The Gold Standard

Cool Farm Methodology

Valid since	**??? 2016**
Version	**DRAFT for public consultation 0.9 (for road-testing)** This methodology is subject to *road-testing*. This means that during the road-testing phase experiences gained from projects that apply this methodology will be collected and incorporated into version 1.0. Version 0.9 is fully approved to create validated and verified CO_2-certificates. CO_2-certificates that are generated with this version are valid under future versions.
Applicability	***Gold Standard Agriculture Requirements***
Authors	**UNIQUE forestry and land use and Gold Standard**

UNIQUE forestry and land use

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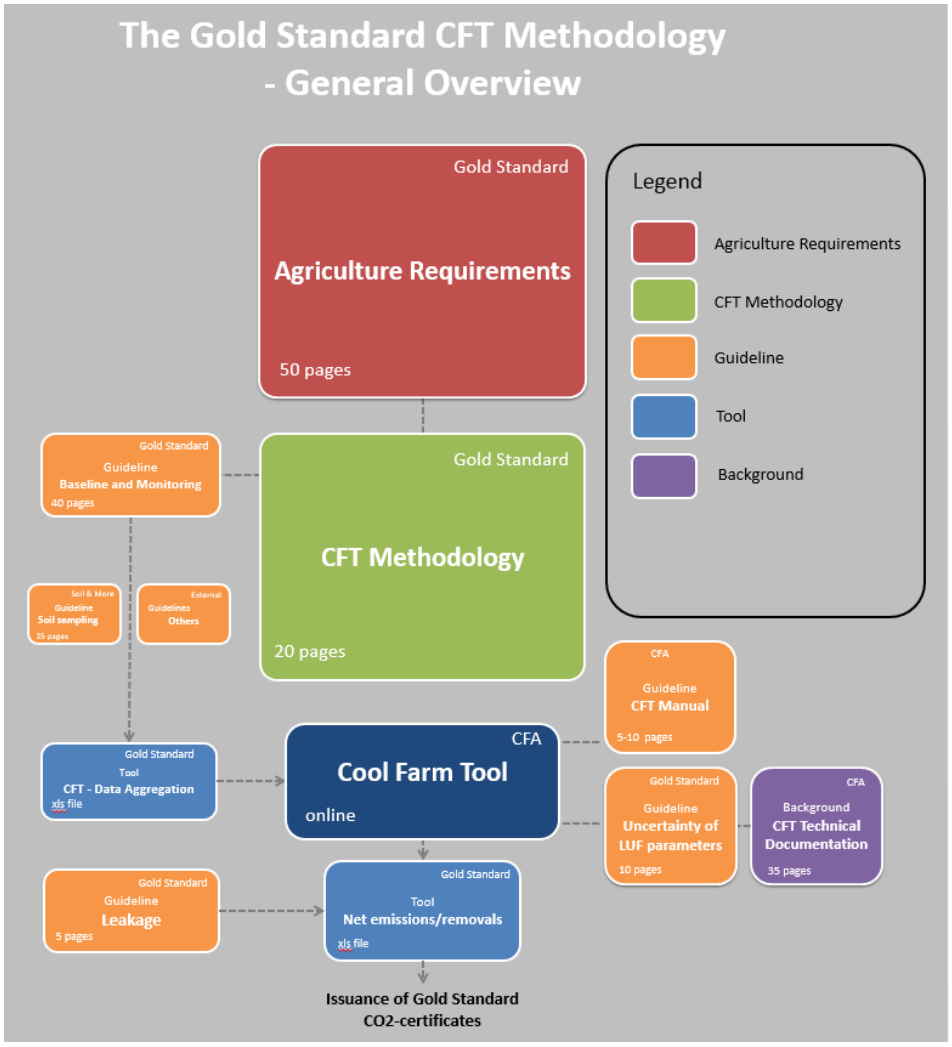
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How to Read the Document

- Dashed underlined words are defined in section '1. Definitions' or in the 'Agriculture Requirements'.
- **Shall** indicates requirements that must be followed in order to conform.
- **Should** indicates that a certain course of action is preferred but not necessarily required.
- **May** indicates a course of action is permissible but not compulsory.
- **Can** is used for statements of possibility and capability.

This document features three different types of boxes:

Clear boxes I The information in the *clear boxes* is to assist in using the document and to introduce procedures.

Blue boxes I *Blue boxes* indicate that the project owner shall provide evidence to show compliance with the requirements through submitting the *project documentation* and *supporting documents*. (Note: If the document is printed in black and white, the *blue boxes* are identified as the *grey* boxes without borders.)

