

ASSESSMENT REPORT

The World Bank Group's BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL)

Jambi Emission Reduction Program - Indonesia

Prepared for:

World Bank Group

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Program	The Jambi Emission Reduction Program (JERP)
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Executive Summary

SCS Global Services (SCS) was retained by the Initiative for Sustainable Forest Landscapes (ISFL) of the World Bank Group to perform an independent assessment of the Jambi Emission Reduction Program (“the ER Program”) in the Jambi Province of Indonesia against the ISFL Emission Reductions Program Requirements and associated guidelines. The scope of this assessment was to confirm that the information provided in the emission reductions program document is correct and complete and to apply expert judgement to evaluate the feasibility of program design aspects and identify areas of improvement to inform the World Bank Group’s and ISFL contributors’ review of the Program. While this is an independent assessment, it should be noted that the assessment team worked closely with the ISFL staff and others at the World Bank Group to develop the findings and conclusions described in this report.

This report presents an overview of the assessment process and its conclusions, as well as a summary assessment opinion. The assessment checklist, audit plan and a detailed list of all findings issued during the assessment process are included as appendices.

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1 Introduction

SCS Global Services (SCS) is a global leader in third-party certification, auditing, testing services, and standards. Established as an independent third-party certification firm in 1984, our goal is to recognize the highest levels of performance in environmental protection and social responsibility in the private and public sectors, and to stimulate continuous improvement in sustainability by recognizing and certifying achievements which align with the United Nations Sustainable Development Goals (SDGs). An internationally recognized verification body, SCS is currently accredited to ISO 14065 for Greenhouse Gas Validation and Verification by the American National Standards Institute (ANSI), offering carbon offset project validation and verification under such voluntary carbon programs as the Verified Carbon Standard (VCS), the American Carbon Registry (ACR), and the Climate, Community and Biodiversity (CCB) standards. SCS is also an accredited verification body for the Cap-and-Trade Program of the California Air Resources Board and has conducted jurisdictional assessments in Colombia and Ecuador under the REDD Early Movers Program.

SCS was commissioned by the World Bank Group to undertake an assessment of the Jambi Emission Reduction Program (JERP), hereafter referred to as the ER Program. This Validation report covers review of the ER Program, as described in the emission reductions program document (ERPD), as a project deliverable.

1.1 ER Program Description

The Jambi Emission Reduction Program (JERP) promotes activities to generate both emission reductions and promote removals in the Jambi Province of Indonesia. Jambi consists of approximately 5 million hectares of land and has a population of 3.6 million. The ER Program is being as part of the broader Green Growth Plan (GGP) vision to create an inclusive and low emission economic growth across the Province. Program activities to reduce emissions and enhance removals include improving sustainable land and forest management, strengthening institution and policies to improve land and forest governance, and ensuring strong program management and coordination. Such sub-activities include combating illegal logging, restoring forests and peatlands, implementing agroforestry, empowering vulnerable and marginalized groups, supporting sustainable livelihood activities, promoting community based-forest management, incentivizing sustainable estate crops and climate smart agriculture practices, and preventing wildfires, to name a few. The ER Program consists of various stakeholders including approximately 170 native and non-native communities reliant on the land and resources in the Province, various civil society organizations (CSOs), private industry actors (e.g., forestry and palm oil producers), non-profits, universities, and local and regional governments.

1.2 Assessment Team

The assessment team consisted of the following individuals:

- Lead Auditor: Alexa Dugan
- Auditors: Vanessa Mascorro, Michael Hoe, Dr. Raleigh Ricart
- Technical Reviewer: Dr. Erynn Maynard Bean

2 Assessment Details

2.1 Scope and Objectives

The objectives of the assessment are as follows:

- Ensure, according to the applicable level of assurance, that the information provided in the emission reductions program document is correct and complete (i.e., not leaving out information that might affect the opinion of the reader).
- Conduct an independent assessment of the compliance against the approved ER Program Requirements and associated guidelines.
- Apply expert judgement to evaluate the feasibility of ER Program design aspects and identify areas of improvement to inform the World Bank Group's and ISFL contributors' review of the ER Program.

The scope of the assessment entails review, as required, to achieve the above objectives. The following areas were particularly emphasized. In some cases, consideration of the areas indicated below extends the scope of the assessment beyond a strict assessment for conformance to the assessment criteria.

Aspect	Expected Scope of the Assessment
Drivers of AFOLU emissions and removals	<ul style="list-style-type: none"> ■ Correctness and completeness of the analysis on historic and future trends (qualitative and quantitative) in drivers of AFOLU emissions and removals ■ Expert judgement of the analysis, including the barriers to mitigation
Description and justification of the ISFL ER Program's planned actions and interventions	<ul style="list-style-type: none"> ■ Expert judgement whether the proposed actions and interventions address drivers of emissions and are informed by the contribution of key sources and sinks to the total GHG emissions and removals in the Program GHG Inventory and the analysis of trends ■ Expert judgement of continued private sector engagement achieved or planned in addressing drivers of emissions ■ Expert judgement of risks to implementation and potential benefits of planned actions and interventions
Financing plan for implementing the planned actions and	<ul style="list-style-type: none"> ■ Correctness and completeness of information on the transaction costs and the identified funding gaps for the ISFL ER Program and the plan for mitigating gaps

Aspect	Expected Scope of the Assessment
interventions of the ISFL ER Program	<ul style="list-style-type: none"> ■ Expert judgement whether the identified sources of finance are sufficient to affect the land use activities and drivers of emissions and removals ■ Expert judgement of the financial and economic analyses, discount rates, and flows of funds
Analysis of laws, statutes, and other regulatory frameworks	<ul style="list-style-type: none"> ■ Correctness and completeness of the information provided in the Program document ■ Expert judgement to identify any known legal or regulatory issues in the program area that can affect the program design, including benefit sharing
Risk for displacement	<ul style="list-style-type: none"> ■ Correctness and completeness of the information provided in the analysis of displacement risk ■ Expert judgement on the effectiveness of the proposed strategy to mitigate and/or minimize, to the extent possible, potential Displacement
Participation under other GHG initiatives	<ul style="list-style-type: none"> ■ Correctness and completeness of the information provided whether parts of the program area, or projects in the program area, are included in other GHG initiatives and if this creates a risk of double counting, and/or double payment
Data management and registry systems to avoid multiple claims to ERs	<ul style="list-style-type: none"> ■ If applicable, expert judgement whether the Program and Projects Data Management System is sufficient, secure, and robust ■ If the ISFL ER Program is not using the World Bank's transaction registry for Forest Carbon Partnership Facility (FCPF) and ISFL ER Programs, expert judgement whether the transaction registry is sufficient, secure, and robust ■ If applicable, expert judgement of the data management and registry systems to recognize nested projects and avoid multiple claims to ERs
ISFL Reporting	<ul style="list-style-type: none"> ■ Assess whether the GHG Inventory is comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report ■ Assess whether the best available data sets, methods, models and assumptions have been used in the ISFL Reporting and that the inventory applies the general IPCC

Aspect	Expected Scope of the Assessment
	principles of transparency, completeness, consistency, accuracy and comprehensiveness.
Selection of subcategories for accounting	<ul style="list-style-type: none"> ■ Correctness and completeness of the data and information provided on the choice of the subcategories ■ Assess whether the quality and baseline setting requirements have been applied correctly and the choice of the subcategories is correct and justified ■ Assess whether all significant pools and sources of greenhouse gas emissions are included. If a major carbon pool/ or gas is excluded, assess whether this has been sufficiently explained and justified, provided it is not a significant pool.
Emissions baseline	<ul style="list-style-type: none"> ■ Assess whether the methods used to construct are in line with the IPCC and best practice approaches as defined, for example by the GFOI ■ Correctness and completeness of the data used to construct the baseline ■ Assess whether the baseline requirements have been applied correctly and the Emissions Baseline estimate is calculated correctly ■ Assess whether the uncertainty in the Emissions Baseline has been correctly identified and assessed in accordance with IPCC good practice
Time bound plan to increase the completeness of the scope of accounting and improve data and methods for the subsequent Emissions Reductions Payment Agreement (ERPA) Phases during the ERPA Term	<ul style="list-style-type: none"> ■ Expert judgement whether the proposed plan is feasible, addresses priority subcategories and is likely to increase the completeness of the scope of accounting and improve data and methods for the subsequent ERPA Phases
Ex-ante estimation of the emission reductions	<ul style="list-style-type: none"> ■ Expert judgement if the assumed effectiveness of the program in addressing the drivers and its impact on the emissions is justified and based on reasonable assumptions
Monitoring approach	<ul style="list-style-type: none"> ■ Assess whether the data and methods proposed for monitoring are consistent enough with the data and methods used for the determination of the baseline to allow for meaningful comparison and calculation of the emission reductions

Aspect	Expected Scope of the Assessment
	<ul style="list-style-type: none"> ■ Assess whether the proposed monitoring methods and arrangements are in place as described in the Program Document and are technically capable of collecting the data ■ Assess whether the uncertainty in the data and parameters to be monitored has been correctly identified and assessed and if the proposed approach to manage and reduce uncertainty reflects good practice
Reversals	<ul style="list-style-type: none"> ■ Correctness and completeness of the data and assumption used in the assessment of the reversal risk ■ Assess whether the ISFL Buffer Requirements have been applied correctly

2.2 Criteria

The criteria for the assessment were as follows:

- The approved ISFL ER Program Requirements, Version 2.0 April 2021 (“the Program Requirements”)
- The following associated guidelines:
 - ISFL Buffer Requirements, Version 2.0 April 2020 (“the Buffer Requirements”)
 - ISFL Program Document Template, Version 2.0 January 2020 (“the PD Template”)¹

2.3 Good Practice Guidance

The following guidance documents were referenced as good practice in undertaking the assessment, though said documents were not formally considered to be part of the assessment criteria. Where it was appropriate to apply professional judgment in assessing against the indicators set out in SCS’ assessment checklist (see Appendix C below), methodological approaches that appropriately followed good practice were automatically assumed to meet the intent of a given indicator.

- 2006 IPCC Guidelines for National Greenhouse Gas Inventories (“the IPCC 2006 Guidelines”)
- The following ISFL Program documents:
 - Guidance Note on the Preparation of Financing Plan of REDD+ and Landscape Emission Reduction Programs, Version 1.0 August 2017 (“the Financing Plan Note”)
 - Guidance Note on the Ability of Program Entity to Transfer Title to Emission Reductions, Version 1.0 March 2018 (“the Title Transfer Note”)

¹ Noting that any guidance within the PD Template pertaining to brevity or word count was not considered part of the auditable criteria, though said guidance was referenced in determination of the level of detail that should be within the ERP.

- Guidance Note on Application of IPCC Guidelines for Subcategories and Carbon Pools Where Changes Take Place Over a Longer Time Period, Version 1.0, March 2021 (“the Carbon Pools Note”)
- GFOI 2020, Integration of remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests: Methods and Guidance from the Global Forest Observations Initiative, Edition 2.0, Food and Agriculture Organization, Rome (“GFOI”).

2.4 Normative Assessment References

The following normative references guided SCS’ assessment approach:

- Terms of Reference, updated 14 December 2018
- SCS’ Program Quality Manual and Auditor Manual
- The following normative references of the International Organization for Standardization (ISO):
 - ISO 14065:2013, Greenhouse gases — Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition
 - International Accreditation Forum Mandatory Document 6: 2014 — *Application of ISO 14065: 2013*
 - ISO 14064-3:2006, Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions
 - ISO 14066:2011, Greenhouse gases — Competence requirements for greenhouse gas validation teams and verification teams

2.5 Level of Assurance

Both a reasonable and limited level of assurance were selected for the assessment work described in this report and were determined at the indicator level as set out in the assessment checklist (see Appendix A).

2.6 Materiality

The term “discrepancy”, as implicitly defined in Section 2.30 of ISO 14064-3:2006, encompasses the terms “error”, “omission” and “misrepresentation” (i.e., these three types of distortion are different categories of discrepancies). Any discrepancies which also presented clear divergence from stated requirements of the assessment criteria were treated as non-conformities in the assessment process. Any other discrepancies identified during the course of the assessment were subject to the following materiality assessment.

- In respect of quantitative matters:
 - A discrepancy in the program GHG inventory and/or the process used to select subcategories eligible for ISFL accounting was considered material if it resulted in an incorrect determination of the subcategories eligible for ISFL accounting.

- A 1.00% materiality threshold applied to any over-estimation of the emissions baseline.²
- Regarding reporting of information in the ERPD:
 - Any factual errors in the reporting of information in the ERPD were considered material if the incorrectly reported information was directly or indirectly required to be reported in the ERPD by the assessment criteria.

Any discrepancies identified as material through application of the above criteria were treated as non-conformities in the assessment process. Any discrepancies not identified as material through application of the above criteria were inherently considered immaterial. In the event that discrepancies were identified that did not require immediate correction but that required corrective action or mitigation at some later time, such as before the first verification, a special type of finding, termed a Forward Action Request, was issued by SCS (see Section 3.5, below, for a description of findings).

3 Assessment Process

The assessment services described in this report were performed through a combination of document reviews, interviews with relevant personnel, and on-site inspections. At all times, SCS assessed the conformance of the ER Program, as described in the ERPD, to the assessment criteria. The assessment team issued findings to ensure that the ER Program fully conformed to all requirements. The services included the following steps.

3.1 Methodology

The assessment was performed through a combination of document review and interviews with relevant personnel and site inspections, as discussed in Sections 3.2 through 3.4 of this report. At all times, the ERPD and the ER Program described therein were assessed for conformance to the criteria described in Section 2.2 of this report. As discussed in Section 3.5, findings were issued to identify any actual or potential areas of risk or concern.

A risk assessment was conducted, and a sampling plan produced, in accordance with Sections 4.4.1 and 4.4.3 of ISO 14064-3:2006, respectively, following a proprietary approach developed by SCS. The process involved identification of key areas of “residual risk” (areas where there exists risk of a material discrepancy that is not prevented or detected by the QA/QC processes of the ER Program). Sampling and data testing activities were planned to address any risk where the likelihood of an area of nonconformance or material discrepancy (see Section 2.6 above regarding what constitutes a material discrepancy) going undetected by the assessment team was judged to be unacceptably high. An audit plan was created that took the sampling plan into account.

² The materiality analysis was carried out by first calculating the difference between the reported Emissions Baseline and the assessment team’s calculation of the same quantity, and then dividing by the reported Emissions Baseline. If the resulting quantity was greater than 1.00%, the discrepancy was considered material. Otherwise, the discrepancy was not considered material. Under-estimation of the Emissions Baseline was not considered a material discrepancy.

3.2 Document Review

The emissions reduction program document (Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3.docx, “the ERPD”) was carefully reviewed for conformance to the assessment criteria. The following additional documentation, provided by ER Program personnel in support of the ERPD, was also reviewed by the assessment team:

Document	File Name (If Applicable)	Ref
ERPD	Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3.docx	1
Calculation workbook: GHG estimates	All_GHG_Accounting_20230918.xlsx	2
Calculation workbook: Monte Carlo Analysis	MC_Simulation_BioCF_20230918.xlsx	3
Calculation workbook: SOC & DOM estimates	SOC_DOM_BiomassBurn_Accounting_20230918b.xlsx	4
BioCF Toolbox	BioCF_ISFL_Jambi_2022.tbx	5
Agriculture database	Database_Agriculture_SignSmart.xlsx	6
Input Database BioCF Tool	Database_LCC_2006_to_2018_20221118.xlsx Database_PeatFire_2006_to_2018_20220628.xlsx; Database_PeatDec_2006_to_2018_20221118.xlsx	7
National Forest Inventory Data	Data_NFI_BioCF_shared.xlsx	8
National Forest Inventory References	Petunjuk Teknis Re-Enumerasi PSP 2011.pdf; Petunjuk Teknis TSP PSP 2011.pdf; Brief on national forest inventory NFI - Indonesia - ap186e	9
Python script for BioCF Toolbox	01 GHG Emission from Land Cover Change and Peat Decomposition.pdf	10
Python script for BioCF Toolbox	02 GHG Emission from Peat Fires.pdf	11
FAO Monte Carlo model	MC 4 estimating ER from forests - update	12
Spatial Files – BioCF Geodatabase input	Data_BioCF.gdb	13
Boundaries: Spatial Files	Batas_Administrasi_Baru.shp; Batas_Admin_AR_KEMENDAGRI.shp; Batas_Admin_AR_KEMENDAGRI_Potong.shp; Batas_Admin_AR_KEMENDAGRI_Potong_Mercator.shp	14
Accuracy assessment: Spatial Files	Sampel_UA_Jambi_2006_2018.shp	15
Spatial Files	BioCF Database 20220616	16
Manuals & Document Descriptions	4. Final_GHG Accounting_BioCF_20221130_clean.pdf	17
Manuals & Document Descriptions	0221101_manual for spatial analysis biocf toolbox_eng.pdf	18
Manuals & Document Descriptions	Kajian Penghitungan Nilai Akurasi dan Ketidakpastian Data Tuplah Jambi.pdf	19

Document	File Name (If Applicable)	Ref
Manuals & Document Descriptions	Manual Book Penyajian data GHG accounting BioCF-ISFL.pdf	20
Manuals & Document Descriptions	Modul GIS Analisa BioCarbon Fund IFSL Provinsi Jambi.pdf	21
Manuals & Document Descriptions	20210629_manual for carbon stock measurement BioCF.pdf	22
Manuals & Document Descriptions	20221031_manual and report on uncertainty analysis-BioCF.pdf	23
Manuals & Document Descriptions	20221031_manual for data analysis_biocf.pdf	24
Manuals & Document Descriptions	20221031_manual for spatial analysis_biocf toolbox.pdf	25
Manuals & Document Descriptions	petunjuk-teknis-penafsiran-citra-satelit-resolusi-sedang.pdf	26
Standard Operating Procedures (SOP)	SOP MAR Jambi_30okt2022.xlsx	27
National FREL-FRL documentation	2nd_frl_indonesia_submit_UNFCCC.pdf; Modified_2ndFRL_Annex_2nd FRL Indonesia.pdf; national_frel_final revisi_10des.pdf	28
Indonesia Biennial Update Report (BUR)	IndonesiaBUR 3_FINAL REPORT_2	29
Study from Merang Peat Swamp Forests, Sumatra	Tier 3 Carbon Stock Assessment in Merang Peat Swamp Forest.pdf	30
Peat decomposition Reference	Novita+et+al_2022_Environ._Res._Lett.pdf	31
Peat & fires Reference	2021_JI_Krisnawati et al_Carbon balance of tropical peat forests at different fire history_2021.pdf	32
Peat & fires Reference	Ballhorn_2009_Derivation_burn_scar_depth_LIDAR_Indonesian_peatlands.pdf	33
Peat & fires Reference	CombustionPeatFireKalimantan_Usup_etal_Tropcis_2004.pdf	34
Peat & fires Reference	Konecny_et_al-2016_variable carbon losses from recurrent fires in drained tropical peatlands_Global_Change_Biology.pdf	35
Peat & fires Reference	Page etal_2002_the amount of carbon released from peat and forest fires in indonesia during 1997.pdf	36
Peat & fires Reference	Simpson etal_2016_tropical peatland burn depth and combustion heterogeneity assessed using UAV and airborne lidar.pdf	37
Peat & fires Reference	stockwell etal 2014 Trace gas emissions from combustion of peat crop residue domest.pdf	38
Peat & fires Reference	stockwell_2016.pdf	39
Contributor feedback	ISFL ERPD Contributor Feedback - consolidated response matrix_October 2022	40
List of Participants	list of participants-kick off meeting ERPD 23 agust-final (1)	41

3.3 Interviews

3.3.1 Interviews with ER Program Personnel

The process used in interviewing ER Program personnel was a process wherein the assessment team elicited information regarding (1) the ERPD and any supporting work products or documents and (2) actions undertaken to conform to various requirements.

