs reviewing information provided during the commitment period for land use, land-use change and forestry (LULUCF) activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol for conformity with the requirements of decisions 2/CMP.7, 2/CMP.8 and 6/CMP.9, including procedures for adjustments under Article 5, paragraph 2, of the Kyoto Protocol.

Preparation: 2016.

Implementation: 2016–2022.

Target audience: LULUCF inventory review experts and lead reviewers.

Type of course: E-learning, facilitated by an instructor, subject to the availability of resources.

Examination requirements and format: All LULUCF inventory review experts and new lead reviewers must pass the examination before participating in ERTs. Online examination.

Appendix – related UNFCCC decisions

Decision 24/CP.19

Revision of the UNFCCC reporting guidelines on annual inventories for Parties included in Annex I to the Convention

The Conference of the Parties,

Recalling Article 4, paragraph 1, Article 10, paragraph 2, and Article 12, paragraph 1, of the Convention,

Also recalling decisions 3/CP.5, 18/CP.8, 13/CP.9, 14/CP.11 and 15/CP.17,

Noting that the revised “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories”, adopted by decision 3/CP.5 and subsequently revised and complemented by decisions 18/CP.8 and 14/CP.11, need to be updated to incorporate the Intergovernmental Panel on Climate Change 2006 *IPCC Guidelines for National Greenhouse Gas Inventories*,

1. *Adopts* the revised “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” contained in annex I, the revised common reporting format tables contained in annex II and the global warming potential values contained in annex III;
2. *Decides* that, from 2015 until a further decision is adopted by the Conference of the Parties, the global warming potential values used by Parties included in Annex I to the Convention (Annex I Parties) to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of greenhouse gases shall be those listed in the column entitled “Global warming potential for given time horizon” in table 2.14 of the errata to the contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, based on the effects of greenhouse gases over a 100-year time horizon, as contained in annex III;
3. *Also decides* that Annex I Parties shall use the guidelines referred to in paragraph 1 above in preparing their inventories, due by 15 April each year, beginning in 2015, provided that the upgraded CRF Reporter has been made available in accordance with paragraph 5 below. If the CRF Reporter is not available in line with paragraph 5 below, Parties may submit the CRF tables after 15 April but no longer than the corresponding delay in the CRF Reporter availability;
4. *Encourages* Annex I Parties to use the Intergovernmental Panel on Climate Change 2013 *Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* in preparing their annual inventories under the Convention due in 2015 and beyond;
5. *Requests* the secretariat to make available to Annex I Parties, by June 2014 at the latest, the upgraded CRF Reporter, in order to enable them to submit their inventories, due by 15 April 2015;
6. *Invites* Annex I Parties in a position to do so to provide supplementary funding for the completion of the upgraded CRF Reporter;
7. *Takes note* of the estimated budgetary implications of the activities to be undertaken by the secretariat as referred to in paragraph 5 above;
8. *Requests* that the actions of the secretariat called for in this decision be undertaken subject to the availability of financial resources.

Annex I

[English only]

Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories

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I. Introduction

A. Mandate

1. The Conference of the Parties (COP), by decision 24/CP.19, adopted the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” (UNFCCC Annex I inventory reporting guidelines) and tables of the common reporting format to implement the use of the *2006 IPCC Guidelines for National Greenhouse Gas inventories* (2006 IPCC Guidelines).

B. Scope of the note

2. This document contains the complete updated UNFCCC Annex I inventory reporting guidelines for all inventory sectors. The UNFCCC Annex I reporting guidelines on annual greenhouse gas inventories have been updated to reflect the implementation of the use of the 2006 IPCC Guidelines.

II. Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories

A. Objectives

1. The “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” (hereinafter referred to as the UNFCCC Annex I inventory reporting guidelines) cover the estimation and reporting of anthropogenic¹ greenhouse gas (GHG) emissions and removals in both annual GHG inventories and inventories included in national communications, as specified by decision 11/CP.4 and other relevant decisions of the COP.

2. The objectives of the UNFCCC Annex I inventory reporting guidelines are:

- (a) To assist Parties included in Annex I to the Convention (Annex I Parties) in meeting their commitments under Articles 4 and 12 of the Convention;
- (b) To contribute to ensuring the transparency of emission reduction commitments;
- (c) To facilitate the process of considering annual national inventories, including the preparation of technical analysis and synthesis documentation;
- (d) To facilitate the process of verification, technical assessment and expert review of the inventory information;
- (e) To assist Annex I Parties in ensuring and/or improving the quality of their annual GHG inventory submissions.

¹ Any reference to GHG emissions and removals in the guidelines shall be understood as anthropogenic GHG emissions and removals.

B. Principles and definitions

3. The annual GHG inventory should be transparent, consistent, comparable, complete and accurate.
4. In the context of these UNFCCC Annex I inventory reporting guidelines:
 - (a) *Transparency* means that the data sources, assumptions and methodologies used for an inventory should be clearly explained, in order to facilitate the replication and assessment of the inventory by users of the reported information. The transparency of inventories is fundamental to the success of the process for the communication and consideration of the information. The use of the common reporting format (CRF) tables and the preparation of a structured national inventory report (NIR) contribute to the transparency of the information and facilitate national and international reviews;
 - (b) *Consistency* means that an annual GHG inventory should be internally consistent for all reported years in all its elements across sectors, categories and gases. An inventory is consistent if the same methodologies are used for the base and all subsequent years and if consistent data sets are used to estimate emissions or removals from sources or sinks. Under certain circumstances referred to in paragraphs 16 to 18 below, an inventory using different methodologies for different years can be considered to be consistent if it has been recalculated in a transparent manner, in accordance with the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines);
 - (c) *Comparability* means that estimates of emissions and removals reported by Annex I Parties in their inventories should be comparable among Annex I Parties. For that purpose, Annex I Parties should use the methodologies and formats agreed by the COP for making estimations and reporting their inventories. The allocation of different source/sink categories should follow the CRF tables provided in annex II to decision 24/CP.19 at the level of the summary and sectoral tables;
 - (d) *Completeness* means that an annual GHG inventory covers at least all sources and sinks, as well as all gases, for which methodologies are provided in the 2006 IPCC Guidelines or for which supplementary methodologies have been agreed by the COP. Completeness also means the full geographical coverage of the sources and sinks of an Annex I Party;²
 - (e) *Accuracy* means that emission and removal estimates should be accurate in the sense that they are systematically neither over nor under true emissions or removals, as far as can be judged, and that uncertainties are reduced as far as practicable. Appropriate methodologies should be used, in accordance with the 2006 IPCC Guidelines, to promote accuracy in inventories.
5. In the context of these reporting guidelines, the definitions of common terms used in GHG inventory preparation are those provided in the 2006 IPCC Guidelines.

C. Context

6. The UNFCCC Annex I inventory reporting guidelines also cover the establishment and maintenance of national inventory arrangements for the purpose of the continued preparation of timely, complete, consistent, comparable, accurate and transparent annual GHG inventories.

² According to the instrument of ratification, acceptance, approval or accession to the Convention of each Annex I Party.

7. An annual GHG inventory submission shall consist of an NIR and the CRF tables, as set out in annexes I and II to decision 24/CP.19. The annual submission also comprises information provided by an Annex I Party in addition to its submitted NIR and CRF tables.

D. Base year

8. The year 1990 should be the base year for the estimation and reporting of inventories. According to the provisions of Article 4, paragraph 6, of the Convention and decisions 9/CP.2, 11/CP.4 and 7/CP.12, the following Annex I Parties that are undergoing the process of transition to a market economy are allowed to use a base year or a period of years other than 1990, or a level of emissions as established by a decision of the COP, as follows:

Bulgaria:	1988
Croatia:	1990 ³
Hungary:	the average of the years 1985 to 1987
Poland:	1988
Romania:	1989
Slovenia	1986

E. Methods

Methodology

9. Annex I Parties shall use the methodologies provided in the 2006 IPCC Guidelines, unless stated otherwise in the UNFCCC Annex I inventory reporting guidelines, and any supplementary methodologies agreed by the COP, and other relevant COP decisions to estimate anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol.

10. Annex I Parties may use different methods (tiers) contained in the 2006 IPCC Guidelines, prioritizing these methods in accordance with the 2006 IPCC Guidelines. Annex I Parties may also use national methodologies which they consider better able to reflect their national situation, provided that these methodologies are compatible with the 2006 IPCC Guidelines and are well documented and scientifically based.

11. For categories⁴ that are determined to be key categories, in accordance with the 2006 IPCC Guidelines, and estimated in accordance with the provisions in paragraph 14 below, Annex I Parties should make every effort to use a recommended method, in accordance with the corresponding decision trees in the 2006 IPCC Guidelines. Annex I Parties should also make every effort to develop and/or select emission factors (EFs), and collect and select activity data (AD), in accordance with IPCC good practice. Where national circumstances prohibit the use of a recommended method, then the Annex I Party shall explain in its annual GHG inventory submission the reason(s) as to why it was unable to implement a recommended method in accordance with the decision trees in the 2006 IPCC Guidelines.

12. The 2006 IPCC Guidelines provide default methodologies which include default EFs and in some cases default AD for the categories to be reported. As the assumptions implicit

³ In accordance with decision 7/CP.12.

⁴ The term “categories” refers to both source and sink categories as set out in the 2006 IPCC Guidelines. The term “key categories” refers to the key categories as addressed in the 2006 IPCC Guidelines.

in these default data, factors and methods may not be appropriate for specific national circumstances, Annex I Parties should use their own national EFs and AD, where available, provided that they are developed in a manner consistent with the 2006 IPCC Guidelines and are considered to be more accurate than the defaults. If Annex I Parties lack country-specific information, they could also use EFs or other parameters provided in the IPCC Emission Factor Database, where available, provided that they can demonstrate that those parameters are appropriate in the specific national circumstances and are more accurate than the default data provided in the 2006 IPCC Guidelines. Annex I Parties shall transparently explain in their annual GHG inventory submissions what data and/or parameters have been used.

13. Parties are encouraged to refine estimates of anthropogenic emissions and removals in the land use, land-use change and forestry (LULUCF) sector through the application of tier 3 methods, provided that they are developed in a manner consistent with the 2006 IPCC Guidelines, and information for transparency is provided in accordance with paragraph 50(a) below.

Key category identification

14. Annex I Parties shall identify their key categories for the base year and the latest reported inventory year, using approach 1, level and trend assessment, including and excluding LULUCF. Parties are encouraged to also use approach 2 and to add additional key categories to the result of approach 1.

Uncertainties

15. Annex I Parties shall quantitatively estimate the uncertainty of the data used for all source and sink categories using at least approach 1, as provided in the 2006 IPCC Guidelines, and report uncertainties for at least the base year and the latest inventory year and the trend uncertainty between these two years. Annex I Parties are encouraged to use approach 2 or a hybrid of approaches 1 and 2 provided in the 2006 IPCC Guidelines, in order to address technical limitations of approach 1. The uncertainty of the data used for all source and sink categories should also be qualitatively discussed in a transparent manner in the NIR, in particular for categories that were identified as key categories.

Recalculations and time-series consistency

16. The inventory for a time series, including the base year and all subsequent years for which the inventory has been reported, should be estimated using the same methodologies, and the underlying AD and EFs should be obtained and used in a consistent manner, ensuring that changes in emission trends are not introduced as a result of changes in estimation methods or assumptions over the time series of estimates.

17. Recalculations should ensure the consistency of the time series and shall be carried out to improve accuracy and/or completeness. Where the methodology or manner in which underlying AD and EFs are gathered has changed, Annex I Parties should recalculate their inventories for the base year and subsequent years of the times series. Annex I Parties should evaluate the need for recalculations relative to the reasons provided in the 2006 IPCC Guidelines, in particular for key categories. Recalculations should be performed in accordance with 2006 IPCC Guidelines and the general principles set down in these reporting guidelines.

18. In some cases it may not be possible to use the same methods and consistent data sets for all years, owing to a possible lack of AD, EFs or other parameters directly used in the calculation of emission estimates for some historical years, including the base year. In such cases, emissions or removals may need to be recalculated using alternative methods not generally covered by paragraph 9 above. In these instances, Annex I Parties should use one of the techniques provided in the 2006 IPCC Guidelines to estimate the missing values. Annex I Parties should document and report the methodologies used for the entire time series.

Quality assurance/quality control

19. Each Annex I Party shall elaborate an inventory quality assurance/quality control (QA/QC) plan and implement general inventory QC procedures in accordance with its QA/QC plan following the 2006 IPCC Guidelines. In addition, Annex I Parties should apply category-specific QC procedures for key categories and for those individual categories in which significant methodological changes and/or data revisions have occurred, in accordance with the 2006 IPCC Guidelines. In addition, Annex I Parties should implement QA procedures by conducting a basic expert peer review of their inventories in accordance with the 2006 IPCC Guidelines.

