

ISFL Methodological Approach for GHG accounting

Version 0.1 – January 17, 2017

FOR DISCUSSION ONLY

1. Purpose of the ISFL Methodological Approach for GHG accounting

The BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) is a multilateral facility that promotes and rewards reduced greenhouse gas (GHG) emissions and increased sequestration through better land management, including REDD+ (Reduced Emissions from Deforestation and forest Degradation), climate smart agriculture, and smarter land use planning and policies.

The ISFL aims to catalyze the development of a low-carbon rural economy in each of its program areas that will simultaneously result in livelihood opportunities for communities and an overall reduction in GHG emissions from the land.

The ISFL will achieve its objective of GHG emission reductions, while also addressing poverty and unsustainable land use, through four key design elements.

- 1. Working at Scale:** Each ISFL Program ('Program') focuses on an entire jurisdiction (state, province, or region) within a country, which provides programs with the opportunity to engage with multiple sectors affecting land use and increase its impact over a relatively large area. The ISFL utilizes a landscape approach in each jurisdiction, which requires stakeholders to consider the trade-offs and synergies between different sectors that may compete in a jurisdiction for land use – such as forests, agriculture, energy, mining, and infrastructure. In doing so, solutions can be identified to serve multiple objectives and influence a variety of sectors.
- 2. Leveraging Partnerships:** In order to reduce GHG emissions from land use across an entire jurisdiction while simultaneously creating livelihood opportunities, the ISFL will create partnerships with other public sector initiatives and private sector actors. Public-private partnerships (PPPs) are essential to mobilize capital and align objectives in order to create sustainable and scalable approaches for long-term improved land use.
- 3. Incentivizing Results:** By taking on the immense challenges of convening public and private actors and creating an enabling environment for sustainable development, countries can expect to generate results – including a reduction in GHG emissions. To incentivize countries to do so, the ISFL will provide significant results-based climate finance over a 10-15 year period by purchasing verified GHG emission reductions.

- 4. Building on Experience:** The ISFL reflects the demand for progression from relatively small-scale pilot projects to programs aimed at incentivizing sustainable land use at scale. To work at scale effectively, the ISFL builds on the experiences and lessons learned by the BioCarbon Fund’s initial work piloting land use projects, REDD+ initiatives, and other sustainable forest and land use programs.

Building on key design elements 1 and 3, the ISFL will provide result-based finance on jurisdictional scale by comprehensively considering performance, i.e. the reduction in net GHG emissions, in agriculture, forestry and other land uses (AFOLU).

Although countries are already reporting their GHG emissions from AFOLU to the UNFCCC, accounting for emission reductions from AFOLU for result-based payments on a jurisdictional scale is relatively untested. This ISFL Methodological Approach for GHG accounting (ISFL Methodological Approach) is therefore developed to provide overarching guidance to the Programs selected by the ISFL on how to develop and apply a comprehensive carbon estimation, reporting and accounting approach within their jurisdiction for the purpose of monitoring and reporting results to the ISFL. The ISFL Methodological Approach builds on IPCC Guidelines for National Greenhouse Gas Inventories and other relevant UNFCCC documents and decisions. This ISFL Methodological Approach is meant for use in the ISFL only and does not preempt ongoing or future discussion under the UNFCCC on the implementation of the Paris Agreement.

This ISFL Methodological Approach does not consist of detailed calculation methods or protocols. Instead, it provides for overarching guidance and acts as a standard that is designed to achieve a consistent approach to carbon accounting within the ISFL. Programs are expected to demonstrate conformity with the guidance provided in this document and apply general principles of environmental integrity and conservativeness in order to be able to receive result-based finance from the ISFL.

2. Guidance for ISFL programs

2.1 ISFL Reporting

Criterion 1. Programs shall perform a GHG inventory of all AFOLU categories, subcategories, gases and pools¹ in the program area using the methods and approaches from the [latest IPCC guidance] [2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006 IPCC GL)]. The inventory should be designed to apply the basic principles of transparency, accuracy, completeness, consistency and comparability.

Criterion 2. The GHG inventory as referred to in Criterion 1 should be comparable in its use of definitions [and categories] [,categories and, subcategories] with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report.

Criterion 3. The GHG inventory as referred to in Criterion 1 shall use [best] available methods and data. This may include the use of proxies if needed, and IPCC Tier 1 data and methods if no data are available to apply higher Tier methods.