Grey boxes with a border I *Grey boxes with a border* indicate requirements that must be followed, but which do not require documentary evidence from the project owner unless otherwise noted.

Guidance for public comment:

Red TEXT indicates contents that remain under preparation/review.

DOCUMENTS that are referred to in the document can be requested by sending an email to Moriz Vohrer (moriz.vohrer@goldstandard.org).

1. Definitions

The definitions of the *Gold Standard Agriculture Requirements*[1], *'1. Definitions'* shall be used in this methodology. In addition, the following definitions shall apply:

Conservation tillage I Conservation tillage includes any form of minimum or reduced tillage, where residue, mulch, or sod is left on the soil surface to protect soil and conserve moisture. After planting, at least 30 percent of the soil surface remains covered by residue to reduce soil erosion by water.

Cover cropping I Cover cropping is the growing of a crop primarily for seasonal cover and conservation purposes, such as reducing soil erosion, conserving soil moisture, nutrient recycling, increasing soil organic matter, and suppressing weeds. After harvest, the crop residues are used as mulch and incorporated into the soil.

Farming system I Farming system is a population of individual farm systems that have broadly similar resource bases, enterprise patterns, household livelihoods and constraints, and for which similar development strategies and interventions would be appropriate, e.g., paddy rice of northern Peru.

Tillage I Tillage is the agricultural preparation of soil by mechanical agitation of various types, such as digging, stirring, and overturning.

Life cycle analysis I Life cycle analysis measures the total greenhouse gas (GHG) emissions for a specific agricultural product. The calculation shows GHG emissions per unit of product, e.g., per kg of grain or litre of milk.

Whole farm approach I Whole farm approach measures a farm's overall GHG emissions occurring within the boundary of the farm.

[1] *Gold Standard Agriculture Requirements* http://www.goldstandard.org/resources/agriculture-requirements

2. References

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3. Summary

This methodology quantifies greenhouse gas (GHG) emissions and removals from agricultural activities implemented by project participants in a defined project region. The project activities can achieve both reduction of GHG emissions and removals (carbon sequestration). Various project activities can be undertaken to generate CO_2-certificates, e.g., conservation tillage, reduction of fertiliser use, etc. (section 5).

The methodology uses the *Cool Farm Tool (CFT)*[2], which calculates both GHG emissions and removals associated with the production of an agricultural product. In its present form, the *CFT* calculates GHGs for each agricultural product produced on the farm separately. Total GHG emissions and removals of a farm or a project are thus obtained by summing up GHG emissions and removals for all the agricultural products. Therefore, the project owner shall clearly define the project activities, farming systems, system boundaries, and the agricultural products of the farms included in the project.

The *CFT* is an online GHG calculator that calculates the net emissions of crop and livestock products. It was originally developed by Unilever and researchers at the University of Aberdeen to help growers measure and understand on-farm GHG emissions. The *CFT* has since been tested and adopted by a range of multinational companies who are using it to work with their suppliers to measure, manage, and reduce GHG emissions in an effort to mitigate global climate change. The tool identifies hotspots and makes it easy for farmers to test alternative management scenarios, and identifies those that will have a positive impact on the total net GHG emissions.

To apply this methodology, the online *CFT* shall be used to calculate both the baseline net emissions, and project net emissions (section 7) of agricultural products produced on the farm(s). The *CFT* calculations are automated and must be done using the online *CFT*. A project applying this methodology shall, therefore, learn how to use the online *CFT*[3]. For guidance on how to use the *CFT* to estimate emissions and removals, refer to the *Cool Farm Tool Online Manual*[4]. For details on formulae/equations and emission factors applied in the *CFT*, refer to *Technical Documentation for the online Cool Farm Tool*[5].

By using the *CFT*, crop or livestock product specific net emissions must be calculated once using baseline data at the beginning of the project (or prior to the project start) (see graph on the next page; t_0), and at each Performance Certification (t_1, t_2, t_n) using monitored data to calculate project net emissions. This implies, depending on the specific project conditions and farming systems, that multiple *CFT* applications are required for different products – both in the baseline and the project. Since a project may involve more than one farm, the input data entered in the *CFT* are area-weighted averaged farm parameters from the project area or strata of the project area obtained from a credible survey, referred to as the Activity Baseline and Monitoring Survey (ABMS) in this methodology.
The difference between the sum of the baseline product-specific *CFT*-estimated net emissions and the sum of the project product-specific *CFT*-estimated net emissions result in the estimate of CO_2-certificates (Figure 1).