F. National inventory arrangements

20. Each Annex I Party should implement and maintain national inventory arrangements for the estimation of anthropogenic GHG emissions by sources and removals by sinks. The national inventory arrangements include all institutional, legal and procedural arrangements made within an Annex I Party for estimating anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, and for reporting and archiving inventory information.

21. National inventory arrangements should be designed and operated:

(a) To ensure the transparency, consistency, comparability, completeness and accuracy of inventories, as defined in paragraphs 3 and 4 above;

(b) To ensure the quality of inventories through the planning, preparation and management of inventory activities. Inventory activities include collecting AD, selecting methods and EFs appropriately, estimating anthropogenic GHG emissions by sources and removals by sinks, implementing uncertainty assessment and QA/QC activities, and carrying out procedures for the verification of the inventory data at the national level, as described in these reporting guidelines.

22. In the implementation of its national inventory arrangements, each Annex I Party should perform the following general functions:

(a) Establish and maintain the institutional, legal and procedural arrangements necessary to perform the functions defined in paragraphs 23 to 27 below, as appropriate, between the government agencies and other entities responsible for the performance of all functions defined in these reporting guidelines;

(b) Ensure sufficient capacity for the timely performance of the functions defined in these reporting guidelines, including data collection for estimating anthropogenic GHG emissions by sources and removals by sinks and arrangements for the technical competence of the staff involved in the inventory development process;

(c) Designate a single national entity with overall responsibility for the national inventory;

(d) Prepare national annual GHG inventories in a timely manner in accordance with these reporting guidelines and relevant decisions of the COP, and provide the information necessary to meet the reporting requirements defined in these reporting guidelines and in relevant decisions of the COP;

(e) Undertake specific functions relating to inventory planning, preparation and management.

Inventory planning

23. As part of its inventory planning, each Annex I Party should:

- (a) Define and allocate specific responsibilities in the inventory development process, including those relating to choosing methods, data collection, particularly AD and EFs from statistical services and other entities, processing and archiving, and QA/QC. Such definition should specify the roles of, and the cooperation between, government agencies and other entities involved in the preparation of the inventory, as well as the institutional, legal and procedural arrangements made to prepare the inventory;
- (b) Elaborate an inventory QA/QC plan as indicated in paragraph 19 above;
- (c) Establish processes for the official consideration and approval of the inventory, including any recalculations, prior to its submission, and for responding to any issues raised in the inventory review process.

24. As part of its inventory planning, each Annex I Party should consider ways to improve the quality of AD, EFs, methods and other relevant technical elements of the inventory. Information obtained from the implementation of the QA/QC programme, the inventory review process and other verification activities should be considered in the development and/or revision of the QA/QC plan and the quality objectives.

Inventory preparation

25. As part of its inventory preparation, each Annex I Party should:

- (a) Prepare estimates in accordance with the requirements defined in these reporting guidelines;
- (b) Collect sufficient AD, process information and EFs as are necessary to support the methods selected for estimating anthropogenic GHG emissions by sources and removals by sinks;
- (c) Make quantitative estimates of uncertainty for each category and for the inventory as a whole, as indicated in paragraph 15 above;
- (d) Ensure that any recalculations are prepared in accordance with paragraphs 16–18 above;
- (e) Compile the NIR and the CRF tables in accordance with these reporting guidelines;
- (f) Implement general inventory QC procedures in accordance with its QA/QC plan, following the 2006 IPCC Guidelines.

26. As part of its inventory preparation, each Annex I Party should:

- (a) Apply category-specific QC procedures for key categories and for those individual categories in which significant methodological and/or data revisions have occurred, in accordance with the 2006 IPCC Guidelines;
- (b) Provide for a basic review of the inventory by personnel that have not been involved in the inventory development process, preferably an independent third party, before the submission of the inventory, in accordance with the planned QA procedures referred to in paragraph 19 above;
- (c) Provide for a more extensive review of the inventory for key categories, as well as for categories where significant changes to methods or data have been made, in accordance with the 2006 IPCC Guidelines;
- (d) On the basis of the reviews described in paragraph 26(b) and (c) above and periodic internal evaluations of the inventory preparation process, re-evaluate the inventory planning process, in order to meet the established quality objectives referred to in paragraph 24 above.

Inventory management

27. As part of its inventory management, each Annex I Party should:

- (a) Archive all relevant inventory information for the reported time series, including all disaggregated EFs and AD, documentation on how these factors and data have been generated and aggregated for the preparation of the inventory, internal documentation on QA/QC procedures, external and internal reviews, and documentation on annual key categories and key category identification and planned inventory improvements;
- (b) Provide review teams with access to all archived information used by the Party to prepare the inventory through the single national entity, in accordance with relevant decisions of the COP;
- (c) Respond, in a timely manner, to requests for clarifying inventory information resulting from the different stages of the process of review of the inventory information and information on the national inventory arrangements.

G. Reporting**1. General guidance**Estimates of emissions and removals

28. Article 12, paragraph 1(a), of the Convention requires that each Party shall communicate to the COP, through the secretariat, inter alia, a national inventory of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol. As a minimum requirement, inventories shall contain information on the following GHGs: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃).

29. In addition, Annex I Parties should provide information on the following precursor gases: carbon monoxide (CO), nitrogen oxides (NO_x) and non-methane volatile organic compounds (NMVOCs), as well as sulphur oxides (SO_x). Annex I Parties may report indirect CO₂ from the atmospheric oxidation of CH₄, CO and NMVOCs. Annex I Parties may report as a memo item indirect N₂O emissions from other than the agriculture and LULUCF sources. These estimates of indirect N₂O should not be included in national totals. For Parties that decide to report indirect CO₂ the national totals shall be presented with and without indirect CO₂.

30. GHG emissions and removals should be presented on a gas-by-gas basis in units of mass, with emissions by sources listed separately from removals by sinks, except in cases where it may be technically impossible to separate information on sources and sinks in the area of LULUCF. For HFCs and PFCs, emissions should be reported for each relevant chemical in the category on a disaggregated basis, except in cases where paragraph 36 below applies.

31. Annex I Parties should report aggregate emissions and removals of GHGs, expressed in CO₂ equivalent (CO₂ eq), using the global warming potential values as agreed by decision 24/CP.19 or any subsequent decision by the COP on global warming potentials.

32. Annex I Parties shall report actual emissions of HFCs, PFCs, SF₆ and NF₃, providing disaggregated data by chemical (e.g. HFC-134a) and category in units of mass and in CO₂ eq, except in cases where paragraph 36 below applies. Annex I Parties should report emission estimates or notation keys in line with paragraph 37 below and trends for these gases for 1990 onwards, in accordance with the provisions of these reporting guidelines.

33. Annex I Parties are strongly encouraged to also report emissions and removals of additional GHGs, such as hydrofluoroethers (HFEs), perfluoropolyethers (PFPEs), and other gases for which 100-year global warming potential values are available from the IPCC but have not yet been adopted by the COP. These emissions and removals should be reported separately from national totals.

34. In accordance with the 2006 IPCC Guidelines, international aviation and marine bunker fuel emissions should not be included in national totals but should be reported separately. Annex I Parties should make every effort to both apply and report according to the method contained in the 2006 IPCC Guidelines for separating domestic and international emissions. Annex I Parties should also report emissions from international aviation and marine bunker fuels as two separate entries in their inventories.

35. Annex I Parties should clearly indicate how feedstocks and non-energy use of fuels have been accounted for in the inventory, under the energy or industrial processes sector, in accordance with the 2006 IPCC Guidelines.

36. Emissions and removals should be reported at the most disaggregated level of each source/sink category, taking into account that a minimum level of aggregation may be required to protect confidential business and military information.

Completeness

37. Where methodological or data gaps in inventories exist, information on these gaps should be presented in a transparent manner. Annex I Parties should clearly indicate the sources and sinks which are not considered in their inventories but which are included in the 2006 IPCC Guidelines, and explain the reasons for such exclusion. Similarly, Annex I Parties should indicate the parts of their geographical area, if any, not covered by their inventory and explain the reasons for their exclusion. In addition, Annex I Parties should use the notation keys presented below to fill in the blanks in all the CRF tables.⁵ This approach facilitates the assessment of the completeness of an inventory. The notation keys are as follows:

(a) “NO” (not occurring) for categories or processes, including recovery, under a particular source or sink category that do not occur within an Annex I Party;

(b) “NE” (not estimated) for AD and/or emissions by sources and removals by sinks of GHGs which have not been estimated but for which a corresponding activity may occur within a Party.⁶ Where “NE” is used in an inventory to report emissions or removals of CO₂, N₂O, CH₄, HFCs, PFCs, SF₆ and NF₃, the Annex I Party shall indicate in both the NIR and the CRF completeness table why such emissions or removals have not been estimated. Furthermore, a Party may consider that a disproportionate amount of effort would be required to collect data for a gas from a specific category⁷ that would be insignificant in terms of the overall level and trend in national emissions and in such cases use the notation key “NE”. The Party should in the NIR provide justifications for exclusion in terms of the likely level of emissions. An emission should only be considered insignificant if the likely level of emissions is below 0.05 per cent of the national total GHG emissions,⁸ and does not exceed 500 kt CO₂ eq. The total national aggregate of estimated emissions for all gases and categories considered insignificant shall remain below 0.1 per cent of the national total GHG emissions.⁹ Parties should use approximated AD and default IPCC EFs to derive a likely level

⁵ If notation keys are used in the NIR, they should be consistent with those reported in the CRF tables.

⁶ The notation key “NE” could also be used when an activity occurs in the Party but the 2006 IPCC Guidelines do not provide methodologies to estimate the emissions/removals.

⁷ Category as defined in the CRF tables.

⁸ “National total GHG emissions” refers to the total GHG emissions without LULUCF for the latest reported inventory year.

⁹ As footnote 8 above.

of emissions for the respective category. Once emissions from a specific category have been reported in a previous submission, emissions from this specific category shall be reported in subsequent GHG inventory submissions;

(c) “NA” (not applicable) for activities under a given source/sink category that do occur within the Party but do not result in emissions or removals of a specific gas. If the cells for categories in the CRF tables for which “NA” is applicable are shaded, they do not need to be filled in;

(d) “IE” (included elsewhere) for emissions by sources and removals by sinks of GHGs estimated but included elsewhere in the inventory instead of under the expected source/sink category. Where “IE” is used in an inventory, the Annex I Party should indicate, in the CRF completeness table, where in the inventory the emissions or removals for the displaced source/sink category have been included, and the Annex I Party should explain such a deviation from the inclusion under the expected category, especially if it is due to confidentiality;

(e) “C” (confidential) for emissions by sources and removals by sinks of GHGs of which the reporting could lead to the disclosure of confidential information, given the provisions of paragraph 36 above.

38. Annex I Parties are encouraged to estimate and report emissions and removals for source or sink categories for which estimation methods are not included in the 2006 IPCC Guidelines. If Annex I Parties estimate and report emissions and removals for country-specific sources or sinks or of gases which are not included in the 2006 IPCC Guidelines, they should explicitly describe what source/sink categories or gases these are, as well as what methodologies, EFs and AD have been used for their estimation, and provide references for these data.

Key categories

39. Annex I Parties shall estimate and report the individual and cumulative percentage contributions from key categories to their national total, with respect to both level and trend. The emissions should be expressed in terms of CO₂ eq using the methods provided in the 2006 IPCC Guidelines. As indicated in paragraph 50 below, this information should be included in the NIR using tables 4.2 and 4.3 of the 2006 IPCC Guidelines, adapted to the level of category disaggregation that the Annex I Party used for determining its key categories.¹⁰

Verification

40. For the purposes of verification, Annex I Parties should compare their national estimates of CO₂ emissions from fuel combustion with those estimates obtained using the IPCC reference approach, as contained in the 2006 IPCC Guidelines, and report the results of this comparison in the NIR.

41. Annex I Parties that prepare their estimates of emissions and/or removals using higher-tier (tier 3) methods and/or models shall provide in the NIR verification information consistent with the 2006 IPCC Guidelines.

Uncertainties

42. Annex I Parties shall report, in the NIR, uncertainties estimated as indicated in paragraph 15 above, as well as methods used and underlying assumptions, for the purpose of helping to prioritize efforts to improve the accuracy of national inventories in the future and to guide decisions on methodological choice. This information should be presented using

¹⁰ Table 4.1 of the 2006 IPCC Guidelines should be used as the basis for preparing the key category analysis but does not need to be reported in the NIR.

table 3.3 of volume 1 of the 2006 IPCC Guidelines. In addition, Annex I Parties should indicate in that table those categories that have been identified as key categories in their inventory.

