

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE  
Thirteenth session  
The Hague, 13-18 November 2000  
Agenda item 9 (a)

**METHODOLOGICAL ISSUES**

**LAND-USE, LAND-USE CHANGE AND FORESTRY**

**Draft conclusions by the Chairman of the Subsidiary Body for Scientific and Technological Advice**

At its 9th meeting on 18 November 2000, the Subsidiary Body for Scientific and Technological Advice agreed to forward the attached draft decision to the Conference of the Parties at its sixth session for further consideration.

**Decision -/CP.6**

**Land-use, land-use change and forestry**

*The Conference of the Parties,*

*Noting* Article 3.3, 3.4 and 3.7 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change,

*Recalling* its decisions 1/CP.4, 8/CP.4, 9/CP.4 and 16/CP.5,

*Acknowledging with appreciation* the scientific advice provided in the *Special Report on Land-use, Land-use Change and Forestry* prepared by the Intergovernmental Panel on Climate Change,

*Having considered* the conclusions of the Subsidiary Body for Scientific and Technological Advice at its resumed thirteenth session,<sup>1</sup>

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<sup>1</sup> SBSTA report symbol and paragraph number.

1. *Recommends* that the Conference of the Parties, serving as the meeting of the Parties to the Kyoto Protocol at its first session adopt the attached decision;
2. *Requests* the Subsidiary Body for Scientific and Technological Advice to consider how anthropogenic greenhouse gas emissions resulting from direct human-induced degradation and devegetation activities, not yet included under Article 3.3 and 3.4 of the Kyoto Protocol can be included into the accounting system under Article 3.4.
3. *Requests* the Subsidiary Body for Scientific and Technological Advice to elaborate, for consideration at its \_\_\_ session, the reporting requirements, including standard formats where appropriate, taking into account the input of the Intergovernmental Panel on Climate Change (IPCC) as mentioned in paragraph 4 below, to be included in the guidelines for the preparation of information under Article 7 of the Kyoto Protocol, to be recommended for adoption by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, at its first session, on the following issues:
  - (a) ...
  - (b) ...
4. *Invites* the Intergovernmental Panel on Climate Change to perform the following tasks, with a view to submitting the results for consideration at its eighth session:
  - (a) Elaborate methods to account for changes in carbon stocks and anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from land-use, land-use change and forestry activities under Article 3.3 and 3.4 of the Kyoto Protocol on the basis of the *Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories* and taking into consideration the guidance contained in the annexes to draft decisions -/CMP.1 and -/CP.6 (*the latter being decisions on Articles 6 and 12*);
  - (b) Prepare a report on good practice guidance and uncertainty management related to verification, measurement, estimation, assessment of uncertainties, monitoring and reporting of net carbon stock changes and anthropogenic greenhouse gas emissions by sources and removals by sinks in the land-use, land-use change and forestry sector;
  - (c) Examine the feasibility of developing and the implications of applying biome-specific forest definitions, taking into account the work of other relevant international bodies, such as the Food and Agriculture Organization of the United Nations. In its consideration, the Intergovernmental Panel on Climate Change is invited to assess the impact on the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks in the land-use change and forestry sector, and possible required amendments to national systems of Parties that would result from a changeover from using one forest definition to using biome-specific forest definitions;
  - (d) Prepare guidance on methodologies for the quantification of emissions resulting from direct human-induced degradation of forests and other vegetation types.

**Decision -/CMP.1**

**Land-use, land-use change and forestry**

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

*Recalling* Articles 2 and 3 of the United Nations Framework Convention on Climate Change, and Articles 2.1(a), 3.3, 3.4, 3.7 and 5.2 of the Kyoto Protocol,

*Further recalling* decisions 1/CP.4, 8/CP.4, 9/CP.4 and 16/CP.5 of the Conference of the Parties,

*Affirming* that the implementation of land-use, land-use change and forestry activities included under the provisions of Article 3 of the Kyoto Protocol shall be consistent with the objectives and principles of, and any decisions taken under, the United Nations Framework Convention on Climate Change and its Kyoto Protocol, taking into account, as appropriate, ancillary environmental effects in developing their domestic approaches related to implementation of Article 3.3 and 3.4, including effects on biodiversity, soil, air and water quality, the capacity of ecosystems to adapt to climate change, risks of degradation, long-term vulnerability to disturbance by fire, pests and invasive species, and the protection of primary and maturing secondary native forests,

