**Consolidated Template for Afforestation and Reforestation Projects**

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SECTION **A. PROJECT DESCRIPTION**

**A. 1.**  **Title of the project (project refers to standalone project or a VPA under a PoA)**

Gold Standard ID:

Title:

Date: (dd/mm/yyyy)

Version no.:

**A. 2.**  **Guidelines applied for this certification[[1]](#footnote-1)**

### SECTION B. APPLICABILITY

| **Areas shall not be on *wetlands[[2]](#footnote-2).*** |
| --- |
|  |
| **...** |

| **Areas with *organic soils* shall not be drained or irrigated (except for irrigation for planting).** |
| --- |
| **...** |

| **Soil disturbance (through ploughing, digging of pits, stump removals, infrastructure, etc.) on  *organic soils[[3]](#footnote-3)* shall be in less than 10% of the area that is submitted to certification (not 10% of the entire project area).** |
| --- |
| **...** |

| **The most likely scenario without the project (baseline scenario) shall be defined for the project area. This scenario shall not show any *significant[[4]](#footnote-4)* increase of the Baseline biomass (‘tree’ and ‘non-tree’).** |
| --- |
| **...** |

### SECTION C. BASELINE

*>>Please outline how your project meets each of the following requirements, referring to any supporting documentation where necessary*

| To determine the Baseline of the eligible planting area the land shall be  stratified according to its vegetation types (grassland, bushland, etc.) | |
| --- | --- |
| (a) | … Describe the process of stratification. |

| **To determine the Baseline of the eligible planting area the land shall be**  **for each of these strata, scientifically based *local[[5]](#footnote-5)*, regional or national *default values*  shall be found which state the biomass of these vegetation types.**  ***International default values[[6]](#footnote-6)* from the IPCC shall only be used if no other values are available.** | |
| --- | --- |
| **(b)** | **Overview of the different baseline strata and the results of the baseline determination. The individual calculation of each stratum is in the boxes below.**   |  | **Stratum ID** | **Baseline tree biomass** | **Baseline non-tree biomass** | | --- | --- | --- | --- | | **Stratum** | **…** | **… tCO2** | **… tCO2** | | **Stratum** | **…** | **… tCO2** | **… tCO2** | | **Stratum** | **…** | **… tCO2** | **… tCO2** | | **Stratum** | **…** | **… tCO2** | **… tCO2** | | **Total** |  | **… tCO2** | **… tCO2** | |  | **Eligible planting area** | **… ha**  **… ha** | | |  | **Baseline** | **… tCO2/ha**  **… tCO2/ha** | | |

**Copy this table for each different strata**

**Conversion Procedure**

Aboveground tree biomass = Stem volume \* Biomass Expansion Factor \* Wood density \* Carbon fraction \* C to CO2 factor

Belowground tree biomass = Aboveground tree biomass \* Root-to-Shoot ratio

##### Baseline tree biomass

| **Stratum ID** | **… e.g. Dense Shrubland 01** | | | |
| --- | --- | --- | --- | --- |
| **Baseline tree biomass**  **In the unit: [m3/ha] or [tdm/ha]** | **Value:** | | **…  m3/ha  tdm/ha** | |
| **Default value:** | | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | | **…** | |
| **Justification of value:** | **… How does this value provide the most accurate information for your project?** | | | |
| **BEF** | **Value:** | | **…** | |
| **Default value:** | | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | | **…** | |
| **Justification of value:** | **…** | | | |
| **Wood density** | **Value:** | | **…** | |
| **Default value:** | | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | | **…** | |
| **Justification of value:** | **…** | | | |
| **Root-to-Shoot ratio** | **Value:** | | **…** | |
| **Default value:** | | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | | **…** | |
| **Justification of value:** | **…** | | | |
| **Baseline tree biomass [tCO2/ha]** | **… tCO2/ha** | | | |
| **Area (of this stratum)** | **Area:** | | | **… ha** |
| **Baseline tree biomass [tCO2]** | | **… tCO2** | | |

**Copy this table for different strata.**

**Conversion Procedure**

Aboveground non-tree biomass = Dry biomass \* Carbon fraction \* C to CO2 factor

Belowground non-tree biomass = Aboveground non-tree biomass \* Root-to-Shoot ratio

##### Baseline non-tree biomass

| **Stratum ID** | **… e.g. Grassland 01** | | |
| --- | --- | --- | --- |
| **Baseline non-tree biomass [tdm/ha]** | **Value:** | **… tdm/ha** | |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | **…** | |
| **Justification of value:** | **… How does this value provide the most accurate information for your project?** | | |
| **Root-to-Shoot ratio** | **Value:** | **…** | |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | **…** | |
| **Justification of value:** | **…** | | |
| **Baseline non-tree biomass [tCO2/ha]** | **… tCO2/ha** | | |
| **Area (of this stratum)** | **Area:** | | **… ha** |
| **Baseline non-tree biomass [tCO2]** | **… tCO2** | | |

### SECTION D. LONG-TERM CO2-FIXATION

*>>Please outline how your project meets each of the following requirements, referring to any supporting documentation where necessary*

| **Existing ‘tree biomass’ from the carbon stock of the Baseline that is not removed shall be reflected in the growth-model.** |
| --- |
| **Relevant  Not relevant** |
| **...** |

| **A realistic survival-rate shall be reflected in the growth-model.** |
| --- |
| **...** |

Copy this table for the different growth-models. The detailed year-by-year growth-models shall be reflected in a separated spreadsheet.

