

## **Options and proposals on how to address definitions, modalities, rules and guidelines for the treatment of land use, land use change and forestry**

*Note: The proposals are at different level of development (from concrete textual proposals in bold to conceptual proposals in italics) for definitions, rules and modalities for land use, land-use change and forestry (LULUCF) using the present text of decision 16/CMP.1 for option 1 of document FCCC/KP/AWG/2009/INF.1, and could be further elaborated based on the submissions by Parties and the views expressed at the seventh session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP).*

*Option 2 remains an explicit option and is noted at the end of the document, and could be further elaborated based on the submissions by Parties and the views expressed at the seventh session of the AWG-KP.*

### **Option 1**

#### **A. Definitions**

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

- (i) “Forest” is a minimum area of land of 0.05–1.0 hectares 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 un-stocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest;
- (ii) “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;
- (iii) “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;

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<sup>1</sup> “Article” in this annex refers to an Article of the Kyoto Protocol, unless otherwise specified.

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

(v) “Re-vegetation” 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;

**[(e bis) Option 1 (insert): “De-vegetation” is a human-induced loss of carbon stocks of vegetation that does not meet the definition of forests. It includes the loss of vegetation on land, whether covered by water or not, and shall include areas of land or land covered by vegetation that is a minimum area of 0.05 hectares. Devegetation includes both living and non-living biomass and includes aboveground and below ground biomass, including, *inter alia*, peat, swamp vegetation, shrubs, grasslands, sea grasses, mangroves, and sea weeds.**

**Option 2: (replace (e) above with) “Re-vegetation” 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 above. If elected the activity includes accounting for direct human-induced activities that decreases carbon stocks on land which has been categorized as a re-vegetation area and does not meet the definition of deforestation.]**

(vi) “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. **[Human induced decrease in carbon stocks and/or increases in greenhouse gas emissions on forested land remaining forested land shall be included].**

(vii) “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.

(viii) “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.

**[(h bis) Option 1: “Wetland restoration” is a direct human-induced activity to reduce emissions of greenhouse gases and thus limiting carbon stock degradation by restoring degraded wetlands. If elected the activity include emissions of greenhouse gases and reduction of carbon stocks resulting from human-induced drainage of wetlands.]**

**[(h ter) “Planted production forest” is a forest consisting of introduced species, which as at 1990 met all the following criteria: one or two**

species at plantation, even age class, and regular spacing. The “planted production forest” shall have been established by direct human-induced conversion of non-forest land to forest land by the planting and/or seeding provisions of an afforestation or reforestation activity;

(h qua) “Equivalent forest” means an area of forest that will achieve at least the same carbon stock over the same period as would have occurred had the area of harvested “planted production forest” been re-established;]

[(h quin) “Force majeure” means, for the purposes of this decision, an extraordinary event or circumstance that is beyond the control of Parties, and may include, wildfire, severe pest outbreak, flooding, landslide, volcano, earthquake, or severe wind storm.

(h sex) “Time out” is a period of time where accounting for land has been suspended as a result of a force majeure.

(h sept) “Certified Sustainable Forest Management” is socially just and ecologically responsible management of forests that has been certified, and that such certification has been considered by Subsidiary Body for Scientific and Technological Advice (SBSTA) and subsequently approved by the Conference of Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and is based on the criteria provided for in this annex;

(h oct) “Harvested wood products” are carbon-based products derived from forests and include timber, wood, ply, chipboard, but do not include sawdust, cardboard, wood chips, paper or other short-lived wood based products. It does not include combustible products used as fuel, such as fuel wood or other fuel types such oils, hydrocarbons or alcohols derived from forest products.

(h nov) “Harvested wood product management” is the system of practices that result in the short term or long term storage of carbon stocks in harvested wood products within the country of origin of forests where the wood products were grown;

(h dec) “Importing harvested wood products” is the system of practices associated with importing harvested wood products from non Annex I Parties;

(h onc) “Non Annex I wood products” includes wood products originally grown in Parties not included in Annex I and shall include all carbon-based products derived from forests and shall include timber, wood, ply, chipboard, sawdust, cardboard, wood chips and paper. It shall include combustible products used as fuel, such as fuel wood or other fuel types such oils, hydrocarbons or alcohols derived from forest products.]

