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# METHODOLOGICAL ISSUES

# LAND USE, LAND-USE CHANGE AND FORESTRY: DEFINITIONS AND MODALITIES FOR INCLUDING AFFORESTATION AND REFORESTATION ACTIVITIES UNDER ARTICLE 12 OF THE KYOTO PROTOCOL IN THE FIRST COMMITMENT PERIOD

## Options paper on modalities for addressing non-permanence

## Note by the secretariat

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# I. INTRODUCTION

## A. Mandate

1. The Conference of the Parties (COP), by its decisions 11/CP.7 (para. 2(e))[1] and 17/CP.7 (para. 10(b)),[2] requested the Subsidiary Body for Scientific and Technological Advice (SBSTA) to develop definitions and modalities for including afforestation and reforestation project activities under the clean development mechanism (CDM) in the first commitment period, taking into account the issues of non-permanence, additionality, leakage, uncertainties and socio-economic and environmental impacts, including impacts on biodiversity and natural ecosystems, and being guided by the principles in the preamble to draft decision –/CMP.1 *(Land use, land-use change and forestry)*, [3] with the aim of recommending a draft decision for adoption by the COP at its ninth session on these definitions and modalities, to be forwarded to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP) at its first session.

2. The COP, by its decision 17/CP.7 (para. 11), further decided that the decision by the COP at its ninth session, on definitions and modalities for inclusion of afforestation and reforestation project activities under the CDM in the first commitment period, referred to in paragraph 1 above, shall be in the form of an annex on modalities and procedures for afforestation and reforestation project activities for the CDM reflecting, mutatis mutandis, the annex to decision 17/CP.7 on modalities and procedures for the CDM (hereinafter referred as "modalities and procedures for the CDM").

3. The SBSTA, at its sixteenth session, agreed on the terms of reference and an agenda for the work referred to in paragraph 1 above. It invited Parties to submit their views on issues related to modalities.[4] It requested the secretariat to prepare, under the guidance of the SBSTA Chair, an options paper on modalities for addressing non-permanence, based on written submissions from Parties and other inputs from Parties at the seventeenth session of the SBSTA.[5]

## B. Scope of the note

4. This options paper was prepared in response to the above mandate. The note does not analyse the implications of the proposed options for the modalities and procedures for the CDM, nor does it make suggestions beyond the information provided by Parties. However, it raises questions relating to the implementation aspects of some proposals which need further clarification. Furthermore, some of the questions aim to raise awareness of possible implications of the options for addressing non-permanence for relevant decisions of the COP, in particular, decision 19/CP.7 (*Modalities for the accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol*).[6]

5. This paper should be read in conjunction with the options paper on modalities for baselines, additionality and leakage[7] and the options paper on modalities for addressing socio-economic and

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1 Contained in document FCCC/CP/2001/13/Add.1.

2 Contained in document FCCC/CP/2001/13/Add.2.

3 Contained in document FCCC/CP/2001/13/Add.1, decision 11/CP.7.

4 See document FCCC/SBSTA/2002/MISC.22 and Add.1–3.

5 See annex I of document FCCC/SBSTA/2002/6.

6 Contained in document FCCC/CP/2001/13/Add.2.

7 See document FCCC/SBSTA/2003/6.

environmental impacts, including impacts on biodiversity and natural ecosystems.[8] The three papers aim at facilitating the exchange of views on issues relating to modalities in a workshop to be held in February 2003. Parties are encouraged to refer to the report of the workshop for further elaboration of the options reflected in this document (to be available before SBSTA 18).

### C. Possible action by the Subsidiary Body for Scientific and Technological Advice

6. The SBSTA may wish to take note of the information contained in this paper when considering modalities relating to non-permanence for including afforestation and reforestation project activities under the CDM in the first commitment period.

## II. BACKGROUND

7. The United Nations Framework Convention on Climate Change (UNFCCC), in its Article 1, paragraph 8, defines a sink as any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere. According to the Intergovernmental Panel on Climate Change (IPCC) special report on land use, land-use change and forestry (LULUCF), forests and other terrestrial ecosystems, such as grasslands and savannas, are components of the terrestrial carbon sink.

8. Non-permanence is related to the temporary nature and reversibility of greenhouse gas removals by sinks. Carbon contained in terrestrial ecosystems is vulnerable to natural disturbances such as pest outbreaks, wildfires and diseases, and anthropogenic practices such as harvesting and land management. These disturbances can cause either partial or total loss of the carbon stock from an area that formerly functioned as a sink, thus reversing any environmental benefit resulting from carbon sequestration.