The following personnel associated with (a) the program entity, (b) any organizations responsible for managing/implementing the ER Program and/or (c) any partner organizations involved in the ER Program were interviewed.

The phrase “throughout audit”, under “Date(s) Interviewed”, indicates that interviews took place throughout the assessment process.

1. Program Personnel

Individual	Affiliation	Role	Date(s) interviewed
Solichin Manuri Ph.D	Ministry of Environment and Forestry (MoEF)	MRV Specialist;	Throughout audit
Anna Tosiani, S.Si, M.Si	MoEF	IPSDH Directorate	Throughout audit
Ir. Emma Rachmawaty, M.Sc.	MoEF	Director of Climate Change Mitigation	Throughout audit
Dr. Ir. Syaiful Anwar, M.Sc	MoEF	Director IGRK	Throughout audit
Dr. Wahyu Marjaka, M.Eng	MoEF	Director MS2R	Throughout audit
Agus Rusly, S.Pi, M.Si	MoEF	Secretary to the Directorate General of PPI	Throughout audit
Ir. Dida Migfar Ridha, M.Si	MoEF	Head of KLN Bureau	Throughout audit
Belinda Arunarwati, P.hd	MoEF	Director of IPSDH	Throughout audit
Franky Zamzani, S.Hut, M.Env	MoEF	Head of Sub-Directorate for Mitigation Implementation Monitoring-Director General of MPI	Throughout audit
Irawan Asaad, Phd	MoEF	Head of IGRK Sub-Directorate	Throughout audit
Budiharto, S.Si, M.Si	MoEF	Head of Sub-Director for GHG Reduction Verification	Throughout audit
Dr. Wawan Gunawan, S.Hut, M.Si	MoEF	Head of Funding Sub-Director, MS2R	Throughout audit

Judin Purwanto, S.Hut, M.Si	MoEF	Head of SDH Monitoring Sub-Director, IPSDH Directorate	Throughout audit
Dr. Subhan	MoEF	Head of Economics, Natural Resources, Bappeda	Throughout audit
Ir. Sepdinal, ME	MoEF	PMU Sub National Chairman;	Throughout audit
Lindawati, S.Pt, M.Si	MoEF	Head of SN PMU Safeguards Division;	Throughout audit
Syamsul Bahri, S.Sos., M.T., M.A	MoEF	Head of MAR SN PMU Division;	Throughout audit
Febri Suherdiansyah, S.Kom	MoEF	Head of Monitoring and Evaluation Division of SN PMU;	Throughout audit
Hendra Admaja, S.E., M.M	MoEF	Head of BSM SN PMU Division;	Throughout audit
Aditya Perdana Putra, S.Hut, MSc	MoEF	Director of Climate Change Mitigation	Throughout audit
Dinik Indrihastuti, S.Hut, M.Si	MoEF	Policy Analyst	Throughout audit
Suyitno, S.Komp	MoEF	Director of Climate Change Mitigation	Throughout audit
Real Sukmana Faesal Umar, S.Hut, M.AP	MoEF	MS2R Director	Throughout audit
Endah Riana Oktavia, S.Hut, MT, MA	MoEF	IGRK and MPV Director	Throughout audit
Risti Putri, SE. M.Dev	MoEF	Note. SNPMU Secretariat	Throughout audit
Richad Nugraha, SP, MP	MoEF	SNPMU ERPD Team Member	Throughout audit
Ricko Putra, SE	MoEF	SNPMU ERPD Team Member	Throughout audit
Dien Novita	MoEF	SNPMU ERPD Team Member	Throughout audit
Inten Suseno, S.IP	MoEF	SNPMU ERPD Team Member	Throughout audit
Fathi Hanif, S.H.M.H.	Ministry of Environment and Forestry	National Project Coordinator	Throughout audit
Jaya Noviandi, SH	MoEF	Sub-National Project Coordinator	Throughout audit
Riko Wahyudi M.Sc	MoEF	BSM Specialist;	Throughout audit
Sarah Agustio, M.Si	MoEF	Environmental Management Specialist;	Throughout audit
Dr. Marwoto	MoEF	Social Development Specialist;	Throughout audit
Ari Tribowo	MoEF	FMS Specialist	Throughout audit
Rezky S. Yusuf, S.P, M.A	MoEF	Monitoring and Evaluation Specialist	Throughout audit

2. World Banks task team

Individual	Affiliation	Role	Date(s) interviewed
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Maria Catalina Becerra Leal	World Bank Group	Carbon Finance Specialist	Throughout audit
Julian Gonzalo Jimenez	World Bank Group	Senior Carbon Finance Specialist	Throughout audit
Franka Braun	World Bank Group	Carbon Finance Specialist	Throughout audit
Efrian Muharrom	World Bank Group	Environmental Specialist	Throughout audit
Kate Lillian Chadwick	World Bank Group	Consultant	Throughout audit
Shaanti Kapila	World Bank Group	Senior Operations Office	Throughout audit
Priyasha Praba Madhavan	World Bank Group	Knowledge Management Officer	Throughout audit
Shaanti Kapila	World Bank Group	Senior Operations Office	Throughout audit
Aripheerti Dwi Woerasinghtijas	World Bank Group	Program Assistant	Throughout audit
Andres Espejo	World Bank Group	FCPF Fund Manager/ Lead Natural Climate Solutions	Throughout audit
Roy Parizat	World Bank Group	ISFL BioCarbon Fund Manager	Throughout audit

3.3.2 Interviews with Individuals Other Than ER Program Personnel

No additional individuals other than the ER program personnel described in section 3.3.1 above were interviewed.

3.4 Site Inspections

Due to the audit team's expert assessment regarding the need for an in-person site visit, no site visit occurred during this assessment. In lieu of a site visit, the assessment team performed web-based meetings with program personnel and program partners. In addition, the assessment team utilized remotely sensed imagery to assess land use classes in the program area.

3.5 Resolution of Findings

Findings are the formal mechanism used by SCS to identify any actual or potential areas of risk or concern. The following discusses the types of findings that may arise from the assessment process.

New Information Requests (NIRs)

If the assessment team determined that they have not been furnished with sufficient information to make a decision regarding conformance, a New Information Request (NIR) was issued. After a response was received, the assessment team evaluated the submission and determined if adequate information had been provided or if additional findings (NIR, NCR, OBS) were warranted.

Non-Conformity Reports (NCRs)

When the assessment team identified (1) a clear non-conformity with respect to a specific indicator (where a given indicator was of the "binary" conformance type) or (2) a material discrepancy (see

“Materiality”, above, for more information), a Non-Conformity Report (NCR) was issued. Closure of an NCR required that the assessment team be provided with evidence that the underlying issue resulting in issuance of the NCR had been duly addressed.

Observations (OBSs)

An OBS indicated one or more of the following:

- An area where immaterial discrepancies existed between the observations, data testing results or professional judgment of the assessment team and the information reported or utilized (or the methods used to acquire such information) within the ERPD.
- An area where the expert judgement of the assessment team suggested that there were opportunities for improvement in the areas falling within the assessment scope.
- An area which presented a risk of future non-conformance.

Where an OBS was written against an indicator of the “professional judgement” conformance type, the OBS was written when a low (III) or medium (II) conformance rating had been assigned. Annex A’s General Guidance section contains more detail regarding the two conformance types and ratings.

Forward Action Requests (FAR)

When the assessment team finds that one or more NIR or/and NCR have not been closed after significant³ efforts made by the Program Entity to provide sufficient evidence to resolve the underlying issue, a FAR was issued. A FAR can be issued only after having discussed it with the World Bank and upon the approval of the Fund Manager/FMT. FAR will be turned into World Bank Conditions of Effectiveness that need to be fulfilled by ER Programs during the Conditions Fulfillment period following the signature of the ERPA to ensure the FAR is addressed prior to the submission of the first ER Monitoring Report.

A FAR shall be addressed during the first monitoring event, and a VVB shall provide a positive opinion as part of the first verification report.

4 Assessment Findings

The major findings of the assessment are described below for each category included in the scope of the assessment (see “Scope and Objectives”, above). The assessment findings at the indicator level are described in Appendix C below.

³ Significant effort can be considered when more than three rounds of findings are needed to close one or more NIR or/and NCR or by an ad hoc decision made by the ISFL Fund Manager

4.1 Determination of ISFL Accounting Scope

4.1.1 ISFL Reporting

The following findings from Appendix C are relevant to this sub-section:

- NIR 1, 54
- NCR 2, 51, 53
- OBS 31, 44

The assessment team took the following steps to assess the program GHG inventory for comparability with use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biennial Update Report:

- Independently reviewed and took inventory of the program datasets to assess the level of consistency between the national GHG inventory and the program GHG inventory. We reviewed the second and the third Biennial Update Report (BUR) and the countries' Forest Reference Emission Level (FREL) to evaluate whether this land use dataset is also utilized for the countries national GHG inventory, which it is.
- An independent assessment was undertaken to compare the definitions of natural forest and the other land use classes to evaluate consistency between national GHG reporting (BUR, FREL), and the program reporting. The assessment team also independently evaluated the subcategories and naming conventions utilized in the national GHG reporting to compare to the program subcategory distinctions.
- The assessment team evaluated whether there is consistency between key parameters such as the global warming potentials (GWPs) utilized in the national GHG inventory as compared to the program accounting.
- In cases where datasets were developed specifically for this program area the auditors evaluated for methodological consistency (definitions, assumptions, approach) between the national GHG datasets and the program data.

The assessment team took the following steps to assess whether the best available data sets, methods, models and assumptions have been used and that the inventory applies the general IPCC principles of transparency, completeness, consistency, accuracy and comprehensiveness:

- Held meetings with the program's technical team to gain a clear understanding of the process in determining the best available data sets, methods and models to be employed by the program.
- Independently reviewed literature regarding the availability of datasets pertaining to forest inventory, peat decomposition, land cover change, disturbances (fires), among others to confirm that the best available data sets and assumptions have been utilized by the program.
- Independently reviewed Indonesia's Forest Reference Level Submission to the UNFCCC and the Biennial Update Report (BUR) to assess whether similar data sets, methods, and assumptions have been used for the national GHG inventory and represents the best available data in the country.

- If no country specific or region-specific information was available, the assessment team independently evaluated whether the most relevant and accurate default values from the 2006 IPCC Guidelines were applied (e.g., soil organic carbon).

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The best available data sets, methods, models, and assumptions have been used and that the inventory applies the general IPCC principles of transparency, completeness, consistency, accuracy and comprehensiveness.
- Given that the program is directly employing several national GHG inventory datasets and processes including the national Ministry of Environment and Forestry (MoEF) land cover mapping product and the National Forest Inventory data and resultant emission factors the program GHG inventory inherently applies comparable use of definitions, categories and subcategories as other national processes related to GHG inventory and REDD+.
- Overall, generally conservative assumptions and parameters have been used to ensure the baseline is accurate yet conservative. However, there are Forward Action Requests described in section 5.2 below pertaining to the selection of data and procedures for quantification.

4.1.2 Selection of Subcategories for Accounting

The following findings from Appendix C are relevant to this sub-section:

- NIR 3, 10, 13, 16-17, 19
- NCR 2, 25
- OBS 31, 44

The assessment team took the following steps to assess the correctness and completeness of the data and information provided on the choice of the subcategories:

- Independently assessed the datasets used for each land use subcategory to determine the IPCC tier, availability, and vintage of the data sources.
- Independently quantified the emissions and/or removals for all pools and gases in each subcategory to check the absence of errors in the quantification of net emissions and removals per subcategory as well as the relative contribution to total GHG emissions and removals associated with all land use conversions.
- Independently identified, recalculated, and selected subcategories in accordance with the section 4.3.4-4.3.15 of the ER Program Requirements to assess the step 1-3 selection of subcategories as indicated in the ERPD and calculations workbooks.

The assessment team took the following steps to assess whether the quality and baseline setting requirements have been applied correctly and confirm that the choice of the subcategories is correct and justified:

- Classified each subcategory by IPCC tier and independently assessed whether only subcategories that utilized data and procedures that comply with the minimum IPCC Tier data and methods for significant pools were selected.
- Classified each subcategory by IPCC approach and independently assessed whether only subcategories that utilized data and procedures that comply with IPCC approach 2 or 3 data and methods were selected.
- Classified each subcategory by the vintage of available data sources to independently assess whether only subcategories that have sufficient historic data available to construct an Emission Baseline over a Baseline Period of approximately 10-year period at the start of a ISFL ERPA Phase were selected.
- Independently evaluated the source of each of the datasets utilized in the baseline quantification and independently re-calculated the emissions baseline.
- Reviewed the subcategory selection process as described and demonstrated in section 4.2 of the ERPD to evaluate conformance with the subcategory selection criteria.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- Confirmed that the selection of subcategories is in conformance with the procedures outlined in the ISFL Program Requirements and free from material error.
- However, several Forward Action Requests have been issued (see section 5.2 below) that could impact the quantification of various pools and subcategories and which may ultimately alter the subcategory selections.

4.1.3 Time Bound Plan to Increase Completeness Accounting Scope

The following findings from Appendix C are relevant to this sub-section:

- NIR 34
- NCR 68
- OBS 61

The assessment team took the following steps to assess whether the proposed plan is feasible, addresses priority subcategories and is likely to increase the completeness of the scope of accounting and improve data and methods for the subsequent ERPA Phases:

- Reviewed the description of the time-bound plan for improving input datasets such that they comply tier 2 or the spatial requirements for IPCC, as described in section 4.3 and Annex 8 of the ERPD. It is important to note that all of the categories selected comply with the ISFL data and baseline setting requirements, but that the program still intends to implement improvements across subcategories. For instance, the land cover mapping product from MoEF complies with the ISFL

spatial requirements, but it has high uncertainty and thus the program intends to implement improvements to the land cover dataset overtime.

- We also evaluated whether all subcategories indicated as meeting the ISFL requirements for inclusion, fully met the ISFL requirements for inclusion, and if they did not, we evaluated that a time-bound plan to improve the datasets for inclusion was established and could be met.
- Conducted meetings with the program team to inquire about the status of the implementation of this time-bound plan, the relevant parties involved, and the availability of data or generating such data.
- Reviewed the baseline emissions analysis and subcategory selection datasets to understand the significance (relative emissions) of subcategories included in the time-bound plan.
- Compared the required input data and parameters for calculating the pools in this subcategory to the potential improvements a described in the ERPD.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- Determined that the plan, which involves using available, higher resolution imagery to improve the land cover maps and reduce the uncertainty of the maps is intended to be implemented by the program. We also determined that there are plans in place to integrate updated National Forest Inventory data to derive new emission factors and include more relevant tier 2 data for some pools (e.g., soils, dead organic matter)
- Through interviews with the program team, we confirmed that processes are already underway to develop improved data but that these may not be ready for several years. For instance, the improved land use change data may not be available until 2024 and 2025, while the updated NFI data may not be available until 2029-2030.
- Confirmed that funding is available or will become available to conduct these additional analyses and develop the improved datasets.
- Ultimately found that the time-bound plan is feasible based on a review of institutions referenced and the status of the improvements. Such improvements will increase the completeness of the accounting scope through improved data quality.

4.2 Design of Planned Actions and Interventions

4.2.1 Drivers of AFOLU Emissions and Removals

The following findings from Appendix C are relevant to this sub-section:

- NIR 48
- NCR 52

The assessment team took the following steps to assess the correctness and completeness of the analysis on historic and future trends (qualitative and quantitative) in drivers of AFOLU emissions and removals:

- Reviewed the ERPD (Section 3.1.1) to cross check against the ER Program Requirements including the template reporting requirements.
- Held meetings with the program's technical team as well as World Bank personnel to gain a clear understanding of how the program has identified and evaluated drivers of AFOLU emissions and removals.
- Solicited feedback from in-country specialists, who are familiar with local laws and customs, and have expertise in the technical fields required for reliable assessment.
- Engaged with the primary literature, including peer-reviewed journal articles and national publications/reports (e.g., FREL, BUR) to assess if the claims issued by the project are in-line with current scientific findings.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The drivers of AFOLU emission and removals are reasonable and accurate as compared to the quantification of emissions and removals in this assessment as well as corresponding literature including the FREL, BUR reports, and other peer-reviewed journal articles.
- The description provided in the ERPD and supplemental documents are generally considered to be complete and appropriate. However, Forward Action Requests have been issued related to the level of detail in the ERPD, particularly regarding the drivers of AFOLU emissions and removals. See section 5.2 below.

4.2.2 Description and Justification of the Program's Planned Actions and Interventions

The following findings from Appendix C are relevant to this sub-section:

- NIR 57, 59-60

The assessment team took the following steps to assess whether the proposed actions and interventions address drivers of emissions and are informed by the contribution of key sources and sinks to the total GHG emissions and removals in the program GHG inventory and the analysis of trends:

- Reviewed the ERPD (Section 3.1) to cross check against the ER Program Requirements including the template requirements.
- Engaged with the primary literature (i.e., peer-reviewed publications, FREL, BUR, carbon project documentation) to assess if the planned actions and interventions are feasible, directly influence the drivers of emissions, and are in-line with current scientific findings.
- Compared the planned actions and interventions to the description of the drivers of AFOLU emission and removals as well as the quantification of emissions to evaluate whether there is a clear and direct relationship between the planned actions to reduce emissions and the drivers of emissions.

