



Annex 16

GUIDANCE ON CONDITIONS UNDER WHICH THE CHANGE IN CARBON STOCKS IN EXISTING LIVE WOODY VEGETATION ARE INSIGNIFICANT

(Version 01)

I. SCOPE

1. The procedure in this document can be used to determine whether the change in carbon stocks of live woody vegetation that exists within the proposed A/R CDM project boundary prior to the project (the “existing woody vegetation”), and that would have occurred in the absence of the A/R CDM project activity, are insignificant and therefore shall be accounted for as zero.

II. PROCEDURE

2. The change in carbon stocks of existing woody vegetation sinks may be accounted as zero for an area of land within the project boundary,¹ if for that area at least one of the conditions (i) to (vi) below is met:

- (i) Existing trees and/or shrubs within the area are allowed to remain, are not expected to be impacted by A/R project activities, and shall be excluded from estimates of project net GHG removals by sinks;
- (ii) The average stocking (or crown cover) of existing trees or shrubs within the area is less than 2% or 10%, respectively, of the final stocking (or crown cover) of trees in the forest to be established by the A/R project activity;^{2,3}
- (iii) Growth conditions are already, or are expected to become within 10 years (e.g., due to on-going land degradation), such that biomass in existing woody vegetation is expected to become static or to decline;
- (iv) Existing woody vegetation within the project area is estimated to be at or within 10 years of maturity—that is, biomass in the existing woody vegetation is at or close to steady-state;

¹ The condition may be assessed at the project, parcel, or individual stratum level, as applicable, depending on the extent of the area involved.

² For the purposes of calculating stocking, species with multiple stems and a common root-stock shall be treated as a single stem.

³ If both trees and shrubs are present, average stocking must not exceed $(S_{tree} + S_{shrub}/5) \leq 0.02 S_{forest}$, where S_{tree} and S_{shrub} are the average stocking (stems ha⁻¹) of existing trees and shrubs respectively, and N_{forest} is the final stocking of the forest established by the A/R CDM project. Values of tree/shrub crown-cover (m² ha⁻¹) may be used instead of tree/shrub numbers, in the above inequality, provided the final stocking parameter S_{forest} is also expressed on a crown-cover basis as the crown cover of forest established by the A/R CDM project (in m² ha⁻¹).



- (v) Harvesting/grazing of foliage, or harvesting/coppicing of live wood, commonly occurs at levels sufficient to result in static or declining biomass in the existing woody vegetation;
- (vi) Fire due to natural or anthropogenic causes, including due to slash-and-burn activities, is a common occurrence in the region the project is located in, and has occurred at least once in the area¹ in the 10 years prior to project commencement—and the existing woody vegetation does not comprise a fire-adapted ecosystem.

3. If project proponents wish to account as zero the change in carbon stocks in existing woody vegetation, credible evidence shall be provided in the CDM-AR-PDD to demonstrate that at least one of the conditions (i) to (vi) above is met for existing trees and/or existing shrubs in the area under consideration.¹ The following shall be considered the minimum set of evidence required:

- (a) For condition (i): existing trees and/or shrubs are allowed to remain, are not impacted by project activities, and shall not be included in estimates of project net GHG removals by sinks—record in the CDM-AR-PDD, as part of the project management plan how the state of the existing trees and/or shrubs is to be maintained (e.g., by permanently marking the trees/shrubs, by controlling the use of fire during site preparation, and by planting only to within some minimum distance of the existing trees/shrubs). Also record and archive as part of the CDM-AR-PDD a sample⁴ photographic evidence of the state of the existing vegetation prior to any site preparation;
- (b) For condition (ii): to determine the stocking (or crown cover) of existing trees and/or shrubs—use information derived from photographs (possibly including images from aircraft or satellites), maps, official reports or peer-reviewed studies to establish that under baseline conditions the average stocking (or crown cover) of existing trees, or shrubs, within the proposed project boundary^{1,5} is less than 2%, or 10%, respectively, of the final stocking (or crown cover) of trees in the forest to be established by the A/R project activity³. The final stocking (or crown cover) of trees shall be taken as that expected prior to harvest, or if harvesting is not to occur then the stocking expected after 30 years or at the end of the first crediting period (whichever comes first)—as recorded as part of the project management plan in the CDM-AR-PDD;

⁴ Sampling on a fixed grid placed with a random start point is recommended. Photographs taken at 50 points or more are recommended, over the entire project area. Record for each photograph the location using a GPS, and the compass bearing of the direction the photograph is taken in.

⁵ If studies are not available that include all or part of the project area, information from studies on land areas with characteristics similar to the proposed project area may be used. Such studies must have been performed for lands with similar existing vegetation, climate, topography, altitude, soils, and land-use. The lands must also be subject to the same legal, policy and regulatory frameworks as the proposed project area. Similar (or lesser) human population and/or grazing animal densities must also be present.



