

## **Definitions and Modalities for Afforestation/Reforestation CDM (AR-CDM), Decided in COP 9**

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### **Abstracts**

No credit can be attained for emission reductions in AR-CDM, because “Baseline net greenhouse gas removals by sinks” does not subtract any emissions and “Actual net greenhouse gas removals by sinks” subtracts increased emissions only. No credit can be attained for emission reductions of CO<sub>2</sub> by avoiding slash and burn cultivation under AR-CDM, and no credit can be attained for emission reductions of methane by reducing the numbers of cows in silvo-pastoral under AR-CDM.

Difference between tCERs and ICERs for a buyer of the credits lies in eligibility of these credits. Since eligibility of tCERs is secured until the end of subsequent commitment period even in the existence of carbon reversal, the buyer of the credits feels easy to purchase tCERs from all the project participants. Since eligibility of ICERs depends upon existence of carbon reversal or submission of certification report, the buyer of the credits would purchase ICERs from the project participants who are reliable.

Difference between tCERs and ICERs for project participants lies in future outlook. Since tCERs will be replaced at the end of subsequent commitment period (5 to 10 years later), it is not so difficult for project participants to outlook the economic situation for purchasing credits for replacing expired tCERs. Since ICERs will be replaced at the end of the last crediting period (in the maximum, 60 years later), it is very difficult for project participants to outlook the economic situation for purchasing credits for replacing expired ICERs. These are the case that project participants would have liability of replacing expired tCERs/ICERs. Though Annex I Party of AR-CDM might have liability of replacement, Annex I Party of AR-CDM could transfer her liability to project participants on a contract basis.

An afforestation or reforestation project activity under the CDM is additional if the actual net GHG removals by sinks are increased above the sum of the changes in carbon stocks in the carbon pools within the project boundary that would have occurred in the absence of registered CDM afforestation or reforestation project activity. In this provision, interpretation of “in the absence of registered CDM” is very important. If business-as-usual plantation should occur “in the absence of registered CDM”, baseline scenario and CDM project scenario could be identical and additionality of AR-CDM could not exist.

### **1. Definitions for Including Afforestation/Reforestation Activities under CDM**

#### **1.1. Definition of forest for AR-CDM**

- Same as definition of forest for LULUCF activities under Article 3 of Kyoto Protocol.  
i.e.
  - 1) minimum area of land of 0.05-1.0ha,
  - 2) minimum crown cover of 10-30%,
  - 3) minimum tree height of 2-5 meters at maturity

#### **1.2. Definition of afforestation for CDM**

- Same as definition for afforestation for LULUCF (land use, land-use change and forestry) activities under Article 3:

i.e.

The direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land.

### 1.3. Definition of reforestation for CDM

- Same as definition for reforestation for LULUCF activities under Article 3:

i.e.

The direct human-induced conversion of non-forested land to forested land, occurring on those lands that did not contain forest on 31 December 1989.

### 1.4. Eligible activities for CDM

- The eligibility of LULUCF activities under Article 12 is limited to afforestation and reforestation.
- Therefore, initial plantation in logged after area is not eligible for CDM. (Initial plantation in logged after area is forest management.)

### 1.5. Project boundary

- It geographically delineates the afforestation or reforestation project activity under the control of the project participants.
- The project activity may contain more than one discrete area of land.

### 1.6. Baseline net greenhouse gas removals by sinks

- The sum of the changes in carbon stocks in the carbon pools within the project boundary that would have occurred in the absence of AR-CDM.
- No need minus in emissions.

### 1.7. Actual net greenhouse gas removals by sinks

- The sum of the verifiable changes in carbon stocks in the carbon pools within the project boundary, minus the **increase** in emissions of GHG within the project boundary, attributable to AR-CDM.
- Need minus in emissions.