The assessment team took the following steps to assess the extent and effectiveness of private sector engagement (either achieved or planned) in addressing drivers of emissions:

- Reviewed the ERPDP (Section 3.1) to cross check against the ER Program Requirements including the template requirements.
- Reviewed the ERPDP and supporting literature regarding established private partnerships and programs already underway to attain a clear understanding of how the program intends to execute proposed actions and interventions as well as the relative success of previously implemented work with the private sector.
- Issued findings to inquire about the impact of national and regional laws to better evaluate the feasibility of the interventions.
- Engaged with the primary literature to assess if the claims issued by the project are in-line with current scientific findings.
- Increased familiarity with current privately-held carbon offset projects in the Province and country to understand their actions and resultant contributions to addressing drivers of emissions.

The assessment team took the following steps to assess the magnitude of risks to (a) ER Program implementation and (b) the potential benefits of planned actions and interventions and the extent to which mitigation mechanisms have been included in ER Program design:

- Reviewed the ERPDP to cross check against the ER Program Requirements including the template requirements.
- Reviewed the ERPDP and supporting literature to gain a clear understanding of how the program intends to execute proposed actions and interventions.
- Issued findings to inquire about the impact of national and regional laws to better evaluate the feasibility of the interventions.
- Engaged with the primary literature to assess if the claims issued by the project are in-line with current scientific findings.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The planned interventions (e.g., strengthening policy and institutions, implementing sustainable land management across forests, estate crops and agriculture, and ensuring effective program management in line with social and environmental safeguards, etc.) are directly related to the most significant drivers of emissions.
- The planned interventions are feasible and appear to be supported by an established legal framework and partnerships.
- The description provided in the ERPDP and supplemental documents are generally considered to be complete and appropriate. However, Forward Action Requests have been issued related to the level of detail in the ERPDP regarding the planned interventions. See section 5.2 below.

4.2.3 Financing Plan for Implementing the Planned Actions and Interventions of the Program

The following findings from Appendix C are relevant to this sub-section:

- NIR 58, 67

The assessment team took the following steps to assess the correctness and completeness of information on projected costs, revenues and funding gaps or surpluses:

- Reviewed the ERPD (Section 3.3.1) and Annex 2 to cross check against the ER Program Requirements including the template requirements.
- Reviewed the ERPD and documentation supporting the financing plan to better understand how the program has developed and analyzed its finances and financial planning for the duration of program implementation.
- Applied expert judgement to assess whether the planned interventions are adequately included in the program costs and are realistically represented in the financial analysis and planning.
- Issued findings to gain a clearer understanding about financing information presented in the ERPD and to ensure completeness with the requirements.
- Conducted an independent review of the funding sources indicated including the on-going international donor projects for the Jambi Province to ensure these programs are in fact on-going and may continue to provide needed funded.

The assessment team took the following steps to assess whether the identified sources of finance are sufficient to affect the land use activities and drivers of emissions and removals:

- Reviewed the ERPD, including annex 2, to cross check against the ER Program Requirements including the template requirements.
- Reviewed the ERPD and documentation supporting the financing plan to better understand how the program intends to finance the various program activities over the duration of the program.
- Applied expert judgement to assess the estimated costs of the planned interventions and the annual levels of implementation to assess whether the sources of finances and relevant amounts of sufficient to affect the land use activities.

The assessment team took the following steps to assess the financial and economic analyses (including discount rates and other parameters):

- Reviewed the ERPD (Section 3.3.1) to cross check against the ER Program Requirements including the template requirements.
- Held meetings with the program's technical team as well as World Bank personnel to gain a clear understanding of how the program has developed and analyzed its cash flow analysis and funding gap.
- Applied expert judgement and knowledge of financial principles when assessing the cash flow assumptions.

- Issued findings to gain a clearer understanding about financing information presented in the ERPD and to ensure completeness with the requirements.

The assessment team took the following steps to assess the arrangements for flow of funds:

- Reviewed the ERPD (Section 3.3.1) to cross check against the ER Program Requirements including the template requirements.
- Applied expert judgement when reviewing the arrangements for flow of funds to assess whether sufficient agreements are in place and fundings sources are adequate to address the program implementation costs and funding gaps.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The description provided in the ERPD and supplemental documents are generally considered to be complete and appropriate. However, Forward Action Requests have been issued related to the level of required detail in the ERPD with regards to the financing plan. See section 5.2 below.
- The financial planning appears to be accurate and contain complete information on projected costs, revenues and funding surpluses.
- The financial planning applies established principles of cash flow analyses and includes accurate application of parameters (e.g., cost of VERs) and ex-ante emission reductions.
- The financing plan for ISFL program implementation is feasible, realistic, and appears to sufficiently address the land use activities and the drivers of emissions.

4.2.4 Risk for Displacement

The following findings from Appendix C are relevant to this sub-section:

- NIR 63

The assessment team took the following steps to assess the correctness and completeness of the information provided in the analysis of displacement risk:

- Reviewed the ERPD to cross check against the ER Program Requirements including the template requirements.
- Held meetings with the program's technical team as well as World Bank personnel to gain a clear understanding of how the program has evaluated the risk of displacement through the use of a spatial modeling process evaluating risk of displacement both within and outside of the ER program area.
- Evaluated other regional emissions reductions measures and policies to assess whether other mechanisms and actions may be in place outside of the ER program area to prevent or mitigate displacement risks.
- Evaluated whether consultancies and partnerships are in place with other local and regional initiative and authorities to prevent and mitigation displacement risks.

- Engaged with the primary literature to assess if the claims issued by the project are in-line with current scientific findings.

The assessment team took the following steps to assess the effectiveness of the proposed strategy to mitigate and/or minimize, to the extent possible, potential displacement:

- Reviewed the ERPD to cross check against the ER Program Requirements including the template requirements.
- Held meetings with the program's technical team as well as World Bank personnel to gain a clear understanding of how the program has identified the risk of displacement and intends to implement activities in a targeted manner to mitigate displacement risks.
- Applied expert judgement when assessing the risk of displacement and whether planned interventions (e.g., low-carbon crop production practices, agroforestry, sustainable plantations, efficient cookstoves, low-carbon cattle operations, sustainable forest management and prevention of deforestation, to name a few) will effectively combat this risk.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The description provided in the ERPD and supplemental documents is appropriate and complete and demonstrates that the program team conducted a thorough and spatially explicit assessment of displacement both within the program area and outside.
- Activity shifting leakage from shifting rice cultivation, deforestation, and cattle ranching are the likely drivers of displacement, as they are the highest emission sources in the region, which is accurately described in the ERPD.
- The planned program interventions are feasible solutions to the risk of displacement caused by activity shifting leakage, as many interventions are to enhance efficiency of activities where they are already established (e.g., low-carbon crop productions, sustainable forestry, etc.). Likewise, other programs and partnerships are in place that can help to prevent or mitigate the risk of displacement outside of program area.

4.3 Tracking, Management, Disbursement and Reduction of Risks to Emission Reductions

4.3.1 Analysis of Laws, Statutes, and Other Regulatory Frameworks

The following findings from Appendix C are relevant to this sub-section:

- NCR 61
- NIR 62

The assessment team took the following steps to assess the correctness and completeness of the information provided in the ERPD in respect of laws, statutes, and other regulatory frameworks:

- Reviewed the ERPD (Section 3.1.4) to cross check against the ER Program Requirements including the template requirements.
- Conducted an independent review of the laws, statutes, and other regulatory frameworks in Indonesia to evaluate the completeness of the information provided in the ERPD.
- Issued findings to the program team to gain additional information and insights regarding the meaning of various laws and statutes as well as how they may impact the program and how the program is in conformance with such requirements.
- Applied expert judgment while reviewing the laws pertinent to this project to assess whether the proposed project activities are in-line with the legal and regulatory frameworks in place.

The assessment team took the following steps to assess the existence and extent of any known legal or regulatory issues in the program area that could affect the ER Program design and the existence and effectiveness of any mitigation mechanisms to address such issues:

- Reviewed the ERPD (Section 3.1.4) to cross check against the ER Program Requirements including the template requirements.
- Issued findings to the program team to gain additional information and insights regarding the meaning of various laws and statutes as well as how they may impact the program and how the program is in conformance with such requirements.
- Applied expert judgment while reviewing the laws pertinent to this project and ensured that project activities were in-line with the legal and regulatory frameworks in place.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The description provided in the ERPD and supplemental documents are generally considered to be complete and appropriate. However, Forward Action Requests have been issued related to the level of required detail in the ERPD with regards to the laws, statutes, and other regulations. See section 5.2 below.
- The program staff appear to be knowledgeable about the national and local laws and statutes and have abided by and worked within these frameworks while designing and executing this project.
- There is low risk of non-adherence to laws and regulatory frameworks, especially considering that this jurisdictional program is operated by government officials who are obligated to uphold the law as they are public servants.
- There are regulatory enforcement and monitoring measures in place to ensure that all project activities and implementing actors maintain compliance with laws and regulatory frameworks in place.

4.3.2 Participation Under Other GHG initiatives

The following findings from Appendix C are relevant to this sub-section:

- NCR 64

- NIR 65

The assessment team took the following steps to assess the correctness and completeness of the information provided whether parts of the program area, or projects in the program area, are included in other GHG initiatives and if this creates a risk of double counting, and/or double payment:

- Independently reviewed the ERPD (Section 3.7.2) and cross-checked it against the program requirements.
- Reviewed the other AFOLU carbon projects (e.g., Verra, Green Climate Fund, ART-TREES) existing in the Jambi Province and the surrounding region to understand the extent of the risk of double counting and/or double payment.
- Issued findings to the program team to gain additional information and insights regarding the how the program intends to monitor current and potential future emission reductions initiatives in the Jambi Province.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- Concluded that the jurisdictional program has considered double counting risk and has identified both emission reductions programs within the Jambi province and other environmental initiatives that could impact program emission reductions.
- The program has plans to address the potential for double counting within the coming Benefit Sharing Plan. Therefore, a Forward Action Request has been issued regarding this topic.
- Due to the presence of only one emission reduction project within the Jambi Province as well as measures in place to prevent double counting by other emission reductions schemes (e.g., Verra), the assessment team has found that the risk of double-counting is relatively low, but additional information and procedures must be established by the program team (see Forward Action Request, section 5.2 below).

4.3.3 Data management and Registry Systems to Avoid Multiple Claims to Emission Reductions

The following findings from Appendix C are relevant to this sub-section:

- NIR 66

The assessment team took the following steps to assess whether the program and projects data management system is sufficient, secure, and robust:

- Independently reviewed the ERPD (Section 3.7.3) to cross-check it against the program requirements as well as gain a broader understanding of the programs and projects data management system.
- To better understand the national requirements around reporting of emission reductions, the assessment team independently reviewed documentation on the National Registry System (SRN-

PPI), the system for collecting data on actions and resources related to mitigation and adaptation of climate change in Indonesia, and to ultimately prevent double counting and duplication.

- Reviewed the process described in the ERPD regarding how the ER program will require the registration of individual activities within the National Registry System collectively under the BioCF-ISFL program which will be administered by the Provincial Government.
- Issued findings to the program team to gain additional information and insights regarding the how the program intends to utilize and work within the data management and registry systems in Indonesia.

The assessment team took the following steps to assess whether the transaction registry to be used is sufficient, secure, and robust:

- Independently reviewed the ERPD (Section 3.7.3) to cross-check it against the program requirements and ensure it contains relevant information regarding the use of a transaction registry system.
- Independently reviewed MoEF Regulation No. P.71/2017 on the Implementation of the National Registry System on Climate Change Control, and other related regulations and documentation pertaining to the data management and registry system to avoid multiple claims of emission reductions.
- To better understand the national requirements around reporting of emission reductions, the assessment team independently reviewed documentation on the National Registry System (SRN-PPI), the system for collecting data on actions and resources related to mitigation and adaptation of climate change in Indonesia, and to ultimately prevent double counting and duplication.
- Conferred with World Bank staff regarding the development and management of the centralized transaction registry—the Carbon Asset Trading system, which will be utilized for ERs from the Jambi Program.
- Issued findings to the program team to gain additional information and insights regarding the how the program intends to utilize and work within the transaction registry.

The assessment team took the following steps to assess whether the data management and registry systems are sufficiently robust and sophisticated as to recognize nested projects and avoided multiple claims to emission reductions:

- Independently reviewed the contents of the ERPD (Section 3.7.3) to cross-check it against the program requirements, as well as to gain an understanding of the data management and registry system.
- Independently reviewed MoEF Regulation No. P.71/2017 on the Implementation of the National Registry System on Climate Change Control, and other related regulations and documentation pertaining to the data management and registry system to avoid multiple claims of emission reductions.

- To better understand the national requirements around reporting of emission reductions, the assessment team independently reviewed documentation on the National Registry System (SRN-PPI), the system for collecting data on actions and resources related to mitigation and adaptation of climate change in Indonesia, and to ultimately prevent double counting and duplication.
- Reviewed the other AFOLU carbon projects (e.g., Verra, Green Climate Fund, ART-TREES) existing in the Jambi Province and the surrounding region to understand the extent of the risk of double counting and/or double payment.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- Confirmed that the project's data management system is sufficient, secure, sophisticated, and robust.
- The assessment has confirmed that the Ministry of the Environment and Forestry (MoEF) has developed a National Registry System (the SRN-PPI) in conformance with MoEF Regulation No. P.71/2017.
- Confirmed that the SRN-PPI serves the purposes of registration of emission reduction activities both within the JERP as well as other projects and programs within Indonesia, thus is designed to both management data and information as well as prevent double counting.
- Confirmed that the program intends to utilize centralized traction registry—the Carbon Asset Trading system, developed and managed by the World Bank.
- Concluded that the description provided in the ERPD and supplemental documents are generally considered to be complete and appropriate. However, Forward Action Requests have been issued related to the level of required detail in the ERPD with regards to avoidance of double counting and the data management and registry system. See section 5.2 below.

4.3.4 Reversals

The following findings from Appendix C are relevant to this sub-section:

- NIR 46
- NCR 47

The assessment team took the following steps to assess the correctness and completeness of the data and assumptions used in the assessment of the reversal risk:

- Independently reviewed the ERPD (Section 4.7) to cross-check it against the program requirements, gain a deeper understanding of the risk of reversals for the program, and evaluate the completeness of information provided.
- Issued findings to the program team to inquire about the risk of reversals and application of the ISFL Buffer Requirements.

- Applied expert judgement to assess whether the data and assumptions included in assessing both anthropogenic and natural risk were valid, while also consulting the primary literature to assess whether these data and assumptions are in-line with current scientific findings.

The assessment team took the following steps to assess whether the Buffer Requirements have been applied correctly:

- Independently reviewed the ERPD (Section 3.7.3) and cross-checked it against the program requirements.
- Issued findings to the program team to inquire about the risk of reversals and application of the ISFL Buffer Requirements, including the calculation of the reversal set-aside percentage.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The project has accurately assessed reversal risks due to the main anthropogenic and natural factors active in the Jambi Province.
- The reversal risk appears to be reasonable and accurate, though it must be noted that the risk of future climatic events is difficult to predict due to stochasticity of disturbance events, particularly fires which are one of the main natural risks in Jambi and are expected to increase in size and severity due to climate change and continued development.
- Forward Action Requests have been issued regarding the level of risk buffer allocated to each risk and the final calculation of the reversal risk set aside per the requirements of the ISFL guidelines (see section 5.2 below).

4.4 Quantification of Emission Reductions

4.4.1 Emissions Baseline

The following findings from Appendix C are relevant to this sub-section:

- NIRs 1, 3, 4, 6-9, 12, 14-24, 26, 29, 33, 35-40, 45, 50
- NCRs 2, 5, 11, 27-28, 30, 32, 49
- OBS

The assessment team took the following steps to assess whether the methods used to construct are in line with the IPCC and best practice approaches:

- Reviewed the application of the methods and datasets, including assumptions and selection of parameters used to construct the emissions baseline to assess whether they are in line with IPCC methods and best practice approaches.
- Assessment team applied the IPCC guidelines, other criteria described in section 2.2 above, and best practice approaches to independently quantify the emissions baseline for a sample of subcategories

(i.e., those selected by applying section 4.3 of the program requirements) using the complete datasets or samples of data utilized by the program team.

- Conducted meetings and interviews with the program team to better understand the data and methods applied and check the validity of information provided to the assessment team.
- Issued findings to the program team to gain additional insights on the methods and data applied as well as to resolve issues pertaining the emissions baseline quantification.

The assessment team took the following steps to assess the correctness and completeness of the data used to construct the baseline:

- Independently assessed the land use land cover (LULC) classification through review of the mapping files, accuracy assessment data, and ancillary aerial imagery, to determine whether the methodologies applied, as well as the training and QA/QC processes employed, were appropriate to ensure high-quality data and minimize the impact of any measurement errors.
- Independently reviewed the data sources and assumptions used to develop the emission factors for all land cover classes and carbon pools.
- Independently assessed the program area boundaries and the land cover change areas within the Jambi Province boundary by performing an intersection of the various spatial files and recalculating the areas.
- Independently executed the Jambi BioCF Toolbox developed as an ArcGIS toolbox. Independently checked all BioCF Toolbox input values (emission factors) and input files (land cover change, peatlands, fires).
- Manually recalculated the baseline emissions outside of the BioCF Toolbox to ensure consistency between model results and manual calculations.
- Conducted meetings and interviews with the program team to better understand the data and methods applied and to check the validity of information provided to the assessment team.

The assessment team took the following steps to whether the baseline requirements have been applied correctly and the emissions baseline estimate is calculated correctly:

- Independently verified input data through the recalculation or confirmation with external sources of emission factors, land cover conversions, areas of peatland, years and locations of fires)
- Independently replicated the quantification of the emissions baseline using a combination of the independent BioCF Toolbox model runs and manual recalculations incorporating the verified input data and/or a sample of the datasets for the subcategories, applied by the program team to verify that the emissions baseline estimate is free of material discrepancies.
- Independently recalculated the significance of various pools (e.g., Dead organic matter, soil organic carbon, biomass burning) along with the tier of the data used for those pools to determine whether such pools could be included within the Emissions Baseline, based on the ISFL data requirements.
- Cross-checked the calculation results stored in excel databases with the those results reported in the ERPD to ensure consistency in values and procedures/methods applied.