[2] The Cool Farm Tool — The Cool Farm Tool is a farm-level GHG emission calculator developed by Unilever, the University of Aberdeen and the Sustainable Food Lab. http://www.coolfarmtool.org
[3] Online Cool Farm Tool — http://www.coolfarmtool.org/CoolFarmTool
[4] *Cool Farm Tool Online Manual* — https://app.coolfarmtool.org/static/doc/CFT_Online_Manual_-_beta.pdf
[5] *Technical Documentation for the online Cool Farm Tool* — Questions specific to the use of the *CFT* should be addressed to the Cool Farm Alliance via info@coolfarmtool.org and specific to the methodology to the Gold Standard secretariat.

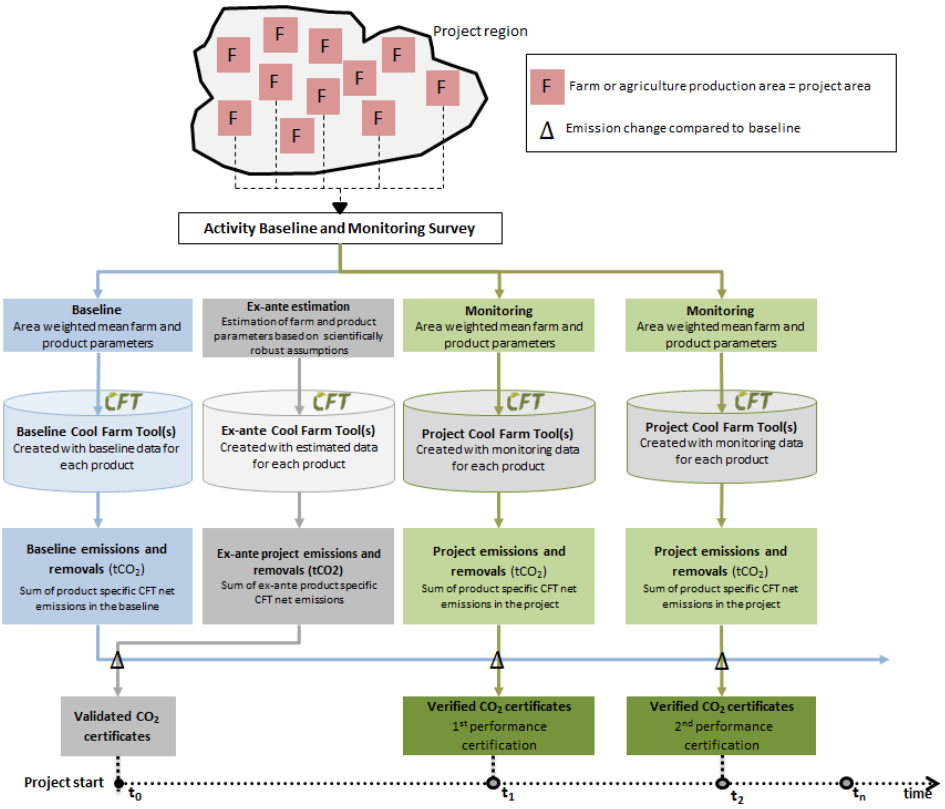


Figure 1: Overview of the methodology application to generate CO2-certificates.

4. Applicability

This methodology shall be applied with the *Gold Standard Agriculture Requirements*[6].

Geographic scope

1. The methodology can be applied in all countries.

Scope of the Cool Farm Tool

2. The overall applicability of this methodology is defined by the parameters that can be selected within the *CFT*. There might be product types (e.g. agricultural crops) or farming activities (e.g. terracing) that cannot be selected by the tool. In these cases the methodology is not applicable. The scope of the *CFT* in turn defines the eligible project activities (section 5). Therefore this methodology shall be applicable to only the activities and parameters that the *CFT* allows. See Annex TBC for the list of activities and parameters that the *CFT* allows.

[6] *Gold Standard Agriculture Requirements* http://www.goldstandard.org/resources/agriculture-requirements

5. Eligibility

Scope of the Cool Farm Tool

Moriz Vohrer 5/1/2016 12:44
Comment [1]: Jacqueline might need to provide her ok for this

The overall eligibility of the Cool Farm Tool is shown according to three widely recognised 'scopes'[7] for agriculture carbon calculators in Table 1:

Table 1: Eligible scopes under this methodology as defined by the Cool Farm Tool

Scope definition	Eligible scope under Cool Farm Tool
Scope 1 Direct emissions and emission removals within the farm boundary or which are owned or controlled by the farmer	• Fuel and energy use (on farm and contracted) • Livestock enteric fermentation • Livestock manure management/storage • Soil management practices • Incorporated crop residues • Fertility and biomass inputs • Carbon sequestration by woodland • Land use changes
Scope 2 Emissions associated with the generation of purchased electricity used on the farm	• Electricity production
Scope 3 Indirect emissions associated with the production, processing and distribution of inputs in to the farming system. This also includes embedded emissions in machinery, building materials and farm infrastructure	• Production of fertilisers • Primary processing • Primary distribution

The project activities derived from the *CFT* scope that are eligible under this methodology are listed in Table 2. Note that the examples of project activities listed in Table 2 are not exhaustive. For activities not listed here, please contact the Gold Standard secretariat.