*Further affirming* that in the implementation of land-use, land-use change and forestry activities included under the provisions of Article 3 of the Kyoto Protocol, Parties shall avoid adverse primary and secondary environmental and social effects in developing and implementing their land-use, land-use change and forestry activities,

*Affirming* that:

(a) Any land-use, land-use change and forestry activity carried out in addition to the commitments made under Article 4.1(d) of the Convention for the purposes of determining compliance of Annex I Parties with their quantitative emission limitation and reduction objectives under the Kyoto Protocol, must not change the global effect of the Kyoto Protocol, which is to mitigate climate change in the first commitment period equivalent to reducing Annex I anthropogenic emissions by sources covered by Annex A to the Kyoto Protocol by an aggregate proportion of at least 5 per cent with reference to their 1990 levels, in accordance with Article 3.1 of the Kyoto Protocol;

(b) For the purposes of determining compliance of Annex I Parties with their quantitative emission limitation and reduction objectives, any land-use, land-use change and forestry activity must not result in an increase of anthropogenic emissions by sources minus removals by sinks deriving from the application of removals by sinks of carbon dioxide and indirect nitrogen fertilization effects;

(c) In view of the impact of climate change on forests and desertification, forest conservation and rehabilitation of degraded vegetation cover are important climate change adaptation activities, and as such could be included among those activities to benefit from the

share of proceeds of the mechanisms of the Protocol intended to meet the cost of adaptation. This is without prejudice to decisions on land-use, land-use change and forestry activities in the mechanisms of the Kyoto Protocol;

(d) The rules for the inclusion of land-use, land-use change and forestry activities in the accounting of Annex I countries, for purposes of compliance with their commitments under the Kyoto Protocol, must not imply a transfer of such commitments to a future commitment period;

(e) Carbon removed by land-use, land-use change and forestry activities shall be considered as a temporary removal. Any Annex I Party that makes use of such removal to

achieve compliance with its Kyoto Protocol commitment shall continue to be responsible for the equivalent emission reduction at the appropriate point in time;

(f) In the methodologies to account for emissions by sources and removals by sinks in the land-use, land-use change and forestry sector, no consideration shall be given to the simple presence of stocks of carbon, in line with the provisions of Article 5.2 of the Kyoto Protocol,

*Wishing* to design a balanced, scientifically and environmentally-sound system of definitions and accounting, and to establish simple and practical rules and methodologies for the implementation of activities under Article 3.3 and 3.4 of the Kyoto Protocol, which can reduce uncertainty and can be implemented cost-effectively, taking into account the feasibility of designing such a system,

*Affirming the need* to maintain incentives to reduce emissions from fossil fuel combustion and other sources,

*Acknowledging* that all Parties must promote sustainable management of forests and other ecosystems, conserve biological diversity, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems,

*Recognizing* the importance of protecting and enhancing sinks and reservoirs of greenhouse gases in achieving the quantified emission limitation and reduction commitments of the Parties included in Annex I,

*Aware of* the estimated magnitude and uncertainties related to the residual terrestrial uptake,

*Mindful* of the potential for sink reversal,

*Seeking* to avoid double counting of emissions minus removals or carbon stock changes,

*Recalling* the need for time-series consistency,

*Noting* potential synergies between the implementation of Article 3.3 and 3.4 and action by Parties to meet the objectives of the Convention on Biological Diversity, the Convention to Combat Desertification, the Convention on Wetlands (Ramsar Convention), and Agenda 21,

*Bearing in mind* the different national circumstances of each Party regarding the protection and enhancement of sinks and reservoirs,

*Noting* that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost and should therefore be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors,

*Noting* the necessity to provide appropriate incentives for sustainable forest management through definitions of activities under Article 3.3 and 3.4 as well as their associated accounting rules,

*Affirming* that the inclusion of broad additional activities under Article 3.4 in the first commitment period must be consistent with the provisions of the Convention and the Kyoto Protocol,

*Having considered* decision -/CP.6 adopted by the Conference of the Parties at its sixth session,

1. *Adopts* the definitions, modalities, rules and guidelines relating to Article 3.3 and 3.4 of the Kyoto Protocol contained in the annex to the present decision;
2. *Requests* the Subsidiary Body for Scientific and Technological Advice to review, following methodological work of the Intergovernmental Panel on Climate Change on this subject, the definition of a forest as set forth in the annex to the present decision, and the application of a single forest definition for each Party, for the second and subsequent commitment periods, and to explore the use of biome-specific forest definitions, for consideration by the Conference of the Parties at its ninth session.