9. Carbon stocks resulting from afforestation and reforestation projects under the CDM are vulnerable to such disturbances. In contrast, emissions reductions resulting from energy-related projects are not reversible as no carbon stock results from these projects. Under the modalities and procedures for the CDM there is no procedure to account for emissions from afforestation and reforestation projects under the CDM.

10. According to the principles that govern the treatment of LULUCF activities, contained in draft decision -/CMP.1 (*Land use, land-use change and forestry*), paragraph 1(g), the reversal of any removal due these activities is to be accounted for at the appropriate point in time.

11. The modalities and procedures for the CDM contained in the annex to decision 17/CP.7 do not consider specific modalities related to non-permanence. Sections where modalities for addressing non-permanence may need to be elaborated include: definitions, project design, validation and registration, monitoring, verification and certification, and issuance of certified emission reductions (CERs). In addition, the appendices entitled “project design document”, “terms of reference for establishing guidelines on baselines and monitoring” and “CDM registry requirements” may require further consideration.

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[8] See document FCCC/SBSTA/2003/7.

## III. ISSUES AND MODALITIES RELATED TO NON-PERMANENCE

12. Information provided by Parties in relation to non-permanence is reviewed in this chapter under two headings:

(a) General requirements

(b) Specific options for modalities relating to non-permanence.

13. Parties have highlighted the importance of institutional and legal frameworks intended to minimize risks, specify liability matters, and define property rights and land-tenure related concerns. At the national level, such frameworks play an important role in ensuring the long-term viability of projects.

14. *Parties may wish to consider if further legal and institutional frameworks are needed and, if so, whether the development of international guidance on minimum requirements would be helpful. In addition, should such frameworks constitute a mandatory requirement for a Party intending to host afforestation and reforestation projects? What elements would need to be considered in such frameworks?*

### A. General requirements

15. Some Parties noted the importance of having a set of general requirements for afforestation and reforestation projects, namely for viability, liability, risk management, lifetime and crediting periods, and accounting for changes in carbon stocks.

16. **Viability**. Some Parties suggested that an important requirement relating to non-permanence is that projects participants demonstrate the financial, legal and technical viability of a project, as well as their management capacity.

17. *If any demonstration of viability is required, Parties may wish to consider whether such a demonstration should constitute a validation requirement. In addition, should there be specific modalities on how project participants are to demonstrate financial, legal and technical viability, and management capacity? What elements need to be included in the modalities? For what timeframe should the demonstration be required?*

18. **Liability**. Some Parties suggested that the modalities for afforestation and reforestation projects under the CDM should include a clear definition of liability for any losses of carbon.

*19. If there should be such a requirement, Parties may wish to consider the following questions:*

*(a) Definition of liability: How should liability be defined? What elements of projects should create a liability? Which procedures should be required for establishing liability ?*

*(b) The liable entities: Who should be liable and for what? Who should review and enforce liability? What provisions are needed for enforcement?*

*(c) The timeframe of the liability: For how long should an entity be liable?*

*(d) Nature of the compensation: How should entities compensate losses?*

20. **Risk management.** Several submissions recognize that projects should minimize risks from the design stage. Proposals put forward in this regard include risk assessment studies and risk management

plans. In addition, some Parties have suggested that, to reduce risk, projects could be grouped into portfolios with geographical spread, and multiple components and activities.

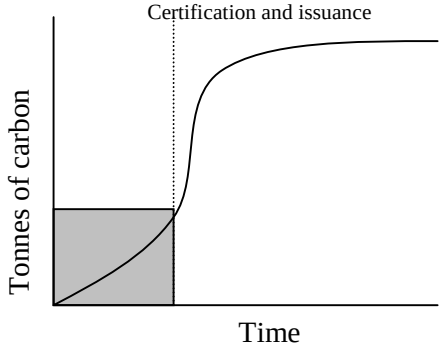
21. *Parties may wish to consider whether risk assessment should be an additional requirement for projects to be validated. In addition, should standard methods for risk assessment be developed? What dimensions of risks should be assessed (e.g. social, environmental, financial)? Should modalities identify criteria to identify acceptable levels of risk? What form of risk management should be mandated? Should risk management be mandatory for all projects, or only for those with higher risks?*