A project may include any number of project activities.

[7] Scopes as defined by the World Business Council for Sustainable Development (WBCSD) and the World Resource Institute (WRI)

Table 2: Eligible project activities under this methodology

	Project activity	Example
	1. Conservation tillage	Changing from conventional tillage[8] to minimum tillage
	2. Reducing/switching/ improving fertiliser use	Reducing amount of fertiliser applied
		Switching from inorganic fertiliser to organic fertiliser
		Improving the application of fertilisers
	3. Reducing pesticide use	Reducing amount/dose of pesticides applied
	4. Residue management	Mulching[9]
		Compost application
	5. Cover cropping	Growing of any cover crops on the farm
	6. Reducing GHG emissions in rice cultivation	Changing rice cultivation from continuously flooded to not flooded
	7. Agroforestry	Integrating shade trees on coffee
	8. Improving manure application	Changing manure application method
	9. Improving livestock feed production	Changing types/quantities of feed mix
		Improved pasture and grazing management
		Shift to zero-grazing system
	10. Reducing GHG emissions from enteric fermentation	Changing quality of feed
		Improving breed
	11. Improving manure management	Changing manure management practice/treatment
	12. Reducing/avoiding GHG emissions from energy use	Changing source/type of energy used in field operations
		Changing source/type of energy used in primary processing
		Changing source/type of energy used in irrigation
		Changing source/type of energy used in transport
	13. Reducing/avoiding GHG emissions from waste water	Reducing amount of waste water
		Changing waste water treatment method

[8] Conventional tillage: Conventional tillage is seedbed preparation using cultivation instruments such as harrows, mouldboard ploughs, offset harrows, subsoilers, and rippers. Conventional tillage methods, involving extensive seedbed preparation, cause the greatest soil disturbance and leave little plant residues on the surface.

[9] Mulching: Mulching is this methodology covers the application of only organic material, e.g., crop residues, to the soil surface in order to reduce water loss, suppress weeds, reduce fruit splashing, modify soil temperatures and generally improve crop productivity.

6. Project Boundaries

Spatial boundary

The spatial boundary encompasses all activities that are under the control of the project owner, and those influenced by the project, which result into GHG emissions and removals, and their locations in space.

This methodology covers various types of project activities implemented in a defined project region. Within the project region, multiple farmers with farms located in the project region can be identified as project participants and included into the project areas if they meet the applicability conditions (section 4).

Any areas leaving the project during the project duration are conservatively considered full reversals, i.e., full loss of GHG emission reductions and removals achieved. According to the *Gold Standard Agriculture Requirements*, the project owner is responsible to maintain or compensate such loss to the level of CO_2-certificates already issued.

If new areas are added to the project, they have to be documented and audited according to the 'New Area Certification' procedures described in *Gold Standard Agriculture Requirements*.

Each project must clearly define the spatial boundary of the project before collecting data for setting up the online *CFT*.

Temporal boundaries

Crediting period and frequencies of Performance Certification

The crediting periods and the frequencies of Performance Certification are currently being developed GS welcomes comments and suggestions in this regard.

Greenhouse gas emissions

Table 3 presents the greenhouse gas emissions that are covered in this methodology. Emissions are accounted for the three main greenhouse gases associated with production of agricultural products: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).