Recalculations

43. Recalculations of previously submitted estimates of emissions and removals as a result of changes in methodologies, changes in the manner in which EFs and AD are obtained and used, or the inclusion of new sources or sinks which have existed since the base year but were not previously reported, shall be reported for the base year and all subsequent years of the time series up to the year for which the recalculations are made. Further, a discussion on the impact of the recalculations on the trend in emissions should be provided in the NIR at the category, sector and national total level, as appropriate.

44. Recalculations shall be reported in the NIR, with explanatory information and justifications for recalculations. Information on the procedures used for performing the recalculations, changes in the calculation methods, EFs and AD used, and the inclusion of sources or sinks not previously covered should be reported with an indication of the relevant changes in each source or sink category where these changes have taken place.

45. Annex I Parties shall report any other changes in estimates of emissions and removals, and clearly indicate the reason for the changes compared with previously submitted inventories (e.g. error correction, statistical reason or reallocation of categories), in the NIR as indicated in paragraph 50 below. Small differences (e.g. due to the rounding of estimates) should not be considered as recalculations.

Quality assurance/quality control

46. Annex I Parties shall report in the NIR on their QA/QC plan and give information on QA/QC procedures already implemented or to be implemented in the future. In addition, Annex I Parties are encouraged to report on any peer review of their inventory, apart from the UNFCCC review.

Corrections

47. Inventories shall be reported without corrections relating, for example, to climate variations or trade patterns of electricity.

2. National inventory report

48. Annex I Parties shall submit to the COP, through the secretariat, an NIR containing detailed and complete information on their inventories. The NIR should ensure transparency and contain sufficiently detailed information to enable the inventory to be reviewed. This information should cover the base year, the most recent 10 years and any previous years since the base year ending with 0 or 5 (1990, 1995, 2000, etc.).

49. Each year, an updated NIR shall be electronically submitted in its entirety to the COP, through the secretariat, in accordance with the relevant decisions of the COP.

50. The NIR shall include:

(a) Descriptions, references and sources of information for the specific methodologies, including higher-tier methods and models, assumptions, EFs and AD, as well as the rationale for their selection. For tier 3 models, additional information for improving transparency;¹¹

¹¹ Parties should, as applicable, report information on: basis and type of model, application and adaptation of the model, main equations/processes, key assumptions, domain of application, how the model parameters were estimated, description of key inputs and outputs, details of calibration and model evaluation, uncertainty and sensitivity analysis, QA/QC procedures adopted and references to

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- (b) An indication of the level of complexity (IPCC tier) applied and a description of any national methodology used by the Annex I Party, as well as information on anticipated future improvements;
 - (c) For key categories, an explanation if the recommended methods from the appropriate decision tree in the 2006 IPCC Guidelines are not used;
 - (d) A description of the national key categories, as indicated in paragraph 39 above, including:
 - (i) A summary table with the key categories identified for the latest reporting year (by level and trend);
 - (ii) Information on the level of category disaggregation used and the rationale for its use;
 - (iii) Additional information relating to the methodology used for identifying key categories;
 - (e) Information on how and where feedstocks and non-energy use of fuels have been reported in the inventory;
 - (f) Assessment of completeness, including information and explanations in relation to categories not estimated or included elsewhere, and information related to the geographical scope;
 - (g) Information on uncertainties, as requested in paragraph 42 above;
 - (h) Information on any recalculations relating to previously submitted inventory data, as requested in paragraphs 43 to 45 above, including changes in methodologies, sources of information and assumptions, in particular in relation to recalculations made in response to the review process;
 - (i) Information on changes in response to the review process;
 - (j) Information on the national inventory arrangements and changes to the national inventory arrangements, including a description of the institutional arrangements for inventory preparation, as well as information on verification as requested in paragraphs 40 and 41 above and on QA/QC as requested in paragraph 46 above.
51. The NIR should follow the outline and general structure contained in annex I to decision 24/CP.19.

3. Common reporting format tables

52. The CRF tables are designed to ensure that Annex I Parties report quantitative data in a standardized format and to facilitate comparison of inventory data and trends. Explanation of information of a qualitative character should mainly be provided in the NIR rather than in the CRF tables. Such explanatory information should be cross-referenced to the specific chapter of the NIR.

53. Annex I Parties shall submit annually to the COP, through the secretariat, the information required in the CRF tables, as contained in annex II to decision 24/CP.19. This information shall be electronically submitted on an annual basis in its entirety to the COP, through the secretariat, in accordance with the relevant decisions of the COP. Parties should submit their CRF tables, generated by the CRF Reporter software, via the UNFCCC submission portal, with a view to facilitating the processing of the inventory information by the secretariat.

peer-reviewed literature.

54. The CRF is a standardized format for reporting estimates of GHG emissions and removals and other relevant information. The CRF allows for the improved handling of electronic submissions and facilitates the processing of inventory information and the preparation of useful technical analysis and synthesis documentation.

55. The CRF tables shall be reported in accordance with the tables included in annex II to decision -/CP.19 and as specified in these reporting guidelines. In completing the CRF tables, Annex I Parties:

(a) Shall provide a full set of CRF tables for the base year and all years from 1990 up to the most recent inventory year;

(b) Should provide completeness tables for the latest inventory year only, if the information applies to all years of the time series. If the information in those tables differs for each reported year, then either the tables or information on the specific changes must be provided for each year in the CRF tables;

(c) Should use the documentation boxes provided at the foot of the sectoral report and background data tables to provide cross references to detailed explanations in the NIR, or any other information, as specified in those boxes.

56. Annex I Parties should provide the information requested in the additional information boxes. Where the information called for is inappropriate because of the methodological tier used by the Annex I Party, the corresponding cells should be completed using the notation key "NA". In such cases, the Annex I Parties should cross-reference in the documentation box the relevant chapter in the NIR where equivalent information can be found.

57. Annex I Parties should use the notation keys, as specified in paragraph 37 above, in all the CRF tables to fill in the cells where no quantitative data are directly entered. Using the notation keys in this way facilitates the assessment of the completeness of an inventory.

H. Record-keeping

58. Annex I Parties should gather and archive all relevant inventory information for each year of the reported time series, including all disaggregated EFs and AD, and documentation on how those factors and data were generated, including expert judgement where appropriate, and how they have been aggregated for their reporting in the inventory. This information should allow for the reconstruction of the inventory by the expert review teams. Inventory information should be archived from the base year and should include corresponding data on the recalculations applied. The 'paper trail', which can include spreadsheets or databases used to compile inventory data, should enable estimates of emissions and removals to be traced back to the original disaggregated EFs and AD. Also, relevant supporting documentation related to QA/QC implementation, uncertainty evaluation or key category analyses should be kept on file. This information should facilitate the process of clarifying inventory data in a timely manner when the secretariat prepares annual compilations of inventories or assesses methodological issues.

I. Systematic updating of the guidelines

59. The UNFCCC Annex I inventory reporting guidelines on annual GHG inventories shall be reviewed and revised, as appropriate, in accordance with decisions of the COP on this matter.

J. Language

60. The NIR shall be submitted in one of the official languages of the United Nations. Annex I Parties are encouraged to submit an English translation of the NIR to facilitate its use by the expert review teams.

Appendix

An outline and general structure of the national inventory report

EXECUTIVE SUMMARY

ES.1. Background information on greenhouse gas (GHG) inventories and climate change (e.g. as it pertains to the national context)

ES.2. Summary of national emission and removal-related trends

ES.3. Overview of source and sink category emission estimates and trends

ES.4. Other information (e.g. indirect GHGs)

Chapter 1: Introduction

1.1. Background information on GHG inventories and climate change (e.g. as it pertains to the national context, to provide information to the general public)

1.2. A description of the national inventory arrangements

1.2.1. Institutional, legal and procedural arrangements

1.2.2. Overview of inventory planning, preparation and management

1.2.3. Quality assurance, quality control and verification plan

Indicate:

- *Quality assurance/quality control (QA/QC) procedures applied*

- *QA/QC plan*

- *Verification activities*

- *Treatment of confidentiality issues*

1.2.4. Changes in the national inventory arrangements since previous annual GHG inventory submission

1.3. Inventory preparation, and data collection, processing and storage

1.4. Brief general description of methodologies (including tiers used) and data sources used

1.5. Brief description of key categories

Provide a summary table with the key categories identified for the latest reporting year (by level and trend) on the basis of table 4.4 of volume 1 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines) and provide more detailed information in annex 1. Indicate whether the key category analysis differs from the one included in the common reporting format (CRF) table and, if so, give a short description of the differences.

1.6. General uncertainty evaluation, including data on the overall uncertainty for the inventory totals

1.7. General assessment of completeness

Provide, inter alia, information and explanations in relation to categories not estimated or included elsewhere, and information related to the geographical scope.

Chapter 2: Trends in greenhouse gas emissions

2.1. Description and interpretation of emission trends for aggregated GHG emissions

2.2. Description and interpretation of emission trends by sector

Explain, inter alia, significant changes compared with 1990 and the previous year.

Chapter 3: Energy (CRF sector 1)

3.1. Overview of sector (e.g. quantitative overview and description, including trends and methodological tiers by category)

3.2. Fuel combustion (CRF 1.A), including detailed information on:

3.2.1. Comparison of the sectoral approach with the reference approach

3.2.2. International bunker fuels

3.2.3. Feedstocks and non-energy use of fuels

3.2.4. Category (CRF category number)

3.2.4.1. Category description (e.g. characteristics of sources)

3.2.4.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission estimates and the rationale for their selection, information on carbon dioxide (CO₂) capture, any specific methodological issues (e.g. description of national methods and models))

3.2.4.3. Uncertainties and time-series consistency

3.2.4.4. Category-specific QA/QC and verification, if applicable

3.2.4.5. Category-specific recalculations, if applicable, including changes made in response to the review process and impact on emission trend

3.2.4.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including tracking of those identified in the review process

3.3. Fugitive emissions from solid fuels and oil and natural gas and other emissions from energy production (CRF 1.B)

3.3.1. Category (CRF category number)

3.3.1.1. Category description (e.g. characteristics of sources)

3.3.1.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission estimates and the rationale for their selection, any specific methodological issues (e.g. description of national methods and models))

3.3.1.3. Uncertainties and time-series consistency

3.3.1.4. Category-specific QA/QC and verification, if applicable

3.3.1.5. Category-specific recalculations, if applicable, including changes made in response to the review process and impact on emission trend

3.3.1.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including tracking of those identified in the review process

3.4. CO₂ transport and storage (CRF 1.C)

3.4.1. Category (CRF category number)

3.4.1.1. Category description (e.g. characteristics of sources)

3.4.1.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission estimates and the rationale for their selection, any specific methodological issues (e.g. description of national methods and models))

3.4.1.3. Uncertainties and time-series consistency

3.4.1.4. Category-specific QA/QC and verification, if applicable

3.4.1.5. Category-specific recalculations, if applicable, including changes made in response to the review process and impact on emission trend

3.4.1.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including tracking of those identified in the review process

Chapter 4: Industrial processes and product use (CRF sector 2)

4.1. Overview of sector (e.g. quantitative overview and description, including trends and methodological tiers by category)

4.2. Category (CRF category number)

4.2.1. Category description (e.g. characteristics of sources)

4.2.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission estimates and the rationale for their selection, information on CO₂ capture, any specific methodological issues (e.g. description of national methods and models))

4.2.3. Uncertainties and time-series consistency

4.2.4. Category-specific QA/QC and verification, if applicable

4.2.5. Category-specific recalculations, if applicable, including changes made in response to the review process and impact on emission trend

4.2.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including tracking of those identified in the review process

Chapter 5: Agriculture (CRF sector 3)

5.1. Overview of sector (e.g. quantitative overview and description, including trends and methodological tiers by category)

5.2. Category (CRF category number)

5.2.1. Category description (e.g. characteristics of sources)

5.2.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates and the rationale for their selection, any specific methodological issues (e.g. description of national methods and models))

5.2.3. Uncertainties and time-series consistency

5.2.4. Category-specific QA/QC and verification, if applicable

5.2.5. Category-specific recalculations, if applicable, including changes made in response to the review process and impact on emission trend

5.2.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including tracking of those identified in the review process

Chapter 6: Land use, land-use change and forestry (CRF sector 4)

6.1. Overview of sector (e.g. quantitative overview and description, including trends and methodological tiers by category, and coverage of pools)

6.2. Land-use definitions and the classification systems used and their correspondence to the land use, land-use change and forestry categories (e.g. land use and land-use change matrix)

6.3. Information on approaches used for representing land areas and on land-use databases used for the inventory preparation