22. **Lifetime of projects and crediting periods**. The modalities and procedures for the CDM do not establish requirements for a minimum lifetime of projects, but do specify the length of crediting period and the possibility of renewal.[9] Some Parties indicated that options for addressing non-permanence should consider project lifetimes and crediting periods. A clear distinction between these two was not made in the submissions, but some proposals were included. Because the establishment of the crediting period is related to the issue of baselines, options are treated in the options paper on baselines, additionality and leakage.[10]

23. *Parties may wish to consider the following questions arising from possible requirements relating to lifetime of projects. Should there be a requirement for a minimum lifetime of projects? How should the establishment of the minimum lifetime relate to other issues such as crediting periods and environmental and socio-economic impacts, including impacts on biodiversity? What should happen if a project fails to reach its minimum lifetime?*

24. **Accounting for changes in carbon stocks**. It is the view of some Parties that approaches to accounting for changes in carbon stocks should consider non-permanence. These approaches could be relevant particularly if the units generated by afforestation and reforestation projects under the CDM have a specified validity period (see para. 34). The following paragraphs summarize the proposals by Parties; each proposal is illustrated by a figure which shows the growing stock of carbon, the amount of issued CERs (in gray color) and the time of issuance under each approach.

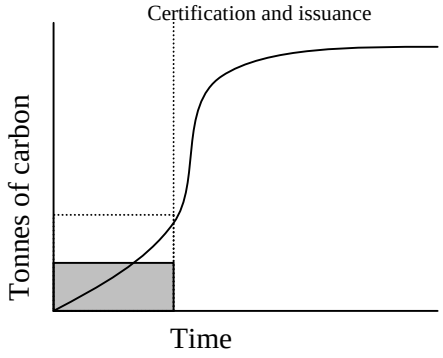
(a) Total stock approach. After certification, CERs equivalent to the total stock of carbon will be issued.



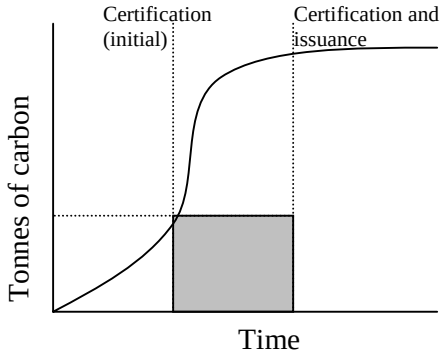

[9] Crediting periods of seven or ten years are specified in paragraph 49 (a) and (b), of the annex to decision 17/CP.7. Options in the context of afforestation and reforestation project activities under the CDM in the first commitment period are treated in chapter V(C) of the options paper on modalities for addressing baselines, additionality and leakage (FCCC/SBSTA/2003/6).

[10] FCCC/SBSTA/2003/6, chapter V(C).

(b) Average stock approach. After certification, CERs equivalent to the average stock of carbon per year during the sequestration period will be issued.




(c) Delayed approach. A two-stage approach where the operational entity first certifies that a given amount of carbon has been sequestered, and then, after this stock of carbon has remained for a specific period of time in the biomass, CERs equivalent to the certified stock of carbon will be issued.




25. Parties should note that the IPCC is currently elaborating methods[11] that may be relevant to afforestation and reforestation projects under the CDM, and they may wish to consider the output of the IPCC and its possible application to the modalities for afforestation and reforestation project activities under the CDM in the first commitment period.

[11] The COP, by its decision 11/CP.7, paragraph 3 (a), invited the IPCC to elaborate methods to estimate, measure, monitor and report 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, paragraphs 3 and 4, and Articles 6 and 12 of the Kyoto Protocol. In addition, draft decision -/CMP.1 (*Land use, land-use change and forestry*), paragraph 2, states that these methods shall be applied by Parties, if decided in accordance with relevant decisions of the COP and the COP/MOP. The input from the IPCC is expected by COP 9.

## B. Specific options for modalities relating to non-permanence

26. **Insurance.** Insurance policies could be issued for afforestation and reforestation projects to cover possible losses of carbon. An insurance provider would be required to replace the CERs associated with a loss of carbon with an equivalent quantity of CERs, assigned amount units (AAUs), emission reduction units (ERUs) or removal units (RMUs). It has been suggested that project participants could show proof of such insurance and that operational entities could check this as part of the verification and certification procedures.