### B. 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 into 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 not larger than 1 hectare.

**[3 bis In the case of “planted production forests” established before 1 January 1990 only, conversion of forested land to non-forest land shall be considered harvesting, and shall not be considered deforestation, where an “equivalent forest” is established elsewhere on non-forest land that would have qualified for afforestation or reforestation. “Equivalent forest” shall not be included in a Party’s assessment of emissions and removals from afforestation and reforestation activities and must be included in a Party’s accounting of forest management under Article 3, paragraph 4, if elected.]**

4. [Option 1: For the **second** commitment period, debits<sup>2</sup> resulting from harvesting during the second commitment period following afforestation and reforestation since 1990 shall not be greater than credits<sup>3</sup> accounted for on that unit of land.

Option 2: For the **second** commitment period, debits **arising from a unit of land, that was subject to afforestation and reforestation since 1990 and has not since been harvested, shall not be greater than credits accounted for in total on that unit of land.**

Option 3: *Delete the paragraph.*]

5. 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.

### C. Article 3, paragraph 4

6. **[Prior to the start of the second commitment period]** 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 human-induced activities, other than afforestation, reforestation, deforestation, **[and any activity under Article 3, paragraph 4 elected in the first commitment period (Note: if rules change substantially this may need to be reconsidered)]**: [revegetation **[devegetation]**], forest management, cropland management, grazing land management, **[wetland restoration]**.

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<sup>2</sup> ‘Debits’: where emissions are larger than removals on a unit of land.

<sup>3</sup> ‘Credits’: where removals are larger than emissions on a unit of land.

**[6 bis. All Parties included in Annex I shall account for anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from the activity under Article 3, paragraph 4 forest management in the second commitment period.]** (*it implies deletion of forest management on paragraph 6 above*)

7. A Party included in Annex I wishing to account for activities under Article 3, paragraph 4, shall identify, in its report to enable the establishment of its assigned amount pursuant to Article 3, paragraph 7, and Article 3, paragraph 8, the activities under Article 3, paragraph 4, which 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.

8. During the **second** commitment period, a Party included in Annex I that selects any additional activity of the activities mentioned in paragraph 6 above **[, in addition to those already selected for the first commitment period,]** shall demonstrate that such activities 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.

9. For the **second** commitment period, accountable anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from re-vegetation**[, de-vegetation]**, cropland management, grazing land management, **[wetland restoration]** under Article 3, paragraph 4, shall be equal to anthropogenic greenhouse gas emissions by sources and removals by sinks in the commitment period, less **[five][X]** 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.

**[9 bis. If a Party was a net sink in the base year for the elected activity of cropland management, grazing land management or re-vegetation, and it provides information that demonstrates that there is no net soil carbon stock change on land subject to the activity because the soil carbon has reached saturation, then the Party would report zero in its accounting. The Party would need to provide the information in its national inventory report. The information would be subject to expert review.]**

10. [Option 1: For the **second** commitment period, a Party included in Annex I that incurs a net source of emissions under the provisions of Article 3, paragraph 3, may account for anthropogenic greenhouse gas emissions by sources and removals by sinks in areas under forest management under Article 3, paragraph 4, up to a level that is equal to the net source of emissions under the provisions of Article 3, paragraph 3, but not greater than 9.0 megatons of carbon times five, if the total anthropogenic greenhouse gas emissions by sources and removals by sinks in the managed forest since 1990 is equal to, or larger than, the net source of emissions incurred under Article 3, paragraph 3.

Option 2: *Delete the paragraph]*

11. For the **second** commitment period [only], additions to and subtractions from the assigned amount of a Party<sup>4</sup> resulting from forest management under Article 3, paragraph 4, [after the application of paragraph 10 above] and resulting from forest management project activities undertaken under Article 6, shall:

[Option 1: not exceed the value inscribed in the appendix [<sup>5</sup>] below, times [five][x].