#### 1.7.1. In the case of increased emissions

e.g. 3 emissions in baseline scenario; 10 emissions in the project scenario:

- In calculating actual net GHG removals, it needs minus  $10-3=7$ .  
(reason: In actual net GHG, it explains "minus the **increase** in emissions".)

#### 1.7.2. In the case of decreased emissions

e.g. 10 emissions in baseline scenario; 4 emissions in the project scenario:

- No credits can be attained from emission reductions for  $10-4=6$ .  
(reason: In actual net GHG, it explains "minus the **increase** in emissions".)
- Examples of emission reductions in AR-CDM are as follows, while no credit can be attained for emission reductions.
- There was slash and burn cultivation in baseline scenario. Slash and burn stopped in project scenario. However, no credit can be attained for CO<sub>2</sub> emission reductions for quitting slash and burn cultivation.
- There were 100 cows and 0 trees in baseline scenario. There were 30 cows and 1,000 trees in project scenario. However, no credit can be attained for methane emission reductions for diminishing cow farming.

- The reason why can no credit be attained for emission reductions in AR-CDM is:
  - 1) Because emission reductions is not eligible for LULUCF CDM, but only afforestation/reforestation is eligible.
  - 2) Because activities of quitting slash and burn is not afforestation/reforestation but is forest management.
- If we could get credit through emission reduction in AR-CDM, activities to let the people, who carry out slash and burn, stop and to plant very few trees might create many credits.

#### 1.8. Leakage

- Leakage is the increase in GHG emissions that occurs outside the boundary, which is measurable and attributable to AR-CDM.
- The increase in GHG removals that occurs outside the boundary (positive leakage) is not included.
- The decrease in GHG emissions that occurs outside the boundary is not considered.

#### 1.9. Net anthropogenic greenhouse gas removals by sinks

Net anthropogenic greenhouse gas removals by sinks (This corresponds credits)

- = Actual net greenhouse gas removals by sinks
- Baseline net greenhouse gas removals by sinks
- leakage

#### 1.10. Carbon pools

- Same carbon pools for LULUCF activities under Article 3:  
i.e.
  - 1) above ground biomass, 2) below ground biomass, 3) litter, 4) dead wood, and 5) soil organic carbon.

#### 1.11. Choice of 5 carbon pools

- Projects participants may choose not to account for one or more carbon pools in a way that the choice will not increase the expected net anthropogenic removals by sinks comparing the costs of measurements of the carbon pools.

## **2. Modalities for Including Afforestation/Reforestation Activities under CDM**

### 2.1. Countries' participation requirement for AR-CDM

- Same as participation requirements of energy CDM. i.e. Party to the Kyoto Protocol, Assigned Amount is calculated, national registry is ready, the most recent required inventory is submitted etc.
- In addition to those, non-Annex I country (host country) has selected minimum land area, minimum tree cover, and minimum tree height and reported to the Executive Board through Designated National Authority.

### 2.2. When is verification/certification undertaken?

- The initial verification/certification may be undertaken at a time selected by project participants.
- Thereafter, verification/certification shall be carried out every 5 years until the end of the crediting period.

- A systematic coincidence of verification and peaks of carbon stocks should be avoided.
- It is understood that timing of verification/certification is different from the timing of the peaks for about 1 year.

### 2.3. Units of AR-CDM that address non-permanence

- Project participants shall select either Temporary CER (tCER) or Long-term CER (ICER).
- The choice of tCER or ICER shall remain fixed for crediting period including renewals.

### 2.4. Crediting period

- Project participants can select either the following:
  - (a) A maximum of 20 years that may be renewed at most two times. (Renewal means updating.)
  - (b) A maximum of 30 years. No renewal.
- The crediting period shall begin at the start of AR-CDM.

### 2.5. When to use tCERs towards meeting its commitment.

- For project participants, meeting their commitments means transferring tCERs from project participants' holding a/c to country's retirement a/c in national registry.
- Annex I Party may use tCERs towards meeting its commitment for the commitment period for which they are issued.
- tCERs may not be carried over to a subsequent commitment period. (Same as RMUs.)