Criterion 4. The GHG inventory as referred to in Criterion 1 shall be performed during program design and] every second year starting from the ERPA Term. If during the ERPA Term improvements are made to the definitions, methods and data used, the entire time series will be re-estimated to ensure consistency.

Criterion 5. The results of the GHG inventory as referred to in Criterion 1 shall at a minimum be reported on the aggregation level of subcategories and the results should be provided to the national government of the program to inform the national GHG inventory as appropriate.

2.2 Initial selection of subcategories for ISFL Accounting

[this is a background section to describe the options provided here, this box will be removed in later versions]

This section describes a process much that builds on the Key Category Analysis (KCA) from the IPCC GL. It is noted that the KCA process in the IPCC GL was designed for determining which emissions sources should be a priority for review and should be estimated as well as possible. However, for the purpose of the ISFL, the purpose of the analysis is slightly different and the process is meant to select what lands/activities each jurisdiction should focus on and account for.

¹ Refer to Annex 2 for an overview how the terms AFOLU category, subcategory and inventory category are used in the context of this document

The KCA process in the IPCC GL states that it is good practice to consider both the absolute level and the trend in emissions, potentially also considering the level of uncertainty. Furthermore the IPCC guidelines distinguishes between quantitative approaches to determine key categories and qualitative approaches. For the purpose of the IPCC GL, each of these approaches and analysis potentially adds categories to the list of key categories with the purpose of getting the best possible estimates for them. However, in the context of the ISFL the goal is not to expand the list of categories but rather to prioritize one or 2 categories from the list and include them in the scope of the program. This might be difficult if the different types of analysis give different outcomes. Let's for example assume that the KCA based on level finds the following key categories ranked in order of magnitude: A, B, C, D, E and F. Doing the same analysis based on trend, there might be a different order, for example B, C, A, E, D and F. If the purpose of the analysis is the select the largest (or 2 largest) key category, the outcome of the analysis is different. If the program would also apply a quantitative and a qualitative analysis, it gets more complicated because there needs to be a way to compare the outcome of both types of analysis for making a selection

The remainder of this section provides 3 options for further consideration:

- Option 1 is applying a quantitative analysis based on level to select what should be included in the initial selection for accounting;
- Option 2 is applying a quantitative analysis based on level and trend to select what should be included in the initial selection for accounting;
- Option 3 combines a quantitative and a qualitative analysis to guide the program design but a quantitative analysis based on level is used to select what should be included in the initial selection for accounting

Each of the options has further choices associated with them

Option 1

Criterion 6. Based on the GHG inventory as referred to in Criterion 1, programs shall aggregate the inventory categories into their subcategories and list these subcategories in order of the relative magnitude of contribution to the level of the total GHG emissions and removals in the GHG inventory of the program area. This analysis shall be performed as part of the program design and shall be updated at the conclusion of each ERPA period.

Criterion 7. For the purpose of determining the scope for ISFL Accounting and calculating emission reductions, all programs shall initially select the following subcategories:

- i. [Any subcategories involving conversions between land-use categories] [Any subcategories involving conversions from or to forest land]
- ii. Forest Land remaining Forest Land
- iii. One or more of the subcategory/ies] listed in the analysis from Criterion 6 which make a relative contribution to the level of emissions of at least [20]% of emissions or removals [if the key category analysis has shown that such a subcategory exists]

Criterion 8. [Programs shall also account for any subcategories that received payments for emission reductions during previous ERPA Terms]

Criterion 9. Additional subcategories may be included at the discretion of the program if the quality requirements from the next section are met

Criterion 10. Programs are designed using the results of the analysis and the program's policies and measures are improved or adjusted as the GHG inventory is iterated over time with better data.

Option 2

Criterion 6. Based on the GHG inventory as referred to in Criterion 1, programs shall aggregate the inventory categories into their subcategories and list these subcategories in order of the relative magnitude of contribution to both the level and the trend of the total GHG emissions and removals in the GHG inventory of the program area. This analysis shall be performed as part of the program design and shall be updated at the conclusion of each ERPA period. The analysis of the relative magnitude of contribution to the trend shall be based on [the emissions in the base period as referred to in Criterion X] [the difference between the most recent national GHG Inventory submitted to the UNFCCC and the initial national communication]

Criterion 7. For the purpose of determining the scope for ISFL Accounting and calculating emission reductions, all programs shall initially select the following subcategories:

- i. [Any subcategories involving conversions between land-use categories] [Any subcategories involving conversions from or to forest land]
- ii. Forest Land remaining Forest Land
- iii. The subcategory listed in the analysis of criterion 6 that has the largest cumulative relative contribution to both the level and the [upward] trend of the emissions and removals.