The assessment team took the following steps to assess whether the uncertainty in the emissions baseline has been correctly identified and assessed in accordance with IPCC good practice:

- Reviewed the ERPD (section 4.5.3) to verify that all potential uncertainties arising in the baseline scenario as well as measurement, monitoring and reporting have been identified and assessed in accordance with IPCC good practice.
- Assessed whether a comprehensive approach to mitigate key areas of uncertainty has been addressed in a time-bound plan to increase the completeness and improve data and methods (see section 4.1.3 above for the time-bound plan assessment).
- Cross-checked all data inputs to the Monte Carlo analysis to ensure the correct input parameter values and standard errors were utilized.
- Independently acquired the Monte Carlo excel database file developed by the Forestry Monitoring Team at the UN Food and Agriculture Organization (FAO) to confirm that the Program's Monte Carlo analysis including its embedded methods and equations are consistent with the FAO file.
- Independently determined the ex-ante uncertainty set-aside factor in the table in section 4.6.4 of the Program Requirements to assess whether the correct factor was applied and justified.
- Independently recalculated the ex-ante estimation of the quantity of total net emission reductions allocated to the Uncertainty Buffer for each ERPA year.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The methods, including assumptions and selection of parameters, used to construct the emissions baseline are in line with the IPCC and best practice approaches, and are generally considered to be accurate but conservative.
- The data used to construct the emissions baseline is correct, complete, and justified for the subcategories ultimately selected.
- The emissions baseline is only considered interim as there are several outstanding issues to be addressed related to the baseline subcategories, particularly the calculation of dead organic matter and peatland decomposition. Therefore the assessment team has issued several Forward Action Requests in reference to the emissions baseline and to individual subcategories included as described in section 5.2 below. The assessment team intends to evaluate the final emissions baseline and the conclusion of the Forward Action Requests at verification.

4.4.2 Monitoring Approach

The following findings from Appendix C are relevant to this sub-section:

- NCR 41
- NIR 69

The assessment team took the following steps to assess whether the data and methods proposed for monitoring are consistent enough with the data and methods used for the determination of the baseline to allow for meaningful comparison and calculation of the emission reductions:

- Reviewed and independently identified the key datasets and methods used for the baseline determination which will be needed for continued monitoring.
- Issued findings to the program team to better assess the monitoring plans and personnel required for continued monitoring of the program emissions including land use change monitoring and program implementation emissions.
- Applied expert judgement to determine whether the monitoring approaches are consistent with the data and methods used for the determination of the baseline.

The assessment team took the following steps to assess whether the proposed monitoring methods and arrangements are in place as described in the ERPD and are technically capable of collecting the data:

- Independently assessed whether the data needed for monitoring will be continually updated and/or available by reviewing the monitoring frequency of key sources of activity data such as the national forest inventory (NFI) and the spatial datasets including land cover change, peatlands, and fires.
- Applied expert judgement to assess whether the proposed monitoring methods and arrangements are in place as described in the ERPD and are technically capable of collecting the data.
- Conducted interviews with the technical experts on the program team to evaluate whether the team includes the technical capacities for collection and synthesis of monitoring data.

The assessment team took the following steps to assess whether the uncertainty in the data and parameters to be monitored has been correctly identified and assessed:

- Independently identified the sources of uncertainty and compared to those identified in section 4.5.3, annex 9 and annex 10 of the ERPD. The main sources of uncertainty identified are those associated with the land cover change data as well as pools currently utilizing tier 1 data (SOC and biomass burning).
- Compared the identified sources of uncertainty for each data and parameter to be monitored to determine whether they were identified following approaches from the most recent IPCC guidance and guidelines.
- Applied expert judgement to conclude that the assessment of sources of uncertainty in construction of the Emissions Baseline is justifiable.
- Compared the monitoring plan to the elements of the time-bound plan described in section 4.1.3 above to assess whether there is consistency in the identification of data and parameters that have the highest uncertainty and that are most critical to improving accuracy and increasing completeness of the accounting scope.

The assessment team took the following steps to assess whether the proposed approach to manage and reduce uncertainty reflects good practice:

- Compared the proposed approach to manage and reduce uncertainty to the guidance set out in the IPCC 2006 Guidelines to determine whether such guidance has been considered and applied.
- Applied expert judgement to assess whether the proposed approach to reduce uncertainties reflects good practice and are relevant and feasible for each data and parameter.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The monitoring procedures are appropriate to the stated tasks and consistent with the baseline quantification procedures.
- The monitoring procedures are technically capable of collecting the data needed to allow for meaningful comparison and calculation of the emission reductions from the baseline.
- The appropriate institutional framework and organizational structure is in place to make monitoring of the data and parameters feasible.
- The uncertainty in the data and parameters to be monitored has been correctly identified and assessed.
- The proposed approach to manage and reduce uncertainty generally reflects good practice.
- However, the assessment team has several outstanding Forward Action Requests pertaining to the monitoring of data and determination of uncertainty set-aside percentage. See section 5.2 below.

4.4.3 Ex-Ante Estimation of the Emission Reductions

The following findings from Appendix C are relevant to this sub-section:

- NIR 50

The assessment team took the following steps to assess whether the assumed effectiveness of the Program in addressing the drivers and its impact on the emissions is justified and based on reasonable assumptions:

- Reviewed the ERDP and supporting documentation to assess the justification of the applied emissions reduction estimation approaches, assumptions, and parameters.
- Reviewed the assumptions regarding the effectiveness of the program along with other natural impacts such as El Niño level which could impact the mitigation actions and subsequent emission reductions.
- Applied expert judgement while reviewing the application of methodologies and assumptions used to estimate ex-ante emission reductions.
- Applied expert judgement to independently evaluate the assumed effectiveness of the program in addressing the drivers of emissions and their impacts on the emissions.

In summary, based on the processes and procedures conducted, the assessment team concludes the following:

- The assumed effectiveness of the Program in addressing the drivers and its impact on the emissions has been justified in the ERPD and is considered feasible.
- The proposed activities are directly in-line with main drivers of deforestation and degradation and are directed at the largest emission sources in the region.
- The program team has applied appropriate methodologies and interventions that are in line with the Green Growth Plan.
- However, it is important to note that the emissions baseline is subject to revision (see Forward Action Requests in section 5.2 below), thus the assessment of ex-ante emissions reduction may only be considered preliminary.

5 Conclusion

5.1 Assessment Opinion

SCS Global Services (SCS) was retained by the Initiative for Sustainable Forest Landscapes (ISFL) of the World Bank Group to perform an independent assessment of the GHG Emissions reduction program in The Jambi Emission Reduction Program (JERP) against the ISFL Emission Reductions Program Requirements and associated guidelines. During the review of the ERPD, the assessment team was informed by the due diligence processes of the ISFL team in the World Bank Group and others at the World Bank Group to develop the findings and conclusions described in this report.

The conclusions of the assessment engagement differ between the two levels of assurance utilized in the assessment. The conclusions are set out according to each level of assurance in the table below.

Applicable Level of Assurance	Conclusions
Reasonable	<p>With the exception of any potential or actual areas of risk or concern or Forward Action Requests (i.e., currently unresolved material omissions, misstatements, and/or non-conformities) as documented in Section 5.2 below, and based on the processes and procedures conducted by the audit team:</p> <ul style="list-style-type: none"> ■ The information provided in the ERPD is correct and complete (i.e., not leaving out information that might affect the opinion of the reader). ■ The Program, as described in the ERPD, complies with the assessment criteria as described above.
Limited	<p>With the exception of any potential of actual areas of risk or concern or Forward Action Requests (i.e., currently unresolved material omissions, misstatements, and/or non-conformities) as documented in Section 5.2 below, and based on the processes and procedures conducted by the audit team:</p>

	<ul style="list-style-type: none"> ■ There is no evidence that the information provided in the ERPD is incorrect and/or incomplete (i.e., leaving out information that might affect the opinion of the reader). ■ There is no evidence that the Program, as described in the ERPD, does not comply with the assessment criteria as described above.
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The reader is encouraged to refer to Appendix C below for information regarding the level of assurance applied to any indicator of interest.

In addition, the following summary conclusions are made (with the exception of any potential or actual areas of risk or concern or Forward Action Requests (i.e., currently unresolved material omissions, misstatements, and/or non-conformities) as documented in Section 5.2 below) with a limited level of assurance regarding those areas in which the scope of the assessment extends beyond a strict assessment for compliance to the assessment criteria:

Area	Conclusions
Effectiveness of achieved or planned private sector engagement in addressing drivers of emissions	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> ■ Based on review of program activities in place or planned, the ERPD provides a complete description of the planned private sector engagement in addressing drivers of emissions. ■ The private sector included at this time includes the expertise necessary, partnerships, and parafiscal funding to enable the described activities. ■ The private sector included at this time includes support and consultancies from a wholistic range of entities necessary to implement the program activities necessary to address the drivers of emissions.
Risks to (a) program implementation and (b) the potential benefits of planned actions and interventions	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> ■ As stated above, the experience and knowledge pertaining to project activities, the strong community engagement elements, and the collaboration among government agencies and the private sector at this time lay the foundation for the potential benefits of this program. ■ The project has a funding surplus, due to the combination of funding sources from the BioCF-ISFL program, the federal government, thus the financial

Area	Conclusions
	<p>ability of the program to planned actions and interventions appears to be a low risk.</p> <ul style="list-style-type: none"> ■ The assessment concluded that various natural disturbance (climate change, wildfires) and anthropogenic factors (enforcement actions, conflicts), may have the greatest threat to emission reductions of the Jambi Program. ■ Note that Forward Action Request(s) described in section 5.2 below are relevant to this item.
Plan for mitigating funding gaps	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> ■ The assessment team confirmed that the program has a funding surplus and thus this section is not relevant.
Plan whether the identified sources of finance are sufficient to have a meaningful impact on the land use activities and drivers which cause emissions and removals	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> ■ The identified sources of financing (e.g., grant from BioCF-ISFL program, national and departmental government allocations, international grants from various donor countries and programs), appear at this time to be sufficient to have a meaningful impact on initial implementation of the emission reduction activities. Note that Forward Action Request(s) described in section 5.2 below are relevant to this item. ■ Based on the ex-ante estimation of emissions reductions, payment for results of ER Program appear to be sufficient in covering future program costs.
Financial and economic analyses	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> ■ The economic analysis provided is well designed and appears to be accurate and of high quality. Note that Forward Action Request(s) described in section 5.2 below are relevant to this item.
Arrangements for flow of funds	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> ■ The arrangement for flow of funds is adequately documented and described in the economic analysis. Most funds go directly to government entities and programs. Note that Forward Action Request(s) described in section 5.2 below are relevant to this item.

Area	Conclusions
Any known legal or regulatory issues in the program area that can affect the program design, and the implications thereof	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> No known legal or regulatory issues in the program area that can affect the program design, including benefit sharing, and the implications thereof, were identified by the assessment team. Note that Forward Action Request(s) described in section 5.2 below are relevant to this item.
Effectiveness of the proposed strategy to mitigate and/or minimize, to the extent possible, potential displacement	<p>Based on the processes and procedures conducted:</p> <ul style="list-style-type: none"> Based on the documentation provided, the assessment team believes that the claims in the ERPD are accurate regarding this criterion. The project activities have been designed to prevent and mitigate the extent of displacement of emissions outside of the program area. Note that Forward Action Request(s) described in section 5.2 below are relevant to this item.

Lead Verifier's Approval	 Alexa Dugan, 13 November 2023
Technical Reviewer's Approval	 Erynn Maynard-Bean, 13 November 2023

5.2 Forward Action Requests and Potential or Actual Areas of Risk or Concern

This section contains a summary description of areas of potential opportunity for improvement as well as areas of current non-conformance (Forward Action Requests) or potential risk of non-conformance in the future.

The column headers in the below table have the following meanings:

- No: The number of the area of risk, concern, or Forward Action Request (assigned in consecutive sequence).
- Indicator(s): A cross-reference to any applicable indicators in the assessment checklist (see Appendix C below for more information).
- Finding(s): A cross-reference to the unresolved finding to which the area of risk, concern, or Forward Action Request is related.
- Sec: A cross-reference to the applicable section of the requirement against which the unresolved finding was issued, as pasted from the applicable indicator(s) in Appendix C; note that the one- or two-character alphabetical codes at the beginning of each section reference have the following codes:
 - I : PD Itemplate
 - PR : Program Requirements
 - BR : Buffer Requirements
 - VV: Validation & Verification Requirements
 - GN: Guidance Note on the Application of IPCC Guidelines
- Requirement Text: The text of the requirement against which the unresolved finding was issued, as pasted from the applicable indicator(s) in Appendix C.
- Forward Action Request OR Potential or Actual Area of Risk or Concern: A description of the potential or actual area of risk or concern.

No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
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(1) Land cover mapping	RA-07 RA-42	NIR 29, 34	PR 4.1.3 PR 4.6.1 VV 5.1	<p>Section 4.1.3 of the ISFL Requirements states "The Program GHG Inventory shall utilize best available methods and existing data." Furthermore, Section 5.1 of the ISFL Validation and verification Requirements indicate that "Accuracy and conservativeness: Estimations should be neither over- nor under-estimated and uncertainties should be reduced as far as practical. If this cannot be assured, use conservative assumptions, values, and procedures to ensure that reported Emission Reductions are not overestimated."</p> <p>Section 4.6.1 of the ISFL Requirements states "ISFL ER Programs shall, to the extent feasible, follow a process of managing and reducing uncertainty in the determination of the Emissions Baseline..."</p>	<p>Actual Area of Risk or Concern: Through the review of the land cover classification maps, the assessment team discovered large areas (often greater than 10,000 ha) classified as a single land cover type or conversion type, such as mixed agriculture, wet shrub, or primary swamp forest. When comparing the land cover mapping product against available ancillary imagery (Google Earth, Planet), we found that many of these large units contained multiple land covers such as settlement, grassland, forest, cropland, etc., and multiple and different conversions though they were still classified as a single land use. The program has acknowledged that the land cover classification (activity data), particularly the non-forest subcategories has high uncertainty and that the improvement of such data is most crucial, but these improvements may not be complete until after the ERPA period, thus are unlikely to be incorporated into the Emissions Baseline or monitoring. While non-forest remaining as non-forest subcategories (e.g., cropland remaining cropland or cropland to grassland) are not included in the Emissions Baseline, subcategories involving transitions between forest and non-forest are included, resulting in potentially high inaccuracies in the Emissions Baseline. Ultimately the program has accounted for the uncertainty in the activity data via an accuracy assessment incorporated into the Monte Carlo uncertainty analysis, as well as an area adjustment approach. However, given the large analysis</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					area and relatively low number of accuracy assessment points (less than 1000), the uncertainty in the activity data may not be fully accounted for. As a result, the assessment team identifies the high uncertainty of the land cover classification as an actual risk and area of concern to the program and its ability to accurately derive an Emissions Baseline and account for emissions reductions.

(2) FAR- Gradual transition and accumulation of emissions	RA-05, RA-06	NIR 11, 23, 26	PR 4.1.2; GN 3.2	<p>Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines.”</p> <p>Section 3 of the ISFL Guidance Note on the Application of IPCC Guidelines provides additional clarity and guidance on the quantification of the change in biomass carbon stocks for land converted to forest as described in the 2006 IPCC Ch2. Specifically, section 3.2 states “The net annual CO₂ removals shall be calculated using equations 2.15 and 2.16 from the 2006 IPCC Guidelines, Volume 4, Chapter 2. These equations shall be simplified by assuming that</p>	<p>Forward Action Request:</p> <p>The program has assessed the land cover change data (activity data) using two points in time over a 12-year period (2006 and 2018) and has assumed that 1/12th of the total area converted during that period (forest to non-forest, non-forest to forest, etc.) occurs each year. For instance, in response to finding 23, the program team states “The use of two point of data for developing the baseline use the assumptions that the historical land cover change is the annual change during the reference period. So if 1,200 ha is identified as conversion during the reference period i.e. 12 years, then the project assume that the conversion rate is 100 ha per year.” The assessment team notes that other assumptions regarding the timing of the conversion and land area converted each year may be valid. However, this FAR is based on the program’s stated assumptions.</p> <p>Given that the IPCC requirements and corresponding ISFL Guidance Note indicate that for all pools the accumulation of carbon from non-forest to forest transitions occurs over a 20-year period, this indicates that land that converted from cropland to forest in year 2006-2007 would not contain the full forest carbon stocks (biomass, soil, dead organic matter) until 2026, and that the land converted in 2007-2008 would not contain the full forest carbon stocks until 2027, and so on. Nonetheless the current approach applied by</p>
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				<p>during the conversion from non-forest to forest, carbon stocks will go from average carbon stocks in non-forest to average carbon stocks in forests during a period of time. This calculation shall consider the maximum carbon stocks in different forest types and it shall be ensured that the estimated forests carbon stocks will not continue growing beyond this maximum value. A conservative default period of 20 years is suggested for the forest to grow from the carbon stock levels of non-forest to the level of biomass, stable soil and litter pools of the average forest. Alternative periods may be used but shall be justified and this justification shall also consider the maximum carbon stocks in different forest types.”</p>	<p>the program team is not accounting for a transition time and the accumulation of carbon that occurs annually over the baseline period.</p> <p>Through the findings process, the program team has made improvements to the quantification to attempt to account for this 20 years transition period and accumulation of carbon stocks. However, the assessment team has found that such quantification has simply entailed multiplying the removals from the biomass, soil, and dead organic matter by 12 divided by 20. This approach does not account for the staggered accumulation of carbon for lands that began to transition to forest over different years during the baseline period. For instance, if grassland transitions to forest over the baseline period, by year 3, the land unit will contain the continued accumulation of carbon from transitions occurring in years 1, 2, and 3. However, the assessment team has found that the approach applied by the program team ultimately results in a more conservative estimation of baseline removals (greater removals) and as a result does not result in a material error per the ISFL requirements, but it does result in a nonconformity with the requirements of accuracy. Although this accounting approach is conservative, it is ultimately not accurate or consistent with the assumptions presented, and could result in non-conservative estimates of removals during</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					the monitoring period, thus this FAR is being issued to require that such accounting errors be corrected.