6.4. Category (CRF category number)

6.4.1. Description (e.g. characteristics of category)

6.4.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates and the rationale for their selection, any specific methodological issues (e.g. description of national methods and models))

6.4.3. Uncertainties and time-series consistency

6.4.4. Category-specific QA/QC and verification, if applicable

6.4.5. Category-specific recalculations, if applicable, including changes made in response to the review process and impact on emission trend

6.4.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including those in response to the review process

Chapter 7: Waste (CRF sector 5)

7.1. Overview of sector (e.g. quantitative overview and description, including trends and methodological tiers by category)

7.2. Category (CRF category number)

7.2.1. Category description (e.g. characteristics of sources)

7.2.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission estimates and the rationale for their selection, any specific methodological issues (e.g. description of national methods and models))

7.2.3. Uncertainties and time-series consistency

7.2.4. Category-specific QA/QC and verification, if applicable

7.2.5. Category-specific recalculations, if applicable, including changes made in response to the review process

7.2.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including those in response to the review process

Chapter 8: Other (CRF sector 6) (if applicable)

Chapter 9: Indirect CO₂ and nitrous oxide emissions¹²

9.1. Description of sources of indirect emissions in GHG inventory

9.2. Methodological issues (e.g. choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission estimates and the rationale for their selection, any specific methodological issues (e.g. description of national methods and models))

9.3. Uncertainties and time-series consistency

9.4. Category-specific QA/QC and verification, if applicable

9.5. Category-specific recalculations, if applicable, including changes made in response to the review process and impact on emission trend

9.6. Category-specific planned improvements, if applicable (e.g. methodologies, activity data, emission factors, etc.), including tracking of those identified in the review process

Chapter 10: Recalculations and improvements

10.1. Explanations and justifications for recalculations, including in response to the review process

10.2. Implications for emission levels

10.3. Implications for emission trends, including time-series consistency

10.4. Planned improvements, including in response to the review process

Annexes to the national inventory report

Annex 1: Key categories

- Description of methodology used for identifying key categories, if different from the Intergovernmental Panel on Climate Change (IPCC) tier 1 approach
- Information on the level of disaggregation
- Tables 4.2 and 4.3 of volume 1 of the 2006 IPCC Guidelines, including and excluding land use, land-use change and forestry

Annex 2: Assessment of uncertainty

- Description of methodology used for identifying uncertainties
- Table 3.3 of volume 1 of the 2006 IPCC Guidelines

Annex 3: Detailed methodological descriptions for individual source or sink categories

A.3.X (sector or category name)

¹² Content of this chapter should be consistent with paragraph 29.

Annex 4: The national energy balance for the most recent inventory year

Annex 5: Any additional information, as applicable.

References

All references used in the national inventory report must be listed in the references list.

Annex II

[English only]

Common reporting format tables

Owing to the complexity of and the importance of colour coding in the common reporting format (CRF) tables, they are not included in this document but can be downloaded from the UNFCCC website at

<http://unfccc.int/national_reports/annex_i_ghg_inventories/reporting_requirements/items/5333.php>.

Annex III

[English only]

Global warming potential values^a

<i>Greenhouse gas</i>	<i>Chemical formula</i>	<i>Global warming potentials</i>
Carbon dioxide	CO ₂	1
Methane	CH ₄	25
Nitrous oxide	N ₂ O	298
Hydrofluorocarbons (HFCs)		
HFC-23	CHF ₃	14 800
HFC-32	CH ₂ F ₂	675
HFC-41	CH ₃ F	92
HFC-43-10mee	CF ₃ CHFCHFCF ₂ CF ₃	1 640
HFC-125	C ₂ HF ₅	3 500
HFC-134	C ₂ H ₂ F ₄ (CHF ₂ CHF ₂)	1 100
HFC-134a	C ₂ H ₂ F ₄ (CH ₂ FCF ₃)	1 430
HFC-143	C ₂ H ₃ F ₃ (CHF ₂ CH ₂ F)	353
HFC-143a	C ₂ H ₃ F ₃ (CF ₃ CH ₃)	4 470
HFC-152	CH ₂ FCH ₂ F	53
HFC-152a	C ₂ H ₄ F ₂ (CH ₃ CHF ₂)	124
HFC-161	CH ₃ CH ₂ F	12
HFC-227ea	C ₃ HF ₇	3 220
HFC-236cb	CH ₂ FCF ₂ CF ₃	1 340
HFC-236ea	CHF ₂ CHFCF ₃	1 370
HFC-236fa	C ₃ H ₂ F ₆	9 810
HFC-245ca	C ₃ H ₃ F ₅	693
HFC-245fa	CHF ₂ CH ₂ CF ₃	1 030
HFC-365mfc	CH ₃ CF ₂ CH ₂ CF ₃	794
Perfluorocarbons		
Perfluoromethane – PFC-14	CF ₄	7 390
Perfluoroethane – PFC-116	C ₂ F ₆	12 200
Perfluoropropane – PFC-218	C ₃ F ₈	8 830
Perfluorobutane – PFC-3-1-10	C ₄ F ₁₀	8 860
Perfluorocyclobutane – PFC-318	c-C ₄ F ₈	10 300
Perfluoropentane – PFC-4-1-12	C ₅ F ₁₂	9 160
Perfluorohexane – PFC-5-1-14	C ₆ F ₁₄	9 300
Perfluorodecalin – PFC-9-1-18 ^b	C ₁₀ F ₁₈	>7 500
Perfluorocyclopropane ^c	c-C ₃ F ₆	>17 340
Sulphur hexafluoride (SF₆)		
Sulphur hexafluoride	SF ₆	22 800
Nitrogen trifluoride (NF₃)		
Nitrogen trifluoride	NF ₃	17 200
Fluorinated ethers		
HFE-125	CHF ₂ OCF ₃	14 900
HFE-134	CHF ₂ OCHF ₂	6 320
HFE-143a	CH ₃ OCF ₃	756

<i>Greenhouse gas</i>	<i>Chemical formula</i>	<i>Global warming potentials</i>
HCFE-235da2	CHF ₂ OCHClCF ₃	350
HFE-245cb2	CH ₃ OCF ₂ CF ₃	708
HFE-245fa2	CHF ₂ OCH ₂ CF ₃	659
HFE-254cb2	CH ₃ OCF ₂ CHF ₂	359
HFE-347mcc3	CH ₃ OCF ₂ CF ₂ CF ₃	575
HFE-347pcf2	CHF ₂ CF ₂ OCH ₂ CF ₃	580
HFE-356pcc3	CH ₃ OCF ₂ CF ₂ CHF ₂	110
HFE-449sl (HFE-7100)	C ₄ F ₉ OCH ₃	297
HFE-569sf2 (HFE-7200)	C ₄ F ₉ OC ₂ H ₅	59
HFE-43-10pccc124 (H-Galden 1040x)	CHF ₂ OCF ₂ OC ₂ F ₄ OCHF ₂	1 870
HFE-236ca12 (HG-10)	CHF ₂ OCF ₂ OCHF ₂	2 800
HFE-338pcc13 (HG-01)	CHF ₂ OCF ₂ CF ₂ OCHF ₂	1 500
	(CF ₃) ₂ CFOCH ₃	343
	CF ₃ CF ₂ CH ₂ OH	42
	(CF ₃) ₂ CHOH	195
HFE-227ea	CF ₃ CHFOCF ₃	1 540
HFE-236ea2	CHF ₂ OCHF ₂ CF ₃	989
HFE-236fa	CF ₃ CH ₂ OCF ₃	487
HFE-245fa1	CHF ₂ CH ₂ OCF ₃	286
HFE-263fb2	CF ₃ CH ₂ OCH ₃	11
HFE-329mcc2	CHF ₂ CF ₂ OCF ₂ CF ₃	919
HFE-338mcf2	CF ₃ CH ₂ OCF ₂ CF ₃	552
HFE-347mcf2	CHF ₂ CH ₂ OCF ₂ CF ₃	374
HFE-356mec3	CH ₃ OCF ₂ CHF ₂ CF ₃	101
HFE-356pcf2	CHF ₂ CH ₂ OCF ₂ CHF ₂	265
HFE-356pcf3	CHF ₂ OCH ₂ CF ₂ CHF ₂	502
HFE-365mcf'11 t3	CF ₃ CF ₂ CH ₂ OCH ₃	11
HFE-374pc2	CHF ₂ CF ₂ OCH ₂ CH ₃	557
	– (CF ₂) ₄ CH (OH) –	73
	(CF ₃) ₂ CHOCHF ₂	380
	(CF ₃) ₂ CHOCH ₃	27
Perfluoropolyethers		
PFPME	CF ₃ OCF(CF ₃)CF ₂ OCF ₂ OCF ₃	10 300
Trifluoromethyl sulphur pentafluoride (SF₅CF₃)		
Trifluoromethyl sulphur pentafluoride	SF ₅ CF ₃	17 700

^a As listed in the column entitled “Global warming potential for given time horizon” in table 2.14 of the errata to the contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, based on the effects of greenhouse gases over a 100-year time horizon.

^b The CRF Reporter will use the value of 7,500 for perfluorodecalin.

^c The CRF Reporter will use the value of 17,340 for perfluorocyclopropane.

Decision 13/CP.20

Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention

The Conference of the Parties,

Recalling the relevant provisions of the Convention, in particular its Articles 4 and 12, and decisions 2/CP.1, 9/CP.2, 6/CP.3, 6/CP.5, 33/CP.7, 19/CP.8, 2/CP.9, 18/CP.10, 1/CP.13, 1/CP.16, 2/CP.17, 23/CP.19 and 24/CP.19,

Noting the work programme established in decision 2/CP.17 on the revision of the guidelines for the review of biennial reports and national communications, including national inventory reviews,

Also noting that, while the revision of the review guidelines for national communications and biennial reports was completed at the nineteenth session of the Conference of the Parties, the revision of the review guidelines for greenhouse gas inventories was to be completed by the twentieth session of the Conference of the Parties,

Recognizing the improvements that Parties included in Annex I to the Convention (Annex I Parties) have made in providing complete and timely annual greenhouse gas inventories,

Having considered the experience gained in the review of information submitted by Annex I Parties to date and the need to have a cost-effective, efficient and practical review process that does not impose an excessive burden on Parties, experts or the secretariat,

Having also considered the relevant recommendations of the Subsidiary Body for Scientific and Technological Advice,

1. *Decides* to revise the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention”, adopted by decision 23/CP.19, to make the necessary changes to include “Part III: UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention”;
2. *Also decides* that the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention” contained in the annex shall be used for the review of biennial reports, national communications and greenhouse gas inventories, effective immediately;
3. *Requests* the secretariat to coordinate the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention in accordance with the provisions of the guidelines contained in the annex, subject to the availability of financial resources;
4. *Also requests* the secretariat to develop and implement a standardized set of data comparisons, and to select a group of experienced review experts from among the lead reviewers of the greenhouse gas inventories to conduct an assessment of those data comparisons every five years;

5. *Decides* that the group referred to in paragraph 4 above, using the assessment described in the same paragraph, should, for consideration at the next meeting of lead reviewers for greenhouse gas inventories:
- (a) Explore additional standardized data comparisons, based on the requirements in paragraph 68 of the annex, as well as the past experiences with the data comparisons carried out in previous review cycles;
 - (b) Consider whether the standardized set of data comparisons implemented remains useful;
6. *Requests* the secretariat to include in the report referred to in paragraph 44 of the annex any revised set of the standardized data comparisons, for consideration by the Subsidiary Body for Scientific and Technological Advice;
7. *Also requests* the secretariat, in view of the adoption of “Part III: UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention”, to modify the relevant information technology tools, as needed, to support the implementation of the review process, recognizing that the modification of those tools will require time and effort and that the implementation of the modifications will need to take place during the 2015–2016 review cycles;
8. *Further requests* the secretariat, as part of the technical review of annual national greenhouse gas inventories, to compile and tabulate aggregate information¹ and trends concerning greenhouse gas emissions by sources and removals by sinks from the latest available greenhouse gas inventory submissions of Parties included in Annex I to the Convention (Annex I Parties), and any other inventory information, and to publish this information on the UNFCCC website electronically as well as in a stand-alone document;
9. *Notes* that the document referred to in paragraph 8 above:
- (a) Will provide aggregate information to the Conference of the Parties on greenhouse gas emissions by sources and removals by sinks and their trends for all Annex I Parties;
 - (b) Allows comparisons across Annex I Parties, as well as compiles and compares information across Annex I Parties in a tabular and, as appropriate, graphical format;
 - (c) May also be used as an input to the individual technical review process;
10. *Decides* that a summary of the document mentioned in paragraph 8 above will be published in electronic format for consideration by the Conference of the Parties and the subsidiary bodies, and that this summary will include trends in greenhouse gas emissions by sources and removals by sinks and an assessment of the adherence of the reported inventory information to the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual

¹ Containing the information on:

- (a) For key categories, based on approach 1 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines), and other selected categories:
 - (i) methodologies used in the preparation of the inventories;
 - (ii) implied emission factors, default values and ranges contained in the 2006 IPCC Guidelines;
 - (iii) reported activity data and data from authoritative sources, taking into account the conclusions of the meeting of the lead reviewers for greenhouse gas inventories and agreed by the Subsidiary Body for Scientific and Technological Advice if possible;
 - (iv) other information provided in the various common reporting format tables;
- (b) Estimates of carbon dioxide emissions from fuel combustion using the Intergovernmental Panel on Climate Change reference approach compared with estimates of carbon dioxide emissions from fuel combustion using a national (sectoral) approach;
- (c) Inventory recalculations.

greenhouse gas inventories” and the provisions of relevant decisions of the Conference of the Parties, including information on any delays in submitting the annual inventory information;

11. *Recognizes* that the deadline, as set out in decision 24/CP.19, paragraph 5, for providing the upgraded CRF Reporter to Annex I Parties, enabling them to submit their greenhouse gas inventories, was not met;

12. *Notes* that version 5.0.0 of the CRF Reporter is not functioning² in order to enable Annex I Parties to submit their common reporting format tables for the year 2015;

13. *Reiterates* that Annex I Parties in 2015 may submit their common reporting format tables after 15 April, but no longer than the corresponding delay in the CRF Reporter availability;

14. *Urges* Annex I Parties to submit the information referred to in paragraph 13 above as soon as practically possible;

15. *Requests* the Subsidiary Body for Scientific and Technological Advice to consider, at its forty-eighth session (April–May 2018), the experiences in conducting desk reviews, taking into consideration any relevant conclusions of the meetings of lead reviewers for greenhouse gas inventories up to 2017.

² ‘Functioning’ software means that the data on greenhouse emissions/removals are reported accurately both in terms of common reporting format tables and Extensible Markup Language format.

Annex

Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention

PART I: STRUCTURE OF THE REVIEW GUIDELINES

1. The UNFCCC guidelines for review of annual inventories are composed of part II and part III of these guidelines.
2. The UNFCCC guidelines for review of biennial reports are composed of part II and part IV of these guidelines.
3. The UNFCCC guidelines for review of national communications are composed of part II and part V of these guidelines.

PART II: GENERAL APPROACH TO THE REVIEW

A. Applicability

4. Information provided by Parties included in Annex I to the Convention (Annex I Parties) in their greenhouse gas (GHG) inventories, biennial reports (BRs) and national communications (NCs) will be subject to reviews pursuant to relevant decisions of the Conference of the Parties (COP), in accordance with the provisions of these guidelines.

B. Objectives

5. The objectives of the review of information reported under the Convention related to GHG inventories, BRs and NCs and pursuant to relevant decisions of the COP are the following:
 - (a) To provide, in a facilitative, non-confrontational, open and transparent manner, a thorough, objective and comprehensive technical review of all aspects of the implementation of the Convention by individual Annex I Parties and Annex I Parties as a whole;
 - (b) To promote the provision of consistent, transparent, comparable, accurate and complete information by Annex I Parties;
 - (c) To assist Annex I Parties in improving their reporting of information contained in GHG inventories, BRs and NCs, and pursuant to other relevant decisions of the COP and the implementation of their commitments under the Convention;
 - (d) To ensure that the COP has accurate, consistent and relevant information in order to review the implementation of the Convention.
6. The objectives of the review guidelines are to promote consistency, comparability and transparency in the review of information reported under the Convention related to GHG inventories, BRs and NCs.

C. General approach

7. The provisions of these guidelines will apply to the review of information reported under the Convention related to GHG inventories, BRs and NCs, and pursuant to relevant decisions of the COP.
8. Specific provisions for the review of GHG inventories, NCs and BRs are included in specific parts of these review guidelines.
9. The same information submitted by an Annex I Party in its BR, NC and GHG inventory will be reviewed only once, by an expert review team (ERT).
10. The ERTs shall provide a thorough and comprehensive technical review of all aspects of the implementation of the Convention by Annex I Parties and shall identify any potential issues referred to in paragraphs 81 (inventory section), 105 and 119 below. The ERTs shall conduct technical reviews to provide information expeditiously to the COP in accordance with the procedures detailed in these guidelines.
11. At any stage in the review process, the ERTs may put questions to, or request additional or clarifying information from, the Annex I Parties under review regarding identified issues. The ERTs should offer suggestions and advice to those Annex I Parties on how to resolve such issues, taking into account the national circumstances of the Party under review. The ERTs shall also provide technical advice to the COP or the Subsidiary Body for Implementation (SBI), upon request.
12. The Annex I Parties under review should provide the ERTs with access to the information necessary to substantiate and clarify the implementation of their commitments under the Convention, in accordance with the relevant reporting guidelines adopted by the COP, and, during in-country visits, should also provide appropriate working facilities. The Parties should make every reasonable effort to respond to all questions and requests of the ERTs for additional clarifying information.

Confidentiality

13. In response to a request from the ERT for additional data or information, or access to data used in the preparation of the GHG inventory, BR and NC reports, an Annex I Party may indicate whether such information or data are confidential. In such a case, the Party should provide the basis for protecting such information, including any domestic law, and, upon receipt of assurance that the data will be maintained as confidential by the ERT, will submit the confidential data in accordance with domestic law and in a manner that allows the ERT access to sufficient information or data for the assessment of the implementation of the commitments under the Convention by Annex I Parties and the conformity with the relevant methodological guidance as agreed by the COP. Any confidential information or data submitted by a Party in accordance with this paragraph shall be maintained as confidential by the ERT, in accordance with any decisions on this matter adopted by the COP.
14. An ERT member's obligation not to disclose confidential information and data submitted by a Party in accordance with paragraph 13 above shall continue after the termination of his or her service on the ERT.

D. Timing and procedures

I. Review of greenhouse gas inventories

15. Each GHG inventory submitted under the Convention by an Annex I Party will be subject to review, in accordance with part II and part III of these guidelines.

II. Review of biennial reports

16. Each BR submitted under the Convention by an Annex I Party will be subject to a review by an ERT, in accordance with part II and part IV of these guidelines.
17. The ERTs shall make every effort to complete the individual review of BRs within 15 months of the due date of their submission for each Annex I Party.
18. In the years when NCs and BRs are submitted together, both the NC and BR will be subject to an in-country review.
19. In the years when the BR is not reported in conjunction with the NC, the BR shall be subject to a centralized review. However, the ERT, based on the findings of the review,¹ can recommend that the next review be an in-country review and, upon a Party's request, the secretariat shall organize an in-country review for that Party.
20. The secretariat, where appropriate, may consider other UNFCCC review processes when coordinating BR and NC reviews, in particular with a view to addressing the need to improve the cost-effectiveness of the review process and national circumstances.

III. Review of national communications

21. The ERTs shall make every effort to complete the individual review of NCs within 15 months of the due date of their submission for each Annex I Party.
22. Each NC submitted under the Convention by an Annex I Party shall be subject to a scheduled in-country review by an ERT, in accordance with part II and part V of these guidelines.
23. The secretariat, where appropriate, shall consider other UNFCCC review processes when coordinating BR and NC reviews, in particular with a view to addressing the need to improve the cost-effectiveness of the review process and national circumstances.

E. **Expert review teams and institutional arrangements**

I. Expert review teams

24. Each submission of information reported under the Convention related to GHG inventories, BRs and NCs and pursuant to relevant decisions of the COP shall be assigned to a single ERT, which shall be responsible for performing the review thereof in accordance with the procedures and time frames established in these guidelines. The submissions of an Annex I Party shall not be reviewed in two successive reviews by an ERT with identical composition.
25. Each ERT shall provide a thorough and comprehensive technical review of the information reported under the Convention related to GHG inventories, BRs and NCs and pursuant to relevant decisions of the COP and shall, under its collective responsibility, prepare a review report, assessing the implementation of the commitments of the Annex I Party and identifying any potential issues referred to in paragraphs 81 (GHG inventory section), 105 and 119 below. The ERTs shall refrain from making any political judgement.
26. The ERTs shall be coordinated by the secretariat and shall be composed of experts selected on an ad hoc basis from the UNFCCC roster of experts and shall include lead reviewers. The ERTs formed to carry out the tasks under the provisions of these guidelines may vary in size and composition, taking into account the national circumstances of the Party under review, the format of the review, the number of reports and the different needs for

¹ The findings from the ERT are related to issues indicated in paragraph 105.

expertise for each review task. Additional experts may be added to a review team where necessary.

27. Participating experts shall serve in their personal capacity.

28. Experts shall be nominated by Parties to the Convention to the UNFCCC roster of experts and, as appropriate, by intergovernmental organizations.

29. Participating experts shall have recognized competence in the areas to be reviewed in accordance with these guidelines. The training to be provided to the experts, and the subsequent assessment after the completion of the training² and/or any other means needed to ensure the necessary competence of the experts for their participation in ERTs, shall be designed and operationalized by the secretariat in accordance with relevant decisions of the COP.

30. Experts selected for a specific review activity shall neither be nationals of the Party under review nor be nominated or funded by that Party.

31. Participating experts from Parties not included in Annex I to the Convention (non-Annex I Parties) and Annex I Parties with economies in transition shall be funded according to the existing procedures for participation in UNFCCC activities. Experts from other Annex I Parties shall be funded by their governments.

32. In conducting reviews, the ERTs shall adhere to these guidelines and work on the basis of established and published procedures agreed upon by the COP and the Subsidiary Body for Scientific and Technological Advice (SBSTA), including quality assurance (QA) and quality control (QC) and confidentiality provisions.

II. Competences of the expert review teams

33. The competences required to be a member of an ERT for the technical review of GHG inventories are in the areas referred to in paragraph 75 in part III of these guidelines.

34. The competences required to be a member of an ERT for the technical review of BRs are in the areas referred to in paragraph 104(c) in part IV of these guidelines.

35. The competences required to be a member of an ERT for the technical review of NCs are in the areas referred to in paragraph 118(c) below in part V of these guidelines.

III. Composition of the expert review teams

36. The secretariat shall select the members of the ERTs to review the GHG inventories, BRs and NCs submitted under the Convention and pursuant to relevant decisions of the COP in such a way that the collective skills and competencies of the ERTs address the areas mentioned in paragraphs 33, 34 and 35 above, respectively.

37. The secretariat shall select the members of the ERTs with a view to achieving a balance between experts from Annex I and non-Annex I Parties in the overall composition of the ERTs, without compromising the selection criteria referred to in paragraph 36 above. The secretariat shall make every effort to ensure geographical balance among the experts selected from non-Annex I Parties and among those selected from Annex I Parties.

38. The secretariat shall ensure that in any ERT one co-lead reviewer shall be from an Annex I Party and one from a non-Annex I Party.

² The experts that opt not to participate in the training have to undergo a similar assessment successfully to enable them to qualify for participation in ERTs.

39. Without compromising the selection criteria referred to in paragraphs 33, 34 and 35 above, the formation of ERTs should ensure, to the extent possible, that at least one member is fluent in the language of the Party under review.

40. The secretariat shall prepare an annual report to the SBSTA on the composition of ERTs, including the selection of experts for the review teams and the lead reviewers, and on the actions taken to ensure the application of the selection criteria referred to in paragraphs 36 and 37 above.

IV. Lead reviewers

41. Lead reviewers shall act as co-lead reviewers for the ERTs in accordance with these guidelines.

42. Lead reviewers should ensure that the reviews in which they participate are performed by each ERT according to the relevant review guidelines and consistently across Parties. They should also ensure the quality and objectivity of the thorough and comprehensive technical examinations in the reviews and provide for the continuity, comparability and timeliness of the reviews.

43. With the administrative support of the secretariat, lead reviewers shall, for each review:

- (a) Ensure that the reviewers have all of the necessary information provided by the secretariat prior to the review;
- (b) Monitor the progress of the review;
- (c) Coordinate the submission of queries of the ERT to the Party under review and coordinate the inclusion of the answers in the review report;
- (d) Provide technical advice to the members of the ERT, if needed;
- (e) Ensure that the review is performed and the review report is prepared in accordance with these guidelines;
- (f) Ensure that the ERT gives priority to issues raised in previous review reports.

44. Lead reviewers shall also collectively prepare an annual report to the SBSTA as part of the annual report referred to in paragraph 40 above, containing suggestions on how to improve the quality, efficiency and consistency of the reviews in the light of paragraph 5 above of these guidelines.