Criterion 8. Programs shall also account for any subcategories that received payments for emission reductions during previous ERPA Terms]

Criterion 9. Additional subcategories may be included at the discretion of the program if the quality requirements from the next section are met

Criterion 10. Programs are designed using the results of the analysis and the program's policies and measures are improved or adjusted as the GHG inventory is iterated over time with better data.

Option 3

Criterion 6. Based on the GHG inventory as referred to in Criterion 1, programs shall identify the subcategories, carbon pools and non-CO₂ gases that make the most significant contribution to the jurisdictional inventory. In addition, programs shall perform a qualitative analysis to identify those subcategories for which emissions have decreased or removals have increased significantly over the base period through the use of climate change mitigation techniques and technologies and the subcategories likely to show a significant increase of emissions or decrease of removals in the future (including through displacement).

Criterion 7. Programs are designed using the results of Criterion 6 and the program's policies and measures are improved or adjusted as the GHG inventory is iterated over time with better data.

Criterion 8. For the purpose of determining the scope for ISFL Accounting and calculating emission reductions, all programs shall initially select the following subcategories:

- i. [Any subcategories involving conversions between land-use categories] [Any subcategories involving conversions from or to forest land]
- ii. Forest Land remaining Forest Land
- iii. One or more of the most significant subcategory/ies] listed in the analysis from Criterion 6 which make a relative contribution to the level of emissions of at least [20]% of emissions or removals [if the key category analysis has shown that such a subcategory exists]

Criterion 9. [Programs shall also account for any subcategories that received payments for emission reductions during previous ERPA Terms]

Criterion 10. Additional subcategories may be included at the discretion of the program if the quality requirements from the next section are met

2.3 Quality requirements for ISFL Accounting

Criterion 11. Programs shall define a GHG emissions baseline (Emissions Baseline) for the Program area as a benchmark for assessing performance. The Emissions Baseline shall be expressed as tonnes of CO₂e per year.

Criterion 12. The Emissions Baseline should be [the average annual historical GHG emissions and removals] [the GHG emissions and removals resulting from average annual historic activities] over a 10-year period.

Criterion 13. Programs shall account emission reductions using at minimum IPCC Tier 2 methods and data, and Approach 2 for land representation. [For forest related categories, Approach 3 should be used for land representation.]

2.4 Scope for ISFL Accounting

Criterion 14. For each ERPA period, programs shall account for those subcategories selected in Section 2.2 that meet the requirements of Section 2.3.

Criterion 15. Each relevant subcategory selected in Section 2.2 that doesn't meet the requirements of Criterion 12 at the start of an ERPA Term cannot be included for accounting and the calculation of the emission reductions in that ERPA Term. In this case the program shall monitor the emissions for that subcategory in accordance with the requirements of Criterion 13 for the Term of the ERPA and these monitored data collected during the ERPA term (and potentially earlier ERPA Terms) shall be used to estimate the Emissions Baseline during the subsequent ERPA term, in order to build towards a full historical base period².

Criterion 16. Each relevant subcategory selected in Section 2.2 that at the beginning of the ERPA Term meets the requirements of Criterion 12 but does not meet those of Criterion 13, can only be included for accounting in the ERPA Term if the requirements of Criterion 13 can be met at the end of the ERPA Term through the application of improved methods and data. Programs that intent to include such a subcategory shall provide an interim Emissions Baseline at the beginning of the ERPA Term using best available data.

2.5 Monitoring and calculation of emission reductions for ISFL Accounting

Criterion 17. Programs shall monitor all the subcategories included in accordance with Section 2.4 following the requirements of Criterion 13. The monitored emissions and removals shall be expressed as tonnes CO₂ per year.

Criterion 18. In monitoring the subcategories included in accordance with Section 2.4, ISFL Programs shall ensure methodological consistency between the Emissions Baseline and the monitored net GHG emissions.

² For example, assuming 3 ERPA terms. If a subcategory in the program does not meet the requirements at the start of the first ERPA Term, it cannot be accounted in the first ERPA Term. For the second ERPA Term, the baseline would be based on the inventory data from the first ERPA Term. Assuming the individual ERPA Terms are shorter than 10 years, the baseline for the third ERPA Term would be based on the inventory data of both the first and the second ERPA Term

Criterion 19. Programs shall calculate the emission reductions for a specific period as: Emissions Baseline minus monitored net GHG emissions for the Program area.