Option 2: **be subject to the application of a [Y] discount factor [as inscribed in the appendix below].**

Option 3: **be subject to the application of a bar as inscribed in the appendix below.**  
*The bar could be established considering:*

- (a) *Agreed levels could be set by using the average removals or emissions from forest management for agreed historical base year or period. Otherwise countries could propose an alternative removals or emissions level in the submission mentioned below and provide relevant elements in support.*
- (b) *An alternative level could apply where national circumstances, particularly the legacy effects of age structure, lead to a declining sink in projected emissions even if the presence of sustainable forest management.*
- (c) *Continuity of the provision for accounting in the first commitment period.*

Option 4: *Accounting for forest management using a forward looking baseline. The elements that would need to be reflected in a legal text to implement the proposal are the following:*

- (a) *Accounting for forest management is defined as being based on estimated forest management emissions and removals in the commitment period less the forest management reference level emissions and removals for the commitment period (the forward-looking business-as-usual baseline).*
- (b) *A Party that has elected to account for forest management would determine the forest management reference level emissions and removals considering current forest inventory information, actions already taken to reduce emissions and increase removals, historical data and forest management activities, business-as-usual forest management plans, and the relationship between historical and planned activity. The*

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<sup>4</sup> In accordance with decision -/CMP.X (*Modalities for the accounting of assigned amounts*).

<sup>5</sup> [In arriving at the values in the appendix below, the Conference of the Parties was guided by the application of an 85 per cent discount factor to account for the removals identified in paragraph 1 (h) of decision 16/CMP.1 (*Land use, land-use change and forestry*) and a 3 per cent cap on forest management, using a combination of data provided by Parties and by the Food and Agriculture Organization. Consideration was also given to national circumstances (including the degree of effort needed to meet Kyoto commitments and the forest management measures implemented). The accounting framework established in this paragraph shall not be construed as establishing any precedent for the second and subsequent commitment periods]

*Intergovernmental Panel on Climate Change (IPCC) could be asked to provide guidance in relation to methodological issues for establishment of the reference level.*

- (c) *The Party would report a description and justification of the reference level and the information used to establish it. The reference level and the information would be subject to expert review. The mechanism and timing of the reporting and review, which would be prior to 2013, would need to be established.*
- (d) *A Party could decide to exclude emissions and subsequent removals resulting from natural disturbance events from its estimate of forest management emissions and removals in the commitment period.*
- (e) *A Party that decided to exclude the emissions and removals resulting from natural disturbances would need to provide information on the natural disturbances in its national inventory report. This would include a demonstration that the natural disturbance events and the associated emissions and removals are non-anthropogenic and not direct human-induced. The information provided would be subject to review]*

*Note: The appendix to decision 16/CMP.1 would be revised/deleted in accordance with the provisions above for the accounting of forest management under Article 3, paragraph 4.*

12. [A Party may request the Conference of the Parties (COP) to reconsider its numerical values as contained in paragraph 10 and in the appendix to paragraph 11, with a view to the COP recommending a decision for adoption by the CMP, no later than 2 years prior to the beginning of the first commitment period. Such a reconsideration shall be based upon country-specific data and the elements of guidance and consideration in footnote 4 to paragraph 11. These shall be submitted and reviewed in accordance with relevant decisions related to 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 LULUCF in accordance with the relevant decisions of the COP.](*consider deletion, due to specific need for the first commitment period*)

#### **D. Article 12**

*Note: Further discussion on how to address non-permanence is need. Proposals under consideration are reflected in FCCC/KP/AWG/2009/INF.2.*

13. The eligibility of LULUCF project activities under Article 12 is

[Option 1: limited to afforestation and reforestation.