Table 3: Emission sources covered in this methodology

	Emission source	Description	Greenhouse gas
	Conversion of land use	Changes in soil and biomass carbon stocks due to conversion of other land to agriculture	CO_2
	Change of tillage	Changes in soil carbon due to tillage practice	CO_2
	Use of fertilisers	Emissions from the fertiliser production process, and processes such as volatisation and leaching of applied fertilisers	CO_2, N_2O
	Use of pesticides	Emissions resulting from the use of machinery to apply pesticides	CO_2
	Residue management	Emissions due to the way crop residues are treated	N_2O, CH_4
	Cover cropping	Changes in soil carbon due to growing of cover crops, and incorporating the residues into the soil	CO_2
	Rice cultivation	Methane emissions due to organic matter decomposition in waterlogged rice cultivation	CH_4
	Manure management	Emissions due to the application of manure	N_2O, CH_4
	Livestock feed	Emissions from the production of the livestock feed	CO_2
	Enteric fermentation	Emissions from enteric fermentation in ruminants	CH_4
	Manure management	Emissions due to the way animal manure is treated	N_2O, CH_4
	Energy use	Emissions from energy used in field operations, e.g., tillage, spreading, etc.	CO_2
		Emissions from energy used in primary processing	CO_2
		Emissions from energy used in irrigation	CO_2
		Emissions from energy used in transporting inputs to and products from the farm	CO_2
	Waste water	Emissions due to decomposition of organic matter in waste water	CH_4

Carbon pools

Table 4 presents the emission carbon pools that are covered in this methodology.

Table 4: Carbon pools covered in this methodology

Carbon pool	Includes	Baseline	Project	Leakage
Above-ground tree and non-tree biomass	Stem, branches, bark, grass, herbs, etc.	Yes	Yes	Yes
Below-ground tree and non-tree biomass	Roots of grass, trees, herbs	Yes	Yes	No
Deadwood	Standing and lying deadwood	No	No	No
Litter	Leaves, small fallen branches	No	No	No
Soil organic carbon[10]	Organic material	Yes	Yes	No
Wood products	Furniture, construction material, etc.	No	No	No

[10] Soil organic carbon Soil organic carbon is carbon occurring in organic constituents in the soil such as tissues from dead plants and animals, products produced as these decompose and the soil microbial biomass.

7. Baseline and Monitoring Methodology

This section describes the comprehensive steps to be followed in the application of the online *CFT* to establish the baseline and estimate CO_2-certificates generated as a result of implementation of project activities. The summary Figure 1 (section 3) is adapted in Figure 2 below to illustrate all steps to be followed according to this methodology.

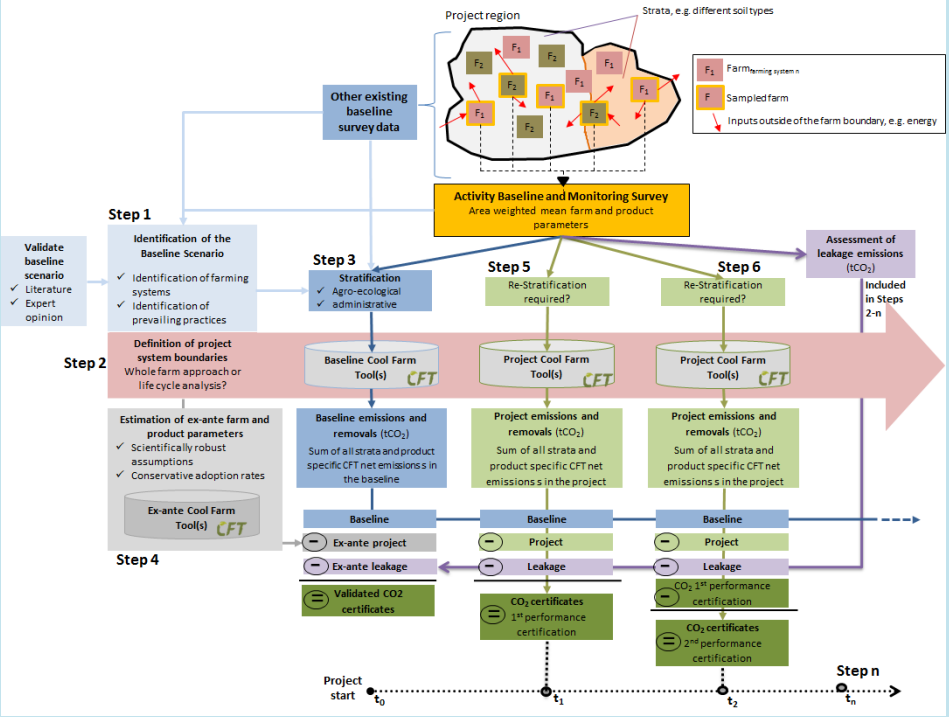


Figure 2: Baseline and monitoring methodology using the *CFT* to estimate CO_2-certificates

Outlined below are the main steps, which shall be followed to estimate the baseline GHG emissions and removals, project emissions and removals, and CO_2-certificates:

STEP 1 – Identify and validate baseline scenario

STEP 2 – Define project system boundaries

STEP 3 – Calculate baseline emissions and removals

STEP 4 – Ex-ante estimate for validated CO_2-certificates

STEP 5 – Calculate project emissions and removals and CO_2-certificates for the 1st Performance Certification

STEP 6 – Calculate project emissions and removals and CO_2-certificates for the 2nd Performance Certification

STEP n – Calculate project emissions and removals and CO_2-certificates for subsequent Performance Certification until the end of the crediting period

Details of these main steps are described as follows:

STEP 1 – Identify and validate baseline scenario

The baseline scenario shall represent the typical agricultural management practices (prevailing practices), which are dominant in the farming systems included in the project prior to the project start, and which would continue to exist in the absence of the project activity.