(3) FAR - Dead organic matter (DOM)	RA-05, RA-06	NCR 2; NIR 38	PR 4.1.2; GN 4.1; VV 5.1	<p>Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines.”</p> <p>Furthermore, section 4 of the ISFL Guidance Note on the IPCC Guidelines provides additional clarity and some guidance on a simplified approach for quantifying dead organic matter (DOM).</p> <p>Lastly, Section 5.1 of the ISFL Validation and verification Requirements indicate that "Accuracy and conservativeness: Estimations should be neither over- nor under-estimated and uncertainties should be reduced as far as practical. If</p>	<p>Forward Action Request:</p> <p>The assessment team is issuing the following FARs pertaining to the accounting of DOM in the Emissions Baseline:</p> <p>(1) As indicated in the original finding, the program has applied an unpublished study ("Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest") to estimate the DOM emission factors. This study is from peat swamp forest that experienced logging, which may only be considered relevant to a portion of the Jambi land uses (i.e., managed forests on peat soils) and not all land uses or non-peat areas in the Jambi area. Second because much of the study area has been logged, it likely results in higher DOM values as there would be harvest residual. The assessment team notes that the values for DOM from this Merang peat study are relatively high as compared to the IPCC default values for tropical forests. Due to these characteristics of the study and data used, the auditors do not agree that this data represents the best available or applicable data for this DOM analysis across the Jambi province. This FAR is being issued to request more justification regarding the appropriateness and conservativeness of this data from this Merang Peat Swamp Forest study</p>
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				<p>this cannot be assured, use conservative assumptions, values, and procedures to ensure that reported Emission Reductions are not overestimated."</p>	<p>in favor of the use of the IPCC tier 1 DOM data.</p> <p>(2) Related to the above point, Section 4 of the ISFL Guidance note on Application of IPCC Guidelines (a voluntary Guideline document) provides some additional clarity on the IPCC requirements as well as a simplified approach to DOM accounting. It states "Therefore, unless the country where the ISFL ER Program is located is already using Tier 2 methods for estimating changes in carbon stocks in dead organic matter, ISFL ER Programs may exclude the changes in carbon stocks in dead organic matter from both the ISFL Reporting and ISFL Accounting for subcategories that involve land remaining within the same land-use category (including forest remaining forest) or subcategories that represent transitions between non-forest categories. Changes in carbon stocks in dead organic matter shall only be considered for subcategories involving lands converted from Forest Land to any other land-use category (carbon losses) and for lands converted to Forest Land (carbon gains) in accordance with the guidance below." Thus, depending on how the program addresses the first point above, and if tier 1 IPCC data is instead used for</p>
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					<p>DOM accounting, this guidance may become relevant for the accounting of land remaining within the same land use category (e.g., forest remaining forest).</p> <p>(3) Similar to the Area of Risk #2 described in this section above (gradual transition), the assessment team has found that the DOM calculations are not accurate in that they do not correctly apply the decay function that accounts for the gradual transition of DOM carbon stocks from one land use to another. The program is simply dividing by 20 years to approximate this decay function, but is not considering the accumulation of DOM overtime. According to the ISFL Guidance note on IPCC guidelines for deforestation land use transition (high DOM to low DOM), all DOM carbon can be considered lost in the year of conversion. This means, if 1200 ha converted between 2006-2018, 100 ha would lose all DOM each year so the calculation is (EFforest minus EFnonforest) * total area converted. To get the annual emissions, division by 12 years would be required (EF refers to emission factor).. For the opposite transition of reforestation, the IPCC guidance and ISFL requirements indicate it takes 20 years for the carbon to accumulate after</p>
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					<p>transition (decay function). Therefore if 1200 ha converted to forest between 2006-2018, the year 1 calculation would be $(EF_{\text{nonforest}} - EF_{\text{forest}}) * 100$ ha. The year 2 calculation would be $2 * (EF_{\text{nonforest}} - EF_{\text{forest}}) * 100$ ha and so on. This is not the calculation carried out by the Jambi Program. However, the auditors found that the calculation applied by the Jambi team, although inaccurate, in total across all subcategories results in a more conservative baseline estimation as it reduces the DOM emissions from deforestation transitions. Thus, the assessment team is issuing this FAR to highlight the inaccuracy and to require that clearer description and justification of the approach is included in the ERP.</p> <p>(4) The assessment team has found that the values shown in the workbook SOC_DOM_biomassburn_accounting_20230918b.xlsx, sheet DOM, do not match the values in the All_GHG_accounting workbook, sheet Section 4.1.2 or the values used/reported in the ERP. This FAR is to require that all discrepancies in DOM values be corrected.</p>
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(4) FAR - Land cover accuracy assessment	RA-07, RA-46	NIR 29	PR 4.1.3, TAnnex 9	<p>Section 4.1.3 of the ISFL Requirements states "The Program GHG Inventory shall utilize best available methods and existing data."</p> <p>Annex 9 of the ERPD requires "Please provide a step-by-step calculation of the Emissions Baseline. Provide a transparent, complete, consistent and accurate description of the approaches, methods, and assumptions used and provide an overview of the activity data and emission factors used in a way that is sufficiently detailed to enable the reconstruction of the Emissions Baseline. Identify and asses the sources of uncertainty in the determination of the Emissions Baseline and describe actions that have been taken to manage or reduce uncertainty. Attach any spreadsheets, spatial information, maps and/or synthesized data used in the calculation."</p>	<p>Forward Action Request:</p> <p>The assessment team issues this FAR to request clarification regarding the total number of accuracy assessment points utilized and justification for this number. Section 4.5.3 of the ERPD states "After removing the overlapping samples, we have 1427 assessed samples, which include samples that fall into subcategories other than the 15 key subcategories (see column "Samples within 24 subcategories). This number of assessed samples are the maximum samples can be allocated in each stratum, since adding more sample will not improve the accuracy further." It later states "We selected the assessed samples that fall only within the 15 subcategories. We ended up with total sample of 984 that can be used for further analysis." However, the accuracy assessment shapefile provided to the auditors (Sampel_UA_Jambi_2006_2018.shp) includes 1389 samples. As a result, the accuracy assessment points provided to not match the results shown in Table A9- 2, the confusion matrix of the ERPD. For instance, Table A9-2 shows 0 points in the CL-FL (reference), but the shapefile provided shows 3 points in this subcategory. The shapefile shows 0 reference points as CL-GL, but the table shows 1 point. We also noticed discrepancies between the accuracy assessment values in the calculation workbook versus those shown in the ERPD tables and text. Ultimately the tables and values in Annex 9, section 9.1 of the ERPD do</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					<p>not match the values in the calculation workbook or in the shapefile provided. Second, it is unclear how “adding more sample will not improve the accuracy further.” More points would uncover more areas of inaccurate land cover classification which are prevalent across the Jambi Province. The auditors are issuing this FAR to require that the correct land cover accuracy assessment spatial data be provided, that the corresponding accuracy assessment and results be included in the ERPD, and that justification for the total number of points be more clearly indicated.</p>

(5) FAR – Historical peatland Decomposition	RA-05, RA-06	NIR 18, 35	PR 4.1.2; GN 6.2	<p>Section 4.1.2 of the ER Program Requirements states that “In accordance with the IPCC guidance and guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC.”</p> <p>Section 6.2 of the ISFL Guidance Note on IPCC Guidelines states “The annual on-site CO₂-C emissions/removals from drained organic soils in the Emissions Baseline be calculated using equation 2.3 from the Wetland Supplement and the guidance provided in this note (including guidance provided in box 4 in the form of an example).”</p>	<p>Forward Action Request: This issue has similarities to numbers 2 and 3 above (gradual transitions). The assessment team has found several inaccuracies related to about the approach applied for the quantification of emissions from peatland decomposition for the Emissions Baseline and it is apparent that the approach in Box 4 of the Guidance note is not being followed:</p> <p>(1) First, the accounting of peat decomposition, which considers impacts of land cover change (LCC) on peat is not consistent with the LCC emissions accounting. More specifically, the program’s quantification approach shown in All_GHG_Accounting_20230918c.xlsx, sheet Peat Dec Emission, for peat decomposition considers the land cover change between 2006 to 2009 and between 2017 to 2018, which is actually four points in time, not two. This does not reflect the same approach as the LCC analysis which is comparing the land cover from 2006 to the land cover from 2018 and assumes that for conversions, 1/12th of the area is converted each year, which would result in a gradual increase and accumulation of emissions. Further, it then appears that the total difference of 2006-2009 and 2017-2018 emissions are calculated (labeled as ‘Annual legacy emission’ in the</p>
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					<p>calculation workbook) and added annually to the 2006 peat decomposition emissions each year, presumably to approximate the use of two periods in time. It is unclear how this represents annual “legacy” emissions, what the purpose of this addition is, and how this approach is consistent with the general quantification of LCC emissions. If this approach is to be maintained, greater justification and clarity (in the ERPD) is needed.</p> <p>(2) Second, in the same calculation workbook (All_GHG_Accounting_20230918c, sheet Peat Dec Emission), it appears that the program has also quantified the peat decomposition emissions assuming the land use in 2006 versus the land use in 2018, which is consistent with both the LCC analysis and Box 4 of the Guidance Note. This separate analysis shows peat decomposition emissions of 14,092,911 tCO₂ yr⁻¹, but this value was not used for the Emissions Baseline.</p> <p>Overall, this FAR is being issued to require that additional justification and demonstration of the program’s approach to accounting for peat decomposition be</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					provided to the assessment team and included in the ERP. Furthermore, this shall include justification regarding how the approach is consistent with the LCC analysis and the IPCC guidelines.

<p>(6) FAR - Peat decomposition – Emissions Baseline</p>		NCR 47	PR 4.2.6; GN 6.2	<p>Section 4.2.6 of the ER Requirements states “The Emissions Baseline shall be constructed based on the average annual historical GHG Emissions and Removals¹⁴ over a historical period (Baseline Period) of approximately 10 years. This Emissions Baseline shall be constructed based on at least two data points.”</p> <p>Section 6.2 of the ISFL Guidance Note on IPCC Guidelines states “The annual on-site CO₂-C emissions/removals from drained organic soils in the Emissions Baseline be calculated using equation 2.3 from the Wetland Supplement and the guidance provided in this note (including guidance provided in box 4 in the form of an example).”</p>	<p>Forward Action Request: For the peat decomposition Emissions Baseline, the program appears to have projected the peatland emissions occurring between 2018 and 2020, which is a gap period after the baseline but before the monitoring period, by adding the annual peat emissions from the baseline period to each year. For instance, in the calculation workbook All_GHG_Accounting_20230918c, sheet 4.4.2 baselines, cells H3-H8, the annual accumulation of peat decomposition emissions between the end of the baseline period (2018) and the start of the ERPA phase (2020-2021) are added. For year 2020/2021 this calculation includes summing 20,158,859.81 tCO₂e and the annual peat emissions from the baseline period multiplied by 3 years. First, the auditors cannot trace this hard pasted value of 20,158,859.81 tCO₂e. Second, it is also unclear why the ex-post monitored peat emissions were not considered for the years 2018-2020 (as demonstrated in described in Box 4 of the Guidance note), and rather values were extrapolated from the baseline period to fill this gap year. Lastly, by adding all emissions from 2018 to 2020 to the 2020/2021 Emissions baseline, it results in a higher/less conservative peat decomposition baseline. Ultimately the auditors found that the approach applied is not in conformance with the ISFL requirements or consistent with the IPCC accounting.</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					This FAR is to require that the program quantify the peat decomposition emissions baseline in conformance with the requirements and provide a clear demonstration and justification of the approach be provided to the assessment team and in the ERPD.

(7) FAR – Peat decomposition in ERPD	RA-05, RA-06	NIR 18	PR 4.1.2	<p>Section 4.1.2 of the Program requirements states “In accordance with the IPCC guidance and guidelines, the Program GHG Inventory should apply the basic principles of transparency, accuracy, completeness, consistency over time and comparability as defined by the IPCC.”</p>	<p>Forward Action Request: This FAR pertains to the descriptions of the Peat decomposition accounting in the ERPD.</p> <p>(1) First, section 4.1.1 of the ERPD states "The calculation method for peat decomposition in the ERPD is different to the 2nd FRL, because the 2nd FRL is focusing on the emissions due to forest-related emissions, i.e. deforestation, forest degradation and enhancement of forest carbon stock. The ISFL ERPD includes consideration of all changes between land cover class, not just forested land." However, through review of the quantification files and discussions with program team, peat decomposition is also accounted for on stable land cover classes that do not involve land cover change. The ERPD text thus suggests that peat decomposition is only quantified where there is a land cover change (forest to non-forest, non-forest to forest, non-forest to non-forest class), but does not mention accounting for peat decomposition in stable land cover classes, which is the accounting approach demonstrated in the calculation workbooks. This FAR is to require that the ERPD contain accurate and clear information</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					<p>regarding the accounting of peat decomposition.</p> <p>(2) Second, the ERPD does not mention the frequency of monitoring of the peatland distribution map or indicate that any monitoring of the distribution of peatland is underway (e.g., Section 4.5.1, Annex 7, Annex 10). If the peat distribution map was created in 2019, and is updated every 5-10 years, then a second peat distribution map could become available during the ERPA.</p> <p>This FAR is to require that the ERPD includes sufficient details about the monitoring of peat distributions.</p>

(8) FAR – Biomass burning	RA-05, RA-06, RA-07	NIR40	PR 4.1.2; 4.1.3	<p>Section 4.1.2 of the Program Requirements states “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidance and guidelines, the Program GHG Inventory should apply the basic principles of transparency, accuracy, completeness, consistency over time and comparability as defined by the IPCC.”</p> <p>Section 4.1.3 of the ER Program Requirements states "The Program GHG Inventory shall utilize best available methods and existing data."</p>	<p>Forward Action Request: The assessment team is issuing the following FAR regarding the biomass burning quantification:</p> <p>(1) The program has used the study "Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest" for the biomass values for biomass burning accounting in lieu of the National Forest Inventory biomass data that was used for all other emission factors for in the land cover change analysis. For example, table A6-6 in the ERPD shows the aboveground biomass values applied for the land cover change analysis. Table A6-11 of the ERPD show in column MB the biomass values used for biomass burning which include aboveground biomass plus deadwood and litter. It is not clearly indicated in the ERPD but the assessment team confirmed through review of the calculation workbooks and Merang Peat Swamp study, that the aboveground biomass, deadwood and litter values applied for the biomass burning analysis are from the Merang Peat study. It has not been sufficiently justified why the aboveground and belowground (AGBG) biomass values from the NFI were not utilized for the biomass burning and instead the study from outside the Jambi region were used. This ultimately results in an</p>
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					<p>inconsistency in the biomass data used. This inquiry only pertains to AGBG pool and not the DOM pool (though see FAR 3(1) above regarding DOM data). The assessment team issues this FAR to require a clear and relevant justification for the use of these Merang Peat Swamp AGBG biomass values instead of the NFI biomass data for the biomass burning accounting.</p> <p>(2) Annex 6, section 6.1.1 of the ERPD states “The activity data for biomass burning was generated using the overlaid data of burned areas and forest and land cover change data. Emissions from CO2 gases were estimated for subcategories remaining in the same subcategories, to avoid double counting with the emissions from land cover change. Non CO2 emission was estimated for all subcategories. Additional spreadsheet calculation has been generated to estimate emissions from biomass burning (SOC_DOM_BiomassBurn_Accounting_20230918).” The auditors found inconsistencies between the biomass burning values shown in the final baseline emissions workbook, All_GHG_Accounting_20230918c, sheet LCC Emission and the values reported in the workbook</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					<p>SOC_DOM_BiomassBurn_Accounting_20230918 for the cropland to forestland subcategory. For instance, the All_GHG_Accounting_20230918c workbook shows 60.59 tCO₂e emissions from biomass burning in 2012 for the land cover transition Estate Crop converted to Plantation forest (cropland to forest). However, in the workbook SOC_DOM_BiomassBurn_Accounting_20230918, the biomass burning emissions in 2012 for the subcategory are zero. Ultimately, this FAR is being issued to require that this discrepancy between the workbooks be justified or corrected.</p>

(9) FAR - Reversal Risk Set aside	RA-55, RA-56	NCR 43 NIR 46	BR 7.2	<p>Section 7.2 of the ISFL Buffer Requirements states " The Reversal Risk assessment tool shall be used to determine the Reversal Set-Aside Percentages based on the two identified risk factors. The risk indicators in the second column of Table 2 below are indicative and non-exclusive, and are provided as an example to show how to assess the risk of Reversal for each of the risk factors. The risk of Reversal is assessed for both risk factors (A and B) as high, medium or low with associated Reversal Set-Aside Percentages. The Reversal Set-Aside Percentage for the whole ER Program is calculated as the sum of the Reversal Set-Aside Percentages for both of the Risk Factors."</p>	<p>Forward Action Requests:</p> <p>(1) As a result of finding NCR 43, the reversal risk values shown in section 4.7.2 of the ERPD were updated. However, Annex 11 of the ERPD, which also contains reporting on the reversal risks has not been updated. This results in inconsistency in the ERPD. Therefore, this FAR is to require consistency in the reporting of the reversal risk set-aside in all sections and annexes of the ERPD.</p> <p>(2) Second, the ISFL Buffer Requirements state in Table 2 "Reversal Risk assessment tool for determination of Reversal Risk Set-Aside Percentage", Factor A, that a 5% is given when the "Reversal Risk is considered LOW for ALL eligible subcategories" and that a percentage of 15% shall be set when "Reversal Risk is considered high for some eligible subcategories and or medium /low for others." Table 38 in the ERPD shows that Factor A (Lack of long-term effectiveness in addressing underlying key drivers of AFOLU emissions and removals) has as reversal risk of Low – 5%. However, in the risk assessment presented in Table 38 for Factor A, there are 2 categories with a Medium reversal risk which according to the requirements requires a 15% reversal risk score.</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
					<p>This FAR is to require conformance of the program's reversal risk set-aside percentage the Buffer Requirements.</p> <p>(3) One of the areas of risk in the reversal risk table (Factor A) is "Significant occurrences of conflicts over land and resources in the program area." Under this category, the program team has stated "Based on this assessment, conflicts can be considered a Medium Risk to the project but emission-wise for reversal, it can be considered Low Risk." The Buffer Tool does not specify that the risk to the project versus the emissions can be separated. Given there are >30 conflicts over natural resources and land, and that conflicts can result in significant impacts on land and resource use, in applying professional judgement, the auditors do not agree with the decision to label this a "low risk." The assessment team is issuing this FAR to request justification as to why the conflicts over land are considered a medium risk to the project but emission-wise are considered to be a low risk.</p>

<p>(10) FAR Uncertainty Risk Set-aside</p>	<p>RA-45, RA-46</p>	<p>NIR 50</p>	<p>BR 1.1, 1.2, 2.1</p>	<p>Section 1.1 of the Buffer Requirements (BR) states "“Uncertainty” results from the statistical Uncertainty related to the estimation of Emission Reductions to be generated during the ISFL ERPA Phase which account for, among others, errors related to Emissions Baseline estimation and Emission Reduction measurements."</p> <p>Section 1.2 states "A quantity of ERs out of the Total Net Emission Reductions across the eligible subcategories shall be allocated to the Uncertainty Buffer to help manage Uncertainty."</p> <p>Lastly, Section 2.1 states "ISFL ER Programs determine the Total Net Emission Reductions across the eligible subcategories by comparing monitored Emissions and Removals with a baseline. For each Reporting Period, the Total Net Emission Reductions across the eligible subcategories shall be multiplied by the appropriate “Uncertainty set-aside factor”</p>	<p>Forward Action Request:</p> <p>(1) Section 4.6 of the ERPD states "Therefore, with an expected set aside of 8% that reflect the level of uncertainty (43.3%), the annual estimated emission reduction is ranging from 0 million tCO₂ to 7.6 million tCO₂, annually." However, the values in Table 36 of the ERPD indicate that only a 4% uncertainty set-aside has been applied.</p> <p>(2) Similar to Section 4.6 of the ERPD, Annex 9, section 9.3 of the ERPD indicates the following: "The overall accuracy of the emission estimates was 43.3%, the largest uncertainty was contributed by the emissions from land use change, with 55.8% of uncertainty. The uncertainty of emission estimates from peat fire and peat decomposition were relatively low, with uncertainty of 31.5% and 23.4%, respectively." However, Table A9-6 of the ERPD shows Peat fires have a 31.7% uncertainty and Peat decomposition has a 30% uncertainty.</p> <p>Ultimately it is unclear in the ERPD how the ex-ante uncertainty set-aside value was estimated and if the value of 43.3% stated in the text is accurate or was the value applied.</p> <p>This FAR is to require justification of the uncertainty set-aside, with a clear</p>
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No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
				based on the quantified Uncertainty of the Emission Reductions following table 1 (values are taken from paragraph 4.6.4 of the ISFL Emission Reductions Program Requirements)."	demonstration of the calculation, and consistency in the reporting in the ERPD.
(11) Tables A6-12 and A6-13	RA-05	NCR 49	PR 4.1.2	Section 4.1.2 of the ISFL Program requirements states "In accordance with the IPCC guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC."	Observation: Tables A6-12 and A6-13 of the ERPD are not sized appropriately and thus are cut off and not easily viewed. This results in a lack of transparency in the GHG inventory.