Option 2: *Expand the list of activities (to be decided after)]*

**13 bis. [For afforestation and reforestation project activities to be eligible under Article 12 the land must be non forested in 1990 and remain non forested until the**

**start of the second commitment period. Land that did not contain forest on 31 December 1989 and which has subsequently been allowed to re-vegetate or reforest prior to the start of the second commitment period and subsequently de-vegetated or deforested prior to the second commitment period shall not be eligible under Article 12.]**

**13 ter Land that was natural grassland or shrubland in 1990 shall not be eligible under Article 12.]**

14. For the **second** commitment period, the total of additions to a Party's assigned amount resulting from eligible LULUCF project activities under Article 12 shall not exceed one per cent of base year emissions of that Party, times [five][**X**].

15. [The treatment of LULUCF project activities under Article 12 in future commitment periods shall be decided as part of the negotiations on the **third** commitment period.] (*this paragraph could be further amended, proposal for 15 bis is related*)

**[15 bis Accounting for afforestation and reforestation project activities under Article 12 as described in decision 19/CP.9 shall apply, *mutatis mutandis*, for the second and subsequent commitment periods.]**

#### **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 **second** 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.

17. 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, shall be equal to anthropogenic greenhouse gas emissions by sources and removals by sinks measured as verifiable changes in carbon stocks, and non-carbon dioxide greenhouse gas emissions during the period [**1 January 2013 to** **[31 December [YY]]**] resulting from afforestation, reforestation and deforestation under Article 3, paragraph 3, and forest management under Article 3, paragraph 4, 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.

18. Accounting of anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from LULUCF 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.

19. Once land is accounted for under Article 3, paragraphs 3 and 4, all anthropogenic greenhouse gas emissions by sources from and removals by sinks on this land must be accounted for throughout subsequent and contiguous commitment periods.

20. National inventory systems under Article 5, paragraph 1, shall ensure that **[information on the]** areas of land subject to LULUCF activities under Article 3, paragraphs 3 and 4 **[are identifiable, and information about these areas]** should 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.

21. 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, and soil organic carbon. A Party may choose not to account for a given pool in a commitment period, if transparent and verifiable information is provided that the pool is not a source.

*With regards to adjusting for natural disturbances*

**21 bis** *[Option 1: Removing natural disturbance impacts is optional, the information that needs to be provided about natural disturbance events, and the need for information demonstrating that the emissions and removals are non-anthropogenic and not direct human-induced. The following issues [could be][should be] considered in developing further the modalities:*

- (i) A Party would have the option of excluding the impact of natural disturbances from its accounting. Text would be needed on how emissions and subsequent removals resulting from natural disturbances would be removed from the accounting.*
- (ii) Principles will be needed to guide Parties in reporting on emissions and subsequent removals resulting from natural disturbance events on Article 3, paragraph 3, or Article 3, paragraph 4, lands. This may include provision of information on the natural disturbances in its national inventory report including a demonstration that the natural disturbance events and the associated emissions and removals are non-anthropogenic and not direct human-induced. This may include, inter alia:*
  - (a) Information that identifies the location, cause and scale of impact of the natural disturbance events.*
  - (b) Information that demonstrates that no land-use change has followed the natural disturbance events.*
  - (c) Information on the emissions and removals that would be excluded.*

- (d) *Information that demonstrates that the excluded emissions and removals are non-anthropogenic.*
  - (e) *Information on the carbon stocks prior to the natural disturbance events*
  - (f) *Information on the monitoring and the recovery of the carbon stocks following the natural disturbance event.*
- (iii) *The information provided would be subject to review. Guidance would need to be provided to support the review process.*
- (iv) *Parties' may consider formulating a request to the IPCC to assist in defining methodological approaches related to how natural disturbance emissions and removals are excluded, and related to demonstrating that the natural disturbance events and the associated emissions and removals are non-anthropogenic and not direct human-induced. This would include methodological approaches already tabled.*

**Option 2: A Party included in Annex I may choose to carry-over to the next commitment period(s) the non-anthropogenic emissions resulting from natural disturbances.**

**Option 3: A Party included in Annex I that has elected to account for any or all elected activities under Article 3, paragraph 4 and which has suffered a 'force majeure' during the second commitment period or subsequent commitment periods, may seek approval from the CMP to seek a time out and hence eliminate such land from the accounting system for a period of time until the carbon stocks on the explicitly geo-referenced land are returned to the state prior to the 'force majeure'.**