For projects with renewable crediting periods, when the crediting period is being renewed, the baseline scenario shall also be re-assessed to ensure environmental integrity of the CO_2-certificates issued in that crediting period.

To establish a credible baseline scenario, the farming systems included in the project shall be clearly defined. This is done according to the crop and livestock production systems in the project region. See FAO descriptions of farming systems[11].

The specific steps applied to identify the baseline scenario are as follows:

STEP 1a: Gather data to identify prevailing practices

The project owner shall gather data to identify prevailing agricultural management practices using one of the two approaches below. The choice of the approach used shall be justified.

Approach 1: Specific survey

Design and conduct a baseline survey specific to the project to identify typical agriculture management practices applied in the farming systems in the project area. This survey should be already designed as the Activity Baseline and Monitoring Survey, which, once established should be used also during project monitoring.

For guidance on conducting the baseline survey, refer to the *Baseline and Monitoring Guideline*.

Approach 2: Existing survey

Use existing survey data (own or from a third party) to identify prevailing agriculture management practices in the farming systems in the project area. The existing survey shall be current, and in no case older than 5 years from the project start.

STEP 1b: Validate the identified practices

Prevailing practices of the farming systems, which have been identified, shall be confirmed by cross-checking with one or all of the following:

- Peer-reviewed publication from the project region;
- Publications of authoritative government agencies and research organisations;
- Expert judgement.

The prevailing agricultural management practices identified in Step 1a, and confirmed in Step 1b is the baseline scenario.

[11] FAO descriptions of farming systems http://www.fao.org/farmingsystems/description_en.htm

STEP 2 – Define project system boundaries

System boundaries and scope

The system boundary to estimate the net emissions using the *CFT* shall be defined prior to the establishment of the baseline *CFT(s)* and shall not be changed throughout the project crediting period.

System boundaries and scope is currently being developed. GS welcomes comments and suggestions in this regard.

STEP 3 – Calculate baseline emissions and removals

STEP 3a: Stratification of the project area

The stratification of the project area and the farms or farming practices into similar strata is part of the design of the project specific Activity Baseline and Monitoring Survey, and therefore, is also explained in detail in the *Baseline and Monitoring Guideline*. Stratification of the project region or project area should be based on agro-ecological reasoning, i.e., combining areas of the project with similar growing or site conditions, or similar faming systems, which leads to significant differences of GHG emissions and removals from one stratum to another. Where there are important organizational or institutional stratification criteria such as benefit sharing among certain farmer groups, project layout of the extension system, etc., these criteria can be also used to define the strata.

Stratification is specifically mentioned here, since it determines the number of *CFT* applications which need to be set up. For example, if the project has two strata due to two different agro-ecological zones, the net emissions of one product, e.g., maize, needs to be entered in two separate applications of the *CFT*, reflecting the ecological differences.

STEP 3b: Estimate baseline emissions and removals

Baseline emissions and removals estimated as follows:

1. The product specific *CFT(s)* shall be set-up using stratified baseline input data entered into the online *CFT*. This is done for each crop and livestock product produced on the farms in the farming systems included in the project. The *CFT* automatically calculates the net emissions per product, expressed on per ha basis and/or per weight of the product.
   The input data shall represent area weighted mean farm parameters, e.g., average amount of synthetic fertilizers applied on farms.
   These parameters shall be obtained from either:
   a. The Activity Baseline and Monitoring Survey conducted specifically for the project. Refer to the *Baseline and Monitoring Guideline* for guidance on conducting the baseline survey.
   b. Existing survey data – as long as the survey used best practices, e.g., based on *IPCC Good Practice Guidelines*[12], hence, is credible; is not older than 5 years; and addresses uncertainty.

   For guidance on how to enter data and use the *CFT* to estimate net GHG emissions of a product refer to the *Cool Farm Tool Online Manual*[13].