**Conversion Procedure**

Aboveground tree biomass = Stem volume \* Biomass Expansion Factor \* Wood density \* Carbon fraction \* C to CO2 factor

Belowground tree biomass = Aboveground tree biomass \* Root-to-Shoot ratio

##### Long-term CO2-Fixation tree biomass

| **Growth-model ID** | **… e.g. Mixed oak 01** | |
| --- | --- | --- |
| **Applied for MUs** | **… This growth-model applies to the following Modelling Units (MUs) - e.g. 001, 002, 003, etc.** | |
| **Calculation model** | **Option 1 - Selective harvesting  Option 1 - Conservation forest  Option 2 - Rotation forestry** | |
| **Time period** | **… years until the equilibrium or average stand biomass is reached.** | |
| **Long-term CO2-Fixation tree biomass**  **In the unit: [m3/ha] or [tdm/ha]** | **Long-term value:** | **…  m3/ha  tdm/ha** |
| **Growth-model:** | **Project-specific  Regional  National  International** |
| **Reference:** | **…** |
| **Justification of growth-model:** | **… How does this value provide the most accurate information for the project?** | |
| **BEF** | **Value:** | **…** |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** |
| **Reference:** | **…** |
| **Justification of value:** | **…** | |
| **Wood density** | **Value:** | **…** |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** |
| **Reference:** | **…** |
| **Justification of value:** | **…** | |
| **Root-to-Shoot ratio** | **Value:** | **…** |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** |
| **Reference:** | **…** |
| **Justification of value:** | **…** | |
| **Long-term CO2-Fixation**  **[tCO2/ha]** | **… tCO2/ha** | |

##### Present CO2-Fixation

| **The number of sample plots of a *forest inventory* shall be sufficient to meet a MU precision with a maximum error of ±20% at a 90% confidence interval. Where the error is above 20%, the additional difference shall be deducted. Provide an overview for which MUs this requirement was relevant and describe the adaptation.** |
| --- |
| **...** |

Copy this table for different forest inventories of the Modelling Units (MUs).

The detailed year-by-year growth-models shall be reflected in a separated spread sheet.

##### Present CO2-fixation

##### Summary of a forest inventory

| **Forest inventory ID** | **… Give this summary of a forest inventory an ID** | |
| --- | --- | --- |
| **This inventory is for the Modelling Unit (MU)** | **…** | |
| **Size of the MU** | **… ha** | **Responsible for the inventory … Name and contact details; email and phone** |
| **Date of inventory** | **… month and year** |
| **Shape of sample plots** | **Circular  Rectangular  Other, …** |
| **Size of sample plots** | **… m2** |
| **Number of sample plots** | **…** |
| **Precision level** | **… %** |
| **Sample plots with slopes >10%** | **Yes  No** |

|  |  |  |
| --- | --- | --- |
| **Name of reference document** | **… Spread sheet where the inventory is documented** |  |

|  |  |
| --- | --- |
| **Result of the inventory** | **… m3 stem volume per ha** |
| **Inventory was executed in order to adapt the growth-model** | **…** |
| **How does the inventory adapt / confirm the growth-model** | **This inventory leads to a  confirmation  adaptation of the existing growth-model.**  **… description / justification** |
| **Present CO2-fixation** | **… tCO2/ha** |

### SECTION E. LEAKAGE

>>Please outline how your project meets each of the following requirements, referring to any supporting documentation where necessary

| **Describe the selection of your categories.** | |
| --- | --- |
| **collection of wood (for firewood, charcoal, etc.)** | **… Please provide a reason for selecting or not selecting this category?** |
| **timber harvesting** | **…** |
| **agriculture (crop cultivation, shrimp cultivation, etc.)** | **…** |
| **livestock** | **…** |

| **Overview of the different leakage strata and the results of the baseline determination. The individual calculation of each stratum is in the boxes below.** |
| --- |
| |  | **Stratum ID** | **Leakage tree biomass (aboveground)** | | --- | --- | --- | | **Stratum** | **…** | **… tCO2** | | **Stratum** | **…** | **… tCO2** | | **Stratum** | **…** | **… tCO2** | | **Stratum** | **…** | **… tCO2** | | **Total** |  | **… tCO2** | |  | **Eligible planting area** | **… ha**  **… ha** | |  | **Leakage** | **… tCO2/ha**  **… tCO2/ha** | |  | |

**Copy this table for each different strata.**

**Formula of calculation for category a. b. and c.**

Leakage aboveground woody biomass [tCO2] = % of displacement [%] \* CO2-stock [tCO2/ha] \* Area [ha]