No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
(12) FAR – ERPD inconsistencies	N/A	NCR 51	VV 5.1	Section 5.1 of the Validation and Verification Requirements states that the principle of Consistency is to "enable meaningful comparisons in ISFL ER Program-related information."	Forward Action Request: The assessment team has found several inconsistencies between the values reported in tables and the values reported in the explanatory text. For instance, in Annex 9 (section 9.3) the descriptive text does not match any of the values in table A9-6 below. Likewise, these values do not match the values reported in section 4.4.1 of the text. We also found that the map accuracy values reported in section 9.1 do not match the values shown in the calculation workbooks. We found that the values reported in Table 7 of section 3.1.1 of the ERPD do not correspond with the values in the calculation workbook. These are just a few examples meant to highlight that the inconsistencies in the ERPD. Due to these inconsistencies, the ERPD is not in conformance resulting in this FAR.

No.	Indicator(s)	Finding(s)	Sec.	Requirement Text	Forward Action Request or Potential or Actual Area of Risk or Concern
(13) FAR – Drivers of emissions	PD – 27	NIR 48	T 3.1.1	Section 3.1.1 of the ERPD template states “Please provide a brief description (roughly 300 words or less) of the identified drivers of land use change that contribute to GHG emissions and removals associated with AFOLU in the Program Area.”	<u>Forward Action Request:</u> Section 3.1.1, Table 7 of the ERPD shows “Historical emissions from land use change from 2006 to 2016.” It is unclear if this table is meant to reference the actual historical reference period of 2006-2018 (not 2016). Furthermore, the values in this table and in the text in this section do not match the latest values submitted in the calculation workbook All_GHG_Accounting_20230918c.xlsx, sheet “Drivers of Emission.” It is unclear whether the other values and tables in this section correspond to the final calculation values submitted to the auditors. This FAR is to require correction of any inconsistencies in section 3.1.1 of the ERPD.
(14) FAR – Non GHG Findings	Various	Findings 52-70	Various	Various requirements pertaining to the non-GHG components.	<u>Forward Action request:</u> The assessment team conducted an analysis of the non-GHG components of the Jambi Emissions Reduction Program described in the ERPD. We have issued findings 52-70 (see Appendix C below) which include both nonconformities and requests for new information. This FAR is to require that these non-GHG findings be addressed by the program team.

Appendix A: Assessment Checklist

The column headers in the below checklist tables have the following meanings. See Annex A of SCS’ inception report for more information.

- No: The number assigned to the indicator.
- Sec: The section reference to the applicable requirement text, using the following coding system:
 - I : PD Template
 - PR : Program Requirements
 - BR : Buffer Requirements
- Requirement Text: The text of the applicable requirement.
- Indicator: The text of the indicator.
- Assessment Findings: A summary of the assessment team's findings in respect of the indicator.
- LA (Level of Assurance): R (for reasonable level of assurance) or L (for limited level of assurance)
- CT (Conformance Type), defined as follows:
 - Binary (Type B) means that conformance to the indicator is binary: it has been achieved or not. The B code identifies indicators that are tied to prescriptive requirements within the assessment criteria.
 - Professional Judgment (Type P) means that professional judgment will be applied to determine indicator conformance.
- CC (Conformance Code), using the following codes:
 - For both Type B and Type P:
 - N/A: Not applicable
 - For Type B:
 - C means that the evidence collected by the assessment team suggests that a state of conformance exists with respect to the applicable requirement.
 - NC means that the evidence collected by the assessment team suggests that a state of non-conformance exists with respect to the applicable requirement.
 - FAR means that a Forward Action Request has been issued such that further evidence will be collected by the assessment team at the time of verification to confirm the state of conformance to the applicable requirement.
 - For Type P:
 - Ratings of 'I', 'II' and 'III' signify a high, medium and low level of conformance to the indicator, respectively.

Cross-Cutting Documentation Requirements

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
CC-01	T§1	Please complete all sections of this PD. If sections of the PD are not applicable, explicitly state that the section is left blank on purpose and provide an explanation why this section is not applicable.	All applicable sections of the PD Template are completed; if any section(s) of the PD Template are not applicable, it is explicitly stated that “this section is left blank on purpose” and an explanation of why the section is not applicable is provided.	Confirmed through review of the ERPD.	L	B	C
CC-02	T§1	Provide definitions of key terms that are used and use these key terms, as well as variables etc., consistently using the same abbreviations, formats, subscripts, etc.	Key terms ⁴ are defined and used consistently, with the same spelling, formatting and/or abbreviations, throughout the ERPD.	Confirmed through review of the ERPD.	L	B	C
CC-03	T§1	Provide definitions of key terms that are used and use these key terms, as well as variables etc., consistently using the same abbreviations, formats, subscripts, etc.	Mathematical variables are presented consistently, with the same notation, throughout the ERPD.	Confirmed through review of the ERPD.	L	B	C
CC-04	T§1	The presentation of values in the PD, including those used for the calculation of emission reductions, should be in international standard format e.g., 1,000 representing one thousand and 1.0 representing one.	All values in the ERPD are in international standard format, as in the following examples: (a) 1,000 represents one thousand and (b) 1.0 represents one. Values are not presented in the format that reverses the use of the comma and period (e.g., 1.000 representing one thousand).	Confirmed through review of the ERPD.	L	B	C
CC-05	T§1	Please use International System Units (SI units – refer to http://www.bipm.fr/enus/3_SI/si.html) and if other units are used for weights/currency (Lakh/crore etc.),	All values in the ERPD are presented using SI units; if values are presented using different units (which is acceptable at the discretion of the ERPD preparer), such values are	Confirmed through review of the ERPD.	L	B	C

⁴ A “key term” has the following attributes: (1) not within the standard American or British English lexicon; (2) important for an understanding of how the Program, as described in the ERPD, is compliant with the assessment criteria; and (3) not defined in the Program Requirements glossary.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		they should be accompanied by their equivalent S.I. units/norms (thousand/million).	accompanied by a presentation using SI units.				
CC-06	T§1	If the PD contains equations, please number all equations and define all variables used in these equations, with units indicated.	Any equations included in the ERPD contain the following attributes: (1) numbered in sequential order; (2) all variables defined, and (3) units indicated for all variables.	Confirmed through review of the ERPD.	L	B	C

ISFL ER Program Design Requirements

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
PD-01	T§2.1.1	Name of the ISFL ER Program	The name of the ER Program is reported in the provided table in Section 2.1.1 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-02	T§2.1.1	Name of the Program Area	The name of the jurisdiction constituting the Program Area is reported in the provided table in Section 2.1.1 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-03	T§2.1.1	Geographic area of the Program Area (hectares)	A “justifiable” estimate of the size of the Program Area (in units of hectares) is reported in the provided table in Section 2.1.1 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-04	T§2.1.1	Population of the Program Area	A “justifiable” estimate of the population of the Program Area is reported in the provided table in Section 2.1.1 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-05	T§2.1.1	Ex-ante estimate of emission reductions (ERs) for the ISFL ER Program (tonnes of CO ₂ e)	An ex-ante estimate of Emission Reductions for the ISFL ER Program, ⁵ in units of tCO ₂ e, is reported in the provided table in Section 2.1.1 of the ERPD. The information provided is consistent with that provided in Section 4.6 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-06	T§2.1.2	Please provide a brief description (roughly 150 words or less) of the rationale for the selection of the	A description of the rationale for the selection of the jurisdiction for the Program Area, including a description of the unique characteristics of the	A FAR has been issued.	L	B	FAR

⁵ See indicators RA-60 through RA-62 for requirements for ex-ante estimates of Emission Reductions.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		jurisdiction for the Program Area for an ISFL ER Program, including its unique characteristics that align with the ISFL Vision.	jurisdiction that align with the ISFL Vision, has been provided in Section 2.1.2 of the ERPD.				
PD-07	T§2.1.3	Please provide a brief summary (roughly 300 words or less) of... The drivers of AFOLU emissions and removals, including deforestation and forest degradation	A summary of the drivers of AFOLU emissions and removals, as identified in indicator PD-27, is provided in Section 2.1.3 of the ERPD.	A FAR has been issued.	L	B	FAR
PD-08	T§2.1.3	Please provide a brief summary (roughly 300 words or less) of... The broader vision of the ISFL ER Program, including the proposed interventions to address AFOLU emissions and the impact they will have in the jurisdiction on sustainable land use	A summary of the broader vision of the Program, including the proposed interventions to address AFOLU emissions and the impact they will have on sustainable land use in the jurisdiction, is provided in Section 2.1.3 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-10	T§2.1.3	Please provide a brief summary (roughly 300 words or less) of... The expected outcomes of the ISFL ER Program and how they will be sustained beyond the lifetime of the ISFL ER Program	A summary of the expected outcomes of the ER Program, and how they will be sustained beyond the lifetime of the ER Program, ⁶ is provided in Section 2.1.3 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-11	T§2.1.4	Estimate of costs and revenues of planned actions and interventions, including institutional, implementation, and transaction costs	An estimate of costs and revenues of planned actions and interventions, including institutional, implementation, and transaction costs, is reported in the provided table in Section 2.1.4 of the ERPD. The information provided is consistent with that provided in Section 3.1.3 of the ERPD. ⁷	Confirmed through review of the ERPD.	L	B	C
PD-12	T§2.1.4	Amount of financing identified/secured financing for planned actions and interventions	The amount of financing identified or secured for planned actions and interventions is reported in the provided table in Section 2.1.4 of the ERPD. The information provided is consistent with that	Confirmed through review of the ERPD.	L	B	C

⁶ The “lifetime of the Program,” for purposes of this indicator, must extend at least to the end of the ERPA Term, and could optionally extend beyond that period if ER Program activities are planned to take place after the end of the ERPA Term.

⁷ See indicators PD-34 through PD-40 for criteria against which financial data are to be assessed.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			provided in Section 3.1.3 of the ERP. <small>Error! Bookmark not defined.</small>				
PD-13	T§2.1.4	Financing surplus or gap amount	The amount of financing surplus or gap is reported in the provided table in Section 2.1.4 of the ERP. The information provided is consistent with that provided in Section 3.1.3 of the ERP. <small>Error! Bookmark not defined.</small>	Confirmed through review of the ERP.	L	B	C
PD-14	T§2.1.4	Please provide a brief summary (roughly 100 words or less) of the measures proposed to address financing gap, if any and arrangements for flow of funds.	A summary of (1) the measures proposed to address the financing gap (if applicable) ⁸ and (2) arrangements for flow of funds is provided in Section 2.1.4 of the ERP. The information provided is consistent with that provided in Section 3.1.3 of the ERP.	Not applicable as a no financing gap found.	L	B	C
PD-16	T§2.2.2	Organization(s) responsible for managing/implementing the ISFL ER Program (if more than one, please list all)	The indicated details in the template are provided in Section 2.2.1 of the ERP.	Confirmed through review of the ERP.	L	B	C
PD-17	T§2.2.3	Partner organizations involved in the ISFL ER Program: Please list existing partner agencies and organizations involved in the design and implementation of the ISFL ER Program or that have executive functions in financing, implementing, coordinating and/or controlling activities that are part of the proposed ER Program	Information regarding the existing partner agencies and organizations involved in the design and implementation of the ER Program or that have executive functions in financing, implementing, coordinating and/or controlling activities that are part of the ER Program is included in the provided table in Section 2.2.3 of the ERP.	Confirmed through review of the ERP.	L	B	C
PD-18	T§2.2.4	Please provide a brief description (roughly 150 words or less) of coordination within the government (across ministries/departments) for the management/implementation of the ISFL ER Program. For example, how do ministries focused on environmental issues, agriculture, finance, etc. coordinate formally or informally on	A description of coordination within the government (across ministries/departments) for the management/implementation of the ER Program, as indicated in the PD Template, is provided in Section 2.2.4 of the ERP.	Confirmed through review of the ERP.	L	B	C

⁸ See indicator PD-41 through PD-44 for criteria against which the plan for mitigating the financing gap (if applicable) is to be assessed.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		this program, including through coordination platforms or shared responsibilities.					
PD-19		Please provide a brief description (roughly 150 words or less) of coordination between the government and other organizations (including civil society, the private sector, and other stakeholders) for the management/implementation of the ISFL ER Program.	A description of coordination between the government and other organizations (including civil society, the private sector, and other stakeholders) for the management/implementation of the ER Program is provided in Section 2.2.4 of the ERPD.	Confirmed through review of the ERPD.	L	B	C
PD-20	PR§3.1.1	ISFL ER Programs are required to demonstrate that they are undertaken using a jurisdictional and Integrated Landscape Management approach, in accordance with the ISFL's Vision.	The ER Program design is aligned with the Integrated Land Management approach, including collaboration among various stakeholders with the purpose of achieving sustainable landscapes.	Confirmed through review of the ERPD.	L	P	II
PD-21			The ER Program design is aligned with concepts described in the ISFL Vision, including its intention to reduce greenhouse gas emissions at the jurisdictional scale.	Confirmed through review of the ERPD.	L	P	I
PD-22	PR§3.2.1	The design of the ISFL ER Program shall be informed by the contribution of key sources and sinks to the total GHG emissions and removals in the Program GHG Inventory (described in section 4.1).	The subcategories included in the Step 1 selection (see indicators RA-16 through RA-19) are identified for the purposes of ER Program design.	Confirmed through review of the ERPD.	L	B	C
PD-23	PR§3.2.2	For the analysis of trends, ISFL ER Programs shall identify the key drivers of AFOLU emissions and removals, by performing a qualitative historical analysis (or quantitative if data are available) to identify those subcategories for which emissions or removals have changed significantly over the base period, and a qualitative analysis of the subcategories likely to	Subcategories that have been subject to significant increases in emissions or decreases in removals during the Baseline Period (see indicator RA-20 for guidance regarding specification of the Baseline Period) are identified in an analysis of trends using one of the following approaches: 1. A quantitative analysis, if quantitative data are available to support such an analysis.	Confirmed through review of the ERPD, calculation workbook, and supporting data and documentation.	L	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		show a significant increase of emissions or decrease of removals in the future.	2. A qualitative analysis, ⁹ if quantitative data are not available to support a quantitative analysis. The conclusions drawn from the analysis (i.e., the specific identification of subcategories) are “justifiable”.				
PD-24			Subcategories that are likely to show a significant increase in emissions or decrease in removals in the relatively near future ¹⁰ are identified in the analysis of trends. ¹¹ The conclusions drawn from the analysis (i.e., the specific identification of subcategories) are “justifiable”.	Confirmed through review of the ERPD, calculation workbook, and supporting data and documentation.	L	B	C
PD-25			The data constituting inputs to the analysis of trends are the “best available” data.	Confirmed through review of the ERPD, calculation workbook, and supporting data and documentation. FARs have been issued related to the best available data for land cover change and dead organic matter.	L	P	II
PD-26			The analysis of trends has appropriately identified any subcategories not included in the Step 1 selection meeting one or more of the following criteria:	Confirmed through review of the ERPD, calculation workbook, and supporting data and documentation.	L	P	I

⁹ The qualitative analysis may (1) be based on expert judgement and (2) include consideration of whether emissions from a subcategory have decreased or removals have increased through the use of mitigation techniques, such as technology adoption or a coordinated change in land management practices.

¹⁰ The temporal scale of the analysis should probably roughly align with the anticipated duration of the ERPA Term unless there is good reason to do otherwise. The intent is that the projection include all phases of the ERPA Term, not just the first phase, in order to appropriately consider any circumstances that may not occur in the immediate future but can reasonably be projected to occur by the end of the ERPA Term.

¹¹ The qualitative analysis may (1) be based on expert judgement and (2) include consideration of any barriers that prevent mitigation policies and measures to be implemented in the absence of the proposed Program (i.e., it is permissible to project likely future conditions under a scenario in which such barriers remain in place).

