

PLAN  VIVO

PV Climate Tool

PT#CPES

Carbon Pool and Emission Source Significance Testing

Version 1.0

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1 Summary

This tool provides procedures for projects certified under the Plan Vivo Carbon Standard (PV Climate) to identify the carbon pools and emission sources that will be included when quantifying carbon benefits. It is applicable globally to all PV Climate project interventions.

Carbon pools and emission sources that generate more emissions in the project scenario than the baseline scenario can be excluded if the total difference in emissions between the baseline scenario and project scenario for all excluded carbon pools and emission sources does not exceed 5% of the total expected carbon benefits of the project.

The outcome of applying the tool is identification of carbon pools or emission sources that can be excluded from quantification of carbon benefits because they do not significantly impact the carbon benefit of the project.

All assumptions, justifications and supporting information provided in the application of this tool will be reviewed to validate suitability of the included carbon pools and emission sources.

The tool can be referenced in Plan Vivo approved methodologies and can be used for both estimation of expected carbon benefits and quantification of actual carbon benefits achieved.

2 Sources

This tool is adapted from:

AR-TOOL04 *Tool for testing significance of GHG emissions in A/R CDM project activities*,
Version 1.0.

3 Definitions

Definitions used in this tool follow the latest version of the PV Climate Glossary and definitions in **PM001**.

4 Applicability Conditions

This tool is applicable to all project interventions that meet the PV Climate Project Requirements.

5 Procedures

The following stepwise procedure must be used for testing the significance of all GHG emissions from carbon pools and emission sources attributable to PV Climate project interventions. The procedures are applied at the start of the project prior to validation.

1. Estimate GHG emissions under the baseline scenario for each of the following carbon pools and emission sources:
 - Carbon pools – Aboveground woody biomass, Aboveground Non-woody biomass, Belowground biomass, Litter, Deadwood, Soil organic carbon, Wood products;
 - Emission sources – Nitrogen fertilisers (N₂O), Nitrogen fixing species (N₂O), Biomass burning (CH₄), Fossil fuel use (CO₂), Enteric fermentation (CH₄), Manure deposition (CH₄, N₂O), Soil methanogenesis (CH₄).
2. Estimate GHG emissions under the project scenario for each of the carbon pools and emission sources listed in Step 1.
3. Estimate GHG emissions from leakage for each of the carbon pools and emission sources listed in Step 1.

Estimates in steps 1 to 3 must be for the entire project period, and must be calculated following an approved PV Climate methodology for estimating expected baseline, project and leakage emissions/removals. Activity data used must reflect the baseline scenario and project interventions described in the PDD. Emission factors can be derived from national or regional default values e.g. using IPCC Tier 1 approaches, or other reliable sources available to the project.

4. Calculate the relative contributions of the project GHG emissions by sources and possible decreases in carbon pools and emissions by leakage activities according to Equation 1. For carbon pools with net-removals, expected emissions should be entered as negative values.

$$RC_{E,i} = \frac{E_i}{\sum_i (BE_i - PE_i - LE_i)}$$

Equation 1

Where:

$RC_{E,i}$ = Relative contribution of each carbon pool or emission source *i* to the expected carbon benefit of the project

E_i = Expected difference between baseline scenario and project scenario emissions (i.e. $PE_i - BE_i$) or leakage GHG emissions (i.e. LE_i) for carbon pool or emission source *i* (tCO₂e; see Steps 2 and 3)

BE_i = Expected GHG emissions under the baseline scenario for carbon pool or emission source i (tCO₂e; see Step 1)

PE_i = Expected GHG emissions under the project scenario for carbon pool or emission source i (tCO₂e; see Step 2)

LE_i = Expected leakage emissions for carbon pool or emission source i (tCO₂e; see Step 3)

5. Rank the relative contribution from each carbon pool and emission source ($RC_{E,i}$) in descending order of their relative contributions and order them from high to low according to their ranks (omitting any negative or zero values), so the lowest relative contribution gets the highest rank and occupies the last position in the ordered sequence.
6. Start calculating the cumulative sum of the relative contributions ($RC_{E,i}$) (ordered according to the step 5) beginning with the highest rank (i.e. the lowest relative contribution). Mark each individual source of project and leakage emissions as it is included in the summation. Cease the summation when the cumulative sum reaches the lowest value not greater than the threshold of 5%.
7. The project scenario or leakage GHG emissions from carbon pools or emission sources marked in Step 6 are considered insignificant because their sum is lower than 5% of the expected carbon benefit of the project.

6 Parameters

Data/Parameter	BE_i PE_i LE_i
Units	tCO ₂ e
Description	Expected GHG emissions under the baseline/ scenario for carbon pool or emission source i ; Expected leakage emissions for carbon pool or emission source i (tCO ₂ e; see Step 3)
Equations	Equation 1
Source	Estimates must be for the entire project period, and must be calculated following an approved methodology for estimating expected baseline, project and leakage emissions. Activity data used must reflect the baseline scenario and project interventions described in the PDD. Emission factors can be derived from national or regional default values e.g.

	using IPCC Tier 1 approaches, or other reliable sources available to the project.
Value	NA
Justification of choice of data or description of measurement methods and procedures applied	Estimates must follow an approved methodology, but the use of conservative default values is allowed.
Purpose of Data	Estimation of relative contribution of each carbon pool or emission source to the expected carbon benefit of the project.
Comments	NA

7 References

AR-TOOL04 Tool for testing significance of GHG emissions in A/R CDM project activities, Version 1.0. CDM Tool. Available from: https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-04-v1.pdf/history_view

PM001 Agriculture and Forestry Carbon Benefit Assessment Methodology, Version 1.0. PV Climate Methodology. Available from: <https://www.planvivo.org/methodologies>