Annex

**DEFINITIONS, MODALITIES, RULES AND GUIDELINES RELATING TO LULUCF  
ACTIVITIES UNDER THE KYOTO PROTOCOL**

1. For land-use, land-use change and forestry activities under Article 3.3 [, 3.4] [, 6] [and 12] of the Kyoto Protocol, the following definitions shall apply:

(a) “Forest” is an area of land of 0.3-1.0 hectares (ha) 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 (m) 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 formations over an area of 0.3-1.0 ha with a continuous vegetation cover in which tree crown cover exceeds 10-30 per cent. 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 m are included under 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 forest land through planting or seeding;

(c) “Reforestation” is the direct human-induced conversion of non-forest land to forest land through planting or seeding, on land that was forested but that has been converted to non-forest land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 1 January 1990;

(d) “Deforestation” is the direct human-induced conversion of forest land to non-forest 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 0.3 ha and does not meet the definitions of afforestation and reforestation in Article 3.3;

(f) “Forest management” is the stewardship and use of forests in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems;

or

“Forest management” includes a combination of individual management activities related to multiple uses and services of forests;

(g) “Cropland management” is the system of practices on land on which agricultural crops are grown and on land that is considered cropland but is not being used for crop production;

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

2. Each Party 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 0.3 and 1 ha and a single minimum

tree height value between 2 and 5 m. Upon selection, each Annex I Party's forest definition shall be fixed for the duration of the first commitment period.

3. For the purposes of Article 3.3, eligible activities are those direct human-induced afforestation, reforestation and/or deforestation activities that meet the requirements set forth in this annex and that have taken place on or since 1 January 1990, but before the end of December of the last year of the commitment period.

4. [No additional activities shall be pursued under the provisions of Article 3.4 during the first commitment period [, unless the Conference of the Parties decides that the issues of scale, uncertainty and risk related to the sinks are resolved].]

or *Insert text from paragraph 31.*

5. [The following direct human-induced activities, other than afforestation, reforestation and deforestation, and their associated anthropogenic greenhouse gas emissions by sources and removals by sinks, shall be accounted for under Article 3.4 in the second and subsequent commitment periods: [revegetation], [forest management], [cropland management], and [grazing land management]].]

or

[The Conference of the Parties serving as the meeting of the Parties to the Protocol<sup>2</sup> decides to establish, prior to the fixing of quantified objectives for the second commitment period, a list of agreed additional activities for use in the second and subsequent commitment periods, together with the rules, modalities and guidelines for their accounting.]

6. For the purposes of determining the area of deforestation to come into the accounting system under Article 3.3, Parties shall determine the forest cover using the same spatial resolution as is used for the determination of afforestation and reforestation, but not spatial assessment units larger than 1 ha.

7. Accounting of net changes in carbon stocks and net emissions of greenhouse gases other than carbon dioxide (CO<sub>2</sub>) resulting from land-use, land-use change and forestry activities under Article 3 shall begin with the onset of the activity or the beginning of the commitment period , whichever comes later.

8. Once land is accounted for under Article 3, all anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from this land must be accounted for over subsequent and contiguous commitment periods.

9. Parties shall account for changes in carbon pools associated with land-use, land-use change and forestry activities under Article 3 which shall include: above-ground biomass, below-ground biomass, litter, dead wood, and soil organic carbon, in accordance with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* as required by Article 5.2, any future elaboration of these guidelines, or parts of them, and any good practice guidance in accordance with relevant decisions of the Conference of the Parties and/or The Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol on land-use change and forestry.

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<sup>2</sup> If the option of the COP is chosen, then this paragraph would have to go in the COP 6 decision.



10. Parties shall account for all carbon pools that are a source of greenhouse gas emissions as a result of land-use, land-use change and forestry activities, but may choose not to account for a given pool in a commitment period if transparent and verifiable proof is provided that the pool in question is not a source.

11. Net non-CO<sub>2</sub> greenhouse gas emissions, resulting from land-use, land-use change and forestry activities under Article 3 shall be accounted for in accordance with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* as required by Article 5.2, any future elaboration of these guidelines, or parts of them, and any good practice guidance on land-use change and forestry in accordance with relevant decisions of the Conference of the Parties and/or The Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol.