[12] IPCC Good Practice Guidelines For example IPCC (2006): Guidelines for National Greenhouse Gas Inventories: Approaches to Data Collection http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/1_Volume1/V1_2_Ch2_DataCollection.pdf

[13] *Cool Farm Tool Online Manual* https://app.coolfarmtool.org/static/doc/CFT_Online_Manual_-_beta.pdf

2. Net GHG emissions for each crop product and stratum is calculated by multiplying the GHG emissions per ha of the product, obtained from the *CFT*, with the production (cultivated) area of the product.

3. Net GHG emissions for each livestock product and stratum, is calculated by multiplying the GHG emissions per product by the quantities of the product.

4. Total net baseline GHG emissions are calculated by summing GHG emissions for all stratified crop and livestock products produced on the farms.

Activity Baseline and Monitoring Survey

The Activity Baseline and Monitoring Survey is a sample survey, which is used to derive area-weighted averaged farm parameters as input data for the *CFT* in order to calculate GHG emissions and removals. For guidance on conducting the survey for both baseline and project monitoring purposes, refer to the *Baseline and Monitoring Guideline*. An Excel-based tool (*CFT - Data Aggregation Tool*) has been developed for synthesising the baseline data and monitoring data collected in the survey. Project owners should use this tool, but can also use their own tools/data management systems as long as they can be transparently verified. The *CFT - Data Aggregation Tool* can be accessed by following this web link: *** TBC ***

Uncertainty

As with all sampling surveys, the survey design shall provide verifiable farm parameters with known uncertainties. The project owner shall address uncertainty associated with the average farm parameters used as input data for the *CFT* through proper sampling procedures to reduce sampling error, and control of potential non-sampling errors[14].
Refer to the *Baseline and Monitoring Guideline* for detailed guidance on estimating and managing uncertainty of sampled parameters.
For uncertainty of emissions factors applied in the *CFT* refer to the *"Uncertainty of LUF parameters" Annex 1.* *** XY ***

[14] Non-sampling errors: Errors arising during the course of survey activities other than sampling, e.g., bias responses due to poor questionnaire design. This is different from sampling error, i.e., the error associated with the process of selecting a sample: http://www.statcan.gc.ca/edu/power-pouvoir/ch6/nse-endae/5214806-eng.htm

STEP 4 – Ex-ante estimate for validated CO_2-certificates

Project owners shall follow the requirements of the *Gold Standard LUF Guidelines Validated CO_2-Certificates* for issuing optional validated CO_2-certificates. The estimation of ex-ante project emissions and removals requires setting-up ex-ante *CFT*(s) with projected ex-ante input parameters (e.g., increasing crop yields). The ex-ante project emissions and removals shall be estimated by applying the same steps as described above for the baseline emissions and removals, except that projected ex-ante input parameters are used. Projects shall provide scientifically robust and verifiable evidence for the ex-ante input parameters and record all assumptions and sources of assumptions. Where project areas consist of large numbers of farms (e.g., many smallholders), realistic and conservative adoption rates of project activities (e.g., adoption of mulching and composting) shall be applied and justified. The amount of validated CO_2-certificates is calculated as equal to ex-ante project emissions and removals minus baseline emissions and removals minus leakage.

STEP 5 – Calculate project emissions and removals and CO_2-certificates for the 1st Performance Certification

STEP 5a: Re-stratification required?

Project stratification as part of the Activity Baseline and Monitoring Survey shall be reviewed and confirmed. Re-stratification is required if strata have changed. For example, if the results of project emissions and removals calculation using the *CFT(s)* show no significant differences among the strata which had been previously defined as being different, the project can re-stratify by merging those strata.

STEP 5b: Estimate project emissions and removals

Project emissions and removals are estimated by applying the same steps as described above for the baseline emissions and removals. The only difference is that the *CFT(s)* created in Step 3b above shall now be using input data obtained from monitoring conducted after project start at the time of the 1st Performance Certification. Refer to the *Baseline and Monitoring Guideline* for guidance on conducting the monitoring survey.

STEP 5c: Estimate CO_2-certificates for the 1st Performance Certification

Refer to section 10 - Calculation of CO_2-certificates. Since it is the 1st Performance Certification, the amount of CO_2-certificates is equal to project emissions and removals minus baseline emissions and removals minus leakage.

STEP 6 – Calculate project emissions and removals and CO_2-certificates for the 2nd Performance Certification

Project emissions and removals shall be estimated by applying the same steps as described above under STEP 5.

STEP 6c: Estimate CO_2-certificates for the 2nd Performance Certification

Refer to section 10 - Calculation of CO_2-certificates. Since it is the 2nd Performance Certification, the amount of CO_2-certificates is equal to project emissions and removals minus baseline emissions and removals minus leakage minus the CO_2-certificates of the 1st (previous) Performance Certification.