27. Under the possible requirement for insurance, the following procedures for replacing CERs have been suggested:

(a) Notification and loss assessment. A reversal of carbon removals is reported by the project participants to the operational entity responsible for the verification of the project. The operational entity notifies the CDM Executive Board and undertakes a quantified assessment of the magnitude of the carbon reversal, which it forwards to the Executive Board;

(b) Flagging of CERs. Upon receipt of the notification and assessment, the CDM Executive Board flags a corresponding number of CERs from the respective project within the CDM registry. The flagged CERs are be ineligible for any type of transaction;

(c) Replacement and notification. The project participants file a claim of loss with the insurance provider using the quantified assessment by the operational entity. The insurance provider is then required to replace the flagged CERs, on a one-to-one basis, with CERs, AAUs, ERUs or RMUs from its own holdings. Once this is complete, the Executive Board cancels the flagged CERs by transferring them to a cancellation account in the CDM registry.

*28. If insurance is to be required by the modalities, Parties may wish to consider the following additional questions. Which project participant is responsible for notifying the operational entity? How could the notification of carbon reversals be enforced? How may the Executive Board decide which CERs from a project are to be flagged? How long should the coverage be for? What happens after the period of coverage? Should there be qualification criteria for insurers? What quantity of ERUs, CERs, AAUs and RMUs should an insurer hold for the purpose of replacing flagged CERs?*

*29. More generally, Parties may wish to consider what other implications the insurance proposal may have for the assigned amount modalities under Article 7, paragraph 4, national registries, the CDM registry, the automated checks of the transaction log and guidelines under Articles 7 and 8.*

30. **Credit reserves** are specific amounts of CERs, ERUs, AAUs and/or RMUs that are not retired and are held in order to compensate for any possible loss.

31. *Parties may wish to consider the following questions arising from the possible requirement of credit reserves. Who should be responsible for holding the reserve? May all units be used, or only a subset? Where should this reserve be kept? What would be the size of the reserve? What happens if there is a need to use the reserve before the project finishes?*

32. **Buffers** are specific amounts of carbon stored by the project which are held aside for compensating any possible loss of carbon. In other words, a buffer is portion of the carbon stored in the biomass of an afforestation or reforestation project for which no CERs have been issued.

33. *If carbon buffers are required, Parties may wish to consider the following questions. How should a buffer be specified? What should be the size of the buffer? Are criteria needed for the establishment of buffers? Could several projects share buffers? How should a buffer be treated at the*

*end of the project if it has not been used? How should modalities treat emissions from carbon stocks that are held in a buffer? Could buffers be set outside of the area of the project? Should buffers receive different management requirements than the removals being credited?*

34. **Temporary certified emission reductions (tCER).** The tCER proposal matches a temporary credit to the potentially temporary nature of the carbon sequestration. It makes the assumption that the carbon stored by a project will be released after a certain time, at which point the validity of the tCERs comes to an end. Paragraphs 35 to 42, below, elaborate on the tCER proposal.

35. **Nature of tCERs**. The period of validity for each tCER would be defined by an expiry date associated with that tCER. Options for the establishment of the expiry date identified so far include:

(a) End of an arbitrary period from the date of issuance (for example, five years, in line with the length of the first commitment period);

(b) End of a period, equal to the crediting period of the project, from the date of issuance (for example, seven or ten years, in line with the options for the crediting period provided for in the modalities and procedures for a CDM);[12]

(c) End of a period, equal to the period of sequestration,[13] from the date of issuance (this would result in validity periods of different lengths for different tCERs);

(d) The end of the first commitment period (this would result in validity periods of different lengths for different tCERs).[14]

36. TCERs would be issued as part of the project cycle. Some Parties suggested that tCERs may be held, transferred and acquired in the same manner as CERs and in accordance with the limit on additions to assigned amount resulting from LULUCF project activities under the CDM, as specified in the annex to decision 11/CP.7. It was also suggested that tCERs may be retired for use towards meeting the commitments of Parties under Article 3, paragraph 1, of the Kyoto Protocol for the commitment period in which they were issued. Furthermore, some Parties indicated that tCERs may not be carried over to the subsequent commitment period.