**Selected carbon pools**

Aboveground woody biomass = Stem volume \* Biomass Expansion Factor \* Wood density \* Carbon fraction \* C to CO2 facto

##### Leakage tree biomass (aboveground)

| **Stratum ID** | **… e.g. Farmer Baruko** | | | |
| --- | --- | --- | --- | --- |
| **CO2-stock tree biomass (aboveground)**  **In the unit: [m3/ha] or [tdm/ha]** | **Value:** | | **…  m3/ha  tdm/ha** | |
| **Default value:** | | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | | **…** | |
| **Justification of value:** | **… How does this value provide the most accurate information for your project?** | | | |
| **BEF** | **Value:** | | **…** | |
| **Default value:** | | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | | **…** | |
| **Justification of value:** | **…** | | | |
| **Wood density** | **Value:** | | **…** | |
| **Default value:** | | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | | **…** | |
| **Justification of value:** | **…** | | | |
| **CO2-stock tree biomass (aboveground) [tCO2/ha]** | **… tCO2/ha** | | | |
| **% of displacement** | **Value:** | | | **… %** | |
| **Reference:** | | | **…** | |
| **Justification of value:** | **…** | | | | |
| **Area (of this stratum)** | **Area:** | | | **… ha** | |
| **Reference:** | | | **…** | |
| **Justification of area:** | **…** | | | | |
| **Leakage tree biomass (aboveground) [tCO2]** | | **… tCO2** | | | |

Copy this table for different strata.

**Formula of calculation for category d.**

Leakage aboveground woody biomass [tCO2] = CO2-stock [tCO2/ha] \* Displaced heads [head] \* Capacity [ha/head]

**Selected carbon pools**

Aboveground woody biomass = Stem volume \* Biomass Expansion Factor \* Wood density \* Carbon fraction \* C to CO2 factor

##### Leakage tree biomass (aboveground)

| **Stratum ID** | **…** | | |
| --- | --- | --- | --- |
| **CO2-stock tree biomass (aboveground)**  **In the unit: [m3/ha] or [tdm/ha]** | **Value:** | **…  m3/ha  tdm/ha** | |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | **…** | |
| **Justification of value:** | **…** | | |
| **BEF** | **Value:** | **…** | |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | **…** | |
| **Justification of value:** | **…** | | |
| **Wood density** | **Value:** | **…** | |
| **Default value:** | **Project-specific  Regional  National  International  Gold Standard** | |
| **Reference:** | **…** | |
| **Justification of value:** | **…** | | |
| **CO2-stock tree biomass (aboveground) [tCO2/ha]** | **… tCO2/ha** | | |
| **Displaced heads** | **Value:** | | **… heads** |
| **Reference:** | | **…** |
| **Justification of value:** | **…** | | |
| **Capacity** | **Value:** | | **… ha/head** |
| **Reference:** | | **…** |
| **Justification of value:** | **…** | | |
| **Leakage tree biomass (aboveground) [tCO2]** | **… tCO2** | | |

### SECTION F. OTHER EMISSIONS

##### Site preparation

| **Where existing ‘tree’ and ‘non-tree’ biomass of the Baseline is burned for the purpose of land preparation, an additional 10% of the Baseline shall be deducted. This is to account for the non-CO2 green-house-gas emissions (N2O and CH4) that are released during the burning process.** |
| --- |
| **Relevant  Not relevant** |
| **...** |

##### Fertilizer

| **0.005 tCO2 per kg of nitrogen (N) fertilizer shall be deducted. No differentiation is made between synthetic and organic fertilizer.** |
| --- |
| **Relevant  Not relevant** |
| **...** |

1. All relevant guidelines such as those related to sampling, non-tree biomass, smallholders’, risk and capacities, Soil carbon. [↑](#footnote-ref-1)
2. Wetland Definition of wetland according to the IPCC: ‘This category includes land that is covered or saturated by water for all or part of the year (e.g. peatland) and that does not fall into the forest land, cropland, grassland or settlements categories.’ Source: IPCC - Good Practice Guidance - Wetlands. [↑](#footnote-ref-2)
3. Organic soils Organic soils fulfil one of the following requirements:

   1. If the soil is never saturated with water for more than a few days, and contains >20% (by weight) of organic carbon (35% organic matter)

   2. If the soil is subject to water saturation episodes and has either:

   >12% (by weight) organic carbon (20% organic matter) if it has no clay

   >18% (by weight) organic carbon (30% organic matter) if it has >60% clay

   a proportional lower limit of organic carbon content between 12 and 18% if the clay content of the mineral fraction is between 0 and 60% [↑](#footnote-ref-3)
4. Significant Significant is defined to be more than 5% of the ‘long-term CO2-Fixtation’ - see chapter ‘5.7 CO2-Fixation’. [↑](#footnote-ref-4)
5. Local default values Local *default values* are project area specific value generated through a ‘tree’ and ‘non-tree’ inventory on the project area. [↑](#footnote-ref-5)
6. International default values International *default values* are found e.g. in the *IPCC Guidelines for National GHG Inventories*: <http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_04_Ch4_Forest_Land.pdf> [↑](#footnote-ref-6)