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<ol style="list-style-type: none"> 1. The subcategory has been associated with a significant increase in emissions or a significant decrease in removals during the Baseline Period. 2. The subcategory is likely to be associated with such an increase in emissions or decrease in removals during the relatively near future.¹² 				
PD-27	PR§3.2.2; T§3.1.1	<p>For the analysis of trends, ISFL ER Programs shall identify the key drivers of AFOLU emissions and removals, by performing a qualitative historical analysis (or quantitative if data are available) to identify those subcategories for which emissions or removals have changed significantly over the base period, and a qualitative analysis of the subcategories likely to show a significant increase of emissions or decrease of removals in the future.</p> <p>Please provide a brief description... of the identified drivers of land use change that contribute to GHG emissions and removals associated with AFOLU (e.g., deforestation and forest degradation and other aspects of land use change) in the Program Area... include more information on</p>	<p>The key drivers of land use change associated with the subcategories identified in indicators PD-23 through PD-26 are identified in a “justifiable” fashion and described in the ERPD, as follows:</p> <ol style="list-style-type: none"> 1. A brief description of identified drivers is provided in Section 3.1.1 of the ERPD. 2. A longer description of identified drivers is provided in Annex 1 of the ERPD. 	<p>Confirmed through review of the ERPD.</p> <p>A FAR has been issued.</p>	L	B	FAR

¹² An example of such a subcategory would be Forest Land to Cropland, in the case where deforestation rates within the jurisdiction have historically been low but where a significant improvement in access, such as with the recent completion of the Interoceanic Highway between Brazil and Peru, is projected to be accompanied by an increase in deforestation rates.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		the drivers of AFOLU emissions and removals in Annex 1.					
PD-28	PR§3.2.1	The design of the ISFL ER Program shall be informed by the contribution of key sources and sinks to the total GHG emissions and removals in the Program GHG Inventory (described in section 4.1) and an analysis of trends. Together these shall be the basis to specify interventions to address the key drivers of AFOLU emissions and removals and to identify the entities that would undertake them.	The subcategories identified in indicator PD-22, and the key drivers of land use change identified in indicators PD-23 through PD-27, have been considered in design of the ER Program (i.e., consideration has been given to the design of activities that are intended to mitigate the emissions or reduced removals associated with any such subcategories or drivers).	Confirmed through review of the ERPD.	L	B	C
PD-29			One of the following is true for every subcategory identified in indicator PD-22 and/or every key driver of land use change identified in indicators PD-23 through PD-27: <ol style="list-style-type: none"> 1. One or more ER Program activities has been specifically designed to mitigate the emissions or reduced removals associated with the subcategory or driver. 2. Otherwise, a compelling rationale can be provided in support of the decision not to address the emissions or reduced removals associated with the subcategory or driver in the ER Program design. 	Confirmed through review of the ERPD.	L	P*	I
PD-30	T§3.1.2	Please provide a description (roughly 1,000 words or less) of planned actions and interventions (including existing, improved, and/or new activities; investments; measures; and governance, regulation, and/or policy	A description is provided in Section 3.1.2 of the ERPD regarding the planned actions and interventions ¹³ , including the following: <ol style="list-style-type: none"> 1. A description of how said actions and interventions impact the main factors of land use change, deforestation, and 	Confirmed through review of the ERPD.	L	B	C

¹³ It is acceptable to group actions and interventions for purposes of satisfying this indicator, so long as the clarity of the analysis is not degraded (e.g., it is not necessarily that a separate description be provided regarding how each action or intervention impacts “the main factors influencing emissions or address the drivers of land use change, deforestation”).

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		interventions) for the ISFL ER Program. Include: i. A description of how these actions and interventions impact the main factors influencing emissions or address the drivers of land use change, deforestation, and forest degradation (identified in a. above) in the subcategories targeted by the ISFL ER Program ii. A description of the prioritization and timelines of the planned actions and interventions based on implementation risks for the activities and their potential benefits.	forest degradation in the subcategories targeted by the program. 2. A description of the following: a. The priority placed on each of the planned actions and interventions based on implementation risks for the activities and their potential benefits. b. The timelines of the planned actions and interventions based on implementation risks for the activities and their potential benefits.				
PD-31			Partnerships have been entered into with private sector actors, or there are concrete plans to pursue such partnerships.	Confirmed through review of the ERPD.	L	P*	III
PD-32			Where partnerships have been entered into or are planned, these partnerships are likely to be effective in addressing the drivers of emissions.	Confirmed through review of the ERPD.	L	P*	III
PD-33			Risks to (a) ER Program implementation and (b) the potential benefits of planned actions and interventions have been adequately considered in planning the actions and interventions, and appropriate mitigation mechanisms have been incorporated into Program design, where feasible.	Confirmed through review of the ERPD.	L	P*	II
PD-34	T§3.1.3 ¹⁴	Please outline the financing plan for the ISFL ER Program. A guidance note on the preparation of financing plans for REDD+ and landscape emission reduction programs provides the details of the steps to be followed in	A specific time period covered by the financing plan has been identified, and this time period is “justifiable”. It is generally expected that this period commences at the date of effectiveness of the ER Program (as defined by ER Program personnel) and extends past the end of the ERPA	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR

¹⁴ Assessment of all indicators related to T§3.1.3 will be determined by consultation with the World Bank Group.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		the preparation of the financing plan. Please include the following information: i. Costs of program implementation (sum of implementation costs, institutional costs and transaction costs) ii. Sources of financing (public and private sources, reinvestment of revenue from program and amount of ER revenue proposed for use in program implementation) iii. Financing surplus or gap of the ER program; and options for addressing financing gap, if any	Term; ¹⁵ where a shorter time period is covered by the financing plan, the following are true: 1. The time period covered by the financing plan is appropriate to the circumstances of the ER Program. 2. The time period covered by the financial plan is unlikely to result in the conclusion that the ER Program enjoys a financing surplus where use of a longer time period would result in the conclusion that the ER Program is faced with a financing gap.				
PD-35			A “justifiable” estimate of the costs of ER Program implementation (sum of implementation costs, institutional costs and transaction costs) is reported in the provided table in Section 3.1.3 of the ERPD.	FARs regarding the financing plan have been issued in section 5.2.	L	B	FAR
PD-36			The estimate of the costs of ER Program implementation is comprehensive; that is, it (1) covers the entire time period covered by the financing plan (as assessed in indicator PD-34) and (2) includes all of the types of costs identified in Section 2.2.1 of the Financing Plan Note unless any omitted costs are not relevant to ER Program implementation.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-37			A “justifiable” determination of the sources of financing is provided in the provided table in Section 3.1.3 of the ERPD.	Confirmed through review of the ERPD. However, FARs regarding the	L	B	C

¹⁵ From Section 1 of Annex 2 of the Financing Plan Note: “It is useful to define the Program period of the financing plan which may cover the period from the date of effectiveness of an ER Program until the end of Program implementation which is expected to be longer than the period covered under the emission reduction payment agreement (ERPA). Therefore, the Program period of the financing plan needs to be realistic and consider the duration and circumstances of Program implementation.”

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
				financing plan have been issued in section 5.2.			
PD-38			<ol style="list-style-type: none"> 1. The quantity of unsecured financing^{Error! Bookmark not defined.} has been conservatively determined; i.e. it includes only funding sources that are very likely to materialize. 2. Unsecured financing¹⁶ that is unlikely to flow during the 2-3 years from the start of an ER Program or until after the first verification event has been excluded as a source of funding (such funding may be included in the sensitivity analysis) unless a compelling rationale can be provided for its inclusion. 3. Documentary evidence can be provided to support any claimed secured financing. 4. Financing that will not flow until after the time period covered by the financing plan (as assessed in indicator PD-34) is excluded from the reported information. 	FARs regarding the financing plan have been issued in section 5.2.	L	P	FAR
PD-39			The identified sources of finance are sufficient to have a meaningful impact on the land use activities and drivers which cause emissions and removals, as determined in indicator PD-27.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-40			A “justifiable” estimate of the financing surplus or gap of the ER Program, calculated as the	FARs regarding the financing plan have	L	B	FAR

¹⁶ The Financing Plan Note suggests unsecured financing be defined as “The sources of financing that are anticipated during Program period but cannot be verified at the beginning of an Program.”

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			difference between funding financing available and ER Program cost (both for each year of the time period covered by the financing plan and across time periods) is reported in the provided table in Section 3.1.3 of the ERPD.	been issued in section 5.2.			
PD-41			If funding gaps exist, a plan for mitigating them is presented in Section 3.1.3 of the ERPD.	FARs regarding the financing plan have been issued in section 5.2.	L	B	FAR
PD-42			If funding gaps exist, the plan for mitigating them, as presented in Section 3.1.3 of the ERPD, is <u>concrete</u> , making clear the specific actions to be taken to mitigate gaps.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-43			If funding gaps exist, the plan for mitigating them, as presented in Section 3.1.3 of the ERPD, is <u>time-bound</u> , with specific milestones provided for additional funding to be secured.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-44			If funding gaps exist, the plan for mitigating them, as presented in Section 3.1.3 of the ERPD, is <u>realistic</u> and reasonably capable of being implemented.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-45	T§3.1.3	Please briefly describe the following (roughly 150 words or less): i. Financial and economic analysis (e.g., NPV, IRR) ii. Sensitivity analysis (to assess the influence of changes in costs, revenues, funding sources and discount rates on program financing)	A “justifiable” financial analysis and economic analysis, as generally described in Section 2.7 of the Financing Plan Note ¹⁷ , is described in Section 3.1.3 of the ERPD.	FARs regarding the financing plan have been issued in section 5.2.	L	B	FAR
PD-46			The discount rate used for the financial analysis has the following attributes:	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR

¹⁷ In assessing against these indicators, the assessment team is not to assess against the Financing Plan Note, but merely to confirm that described analysis follows the general form as set out in the Financing Plan Note.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		iii. Proposed fund flow arrangements	<ol style="list-style-type: none"> 1. The selection of the discount rate is “justifiable”. 2. The discount rate is reflective of the expectations of the Program Entity for return on long-term investments¹⁸, as determined using one of the following sources of information: <ol style="list-style-type: none"> a. An internal discount rate used by the Program Entity in financial planning and analysis. b. The interest rate charged by financial institutions in the host country on long term loans for forestry or agriculture or other land use projects.¹⁹ c. Any other source that, as accurately as possible, reflects the expectations of the Program Entity for return on long-term investments. 				
PD-47			The calculation of net present value or internal rate of return in the financial analysis is “justifiable” and is carried out according to good practice in the field of financial investment analysis.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-48			Any values for externalities ²⁰ in the economic analysis are “justifiable” (the “base” prices for carbon, as set out in Section 2.7.4 of the Financing Plan Note, are automatically deemed “justifiable”).	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-49			The calculation of net present value or internal rate of return in the economic analysis is	FARs regarding the financing plan have	L	P*	FAR

¹⁸ Such an expectation is referred to as the “time value of money” in the economics literature.

¹⁹ As suggested in Section 2.7.3.1 of the Financing Plan Note.

²⁰ Externalities, in this context, are costs and benefits not directly paid by or flowing to the Program Entity, respectively.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			"justifiable" and is carried out according to good practice in the field of financial investment analysis.	been issued in section 5.2.			
PD-50			A "justifiable" sensitivity analysis ²¹ (to assess the influence of changes in costs, revenues, funding sources and discount rates on ER Program financing), as generally described in Section 2.7 of the Financing Plan Note ^{Error! Bookmark not defined.} , is described in Section 3.1.3 of the ERPD.	FARs regarding the financing plan have been issued in section 5.2.	L	B	FAR
PD-51			The range of discount rates used for the sensitivity analysis is "justifiable" and adequately captures the range of variability that could reasonably be expected in the discount rate. ²²	FARs regarding the financing plan have been issued in section 5.2.	L	P*	I
PD-52			The "parameters" included in the sensitivity analysis include changes in costs, revenues, financing sources, discount rates, and other ER Program specific "parameters" that have significant influence on the ER Program.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-53			The impact of a "justifiable" range of upper thresholds for costs, and a "justifiable" range of lower thresholds for benefits, are tested in the uncertainty analysis to assess whether there is an impact on the outcome of the analysis.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-54			Key variables that have major influence on costs, revenues, cash flow and the calculated net present value or internal rate of return are identified through the uncertainty analysis, and the identification of such variables is reasonable.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-55			The proposed fund flow arrangements are described in Section 3.1.3 of the ERPD.	FARs regarding the financing plan have been issued in section 5.2.	L	B	FAR

²¹ The assessment criteria does not clarify whether it is required that the uncertainty analysis pertain to the financial analysis, the economic analysis, or both; therefore, the uncertainty analysis may pertain to only one, or both, of the above.

²² The default range of -/+2 percent as lower and upper bound discount rates, as suggested in Section 2.7.3.3 of the Financing Plan Note, should automatically be assigned a conformance ranking of I for purposes of this indicator.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
PD-56			The description of the proposed fund flow arrangements in 3.1.3 of the ERPD provides a description of plans for the dissemination of funds from the sale of Emission Reductions between any relevant entities involved in operation of the Program.	FARs regarding the financing plan have been issued in section 5.2.	L	B	FAR
PD-57			The proposed fund flow arrangements, as described in Section 3.1.3 of the ERPD, are appropriate in light of the formal and informal institutional arrangements between entities involved in operation of the Program.	FARs regarding the financing plan have been issued in section 5.2.	L	P*	FAR
PD-58	TAnnex 2	Please include the summary financing plan according to the template below.	The summary financing plan is included, according to the provided template, in Annex 2 of the ERPD. ²³ The information provided is more detailed than, but consistent with, the information provided in Section 3.1.3 of the ERPD (e.g., the same total ER Program costs are reported in the two sections).	FARs regarding the financing plan have been issued in section 5.2.	L	B	FAR
PD-59			The presentation of information in the financing plan included in Annex 2 of the ERPD follows the categories set out in the Financing Plan Note ²⁴ unless a compelling rationale can be provided in support of a deviation from the categories set out in the Financing Plan Note.	FARs regarding the financing plan have been issued in section 5.2.	L	P	FAR
PD-60	T§3.1.4 ²⁵	Please provide an analysis (roughly 500 words or less) of the planned actions and interventions in the context of relevant local, regional and national	A “justifiable” analysis of the planned actions and interventions in the context of relevant legal requirements ²⁶ is provided in Section 3.1.4 of the ERPD.	FARs have been issued in section 5.2 regarding the laws and regulations.	L	B	FAR

²³ In areas where there exists lack of clarity regarding how the provided template is to be filled out, any reasonable interpretation of the provided template will be considered acceptable for purposes of this indicator.

²⁴ For example, the determination of what constitutes “multilateral” funding follows Section 2.3.2 of the Financing Plan Note.

²⁵ Assessment of all indicators related to T§3.1.4 will be determined by consultation with the World Bank Group.

²⁶ The term “legal requirements,” in the context of the indicators in this checklist, is very broad and includes local, regional and national laws, statutes and regulatory frameworks, including relevant international conventions and agreements.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
PD-61		laws, statutes and regulatory frameworks, including relevant international conventions and agreements. Please identify any potential compliance issues of the actions and interventions with these laws, statutes, regulatory frameworks, conventions and agreements; and identify legal and regulatory gaps. If applicable discuss how these issues will be addressed.	<p>The following information is provided in Section 3.1.4 of the ERPD:</p> <ol style="list-style-type: none"> 1. A “justifiable” analysis of whether any of the planned actions and interventions has the potential to result in noncompliance with a relevant legal requirement. 2. If any such potential has been identified, a description of the situation of potential noncompliance and the proposed means for addressing it. 	FARs have been issued in section 5.2 regarding the laws and regulations.	L	B	FAR
PD-62			<p>The following information is provided in Section 3.1.4 of the ERPD:</p> <ol style="list-style-type: none"> 1. A “justifiable” analysis of whether there are any legal or regulatory gaps that may impact the implementation of the planned actions and interventions (e.g., if there is lack of regulatory clarity on the management responsibilities of the various agencies involved in implementation). 2. If any such gap has been identified, a description of the situation and the proposed means for addressing it. 	FARs have been issued in section 5.2 regarding the laws and regulations.	L	B	FAR
PD-63			The planned actions and interventions are free from the actual or potential compliance issues in respect of relevant legal requirements ^{Error! Bookmark not defined.} or, if this is not the case, an appropriate mitigation plan with a reasonable possibility of success is in place to address any issues.	FARs have been issued in section 5.2 regarding the laws and regulations.	L	P*	FAR

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
PD-64			The planned actions and interventions are free from actual or potential entanglement with legal and/or regulatory gaps or, if this is not the case, an appropriate mitigation plan with a reasonable possibility of success is in place to address any issues.	FARs have been issued in section 5.2 regarding the laws and regulations.	L	P*	FAR
PD-65	T§3.1.5; PR§3.2.5	Please describe (roughly 500 words or less) the following: i. GHG sources and sinks that may be impacted by the proposed ISFL ER Program and an assessment of their associated risk for displacement ii. A strategy for mitigating and/or minimizing, to the extent possible, potential displacement, prioritizing key sources of displacement risk iii. How the ISFL ER Program's planned actions and interventions have been designed to address displacement	1. A "justifiable" identification of the subcategories ²⁷ that can reasonably be projected to be impacted by the Program ²⁸ is provided in Section 3.1.5 of the ERPD. 2. For each subcategory identified in step (1) above, a "justifiable" assessment of the risk of the subcategory for Displacement ²⁹ is provided in Section 3.1.5 of the ERPD.	Confirmed through review of the ERPD and discussions with the program team.	L	B	C
PD-66			A strategy for mitigating and/or minimizing, to the extent possible, potential displacement, prioritizing key sources of displacement risk, is provided in Section 3.1.5 of the ERPD.	A FAR has been issued in section 5.2 regarding the strategy for mitigating displacement risks.	L	B	FAR
PD-67			A "justifiable" assessment is provided in Section 3.1.5 of the ERPD regarding how the ER Program's planned actions and interventions have been designed to address Displacement.	A FAR has been issued in section 5.2 regarding the strategy for mitigating displacement risks.	L	B	FAR
PD-68			The planned actions described in Section 3.1.5 of the ERPD are likely to be effective in to	A FAR has been issued in section 5.2	L	P*	FAR

²⁷ The term "sources and sinks" is used in the Program Requirements and the PD Template, but review of the IPCC 2006 Guidelines suggests that these terms are used somewhat interchangeably with the term "category" (of which a subcategory would be a component).

²⁸ Note that the list of such subcategories may or may not be identical to the list of subcategories eligible for ISFL Accounting. It is quite possible that the ER Program will impact subcategories that are currently not included in the accounting scope.