V. Ad hoc review experts

45. Ad hoc review experts shall be selected by the secretariat from those nominated by Parties or, exceptionally and only when the required expertise for the task is not available among them, from those nominated by relevant intergovernmental organizations belonging to the UNFCCC roster of experts for specific reviews. They shall perform individual review tasks in accordance with the duties set out in their nomination.

46. Review experts shall, as necessary, perform desk review tasks in their home countries and participate in in-country visits and centralized reviews.

VI. Role of the secretariat

47. The secretariat shall organize the reviews, including the preparation of a schedule for the review, the coordination of the practical arrangements concerning the review and the provision of all relevant reported information to the ERT concerned.

48. The secretariat shall develop review tools and materials and templates for review reports under the guidance of the lead reviewers.

49. The secretariat shall coordinate, together with the lead reviewers, the communication during the review between the ERT concerned and the Party under review and shall maintain a record of communications between ERTs and Parties.

50. The secretariat, together with the lead reviewers, shall compile and edit the final review reports.

51. The secretariat shall facilitate annual meetings of the lead reviewers for GHG inventories, BRs and NCs. It shall summarize information on issues raised in the reviews to facilitate the work of lead reviewers in fulfilling their task to ensure consistency in the reviews across Parties.

52. The secretariat shall design and implement training activities for review experts, including lead reviewers, and the subsequent assessment of the experts' qualifications, under the guidance of the SBSTA (see para. 29 above).

VII. Guidance provided by the Subsidiary Body for Scientific and Technological Advice

53. The SBSTA shall provide general guidance to the secretariat on the selection of experts and the coordination of the ERTs, and to the ERTs on the expert review process. The reports mentioned in paragraphs 40 and 44 above are intended to provide the SBSTA with inputs for elaborating such guidance.

F. Reporting and publication

54. The ERTs shall, under their collective responsibility, produce review reports. The review of the same information (see para. 9 above) shall be reflected in one report only. The following review reports should be produced for each Annex I Party:

- (a) For the review of GHG inventories, a final report on the review of the GHG inventory, in accordance with part II and part III of these guidelines;
- (b) For the review of BRs, a technical report on the review of the BR, in accordance with part II and part IV of these guidelines;
- (c) For the review of NCs, a report on the review of the NC, in accordance with part II and part V of these guidelines.

55. The review reports for each Annex I Party shall follow a format and outline comparable to that set out in paragraph 56 below and shall include the specific elements described in parts III–V of these guidelines.

56. All review reports prepared by ERTs shall include the following elements:

- (a) An introduction and a summary;
- (b) A description of the technical review of each of the elements reviewed according to the relevant sections on the scope of the review detailed in parts III–V of these guidelines, including:
 - (i) A description of any potential issues identified in accordance with paragraphs 81, 105 and 119 below;
 - (ii) Any suggestions provided by the ERT to resolve the potential issues;
 - (iii) An assessment of any efforts made by the Annex I Party under review to address any potential issues identified by the ERT during the current review or during previous reviews that have not been addressed;

- (iv) The sources of information used in the formulation of the final report.

57. Following their completion, all review reports shall be published and forwarded by the secretariat, together with a written comment on the final review report made by the Party under review, to the Party concerned, the COP and the subsidiary bodies, as appropriate, following these guidelines.

PART III: UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention

A. Purpose of the review

58. The purpose of the technical review of Annex I Parties' GHG inventories is:

(a) To ensure that the COP has adequate and reliable information on annual inventories and emission trends of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol;

(b) To provide the COP with an objective, consistent, transparent, thorough and comprehensive technical assessment of the annual quantitative and qualitative inventory information submitted by Annex I Parties, and a technical assessment of the implementation of Annex I Parties' commitments under Article 4, paragraph 1(a), and Article 12, paragraph 1(a), of the Convention;

(c) To examine, in a facilitative and open manner, the reported inventory information for consistency with the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories" (decision 24/CP.19) (hereinafter referred to as the UNFCCC Annex I inventory reporting guidelines), the Intergovernmental Panel on Climate Change (IPCC) *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines) as implemented through the UNFCCC Annex I inventory reporting guidelines and, if applied, the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* (hereinafter referred to as the Wetlands Supplement) and any additional guidance adopted by the COP;

(d) To assist Annex I Parties in improving the quality of their GHG inventories;

(e) To inform the review of BRs and NCs and to ensure that the COP has reliable information on the implementation of commitments under the Convention by each Annex I Party and Annex I Parties as a whole with a view to promoting comparability and building confidence.

B. General procedures

59. GHG inventory submissions, comprising the national inventory report (NIR) and the common reporting format (CRF) tables, from all Annex I Parties will be subject to an annual technical review.

60. The annual technical review process comprises two stages which consider different aspects of the inventories in such a way that all of the purposes described above are achieved by the end of the process. The two stages are:

(a) Initial assessment by the secretariat;

(b) Review of individual annual inventories by the ERT.

61. The stages of the technical review process complement each other so that, in general, for each Annex I Party, one stage is concluded before the next one is undertaken.

62. Three operational approaches may be used during the second stage of the technical review, namely desk reviews, centralized reviews and in-country reviews, assuming available

resources. During a desk review, the inventory information of Annex I Parties will be sent to experts, who will conduct the reviews in their own countries. During a centralized review, the experts will meet in a single location to review the inventory information of Annex I Parties. During an in-country review, experts will visit an Annex I Party to review the inventory information of that Party.

63. The review of individual inventories of Annex I Parties will be conducted annually either as a desk review, as a centralized review or as an in-country review. The GHG inventory of each Annex I Party shall be subject to a desk review at most once every three years. Desk reviews will be conducted only by experienced experts. The GHG inventory of each Annex I Party will be subject to an in-country review at least once every five years. In-country visits will be scheduled, planned and take place with the consent of, and in close coordination with, the Annex I Party subject to review. In general, during a centralized review, up to four GHG inventories should be reviewed; during a desk review up to two GHG inventories should be reviewed. In exceptional circumstances where an individual member of an ERT is unable to attend the centralized or in-country review, that member may contribute to that review from his/her desk. The scope of the individual review differs between years with desk reviews and years with centralized reviews as defined in paragraphs 75 and 76 below.

64. The ERT, based on the findings of the review,³ can recommend that the next review be an in-country review. The ERT shall provide in the review report a rationale for the additional in-country review as well as a list of questions and issues to be addressed during the in-country review. The in-country review shall then be scheduled for the year following the review that recommended such a visit.

65. Upon an Annex I Party's request, the secretariat shall organize an in-country review for that Party. The request for an in-country review shall be submitted to the secretariat no later than the inventory submission due date.

66. At all stages of the inventory review process, individual Annex I Parties under review will have the opportunity to clarify issues or provide additional information. The secretariat will send to these Annex I Parties drafts and the final version of their status report, assessment report and their individual inventory review report. The ERT shall provide a list of preliminary main findings to the Annex I Party at the end of the review week. The ERT shall produce the final version of the review report, taking into account the comments of the Annex I Party. Every effort will be made to reach agreement with each Annex I Party on the content of a report prior to its publication. In the case of an Annex I Party and the expert team being unable to agree on an issue, the Party may provide explanatory text to be included in a separate section of the final review report. All final review reports shall be published and forwarded by the secretariat, together with any written comments on the final review report by the Annex I Party that is the subject of the report, to the COP.

C. Scope of the review

I. Initial assessment

67. The secretariat shall conduct an initial assessment annually to examine that each Annex I Party has submitted a consistent, complete and timely annual inventory in the correct format, including the NIR and the CRF tables, and to identify issues for further consideration during the review of individual inventories.

68. The checks will include a standardized set of data comparisons mainly based on the CRF data and identify:

³ The findings from the ERT are related to issues as defined in paragraph 81 below.

- (a) Whether an Annex I Party has submitted an annual inventory or the NIR or the CRF tables by the due date, or within six weeks of the due date;
- (b) Whether the submission is complete in terms of whether an NIR and all CRF tables were submitted;
- (c) Whether all required sources, sinks and gases⁴ included in the UNFCCC Annex I inventory reporting guidelines as well as any additional guidance adopted by the COP are reported and if any additional gases or sources have been reported;
- (d) Whether all CRF tables have been completed and any gaps have been explained in the CRF tables by the use of notation keys (such as “C”, “IE”, “NA”, “NE”, “NO”);⁵
- (e) Whether emission estimates are provided for all required years;
- (f) Whether methodologies are indicated with notations in the CRF tables;
- (g) Whether estimates for CO₂ emissions from fossil fuel combustion are reported using the IPCC reference approach in addition to estimates derived using a sectoral approach;
- (h) Whether emission estimates for hydrofluorocarbons and perfluorocarbons are reported by individual chemical species;
- (i) Whether any recalculations are reported for the entire time series and explanatory information relating to these recalculations is provided in the NIR;
- (j) Whether emissions from fuel used in international transportation are reported separately from national totals;
- (k) Whether key categories have been reported in the NIR and whether the results are consistent with those automatically reported in the CRF tables;
- (l) Whether the tables on uncertainties have been reported;

69. The initial assessment will cover the national inventory submission and previous national inventory submissions, where relevant, and will also:

- (a) Identify whether there are any irregularities or inconsistencies in implied emission factors and other inventory data, including emission or removal estimates and activity data, across Annex I Parties and compared with data of previous years or from previous submissions;
- (b) Identify whether there are irregularities in activity data compared with activity data from other relevant authoritative sources, if available, taking into account the conclusions of the meeting of the lead reviewers for GHG inventories and agreed by the SBSTA;
- (c) Identify whether there are issues within source or sink categories requiring further consideration or clarification during the individual review stage, particularly recurring issues, taking into account responses from previous reviews or recommendations provided in previous reviews;

⁴ In part III “UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention” of the present guidelines, required sources, sinks and gases are those sources, sinks and gases referred to in a provision with a “shall” in the UNFCCC Annex I inventory reporting guidelines.

⁵ C = confidential, IE = included elsewhere, NA = not applicable, NE = not estimated, NO = not occurring.

(d) Examine inventory recalculations and the consistency of the time series;

(e) Identify whether there are any inconsistencies between the information in the CRF tables and related information in the NIR.

70. The secretariat shall compare any findings from the initial assessment specific to individual Annex I Parties with findings and responses from Parties from previous reviews. For this purpose, a communication tool with findings and responses from Annex I Parties should be developed and maintained that registers findings from the initial assessment and questions from ERTs together with responses from Parties over time. The ERTs should have access to past exchanges between Annex I Parties and reviewers via this tool.

71. The secretariat shall immediately notify the Annex I Party concerned of any omissions or issues identified with a Party's submission that prevent the performance of the initial assessment.

II. Review of individual annual inventories

72. ERTs, coordinated by the secretariat, shall conduct reviews of individual GHG inventories in order to assess whether the COP has accurate, consistent and relevant information on annual GHG inventories. The individual reviews will be conducted in accordance with paragraphs 75 and 76 below. The individual inventory review shall cover each Annex I Party's national inventory, supplementary material submitted by the Party and, if necessary for the review of recalculations and inventory improvements, previous inventory submissions.

73. ERTs shall pay particular attention to key categories, those areas of the inventory where issues have been identified and recommendations made in previous reviews, or stages of the review, progress in the implementation of the planned improvements, or where recalculations or other changes have been reported by the Annex I Party. Focus should be given to issues that have an impact on the level and/or trend of total national GHG emissions and removals, taking into account national circumstances, as appropriate. The Party may respond to an ERT identification of an issue with information about the amount of effort and resources required for an improvement relative to the impact on the level and/or trend of total national GHG emissions or removals for consideration by the ERT. ERTs should not perform an individual review in cases where an NIR has not been provided.

74. In addition to the tasks mentioned in paragraph 75 below, ERTs conducting in-country reviews will consider the 'paper trail' of the inventory from the collection of data to the reported emission estimates and will examine procedures and institutional arrangements for inventory development and management, including QA and QC, record-keeping and documentation procedures. During subsequent centralized reviews, the ERTs will identify any changes that may have occurred in these procedures and institutional arrangements, based on the information provided in the NIRs of Annex I Parties and further information from the Parties provided to the ERT.