37. *If the tCER proposal is to be implemented, Parties may wish to consider the following questions. What expiry dates should apply to tCERs? For options 35 (a) to (c) above, should the expiry date be set to the end of the relevant month? For option 35 (c) above, how may the precise sequestration period be measured? May tCERs be retired only in the commitment period in which they were issued? Should a separate retirement account be maintained for tCERs? May tCERs be carried over to the subsequent commitment period? What should happen to unretired tCERs at the end of a commitment period?*

38. **Expiry of tCERs.** The expiry of retired tCERs would need to be compensated through cancelling ERUs, CERs, AAUs, RMUs and/or tCERs. As a result, to ensure compliance with their

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[12] Options for crediting periods in the context of afforestation and reforestation project activities under the CDM in the first commitment period are treated in the options paper for addressing baselines, additionality and leakage (FCCC/SBSTA/2003/6, chapter V(C).

[13] Measured as the period between the incidence of a removal and the issuance of the tCER, or, in case of re-issuance, the period between issuance of the original tCER and re-issuance of a tCER.

[14] The current work to develop definitions and modalities for including afforestation and reforestation project activities under the CDM is only in relation to the first commitment period. Should this be extended, this option could provide for an expiry date at the end of the commitment period in which a tCER is issued.

commitment under the Kyoto Protocol, Parties holding expired tCERs would need to either reduce emissions or acquire other ERUs, CERs, AAUs, RMUs and/or tCERs.

39. *Parties may wish to consider the following questions. Should it be possible to cancel ERUs, CERs, AAUs, RMUs and tCERs for this purpose, or only a subset of these? Would a separate cancellation account be necessary for cancelled tCERs? How could any tCERs be tracked in the cancellation account in order to ensure that they are similarly compensated upon their expiry?*

40. **Re-issuance of a tCER**. Upon expiry of tCERs, new tCERs may be issued where the monitoring, verification and certification for the project demonstrates that the carbon sequestration on which the original tCERs were issued remains intact.[15]

41. *Parties may wish to consider the following questions. Does re-issuance involve issuance of a new tCER or is the original tCER reactivated? If a new tCER is issued, should it be linked in some way to the original tCER? Can re-issuance continue after the monitoring, verification and certification activities have ceased in the context of the project? Should there be a maximum number of re-issuances for a given sequestration? Should the re-issuance of tCERs be based on an updated baseline, where it exists? Should the re-issuance of tCERs necessitate a contribution in the form of the share of proceeds?*

42. *More generally, Parties may wish to consider what other implications the tCER proposal may have for the assigned amount modalities under Article 7, paragraph 4, national registries, the CDM registry, the automated checks of the transaction log and the guidelines under Article 7 and 8.*

43. **Temporary net credits.** The temporary net credits proposal places the liability for any reversal of removals with the holder of the credit. Temporary net credits could be issued at the end of the first commitment period and could be retired or cancelled as with CERs.

44. The liability for any eventual emission resulting from the project would be with the acquirer of the credits. As proposed, this liability would be in the form of holding an equivalent reserve of emission reduction credits which could be used to offset any emissions from project losses or off-site emissions. It would be in perpetuity unless it was exchanged for emission reduction credits from elsewhere.

45. *Parties may wish to consider the following questions arising from the possible implementation of temporary net credits. When should credits be issued? May credits be transferred, acquired and/or carried over to the subsequent commitment period? What could be the form of such perpetual liability schemes? In the case of several project investors, how should liability be specified?*

46. **Summary of Options.** Options for dealing with non-permanence have been compiled in the table included in the annex to this document.

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[15] Note that this carbon sequestration would have been based on the inclusion of afforestation and reforestation project activities under the CDM in the first commitment period.

Annex

## SUMMARY OF OPTIONS FOR DEALING WITH NON-PERMANENCE

| Dimension | Proposals | Options |
|---|---|---|
| General requirements | Demonstration of financial, legal and technical viability, and management capacity | |
| | Clear definition of liability | |
| | Risk management requirements | |
| | Approaches for accounting of carbon stocks | Option 1: Total stock approach |
| | | Option 2: Average stock approach |
| | | Option 3: Delayed stock approach |
| | Lifetime of projects | Option 1: Minimum lifetime of projects required (e.g. 50 years) |
| | | Option 2: No minimum lifetime required |
| Options for modalities | Insurance to cover possible losses of carbon | |
| | Credit reserves | |
| | Buffers | |
| | Temporary Net CERs | |
| | Temporary CERs (options for the expiry date of temporary CERs) | Option 1: End of an arbitrary period from the date of issuance |
| | | Option 2: End of a period, equal to the crediting period, from the date of issuance |
| | | Option 3: End of a period equal to the period of sequestration |
| | | Option 4: The first commitment period |

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