### 2.6. Validity of tCER

- Each tCER shall expire at the end of the commitment period subsequent to the commitment period for which it was issued.

### 2.7. Issuance of tCERs

- The certification report shall constitute a request to the Executive Board for issuance of tCERs equal to the verified amount of net anthropogenic greenhouse gas removals by sinks since the start of the project.

### 2.8. How to replace tCER

- Expired tCER should be replaced by AAU, ERU, CER, RMU, and/or tCER.
- Expired tCER cannot be replaced by ICER.

### 2.9. When to use ICERs towards meeting its commitment

- For project participants, meeting their commitments means transferring ICERs from project participants' holding a/c to country's retirement a/c in national registry.
- Annex I Party may use ICERs towards meeting its commitment for the commitment period for which they are issued.
- ICERs may not be carried over to a subsequent commitment period. (Same as RMUs.)

### 2.10. Validity of ICER

- Each ICERs shall expire at the end of the last (renewed) crediting period.
- Validity lasts for maximum 60 years.

### 2.11. Issuance of ICER (when increased)

- If net anthropogenic GHG removals by sinks have increased since the previous certification report, certification report will request to the Executive Board for issuance of

ICERs equal to the verified amount of net anthropogenic GHG removals by sinks since the previous certification.

#### 2.12. Issuance of ICER (when decreased)

- If net anthropogenic GHG removals by sinks have decreased since the previous certification report, certification report will notify to the Executive Board of reversal of net anthropogenic GHG removals by sinks since the previous certification.

#### 2.13. Needs replacement of ICER

when

- 1) ICERs expire,
- 2) reversal happens, or
- 3) certification report has not been provided.

#### 2.14. How to replace ICER

- Ineligible ICER should be replaced by AAU, ERU, CER, and/or RMU.
- In case of 2) reversal happens or 3) certification report has not been provided; ICER from the same project activity can replace ineligible ICER.
- Ineligible ICER cannot be replaced by tCER.

#### 2.15. Difference between tCER and ICER for buyer of the credit.

- Eligibility of tCER is secured until the end of subsequent commitment period even in the case of carbon reversal. Therefore, the buyer of the credits feels easy to purchase tCERs from all the project participants.
- Eligibility of ICER depends upon existence of carbon reversal and submission of certification report. Therefore, buyer would purchase ICER only from project participants who are reliable.

#### 2.16. Analysis/assessment of socio-economic/environmental impacts

- In energy CDM, analysis/assessment of environmental impacts are made.
- In AR-CDM, analysis/assessment of socio-economic and environmental impacts are made.
- Analysis is implemented by project participants.
- Assessment is implemented by project participants and authorized by official organization.
- Project participants submit to DOE documentation of analysis of socio-economic/environmental impacts. If negative impact is considered significant by the project participants or host Party, project participants have undertaken a socio-economic impact assessment and/or environmental impact assessment in accordance with the procedures required by the host party.
- Project participants submit Project Design Document that includes analysis of socio-economic/environmental impacts.
- This environmental analysis should include, where applicable, information on, inter alia :  
hydrology, soils, risk of fire, pests, and diseases.
- This socio-economic analysis should include, where applicable, information on, inter alia :  
local communities, indigenous peoples, land tenure, local employment, food production, cultural and religious sites, access to fuelwood and other forest products.

## 2.17. Additionality

- Additionality of AR-CDM and additionality of energy CDM are symmetrical.
- Description of additionality of energy CDM:  
A CDM project activity is additional if anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of registered CDM project activity.
- Description of additionality of AR-CDM:

**Table 1** Emission in each interpretation

Interpretation 1		Interpretation 2
emission in baseline	no emission reduction	emission without any activity
	emission of a less GHG friendly activity than the registered CDM activity	emission in baseline
emission in CDM	emission of the registered CDM project activity	emission in CDM

An afforestation or reforestation project activity under the CDM is additional if the actual net GHG removals by sinks are increased above the sum of the changes in carbon stocks in the carbon pools within the project boundary that would have occurred in the absence of registered CDM afforestation or reforestation project activity.