75. Each ERT shall for centralized and in-country reviews:

(a) Examine application of the requirements of the UNFCCC Annex I inventory reporting guidelines and any further guidance adopted by the COP, and, if applied, the Wetlands Supplement, and identify any departure from these requirements;

(b) Examine whether the 2006 IPCC Guidelines as implemented through the UNFCCC Annex I inventory reporting guidelines and any supplementary methodologies adopted by the COP and, if applied, the Wetlands Supplement was applied and documented, in particular noting the identification of key categories, selection and use of methodologies and assumptions, development and selection of emission factors, collection and selection of activity data, reporting of recalculations and consistent time series, reporting of uncertainties

related to inventory estimates, methodologies used for estimating those uncertainties and QA/QC procedures, and identify any inconsistencies;

(c) Compare emission or removal estimates, activity data, implied emission factors and any recalculations with data from previous submissions of the Annex I Party to identify any irregularities or inconsistencies;

(d) Identify any missing categories and examine any explanatory information relating to their exclusion from the GHG inventory;

(e) Assess the consistency of information in the CRF tables with that in the NIR;

(f) Assess the extent to which issues raised in the initial assessment of annual inventories, and issues and questions raised by ERTs in previous reports, have been addressed and resolved. The ERT shall assess information on changes in response to recommendations from the previous ERT, which may include the progress made in implementing improvements taking into consideration the publication date of the previous review report and national circumstances;

(g) Where applicable, identify areas for further improvement of the inventories taking into account, inter alia, paragraph 73 above and note possible ways for improving the estimation and the reporting of inventory information;

(h) Assess whether the national inventory arrangements for the estimation of anthropogenic GHG emissions by sources and removals by sinks are performing the required functions and facilitating the continuous improvement of the GHG inventory;

(i) Whether all emissions are reported without corrections relating, for example, to climate variations or trade of electricity.

76. During desk reviews, the ERT shall prioritize addressing the following tasks and should address the elements in paragraph 75 above for key categories:

(a) Assess the extent to which issues raised in the initial assessment of annual inventories, and issues and questions raised by ERTs in previous reports, have been addressed and resolved. The ERT shall assess information on changes in response to recommendations from the previous ERT, which may include the progress made in implementing improvements taking into consideration the publication date of the previous review report and national circumstances;

(b) Analyse any recalculations that have changed the emission/removal estimate for a category by more than 2 per cent and/or national total emissions by more than 0.5 per cent as provided in the CRF tables for any of the recalculated years and assess the reasons provided by the Annex I Party for the recalculations and improvements performed as well as the consistency of the revised estimates with the 2006 IPCC Guidelines as implemented through the UNFCCC Annex I inventory reporting guidelines.

77. The ERT may compare the activity data of the Annex I Party with relevant authoritative sources taking into account the conclusions of the meeting of the lead reviewers for GHG inventories and agreed by the SBSTA, if feasible, and identify if there are significant differences which have not been explained by the Party. In cases where significant differences between the data sources are identified, the ERT shall provide the Annex I Party with the data used to make its assessment where it is possible to do so. Recommendations based on the outcome of the data comparison should not appear in the review report in cases where it is not possible to provide the Party with the data.

78. The secretariat shall support the individual review with the development of review tools and materials that support the tasks of the ERTs in order to improve the efficiency and consistency of the reviews. Such tools and materials shall be periodically revised and updated

taking into account the needs of the review process. New and revised tools and materials shall be presented and discussed at the meetings of lead reviewers for GHG inventories and shall also be presented in the annual report on the technical review of GHG inventories from Annex I Parties and shall be made available to Parties upon request. The meeting of lead reviewers should discuss which review tools should also be made available to the general public and make recommendations in this regard to the SBSTA.

79. If an Annex I Party fails to provide the ERT with responses to the questions raised and does not provide the data and information necessary for the assessment of conformity with the UNFCCC Annex I inventory reporting guidelines and any further guidance adopted by the COP, the ERT shall assume that the reporting was not prepared in accordance with the UNFCCC Annex I inventory reporting guidelines and any further guidance adopted by the COP and clearly identify such cases in the review report.

III. Identification of issues

80. The individual inventory review shall identify any issues related to adherence to the UNFCCC Annex I inventory reporting guidelines.

81. Issues will be identified as a failure to follow the requirements⁶ and definitions in the UNFCCC Annex I inventory reporting guidelines. Issues will also be identified as failure to follow general IPCC good practice for any other category that the Party included in its national estimates in accordance with the UNFCCC Annex I inventory reporting guidelines. These may be further subdivided as issues of:

- (a) Transparency;
- (b) Consistency;
- (c) Comparability, including failure to use agreed reporting formats;
- (d) Completeness;
- (e) Accuracy;
- (f) Adherence to the UNFCCC Annex I inventory reporting guidelines.

82. In assessing completeness, when a category has been reported as not estimated based on it being insignificant, the ERT shall assess if the information reported by the Annex I Party meets the criteria set out in paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines.

83. The ERT will identify issues, in particular those relating to accuracy and completeness for key categories as described in paragraph 73 above, missing categories as described in paragraph 75(d) above, or potential key categories as identified by the ERT and that could not be clarified with the Party during the review week. In the case where, after such an issue has been identified in three successive reviews, in accordance with paragraphs 75(f) and 76(a) above, and has not been addressed by the Party, the ERT will include a prominent paragraph in the review report noting the issue, the number of successive reviews in which the Party has been notified of the issue, and that the Party has not addressed the issue.

84. All main issues which are identified by the ERT in relation to requirements in the UNFCCC Annex I inventory reporting guidelines, including any issues described in paragraph 83 above, should be summarized by the ERT in the list of provisional main findings. The provisional main findings shall be communicated to the Annex I Party at the end of the week in which the individual review is performed. The Party may provide further

⁶ In Part III “UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention” of the present guidelines, a requirement refers to a provision with a “shall” in the UNFCCC Annex I inventory reporting guidelines.

clarifications related to the provisional main findings within two weeks. Any provisional main findings should, as appropriate, form the basis for the recommendations in the review report.

D. Timing

I. Initial assessment

85. The secretariat will complete the initial assessment in accordance with paragraph 68 above and should prepare a draft status report within three weeks after the submission date of the annual GHG inventory and send it to the Annex I Party for comments. Each Annex I Party should provide comments on the draft status report within three weeks of its receipt by the Party.

86. The secretariat will complete the initial assessment containing the elements in paragraph 69 above. The secretariat will incorporate all submissions and any resubmissions from Annex I Parties that were provided as a response to the status report and were received within six weeks from the due date for submissions. Annex I Parties should provide comments within three weeks of receipt of the draft assessment report. The secretariat will send a draft of the assessment report to the Annex I Party at the latest seven weeks prior to the scheduled individual review, and the Party will provide comments within three weeks. The assessment report and the Annex I Party's comments will be forwarded to the ERT as input for the individual review.

87. Any information, corrections, additional information or comments on the draft status report received from the Annex I Party within six weeks of the submission due date shall be subject to the initial assessment. A delay in the submission of the annual inventory shortens the time available for the Annex I Party concerned to comment on the draft status report.

II. Review of individual annual inventories

88. The secretariat should forward all relevant information to the members of the ERTs one month prior to the start of the review of the individual annual inventories. The ERT shall examine the information and raise questions for clarification to Annex I Parties under review, if necessary, two weeks prior to the start of the review. Annex I Parties should make all efforts to respond promptly to the questions received.

89. To achieve consistent review reports and a comparable treatment of Annex I Parties in the review process, the secretariat shall implement QA procedures. The QA procedures developed by the secretariat should be presented to and discussed at the meeting of the lead reviewers for GHG inventories. The purpose of the QA procedures is to ensure a consistent identification and treatment of issues. Editorial streamlining should take place only to the extent that the timelines for publication of the review reports are not compromised.

90. Each review should be completed within 20 weeks. In general, the timetable for the individual review activities, assuming available resources, should conform to the following:

- (a) Each ERT performs an individual review and prepares a draft review report for each Party under review, within six weeks after the end of the review week;
- (b) The secretariat applies QA/QC procedures, edits and formats the draft reports within four weeks and sends them to the respective Annex I Parties for comments;
- (c) The Annex I Parties respond within four weeks;

- (d) The ERT shall produce the final version of the annual review report, taking into account the comments of the Annex I Party, within four weeks⁷ of receipt of the comments;
- (e) All final review reports, together with any written comments on the final review report by the Annex I Party that is the subject of the report, shall be published on the UNFCCC website within two weeks and forwarded by the secretariat to the COP.

E. Reporting

I. Status report

91. The results of the initial assessment for each Annex I Party will be published on the UNFCCC website as a status report, mainly in tabular format. The status report will:

- (a) Indicate the date of receipt of the GHG inventory submission by the secretariat;
- (b) Determine whether the submission is complete and identify any gaps in the reported data, covering the elements listed in paragraph 68 above.

II. Assessment report

92. The results of the initial assessment, as described in paragraph 69 above, containing a preliminary analysis of individual Annex I Party inventories, will be sent to the respective Party for comments. The results, together with the comments provided by the respective Party, will be provided to the corresponding ERT as input for the individual review.

93. The assessment report for each individual inventory will contain the results of the checks described in paragraph 69 above.

III. Individual review reports

94. Under its collective responsibility, the ERT will produce an individual inventory review report for publication in electronic format on the UNFCCC website based on the results of the tasks listed in paragraphs 75 and 76 above. The review reports should contain an objective assessment of the adherence of the inventory information to the UNFCCC Annex I inventory reporting guidelines and the provisions of relevant COP decisions, and should not contain any political judgement. The review report shall, as appropriate, also contain recommendations and encouragements from the ERT regarding ways in which the Annex I Party can improve the quality of its inventory.

95. The following specific elements shall be included in the individual review report:

- (a) A summary of the results of the inventory review and a general assessment of the inventory;
- (b) A technical review of the elements specified in paragraphs 75 and 76 above;
- (c) An identification of issues in accordance with paragraphs 81, 82 and 83 above, as appropriate;
- (d) An assessment of the overall organization of the national inventory arrangements, including a discussion on the effectiveness and reliability of the institutional, procedural and legal arrangements for estimating GHG emissions.

96. The review reports should not extensively duplicate information already publically available, for example, through the CRF tables and NIRs reported by Annex I Parties.

97. The report should include standardized tables whenever possible, to increase the efficiency of communication. To the extent possible, the text of the report should not

⁷ Four weeks or 20 working days if the Party has a public holiday occurring within the four-week time frame.

duplicate the information in the tables. The status of implementation of previous review recommendations should be listed in one of these standardized tables.

98. The report of all reviews shall be as concise as possible and the ERT shall make every effort that the report does not exceed 30 pages, including a 2–3 page summary.

PART IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention

A. Purpose of the review

99. The technical review of BRs is the first step of the international assessment and review (IAR) process. The overall objectives of the IAR process are to review the progress made by developed country Parties in achieving emission reductions and to assess the provision of financial, technological and capacity-building support to developing country Parties, as well as to assess emissions and removals related to quantified economy-wide emission reduction targets under the SBI, taking into account national circumstances, in a rigorous, robust and transparent manner, with a view to promoting comparability and building confidence. In addition, the IAR process aims at assessing the implementation of methodological and reporting requirements.

100. The purposes of the technical review of BRs from Annex I Parties are the following:

- (a) To provide a thorough and comprehensive technical review of the parts of BRs that are not otherwise covered in the annual GHG inventory review;
- (b) Taking into account paragraph 100(a) above, to examine in an objective and transparent manner whether quantitative and qualitative information was submitted by Annex I Parties in accordance with the “UNFCCC biennial reporting guidelines for developed country Parties” adopted by the COP;⁸
- (c) To promote consistency of the information contained in BRs submitted by Annex I Parties;
- (d) To assist Annex I Parties in improving their reporting of information and the implementation of their commitments under the Convention;
- (e) To undertake an examination of the Party’s progress in achieving its economy-wide emission reduction target.
- (f) To ensure that the COP has reliable information on the implementation of commitments under the Convention by each Annex I Party with a view to promoting comparability and building confidence.

B. General procedures

101. Each Annex I Party’s BR will be reviewed. A Party’s BR shall be reviewed in conjunction with its NC in the years in which both the BR and the NC are submitted.

102. Prior to the review, as part of its preparation, the ERT shall conduct a desk review of the BR of the Annex I Party under review. The ERT, through the secretariat, shall notify the Party concerned of any questions the team has regarding the information provided in the BR and of any focal areas for the review.

103. The output of the technical review will be a technical review report, building on existing reporting standards and including an examination of the Party’s progress in achieving its economy-wide emission reduction target.

⁸ Decision 2/CP.17, annex I; decision 19/CP.18.