2.6 Uncertainty and uncertainty set-aside factor for ISFL Accounting

Criterion 20. Programs shall systematically identify and assess sources of uncertainty in the determination of the Emissions Baseline and the monitoring of emissions [following the guidance provided in the 2006 IPCC GL].

Criterion 21. Programs shall, to the extent feasible, follows a process of managing and reducing uncertainty of activity data and emission factors used in determination of the Emissions Baseline and the monitoring of emissions.

Criterion 22. Programs shall quantify the uncertainty of the emission reductions using methods provided in the 2006 IPCC GL. The uncertainty of the emission reductions shall be combined into a single combined uncertainty estimate and reported at the two-tailed 90% confidence level.

Criterion 23. Programs shall set aside a number of emission reductions calculated in Criterion 19 to reflect the level of uncertainty associated with the estimation of emission reductions during the Term of the ERPA. The amount to be set aside shall be equal to the uncertainty set-aside factor in the following table:

Aggregate uncertainty of emissions reductions as determined in accordance with Criterion 22	Uncertainty set-aside factor
≤ 15%	0%
> 15% and ≤ 30%	4%
> 30 and ≤ 60%	8%
> 60 and ≤100%	12%
> 100%	15%

2.7 Non-permanence and displacements for ISFL Accounting

Criterion 24. The program is designed and implemented to prevent and minimize potential Displacement and has in place an effective strategy to mitigate and/or minimize, to the extent possible, potential Displacement, prioritizing key sources of Displacement risk.

Criterion 25. The program shall have in place a Reversal management mechanism (e.g., buffer reserve or insurance), appropriate for the program’s assessed level of risk, which in the event of a Reversal during the Term of the ERPA will be used to [fully] cover such Reversals.

2.8 Data management for ISFL Accounting

Criterion 26. Programs shall, based on national needs and circumstances, work with the host country to select an appropriate arrangement to avoid having multiple claims to emission reductions that have been generated, monitored and verified under a Program and paid for by the ISFL

Criterion 27. Programs shall, based on national needs and circumstances, select an appropriate arrangement (e.g a registry) to ensure that any emission reductions that have been generated, monitored and verified under a Program and paid for by the ISFL are not used again by any entity for sale, public relations, compliance or any other purpose.

3. Glossary

<p>AFOLU Category</p>	<p>Subdivision of Agriculture, Forestry and Other Land Use (AFOLU) sector in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.</p> <p>These include the following 6 land use categories:</p> <ul style="list-style-type: none"> • Forest land • Cropland • Grassland • Wetlands • Settlements • Other land <p>In addition, it also includes the following 3 categories:</p> <ul style="list-style-type: none"> • Livestock • Managed soils • Harvested wood products
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Displacement	Emissions occurring outside the program area as a consequence of land use activities moving from inside the program area to an area outside the program area.
Estimation	The process of calculating emissions
ISFL Accounting	The process of calculating emissions reductions for the ISFL by comparing emissions and removals as reported with the baseline
ISFL Reporting	The process of providing estimates to the ISFL
Program area	area for which a Emissions Baseline is established and over which GHG emissions and removals are being measured, reported and verified
Subcategory	Subdivision of the Land Use Categories in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Chapter 1, table 1.2 (also refer to Annex 2)
Term of the ERPA	
ERPA	

Annex 1: Land use categories and associated subcategories

The following table shows how these terms have been used in the context of this document to indicate different levels of aggregation. It is recognized that this table might not always be consistent with the terminology used by countries in their greenhouse gas inventories. ISFL Programs may choose to use the terminology from their national greenhouse inventory as long as the principles of this methodological approach are adhered to (for example the level of aggregation an analysis is performed) and the documents submitted to the ISFL clearly outline the countries' own terminology and different levels of aggregation.