- (c) For condition (iii): if activities such as harvesting/grazing of foliage, or harvesting/coppicing of live wood, or land degradation are considered to result in static or declining growth in existing woody vegetation cover—provide documented evidence that the activities are occurring in the area¹ at levels that are expected to result overall in static or declining woody biomass. For example, photographic evidence may be used to record the overall intensity/severity/frequency of the activities, and/or the state of existing woody vegetation resulting from such activities, at a set of randomly selected points.⁴ Data showing annual biomass supply from the project area prior to project commencement exceeds likely annual production may also be used, if available;
- (d) For condition (iv): if the biomass of existing woody vegetation is considered to be approximately at steady-state because the woody vegetation is at or close to maturity—provide documented evidence to show that at least one of the following conditions is met:
- Official historical maps, historical photographs (including aerial or satellite images, if appropriate), peer-reviewed studies or official studies/data which demonstrate that the median age of existing woody vegetation—at the time the project commences—is at least half the typical maximum age that such vegetation is expected to reach *in situ*. The typical maximum age expected *in situ* must be credibly established from regional or national inventory, official reports/studies, peer-reviewed scientific publications, or interviews with local forestry/botanical experts;
 - The median stem diameter (at breast height for trees, or at the base for shrubs), measured on a sample of randomly selected⁶ trees and/or shrubs is at least 90% of the typical maximum stem diameter that such vegetation is expected to reach at maturity *in situ*. The typical maximum stem diameter expected *in situ* must be credibly established from regional or national inventory, official reports/studies, peer-reviewed scientific publications, or documented interviews with local forestry/botanical experts;
 - The median height, measured on a sample of randomly selected⁶ trees and/or shrubs, is at least 90% of the typical maximum height that such vegetation is expected to reach at maturity *in situ*. The typical maximum height expected *in situ* must be credibly established from regional or national inventory, official reports/studies, peer-reviewed scientific publications, or documented interviews with local forestry/botanical experts;

⁶ Sampling on a fixed grid placed with a random start point is recommended, with measurement of all trees within some specified radius of a grid point. The radius should be sufficient so that at least 50 trees and/or shrubs are sampled if the total project area is 500 ha or less, or 100 trees and/or shrubs for larger projects.



- The median age of existing woody vegetation, for a sample of randomly selected⁶ trees and/or shrubs felled during site preparation, is at least half the typical maximum age that such vegetation is expected to reach *in situ*. The median age may be established by growth-ring counting in basal slices, documented interviews with local land users (e.g., using a participatory rural appraisal approach,⁷) or by any other credible method. The typical maximum age expected *in situ* must be credibly established from regional or national inventory, official reports/studies, peer-reviewed scientific publications, or documented interviews with local forestry/botanical experts;
 - The median age of existing woody vegetation, for a sample of randomly selected⁶ trees and/or shrubs felled during site preparation, is within 10 years—or exceeds—the age at which maturity is reached as determined from a growth/yield curve for the vegetation. (See Annex 1, Section II.a for depiction of a typical growth curve, and guidelines on determining the time at which maturity is reached. Annex I, Section II.b gives details on constructing a growth curve, if one is not already available, using data obtained from trees and/or shrubs felled during site preparation.);
- (e) For condition (v): if fire due to natural causes is considered to be a common occurrence—provide documented evidence that the project area is both located in a region where historical records show fire occurs frequently, and that fire has occurred at least once in the area within the 10 years prior to commencement of the project;
- (f) For condition (vi): if fire due to anthropogenic causes is considered to be a common occurrence—provide documented evidence that demonstrates land clearance or other anthropogenic activities involving fire are:

Either—routinely practiced (at least once every 10 years) in the area;¹

Or—routinely practiced in the region on land areas similar to those proposed for the project activity, and that vegetation within the area¹ is:

- *Either*—already typical of that commonly burned;
- *Or*—in the absence of the project would within 10 years of the proposed start of the project become typical of vegetation commonly burned.

⁷ Participatory rural appraisal (PRA) is an approach to the analysis of local problems and the formulation of tentative solutions with local stakeholders. It makes use of a wide range of visualisation methods for group-based analysis to deal with spatial and temporal aspects of social and environmental problems. This methodology is, for example, described in:

- Chambers R (1992): Rural Appraisal: Rapid, Relaxed, and Participatory. Discussion Paper 311, Institute of Development Studies, Sussex.
- Theis J, Grady H (1991): Participatory rapid appraisal for community development. Save the Children Fund, London.



History of the document

Version	Date	Nature of revision(s)
01	EB 46, Annex 16 25 March 2009	Initial adoption.