12. Net greenhouse gas emissions or removals as a result of elevated atmospheric CO<sub>2</sub> concentrations, nitrogen deposition, natural climate variability, and dynamic effects of age structure in forest ecosystems, shall be accounted for together on each area of land where an eligible activity has taken place.

or *Instead of paragraph 12, paragraphs 13-17 below.*

13. Anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from land-use, land-use change and forestry activities undertaken under Article 3.4 of the Kyoto Protocol can only be used for meeting the commitments of Article 3 of the Kyoto Protocol when accepted statistical tests demonstrate that such activities have a significant, detectable, intentional, direct human-induced effect on net emissions and/or removals.

14. For land-use, land-use change and forestry activities where this cannot be demonstrated statistically, modelling techniques shall be used to factor out the effects of nitrogen deposition and elevated atmospheric CO<sub>2</sub> concentrations based on data and information from:

(a) Control plots used for comparison between land subject to the activity and land not subject to it;

(b) Data from research plots;

(c) Existing forest survey and planting data collected in the last 10 years.

15. Where such models are not used, all net greenhouse gas removals by sinks that enter the accounting systems shall be reduced by [XX per cent] [0.5 tonnes carbon per hectare per year for forest land and 0.1 tonnes carbon per hectare per year for grassland].

16. For forest management activities, models shall be used to factor out the dynamic effects of age structure in forest ecosystems.

17. Parties may choose not to account for net carbon stock changes due to natural climate variation on timescales larger than the commitment period, provided this approach is applied consistently during all commitment periods.

18. Subject to all other provisions in the present annex, for the first commitment period, the adjustment to a Party's assigned amount shall be equal to the net greenhouse gas emissions or removals measured as verifiable net changes in carbon stocks, and net non-CO<sub>2</sub> greenhouse gas emissions during the period 1 January 2008 to 31 December 2012 resulting from human-induced land-use, land-use change and forestry activities under Article 3 since 1 January 1990. Where the result of this calculation is a net sink, this value shall be added to the Party's assigned

amount. Where the result of this calculation is a net emission, this value shall be subtracted from the Party's assigned amount.

**Option 1.**

19. [Subject to all other provisions in the present annex, for the first commitment period, the total of all additions to and subtractions from the assigned amount of Parties included in Annex I to the Convention, resulting from the application of land-use, land-use change and forestry activities under Article 3.4 shall not exceed XX gigagrams of CO<sub>2</sub> equivalent.]

20. [Subject to all other provisions in the present annex, for the first commitment period, [the total of additions to and subtractions from individual Parties' assigned amounts shall only be the net greenhouse gas emissions by sources or removals by sinks resulting from land-use change and forestry activities undertaken [or acquired] by that Party, reduced by XX per cent] [the total of additions to and subtractions from individual Parties' assigned amounts from net greenhouse gas emissions by sources or removals by sinks resulting from land-use change and forestry activities undertaken [or acquired] by that Party shall only be applied over and above the thresholds listed in the appendix<sup>3</sup> to the present annex] [the total of additions to and subtractions from individual Parties' assigned amounts from net greenhouse gas emissions by sources or removals by sinks resulting from land-use change and forestry activities undertaken [or acquired] by that Party shall only be accountable to the maximum of the values listed in the appendix<sup>4</sup> to the present annex].

*End of option 1.*

**Option 2.**

21. [Parties electing to include forest management under Article 3.4 of the Kyoto Protocol in the first commitment period shall not include under Article 3.4 the afforestation, reforestation and deforestation activities already included under Article 3.3.

22. [A Party that chooses to include forest management in the first commitment period shall establish an initial interval for purposes of accounting under subparagraphs 24(c) through 24(e) below. The initial interval shall be the lesser of:

(a) [A fixed value to cover five years], and;

(b) [A fixed percentage] of the Party's base year(s) inventory estimates pursuant to Articles 3.7 and 3.8 and prepared in accordance with Article 5.2 of the Kyoto Protocol.

23. A Party that chooses to apply forest management in the first commitment period may establish a threshold for purposes of accounting under subparagraphs 24(c) through 24(f) below. The threshold shall be [Z per cent of] five times the average annual carbon stock change associated with forest management in a period consisting of one or more contiguous calendar years between 1995 and 1999. The Party shall report its threshold estimate, along with the associated carbon stock change estimates for the chosen period, in the Party's pre-commitment period report under Article 7.4.

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<sup>3</sup> The appendix will be further developed according to the option(s) chosen by Parties.

<sup>4</sup> The appendix will be further developed according to the option(s) chosen by Parties.