AFOLU Category	Subcategory	Carbon pool and non-CO ₂ gases to be assessed	Inventory category		
Livestock	Enteric fermentation	CH ₄	CH ₄ emissions from enteric fermentation		
	Manure Management	CH ₄	CH ₄ emissions from manure management		
		N ₂ O	N ₂ O emissions from manure management		
Forest	Forest Land Remaining Forest Land (FF)	Above-ground biomass	CO ₂ emissions and removals from above-ground biomass in forest land remaining forest land		
		Below-ground biomass	CO ₂ emissions and removals from below-ground biomass in forest land remaining forest land		
		Dead organic matter*	CO ₂ emissions and removals from dead organic matter in forest land remaining forest land		
		Soil carbon	CO ₂ emissions and removals from soil carbon in forest land remaining forest land		
	Land converted to Forest land (LF)	Above-ground biomass	CO ₂ emissions and removals from above-ground biomass in land-converted-to forest land		
		Below-ground biomass	CO ₂ emissions and removals from below-ground biomass in land-converted-to forest land		
		Dead organic matter	CO ₂ emissions and removals from dead organic matter in land-converted-to forest land		
		Soil carbon	CO ₂ emissions and removals from soil carbon in land-converted-to forest land		
		Cropland	Cropland remaining Cropland (CC)	Above-ground biomass	CO ₂ emissions and removals from above-ground biomass Cropland remaining Cropland
				Below-ground biomass	CO ₂ emissions and removals from below-ground biomass in Cropland remaining Cropland
Dead organic matter	CO ₂ emissions and removals from dead organic matter in Cropland remaining Cropland				

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		Soil carbon	CO2 emissions and removals from soil carbon in Cropland remaining Cropland
	Land converted to Cropland (LC)	Above-ground biomass	CO2 emissions and removals from above-ground biomass Land converted to Cropland
		Below-ground biomass	CO2 emissions and removals from below-ground biomass Land converted to Cropland
		Dead organic matter	CO2 emissions and removals from dead organic matter in Land converted to Cropland
		Soil carbon	CO2 emissions and removals from soil carbon in Land converted to Cropland
Grassland	Grassland remaining Grassland (GG)	Above-ground biomass	CO2 emissions and removals from above-ground biomass in Grassland remaining Grassland
		Below-ground biomass	CO2 emissions and removals from below-ground biomass in Grassland remaining Grassland
		Dead organic matter	CO2 emissions and removals from dead organic matter in Grassland remaining Grassland
		Soil carbon	CO2 emissions and removals from soil carbon in Grassland remaining Grassland
	Land converted to grassland	Above-ground biomass	CO2 emissions and removals from above-ground biomass in land-converted-to grassland
		Below-ground biomass	CO2 emissions and removals from below-ground biomass in land-converted-to grassland
		Dead organic matter	CO2 emissions and removals from dead organic matter in land-converted-to grassland
		Soil carbon	CO2 emissions and removals from soil carbon in land-converted-to grassland
Wetlands	Peatlands remaining peatlands	CO2	CO2 emission and removals from Peatland remaining peatland
		N2O	N2O emission from Peatland remaining peatland
	Flooded land remaining Flooded land	CO2	CO2 emission and removals from flooded land remaining flooded land
	Land Converted to Wetlands	CO2	CO2 emission and removals from lands converted to Wetlands
Settlements	Settlements Remaining Settlements	CO2	CO2 emission and removals from settlements remaining settlements
	Land Converted to Settlements	CO2	CO2 emission and removals from lands converted to settlements
Biomass burning	Biomass Burning	CH4	CH4 emissions from biomass burning
		N2O	N2O emissions from biomass burning
Managed soils	Liming	CO2	CO2 emissions from liming

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	Urea application	CO2	CO2 emissions from urea application
	Direct N2O Emissions from Managed soils	N2O	Direct N2O emissions from managed soils
	Indirect N2O Emissions from Managed soils	N2O	Indirect N2O emissions from managed soils
	Indirect N2O Emissions from Manure Management	N2O	N2O emissions from manure management
	Rice Cultivations	CH4	CH4 emissions from rice cultivation
Harvested wood products	Harvested Wood Products	CO2	CO2 emissions from harvested wood products

Notes:

- a. The subcategories related to Land Use conversions are generically presented as “Land Converted to”, but these may be disaggregated per Land Use conversions, e.g. Land converted to Forestland (LF) would be Cropland to Forestland (CF), Grassland to Forestland (GF), Wetland to Forestland (WF), Settlement to Forestland (SF)
- b. The subcategories within Land Use categories should be disaggregated following the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands
- c. The subcategory Harvested Wood Products does not need to be limited to Carbon stock changes. Where applicable, this can also include methane emissions from both landfills and/or burning or storage of biomass piles