C. Scope of the review

104. The individual review will:

- (a) Provide an assessment of the completeness of the BR, in accordance with the reporting requirements contained in decisions 2/CP.17 and 19/CP.18, and an indication of whether it was submitted on time;
- (b) Examine the consistency of the BR with the annual GHG inventory and NC but it will not include in-depth examination of the inventory itself;
- (c) Undertake a detailed technical examination of only those parts of the BR that are not included in the annual GHG inventory review, including the following:
 - (i) All emissions and removals related to the Party's quantified economy-wide emission reduction target;
 - (ii) Assumptions, conditions and methodologies related to the attainment of the Party's quantified economy-wide emission reduction target;
 - (iii) Progress the Party has made towards the achievement of its quantified economy-wide emission reduction target;
 - (iv) The Party's provision of financial, technological and capacity-building support to developing country Parties;
- (d) In the years in which an NC is submitted at the same time as the BR, serve as part of the review of the NC, where there is an overlap between the content of the BR and that of the NC.

Identification of issues

105. The issues identified during the technical review of individual sections of the BR shall be identified as relating to the following:

- (a) Transparency;
- (b) Completeness;
- (c) Timeliness;
- (d) Adherence to the biennial report reporting guidelines as per decision 2/CP.17.

D. Timing

106. If an Annex I Party expects difficulties with the timeliness of its BR submission by the due date, it should inform the secretariat thereof by the due date of the submission, to the extent possible, in order to facilitate the arrangements of the review process.

107. The ERTs shall make every effort to complete the individual review of BRs within 15 months of the due date of their submission for each Annex I Party.

108. If additional information is requested during the review week, the Annex I Party should make every reasonable effort to provide the information within two weeks after the review week.

109. The ERT for the review of the BR of each Annex I Party shall, under its collective responsibility, produce a draft technical review report following the format detailed in paragraph 112 below, to be finalized within eight weeks after the review week.

110. The draft technical review report of each BR shall be sent to the Annex I Party subject to the review for comment. The Party concerned shall be given four weeks⁹ from its receipt of the draft report to provide comments thereon.

111. The ERT shall produce the final version of the BR technical review report, taking into account the comments of the Annex I Party within four weeks of receipt of the comments. All final review reports shall be published and forwarded by the secretariat, together with any written comments on the final review report by the Party that is the subject of the report, to the COP.

E. Reporting

112. The following specific elements shall be included in the technical review report referred to in paragraph 54(b) above:

(a) The results of the technical examination of the elements specified in paragraph 104(c) above, including an examination of the Party's progress in achieving its economy-wide emission reduction target;

(b) An identification of issues in accordance with paragraph 105 above.

PART V: UNFCCC guidelines for the technical review of national communications from Parties included in Annex I to the Convention

A. Purpose

113. The purposes of the review of NCs from Annex I Parties are the following:

(a) To establish a process for a thorough and comprehensive technical review of the implementation of the commitments under the Convention by individual Annex I Parties and Annex I Parties as a group;

(b) Taking into account paragraph 113(a) above, to examine in an objective and transparent manner whether quantitative and qualitative information was submitted by Annex I Parties in accordance with the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications" adopted by the COP;

(c) To promote consistency of the information contained in the NCs of Annex I Parties;

(d) To assist Annex I Parties in improving their reporting of information under Article 12 of the Convention and the implementation of their commitments under the Convention;

(e) To ensure that the COP has reliable information on the implementation of commitments under the Convention by each Annex I Party and Annex I Parties as a whole.

B. General procedures

114. Each Annex I Party's NC will be reviewed, where relevant in conjunction with the review of the BR.

115. Each NC submitted under the Convention by an Annex I Party shall be subject to an in-country review.

116. Annex I Parties with total GHG emissions of less than 50 Mt CO₂ eq (excluding land use, land-use change and forestry) in accordance with their most recent GHG inventory submission, with the exception of Parties included in Annex II to the Convention, may choose to undergo a centralized review for their NCs.

⁹ Four weeks or 20 working days if the Party has a public holiday occurring within the four-week time frame.

117. Prior to the review, the ERT shall conduct a desk review of the NC of the Annex I Party under review. The ERT, through the secretariat, shall notify the Party concerned of any questions the team has regarding the NC and of any focal areas for the review.

C. Scope of the review

118. The individual review will, noting paragraph 9 above:

- (a) Provide an assessment of the completeness of the NC in accordance with the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications” adopted by the COP, and an indication of whether it was submitted on time;
- (b) Check the consistency of information contained in the NC with that contained in the BR and GHG inventory. If the same information is reported elsewhere, the information should be reviewed only once;
- (c) Undertake a detailed technical examination of the unique information contained in the NC and the procedures and methodologies used for the preparation of the information therein, noting that the outline of the NC is included in the list below:
 - (i) National circumstances relevant to GHG emissions and removals;
 - (ii) GHG inventory information;
 - (iii) Policies and measures;
 - (iv) Projections and the total effect of policies and measures;
 - (v) Vulnerability assessment, climate change impacts and adaptation measures;
 - (vi) Financial resources;
 - (vii) Transfer of technology;
 - (viii) Research and systematic observation;¹⁰
 - (ix) Education, training and public awareness;
- (d) Giving consideration to national circumstances, identify any potential issues referred to in paragraph 119 below.

Identification of issues

119. The issues identified during the technical review of individual sections of the NC shall be identified as relating to the following:

- (a) Transparency;
- (b) Completeness;
- (c) Timeliness;
- (d) Adherence to the NC reporting guidelines as per decision 4/CP.5.

¹⁰ Information provided under this heading includes a summary of the information provided on global climate observing systems.

D. Timing

120. If an Annex I Party expects difficulties with the timeliness of its NC submission by the due date, it should inform the secretariat thereof by the due date of the submission, to the extent possible, in order to facilitate the arrangements of the review process.

121. The ERTs shall make every effort to complete the individual review of NCs within 15 months of the due date of their submission for each Annex I Party.

122. If additional information is requested during the review week, the Annex I Party should make every reasonable effort to provide the information within two weeks after the review week.

123. The ERT for the review of the NC of each Annex I Party shall, under its collective responsibility, produce a draft of the review report following the format detailed in paragraph 126 below, to be finalized within eight weeks after the review week.

124. The draft of each NC review report shall be sent to the Annex I Party subject to the review for comment. The Party concerned shall be given four weeks¹¹ from its receipt of the draft report to provide comments thereon.

125. The ERT shall produce the final version of the NC review report, taking into account the comments of the Annex I Party within four weeks of receipt of the comments. All final review reports shall be published and forwarded by the secretariat, together with any written comments on the final review report by the Party that is the subject of the report, to the COP.

E. Reporting

126. The following specific elements shall be included in the report referred to in paragraph 54(c) above:

- (a) A technical review of the elements specified in paragraph 118(c) above;
- (b) An identification of issues in accordance with paragraphs 118(d) and 119 above.

¹¹ Four weeks or 20 working days if the Party has a public holiday occurring within the four-week time frame.

Decision 14/CP.20

Training programme for review experts for the technical review of greenhouse gas inventories of Parties included in Annex I to the Convention

The Conference of the Parties,

Recalling Articles 4, 7 and 12 of the Convention,

Also recalling decisions 19/CP.8, 12/CP.9 and 10/CP.15,

Further recalling decisions 1/CP.16 and 2/CP.17, which established a work programme under the Subsidiary Body for Scientific and Technological Advice for the revision of the guidelines for the review of biennial reports and national communications, including national inventory reviews,

Recalling decision 24/CP.19, by which the revised “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” were adopted and decision 13/CP.20, by which the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention” were adopted,

Having considered the relevant recommendations of the Subsidiary Body for Scientific and Technological Advice,

Recognizing the importance of the training programme for review experts for the technical review of greenhouse gas inventories of Parties included in Annex I to the Convention,

1. *Requests* the secretariat to implement the training programme for review experts for the technical review of greenhouse gas inventories of Parties included in Annex I to the Convention, as outlined in the annex, including the examination of experts, and to give priority to organizing an annual training seminar for the basic course;
2. *Encourages* Parties included in Annex I to the Convention in a position to do so to provide financial support for the implementation of the training programme;
3. *Requests* the secretariat to include, in its annual report to the Subsidiary Body for Scientific and Technological Advice on the composition of expert review teams, information on the training programme, in particular on examination procedures and the selection of trainees and instructors, in order for Parties to assess the effectiveness of the programme.

Annex

Training programme for review experts for the technical review of greenhouse gas inventories of Parties included in Annex I to the Convention

A. Details of the training programme

1. The courses are intended to train review experts for the technical review of information reported under the Convention related to greenhouse gas (GHG) inventories by Parties included in Annex I to the Convention. All training courses will be available online. For trainees without easy access to the Internet, courses will be distributed electronically; for courses facilitated by instructors, trainees will communicate electronically with the instructor during the training period. At the request of any Party, the training courses will also be made available to other experts interested in the technical review of GHG inventories, provided that this does not require additional resources. All courses will be available upon request to trainees all year round, without facilitation by instructors.
2. A closing seminar for the basic course of the training programme will be offered annually for around 30 participants (new review experts for the technical review of GHG inventories).
3. Additional regional training seminars for new review experts for the technical review of GHG inventories and a refresher seminar for experienced review experts for the technical review of GHG inventories may be offered annually, depending on the availability of resources. The refresher seminars may be offered in conjunction with meetings of lead reviewers, in order to enhance their knowledge and that of other experienced review experts for the technical review of GHG inventories.
4. All training courses will include an examination. Examination procedures will be standardized, objective and transparent.
5. When participants attend a training seminar, the examination will generally take place during that seminar. In all other circumstances, other arrangements for examinations will be made, provided that the examinations take place under the supervision of the secretariat and that no additional resources are required. For courses without a training seminar, the examination will take place online.
6. New review experts for the technical review of GHG inventories who successfully complete the relevant requirements of the training programme and pass the examinations will be invited to participate in centralized or in-country reviews, working alongside experienced review experts.
7. New review experts who do not pass a course examination at the first attempt may retake the examination once only, provided that the expert has fulfilled all of the tasks assigned during the training course in a timely manner and that the retake does not require the secretariat to incur additional costs.
8. Experienced review experts for the technical review of GHG inventories will be invited to take the online training courses. Examinations are not mandatory for experienced review experts but are encouraged, and may take place in conjunction with meetings of lead reviewers.

9. Experienced review experts with relevant GHG inventory reporting and review expertise will be invited to act as instructors for relevant courses of the training programme, ensuring that their collective skills cover the subjects addressed in each course. The secretariat will seek to achieve a geographical balance among the instructors participating in the training programme.

10. When selecting new review experts to attend training courses facilitated by instructors, the secretariat will give priority to review experts with relevant GHG inventory reporting expertise, nominated to the UNFCCC roster of experts, from Parties that do not have review experts who have previously participated in review activities.

B. Courses of the training programme

1. Basic course for the review of greenhouse gas inventories of Parties included in Annex I to the Convention

Description: This course covers a comprehensive introduction to the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention”, an overview of the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories”, guidance on procedures and approaches for the technical review of GHG inventories and general Intergovernmental Panel on Climate Change (IPCC) inventory guidance (*2006 IPCC Guidelines for National Greenhouse Gas Inventories*), as well as specific aspects of the review of the following IPCC sectors: energy; industrial processes and product use; agriculture; land use, land-use change and forestry; and waste. This course also provides guidance on drafting substantive review reports that are consistent among review teams and reader friendly.

Preparation: 2015

Implementation: 2015–2016

Target audience: New and experienced review experts for the technical review of GHG inventories

Type of course: E-learning, facilitated by instructors, with a closing seminar

Examination requirements and format: New review experts for the technical review of GHG inventories must pass the general examination as well as a sectoral examination before participating in expert review teams. Lead reviewers and experienced review experts for the technical review of GHG inventories are encouraged to take the examinations. The examinations will be conducted in person.

2. Review of complex models and higher-tier methods

Description: This course provides general guidance and procedures, as well as guidance on specific aspects of the review of emission estimations performed using complex models and higher-tier methods (tier 3 methods).

Preparation: 2010

Implementation: 2014–2016

Target audience: Lead reviewers and review experts for the technical review of GHG inventories

Type of course: E-learning, without an instructor

Examination requirements and format: Optional; self-check electronic examination

3. Improving communication and facilitating consensus in expert review teams

Description: This course provides guidance and tools to improve the work of expert review teams and to facilitate teamwork

Preparation: 2003

Implementation: 2014–2016

Target audience: Lead reviewers and review experts for the technical review of GHG inventories

Type of course: E-learning, without an instructor

Examination requirements and format: Optional; self-check electronic examination

C. Refresher seminar for experienced greenhouse gas inventory review experts

Description: This annual seminar provides general guidance on specific and complex aspects of the technical review of GHG emission estimates. It enables experienced review experts for the technical review of GHG inventories to strengthen and refresh their knowledge, in relation to both cross-cutting aspects and sector-specific issues.

Implementation: 2014–2016, subject to the availability of resources

Target audience: Lead reviewers and experienced review experts for the technical review of GHG inventories