24. For the first commitment period:

(a) Where the forest management estimate is a net emission, this value shall be subtracted from the Party's assigned amount;

(b) Where the forest management estimate is a net sink that is less than or equal to the initial interval, then the forest management estimate shall be added to the Party's assigned amount;

(c) Where the forest management estimate is greater than the initial interval and less than or equal to the threshold determined according to paragraph 23, the Party's assigned amount shall be increased by the initial interval plus [Y] per cent of the difference between the forest management estimate and the initial interval;

(d) Where the forest management estimate is greater than the threshold and the threshold is greater than the initial interval, the Party's assigned amount shall be increased by the initial interval, plus [Y] per cent of the difference between the threshold determined according to paragraph 23 and the initial interval, plus the difference between the forest management estimate and the threshold;

(e) Where the forest management estimate is greater than the initial interval and the Party has not established a threshold according to paragraph 23, then the Party's assigned amount shall be increased the initial interval plus [Y] per cent of the difference between the forest management estimate and the initial interval;

(f) Where the forest management estimate is a net sink that is greater than the initial interval and the initial interval is greater than or equal to the threshold determined according to paragraph 23, the Party's assigned amount shall be increased by the amount of the forest management estimate.]

*End of option 2.*

25. [Determination of whether a Party had a net source of emissions from land-use change and forestry in 1990 shall be made using all emissions minus removals reported in category 5 of [the] [a] national greenhouse gas inventory submitted by that Party [in the year of submission of the pre-commitment period inventory report as under consideration for decisions under Articles 5, 7 and 8] in accordance with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* and Article 5.2.

26. Each Party for whom land-use change and forestry constituted a net source of emissions in 1990 shall report, as part of its national inventory submission due in 200x under Article 7, to be subject to a pre-commitment period review under Article 8:

(a) The methodologies and data used to determine its eligibility to apply the final sentence of Article 3.7 of the Kyoto Protocol, in accordance with paragraph 25 above, and;

(b) The data on land-use change emissions by sources minus removals by sinks in 1990.

27. For the final sentence of Article 3.7 of the Kyoto Protocol, emissions by sources minus removals by sinks covered by the term land-use change are defined as all emissions by sources minus removals by sinks reported in relation to the conversion of forests (deforestation).
28. Where an eligible Party includes net emissions by sources from land-use change in the calculation of its assigned amount, in accordance with the final sentence of Article 3.7 of the Kyoto Protocol, that Party shall ensure accounting consistency with Article 3.3 of the Kyoto Protocol.]
29. Each Party shall report, as part of its national inventory submission due in 200x, the values it has selected for tree crown cover, tree height and the minimum land area as required in paragraph 1 (a) above. In so doing, Parties shall demonstrate that such values are consistent with those that have historically been reported to the Food and Agriculture Organization of the United Nations or other international bodies, and if they differ, explain how such values were developed.
30. Each Party shall report, at the end of the first commitment period in accordance with Article 7 of the Kyoto Protocol, on how harvesting or some other forest disturbance that is followed by the re-establishment of a forest, is distinguished from deforestation, during 2008-2012 by comparison with 1990. This information will be subject to review in accordance with Article 8.
31. [Parties shall report in accordance with Article 7 of the Kyoto Protocol, before the start of the first commitment period, which activities under Article 3.4 it elects to include in its accounting for the first commitment period and document the land base on which these activities apply. Such activities shall be limited to those, or a subset of those, listed in paragraph 5 above. Upon election, a Party's decision is fixed for the first commitment period.]
32. Each Party shall report as part of its annual inventory, any model used to estimate or assess carbon stocks or anthropogenic greenhouse gas emissions by sources or removals by sinks, and make it available in its entirety electronically at the time of submission of its inventory for use by all Parties and for verification and review purposes.
33. The treatment of net changes in carbon stock associated with harvested wood products shall be in accordance with decisions of the Conference of the Parties following consideration by the Subsidiary Body for Scientific and Technological Advice on this matter (*to commence at SBSTA 14*).
34. Information on the location of areas of land subject to land-use, land-use change and forestry activities under Article 3.3 and 3.4 shall be provided by Parties in their national inventories.
35. Net changes in carbon stocks and anthropogenic greenhouse gas emissions by sources or removals by sinks, with associated uncertainties, shall be measured, reported, accounted, and reviewed in accordance with the requirements of Articles 5, 7 and 8 of the Kyoto Protocol, and in accordance with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, any future elaboration of these guidelines, or parts of them, and any good practice guidance on land-use change and forestry in accordance with relevant decisions of the COP and/or COP/MOP, and the requirements for supplementary information agreed to by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol under the provisions of Article 7.1 of the Kyoto Protocol.