- In this provision, interpretation of “in the absence of CDM” is very important. If business-as-usual plantation should occur “in the absence of CDM”, baseline scenario and project scenario could be identical and additionality of AR-CDM could not exist at all.
- To avoid “anyway project” or free rider project, some countries wanted to add:  
[ ... does not result in accreditation of project activities that will have occurred in the absence of the CDM].
- This [ ] part was deleted through negotiation process because of keeping symmetric between AR-CDM and energy CDM.
- Report of Meth 06(not EB’s report) explains as follows.
  - interpretation 1: without the ability to register under the CDM, proposed project activity would be, or would have been, unlikely to occur. A baseline methodology evaluate a priori whether the project activity is the baseline scenario;
  - interpretation 2: if the proposed CDM project activity is not implemented, a less GHG friendly activity would have been initiated or be continued instead. A baseline methodology does not evaluate a priori whether the project activity could be the baseline scenario.
- The Meth Panel recommends that the first interpretation should be the only one used. (7-8 July 2003)
- Report of EB10 explains the tools to demonstrate additionality as follows:

- Examples of tools may be used to demonstrate that a project activity is additional and therefore not the baseline scenario include, among others:
  - (a) A flow chart or series of questions that lead to narrowing of potential baseline options; and/or
  - (b) A qualitative or quantitative assessment of different potential options and an indication of why the non-project option is most likely; and/or
  - (c) A qualitative or quantitative assessment of one or more barriers facing the proposed project activity (such as those laid out for small-scale CDM projects); and/or
  - (d) An indication that the project type is not common practice (e.g. occurs in less than [ $< x\%$ ] of similar cases)  
 , and not required by a Party's legislation/regulations. (28-29 July 2003)

#### 2.18. Baseline methodology

- Project participants shall select from among the following approaches the one deemed most appropriate:
  - (a) Existing or historical changes in carbon stocks;
  - (b) Changes in carbon stocks from the land use that represents an economically attractive course of action, taking into account barriers to investment;
  - (c) Changes in carbon stocks from the most likely land use at the time the project start.
 ((a) and (b) are symmetric to those of energy CDM)

#### 2.19. Small Scale AR-CDM

- Threshold of Small-scale energy CDM: 15 k CO<sub>2</sub>-t/yr.
- Small-scale AR-CDM:
  - Net anthropogenic removals by sinks is less than 8 k CO<sub>2</sub>-t/yr, and developed or implemented by low-income communities and individuals as determined by the host Party.
  - 8 k CO<sub>2</sub>-t/yr corresponds to 300 ha of *Eucalyptus* or 1000 ha of indigenous species in dry forests.
  - COP requests SBSTA to recommend a draft decision on simplified modalities and procedures for small-scale AR-CDM, taking into account Parties' submissions due on 28 February 2004 and the technical paper prepared by the Secretariat, for adoption by COP 10.

#### 2.20. Invasive alien species and GMO (genetically modified organisms)

- Draft decision of COP 9 says: COP recognizes that host Parties evaluate, in accordance with their national laws, risks associated with the use of invasive alien species/GMO by AR-CDM and that Annex I Parties evaluate, in accordance with their national laws, the use of tCERs/ICERs generated from AR-CDM.
- There is no provision concerning invasive alien species or GMO in the ANNEX, which explains modalities and procedures.
- Invasive alien species are explained in <http://www.iucn.jp/protection/species/worst100.html>

#### 2.21. International agreement

- Draft decision of COP 9 says: COP is cognizant of relevant provisions of international agreements that may apply to AR-CDM.
- No specific names of conventions such as CBD, CCD, or Cartagena Protocol.

- There is no provision concerning an international agreement in the ANNEX, which explains modalities and procedures.