STEP n – Calculate project emissions and removals and CO_2-certificates for subsequent Performance Certification until the end of the crediting period

Project emissions and removals are estimated by applying the same steps as under STEP 6.

8. Leakage

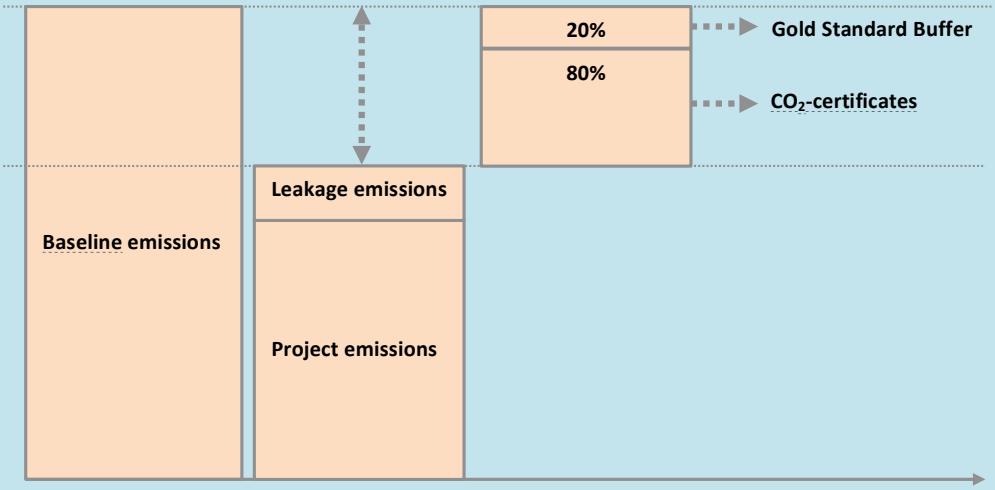
Refer to the *Leakage Guideline* for guidance on leakage estimation. *** *TBC****

9. Project Buffer

According to the *Gold Standard Agriculture Requirements*, for all 'Land Use & Forests' projects, a fixed amount of the issued *validated* and *verified* CO_2-certificates shall be transferred into the *Gold Standard Compliance Buffer*. The buffer is non-refundable, though the project owner may transfer CO_2 certificates from other Gold Standard certified projects to the *Gold Standard Compliance Buffer* in lieu of the CO_2 certificates from the project.

10. Calculation of CO2-certificates

The amount of CO2-certificates is calculated as baseline emissions and removals minus project emissions and removals minus leakage minus *Gold Standard Compliance Buffer*[15] as illustrated in the figure below.



CO2-certificates are calculated according to the following formula:

$$CO2 \quad -certificates_t = A_t * [BE_t - PE_t - LK_t] \times (1 - BUF)$$

Where:

$CO_2 - certificates_t$	= CO2-certificates in year *t*, tCO_2;
A_t	= Project area in year *t*, ha;
BE_t	= Baseline emissions in in year *t*, tCO_2/ha;
PE_t	= Project emissions in in year *t*, tCO_2/ha;
LK_t	= Leakage emissions due to project activity in year *t*, tCO_2/ha;
BUF	= Gold Standard Compliance Buffer [dimensionless]; please refer to the *Gold Standard Agriculture Requirements* for the value to use.

Refer to the *CFT Net Emissions Tool (***LINK TBC ***)*. The Tool can be accessed by contacting the Gold Standard secretariat. It returns the amount of CO_2-certificates.

[15] *Gold Standard Compliance Buffer* — The *Gold Standard Compliance Buffer* is set in the *Gold Standard Agriculture Requirements*, and explained in detailed in the *Gold Standard Framework for Land Use & Forests* http://www.goldstandard.org/our-work/innovations-consultations/land-use-forests-framework-ar-requirements

11. Additionality

Refer to the *Gold Standard Agriculture Requirements, Chapter 45. Additionality* for guidance on how to demonstrate additionality of a project.

12. Do-No-Harm

Refer to the *Gold Standard Agriculture Requirements, Chapter 4. Sustainability* regarding 'Do-No-Harm' requirements. No additional requirements are defined in this methodology.

13. Sustainable Development

Refer to the *Gold Standard Agriculture Requirements, Chapter 4. Sustainability* regarding 'Sustainable Development' requirements. No additional requirements are defined in this methodology.

14. Monitoring

Refer to the *Baseline and Monitoring Guideline* for detailed guidance on monitoring.