**(bis) In making a decision whether to approve a time out for a Party, the CMP shall take into consideration the following aspects: whether the force majeure fits the definition as prescribed in this decision; how the 'force majeure' was not human induced; whether the Party can provide verifiable geo-referenced information on the land subject to the force majeure; whether the Party can provide a verifiable estimate of the carbon stocks on the affected land immediately prior to the force majeure; whether the Party has provided an estimate of the time for the time out; and whether the Party is able to maintain an ongoing inventory and assessment of the recovery of carbon stocks until the end of the time out period.**

**(ter) Once land has been timed out it shall continue to be reported and accounted for during and beyond the second commitment period until such time as the land has recovered the carbon stocks to the state prior to the 'force majeure'.]**

*With regards to harvested wood products*

**21 ter. [Option 1: Carbon removed in wood and other biomass from forests accounted for under the Kyoto Protocol under Articles 3, 6 and 12, shall be**

accounted for on the basis of default instantaneous oxidation or on the basis of estimates as to when emissions occur provided verifiable data are available. Such carbon, including carbon in exported wood, may be transferred to a harvested wood products pool to be accounted for by the Party producing the wood.

Option 2: A Party included in Annex I shall account for importing of harvested wood products that have originated from a non Annex I Party in a manner prescribed in paragraphs below.

(bis) A Party included in Annex I may chose to account for the use harvested wood products for harvested wood products derived from forests subject to reforestation activities since 1 January 1990 in that Party and which have subsequently been subject to forest biomass decline activities during the commitment period.

(ter) A Party included in Annex I may also chose to account for the use of harvested wood products for such products derived from elected forest management activities elected in the first commitment period or elected forest management activities in the second commitment period.

(qua) Notwithstanding the provisions included in paragraph x below, imported harvested wood products from another country shall not enter the accounting system.

(quin) The calculation of carbon stock changes for the purposes of accounting for harvested wood products, if so elected, on land that is to be accounted for under either, reforested land or elected forest management land shall be based on the total increment of carbon stock growth in the eligible forest minus any changes in soil carbon, *minus* carbon stocks left over from timber harvest activities, *minus* carbon stocks from any wood residues from wood mills *minus* carbon stocks from wood products used for the purposes of paper, wood chips or other short-lived wood products, *minus* a carbon release estimate of harvested wood products produced and then destroyed during the commitment period *times* a conversion factor from carbon to carbon dioxide equivalent.

(sex) Harvested wood products derived from deforestation shall be accounted for on the basis that all carbon biomass deforested is considered to have oxidized in the year when the deforestation took place and shall be accounted for as an emission. All other biomass emissions, such as loss of soil carbon, human induced fires etc., associated with the deforestation activity, shall be accounted for as an emission.

(sept) Once a harvested wood product leaves the country of the Party included in Annex I where the forest product was originally grown, the carbon stocks included in such a product shall be accounted for as an emission.

Option 3: *Include on a voluntary bases the harvest wood pool carbon stock changes from forests accounted for under the Kyoto Protocol, otherwise apply present provisions. ]*

**[21 qua.** *Insert a provision to limit the use of the LULUCF sector for compliance with Annex I commitment.]*

*Note: The appendix to decision 16/CMP.1 would be revised/deleted in accordance with the provisions in paragraph 11 above for the accounting of forest management under Article 3, paragraph 4.*

*Note: The reporting and review guidelines need to be reviewed in accordance with the options chosen.*

*Note: Depending of the degree of detail on some proposals, it may be possible that SBSTA will need to be requested to develop further modalities, for example in the case of harvest wood products. This may include further consideration of the construct of “managed lands” as appears in 2003 IPCC GPG in light of the May 2009 IPCC workshop entitled “Revisiting the use of Managed Land as a Proxy for Anthropogenic Emissions and Removals”.*

## **Option 2**

*Option 2 is included in document FCCC/KP/AWG/2009/INF.1.*