²⁹ Emissions occurring outside the host country are not considered to be Displacement unless it is completely evident that they are a consequence of land use activities moving from inside the Program Area to an area outside the Program Area.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			mitigating and/or minimizing potential Displacement.	regarding the strategy for mitigating displacement risks.			
PD-142	T§3.7.2	Please indicate whether the ISFL ER Program, or any part of the Program Area, has transferred, or is planning to transfer, any ERs to, or received or is planning to receive otherwise payment for, ERs from any other GHG mitigation initiative. This would include parts of the Program Area that are registered or are seeking registration under project or program level standards such as the Clean Development Mechanism (CDM), the Verified Carbon Standard (VCS), the Green Climate Fund (GCF) or others.	A “justifiable” search for any instance whereby the ER Program, or any part of the Program Area, has transferred, or is planning to transfer, any ERs to, or received or is planning to receive otherwise payment for, ERs from any other GHG mitigation initiative ³⁰ has been performed and Section 3.7.2 of the ERPD contains an indication of whether any such instances were noted.	FARs have been issued in section 5.2 regarding other GHG mitigation initiatives.	L	B	FAR
PD-143		Please also indicate any actions that might not be included in the ISFL ER Program but which could address the drivers of land use change, deforestation, and forest degradation within the Program Area and that are generating ERs that may be transferred to, or be otherwise paid for by, other GHG mitigation initiatives (e.g., improved cook stoves programs under the CDM).	Section 3.7.2 of the ERPD contains a description of any actions that might not be included in the ER Program but which could address the drivers of land use change, deforestation, and forest degradation within the Program Area and that are generating ERs that may be transferred to, or be otherwise paid for by, other GHG mitigation initiatives (e.g., improved cook stoves programs under the CDM).	FARs have been issued in section 5.2 regarding other GHG mitigation initiatives.	L	B	FAR
PD-144		Where the ISFL ER Program, or any part of the Program Area, has been registered under any other GHG mitigation initiative, provide the	Where the ER Program, or any part of the Program Area, has been registered under any other GHG mitigation initiative ^{Error! Bookmark not defined.} , the following are provided for each such instance in Section 3.7.2 of the ERPD:	FARs have been issued in section 5.2 regarding other GHG mitigation initiatives.	L	B	FAR

³⁰ Any parts of the Program Area in which individual projects or jurisdictional programs have been registered, or are currently seeking registration, under greenhouse gas programs or schemes such as the Clean Development Mechanism (CDM), the Verified Carbon Standard (VCS) or the Green Climate Fund (GCF), must be identified for purposes of this indicator.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		registration number(s) and details for each of these.	<ol style="list-style-type: none"> 1. Registration number(s), if relevant. 2. Project/Program ID numbers, if relevant. 3. Any other details that are important to understand the extent of any potential for double-counting (or references to where such information is publicly available), including the following: <ol style="list-style-type: none"> a. The spatial extent of the project or Program Area. b. The monitoring or reporting period(s) for which credit issuance has been sought and/or obtained and, for each monitoring or reporting period, the number of credits sought and/or obtained, if known to the Program Entity. 				
PD-147	T§3.6.3	In addition, please indicate the choice and implementation of an ER Transaction Registry to ensure that any ERs from planned actions and interventions under the ISFL ER Program are not accounted for/registered more than once; and that any ER from the planned actions and interventions under the ISFL ER Program sold and transferred to the ISFL are not used again by any entity for sale, public relations, compliance or any other purpose.	Section 3.7.3 of the ERPD identifies the ER Transaction registry to be used and describes the implementation status of such use.	Confirmed through review of the ERPD and discussions with the World Bank.	L	B	C
PD-148	PR§3.7.1	ISFL ER Programs shall work with the host country to select an appropriate	Evidence is provided that an appropriate arrangement has been selected in coordination	Confirmed through review of the ERPD	L	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		arrangement to avoid double counting, including double issuance, double selling/use, or double claiming, in order to track the emission reductions to ensure that any emission reductions that have been generated, monitored and verified under the ISFL ER Program and paid for by the ISFL are not used again by any entity for sale, public relations, compliance or any other purpose unless otherwise agreed by the parties to the ERPA and, where relevant, consistent with any applicable guidance adopted under the Paris Agreement. For this purpose, ISFL ER Programs will identify a Transaction Registry to register, track, and as appropriate retire or cancel ER units generated under the ISFL ER Program.	and consultation with the host country order to fulfill the following objectives: <ol style="list-style-type: none"> 1. Avoid double counting, including double issuance, double selling/use, or double claiming. 2. Track the Emission Reductions to ensure that any Emission Reductions that have been generated, monitored and verified under the ER Program and paid for by the ISFL are not used again by any entity for sale, public relations, compliance or any other purpose unless otherwise agreed by the parties to the ERPA and, where relevant, consistent with any applicable guidance adopted under the Paris Agreement. 	and discussions with the World Bank..			
PD-149			If the World Bank's registry system is not to be used as a Transaction Registry...				
PD-150			There is a good likelihood that the Transaction Registry to be used by the ER Program will be operational by the time of verification.	The World Bank's registry system will be used.	L	P*	I
PD-151			The Transaction Registry to be used by the ER Program will have an appropriate procedure in place to address double-counting, such as may occur where voluntary carbon projects may potentially be located within the jurisdiction within which the ER Program is operating.	The World Bank's registry system will be used	L	P*	I
PD-152			The Transaction Registry to be used by the ER Program will encompass all of the necessary sectoral scopes pertaining to the ER Program (e.g., the Transaction Registry permits crediting of Emission Reductions pertaining to both	The World Bank's registry system will be used	L	P*	I

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			avoided deforestation and livestock management).				
PD-153			The Transaction Registry to be used by the ER Program will be sufficient, secure and robust.	The World Bank's registry system will be used.	L	P*	I
PD-154	PR§3.7.2	Based on national needs and circumstances, the Transaction Registry might be complemented with the use of a (national) Program and Projects Data Management System that supports registering of and reporting on projects/programs.	If applicable (i.e., if an ER Program and Project's Data Management System has been or will be implemented), the ER Program and Project's Data Management System is or will be sufficient, secure, and robust.	Confirmed through review of the ERPD and corresponding documentation on the Data management system.	R	P	I

Requirements for Greenhouse Gas Reporting and Accounting

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
RA-01	PR§4.1.1	ISFL ER Programs shall report on all AFOLU related emissions and removals in the Program Area (ISFL Reporting).	The Program GHG Inventory reports on all emissions and removals associated with each category identified as "AGRICULTURE, FORESTRY, AND OTHER LAND USE" (i.e., with a category code beginning with 3) in Table 8.2, Volume 1, Chapter 8 of the IPCC 2006 Guidelines.	Confirmed through review of the calculation workbook and supporting data.	R	B	C
RA-02	PR§4.1.2, PR§4.1.4	ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) ... The Program GHG Inventory should be comparable in its use of definitions, categories and	If a national-level GHG inventory reporting document ³¹ exists, either one of the following two options is the case: 1. Both of the following are true: a. All categories and subcategories listed in the national-level GHG inventory	Confirmed through review of the calculation workbook, supporting data, and supporting documentation.	R	B	C

³¹ E.g., the National GHG Inventory, the Biennial Report or formally submitted REDD+ readiness documentation such as the Forest Reference Emissions Level.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report. The Program GHG Inventory Programs may select definitions, categories, or subcategories that are different from the ones that have been used in national processes, if this increases the likelihood of being able to assess the impacts of ISFL interventions. In that case, an explanation should be provided to clarify how methodological consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory.	<p>reporting document are also included in the Program GHG Inventory; and</p> <p>b. The definitions used in the Program GHG Inventory are the same as those used in the national-level GHG inventory reporting document.</p> <p>2. Otherwise, a compelling rationale for any variation relative to the national processes can be provided, unless all of the following are true:</p> <p>a. The variation relative to the national processes increases the likelihood of being able to assess the impacts of ISFL interventions³².</p> <p>b. An explanation has been provided to clarify how methodological consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory (e.g., any definitions used in the Program GHG inventory are consistent with, and/or readily nest into, the definitions used in the national GHG inventory).</p>				

³² E.g., a broad transition category such as Land Converted to Cropland in the national-level GHG inventory reporting document is sub-divided into Forest Land Converted to Cropland (FC) and Grassland Converted to Cropland (GC) in the Program GHG Inventory, thus allowing for more accurate quantification of emissions (this is the example provided in Volume 4, Chapter 3, Section 3.2 of the IPCC 2006 Guidelines).

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
RA-03	PRAnne x1	ISFL ER Programs may choose to use the terminology from their national greenhouse inventory [in lieu of the table in Annex 1] as long as the principles of these ISFL ER Program Requirements 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.	Subcategories are differentiated to at least the level of specificity set out in Annex 1 of the Program Requirements. ³³	Confirmed through review of the calculation workbook, supporting data, and supporting documentation.	R	B	C
RA-04			Where subcategories are differentiated to a finer level of detail than is set out in Annex 1 of the Program Requirements, this differentiation has the potential to increase the accuracy and/or completeness of the accounting of emissions and removals.	Confirmed through review of the calculation workbook, supporting data, and supporting documentation.	R	B	C
RA-05	PR\$4.1. 2	ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidance and guidelines, the Program GHG Inventory	The Program GHG Inventory has been compiled in a manner consistent with the IPCC 2006 Guidelines ³⁴ .	Confirmed through review of the calculation workbook, supporting data, and supporting documentation. However, FARs have been issued in section 5.2 above for some components of the GHG inventory.	R	B	FAR

³³ For example, in respect of enteric fermentation by livestock, it is necessary to discriminate between fermentation by the major types of livestock (e.g., cattle, sheep and swine).

³⁴ In this context, "consistent with" means that the selection of subcategories included in the Step 1 selection (see indicators RA-16 through RA-19) is equivalent to the selection that would have resulted had the IPCC 2006 Guidelines been duly followed to the letter. This may require the assessment to independently recompile the inventory according to the guidance of the IPCC 2006 Guidelines and determine whether there is a difference in the Step 1 selection.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
RA-06		should apply the basic principles of transparency, accuracy, completeness, consistency over time and comparability as defined by the IPCC.	<p>In compiling the Program GHG Inventory, the following inventory quality indicators established by the IPCC 2006 Guidelines³⁵ are adhered to, as applicable, unless a compelling rationale can be provided to support a deviation from these indicators:</p> <p>Transparency: There is sufficient and clear documentation such that individuals or groups other than the inventory compilers can understand how the inventory was compiled and can assure themselves it meets the good practice requirements for national greenhouse gas emissions inventories.</p> <p>Completeness: Estimates are reported for all relevant categories of sources and sinks, and gases. Geographic areas within the scope of the national greenhouse gas inventory are recommended in these Guidelines. Where elements are missing their absence should be clearly documented together with a justification for exclusion.</p> <p>Consistency: Estimates for different inventory years, gases and categories are made in such a way that differences in the results between years and categories reflect real differences in emissions. Inventory annual trends, as far as possible, should be calculated using the same method and data sources in all years and should aim to reflect the real annual fluctuations in emissions or removals and not be subject to</p>	<p>Confirmed through review of the calculation workbook, supporting data, and supporting documentation.</p> <p>However, FARs have been issued in section 5.2 above for some components of the GHG inventory.</p>	R	P	II

³⁵ Volume 1, Chapter 1, Section 1.4

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>changes resulting from methodological differences.</p> <p>Comparability: The national greenhouse gas inventory is reported in a way that allows it to be compared with national greenhouse gas inventories for other countries. This comparability should be reflected in appropriate choice of key categories, and in the use of the reporting guidance and tables and use of the classification and definition of categories of emissions and removals.</p> <p>Accuracy: The national greenhouse gas inventory contains neither over- nor under-estimates so far as can be judged. This means making all endeavors to remove bias from the inventory estimates.</p>				
RA-07	PR\$4.1.3	The Program GHG Inventory shall utilize best available methods and existing data. This may include the use of Activity Data Proxies if needed, and IPCC Tier 1 data and methods if no data are available to apply higher Tier methods.	In compiling the Program GHG Inventory, the “best available” ³⁶ methods and existing data are utilized.	<p>Confirmed through review of the calculation workbook, supporting data, and supporting documentation.</p> <p>However, FARs have been issued in section 5.2 above for some components of the GHG inventory.</p>	R	B	FAR

³⁶ In this case, “available” means data that were readily available at the time of inventory compilation and did not require substantive additional cost or other resources in order to acquire (this definition supersedes the generalized definition provided in the “General Guidance” section of this checklist, above). It is expected that, in many cases, assessment teams will see data from older GHG inventories utilized in the Program GHG Inventory, and this is acceptable to the intended users in the absence of ready availability of more accurate and/or up-to-date data. Activity Data Proxies (see definition of “Activity Data Proxy” in the Program Requirements) or Tier 1 data and methods may be used if more accurate data and methods are not available.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
RA-08	PR§4.1.5	The Program GHG Inventory shall be compiled during ISFL ER Program design and every second year during the ERPA Term following the national GHG inventory process.	A Program GHG Inventory has been compiled during ER Program design.	Confirmed through review of the calculation workbook, supporting data, and supporting documentation.	R	B	C
RA-09	T§4.1.1	Please provide a short description (maximum three pages) of the approach used to compile the GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory). Please provide... A description of the general approach applied to compile the Program GHG Inventory including: <ul style="list-style-type: none"> o an overview of the definitions, categories and subcategories used; o a general overview of the type, Tier and vintages of the data sources used (details to be provided in the next section); 	A description of the general approach applied to compile the Program GHG Inventory is provided in Section 4.1.1 of the ERPD.	Confirmed through review of the calculation workbook and ERPD.	R	B	C
RA-10	T§4.1.1	Please provide a short description (maximum three pages) of the approach used to compile the GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory). Please provide... an overview of the definitions, categories and subcategories used;	An overview description of the definitions, categories and subcategories used to compile the Program GHG Inventory is provided in Section 4.1.1 of the ERPD.	Confirmed through review of the calculation workbook and ERPD.	R	B	C
RA-11	T§4.1.1	Please provide a short description (maximum three pages) of the approach used to compile the GHG inventory of all AFOLU categories, subcategories, gases and pools in the	A general description of the type, Tier and vintages of the data sources used to compile the Program GHG Inventory is provided in Section 4.1.1 of the ERPD.	Confirmed through review of the calculation workbook and ERPD.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		Program Area (Program GHG Inventory). Please provide... a general overview of the type, Tier and vintages of the data sources used (details to be provided in the next section);					
RA-12	T§4.1.1	Please provide a short description (maximum three pages) of the approach used to compile the GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory). Please provide... If applicable, an overview of definitions, categories, or subcategories that are different from the ones that have been used in national processes and an explanation that clarifies how methodological consistency could be maintained with the national GHG inventory.	If any definitions, categories, or subcategories that are different from the ones that have been used in national processes (as determined in indicator RA-02), an overview of such, and an explanation that clarifies how methodological consistency could be maintained with the national GHG inventory, has been provided in Section 4.1.1 of the ERPD.	Confirmed through review of the calculation workbook, supporting data, and supporting documentation.	R	B	C
RA-13	PR§4.1.7	The results of the Program GHG Inventory shall at least be reported at the level of subcategories with their associated carbon pools and gases...	The Program GHG Inventory, as reported in Annex 6 of the ERPD, includes estimates of emissions or removals, for the applicable inventory year(s), for every subcategory included in the scope of the Program GHG Inventory.	Confirmed through review of the calculation workbook and the ERPD.	R	B	C
RA-14	PR§4.1.7	...the activity data, emission factors, methods, information on the underlying assumptions used, and results shall be provided to the national government of the program to inform the national GHG inventory as appropriate.	<ol style="list-style-type: none"> 1. An inventory report document, reporting on the compilation of the Program GHG Inventory in a sufficient level of detail that a reader having expert knowledge of the IPCC 2006 Guidelines could recompile the inventory based on the information provided, has been presented in Annex 6 of the ERPD. 2. Evidence is provided that the contents of Annex 6 of the ERPD have been received by appropriate personnel at 	Confirmed through review of the calculation workbook and the ERPD.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			the agency or ministry responsible for compiling the national GHG inventory for the host country within which the ER Program is located.				
RA-15	PR§4.3.1, PR§4.3.2	ISFL ER Programs shall identify the subcategories eligible for ISFL Accounting in an ERPA Phase according to the following 3 steps: Step 1: Initial selection of subcategories; Step 2: Review of the available data and methods for the subcategories from the initial selection against the quality and baseline setting requirements for ISFL Accounting; Step 3: Final selection of the subcategories eligible for ISFL Accounting. The identification of subcategories eligible for ISFL Accounting shall be performed during program design and shall be updated before the start of each ERPA Phase.	Subcategories eligible for ISFL Accounting in an ERPA Phase are identified during ER Program design according to three steps, termed Steps 1-3 ³⁷ .	Confirmed through review of the calculation workbook and the ERPD.	R	B	C
RA-16	PR§4.3.3; T§4.1.2	ISFL ER Programs shall list all the subcategories from the Program GHG Inventory, with the associated carbon pools and gases, in order of the relative magnitude of contribution of these subcategories to the absolute level of the total GHG emissions and removals in the Program GHG Inventory.	The following procedure, or a different procedure that, in conjunction with other procedures, results in an identical Step 1 selection and identical reporting within the ERPD, has been followed: 1. Using information in the Program GHG Inventory, determine the GHG emissions or removals associated with each subcategory included in the scope of the Program GHG Inventory. This	Confirmed through independent recalculation of the program GHG inventory and review of the ERPD.	R	B	C

³⁷ The outcome of each step is a list of selected subcategories. For each step, this list is referred to as “the Step X selection” in these indicators, where X is the number associated with each step. For example, the list of subcategories that is an outcome of Step 1 is referred to as “the Step 1 selection.”

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>value is the “Net emissions and removals” as referenced in the provided table in Section 4.1.2 of the PD Template (Table 5)³⁸. In completing this step, ensure that net emissions are represented as a positive value and net removals are represented as a negative value.³⁹</p> <ol style="list-style-type: none"> Identify the greenhouse gases associated with the subcategory and, if any carbon pools⁴⁰ are associated with the subcategory, identify those as well. Calculate the absolute value of each quantity determined in step (1) above. Rank the absolute values calculated in step (3) above, and the associated subcategories, from highest to lowest. Sum the absolute values calculated in step (3) above. This sum is the “absolute level of the total GHG emissions and removals in the Program GHG Inventory” as referenced in Table 5⁴¹. Divide each value calculated in step (3) above by the value calculated in step (5) above and multiply by 100 to convert to a percentage; this value is reported in 				

³⁸ The table in question is referred to as Table 5 in the PD Template and will be referred to as such within this checklist, for purposes of brevity. If additional tables have been added to the ERPD under assessment, said table may be assigned a different number.

³⁹ This is consistent with the convention set out in the IPCC 2006 Guidelines. For example, Section 2.2.3, Chapter 2, Volume 4 of the IPCC 2006 Guidelines states that “...increases in C stocks, i.e. positive (+) stock changes, represent a removal (or ‘negative’ emission) from the atmosphere, while decreases in C stocks, i.e. negative (-) stock changes, represent a positive emission to the atmosphere.”

⁴⁰ “Carbon pool,” for these purposes, means one of five pools identified in Table 1.1, Section 1.3, Chapter 1, Volume 4 of the IPCC 2006 Guidelines (above-ground biomass, below-ground biomass, dead wood, litter and soil organic matter), noting that it is permissible for the definitions of specific pools used in the Program GHG Inventory to be different from those set out in Table 1.1 (per the guidance provided in Section 1.2.2).

⁴¹ This phrase is present both in Section 4.3.3 of the Program Requirements and Section 4.1.2 of the PD Template. It is ambiguously worded, so the assessment team may see different interpretations of it, but SCS has confirmed with the World Bank that the interpretation provided in this indicator is the intended one. It is also the interpretation affirmed in the final sentence of footnote 6 within the PD Template.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>Table 5 as the “Relative contribution to the absolute level of the total GHG emissions and removals in the Program GHG Inventory.”</p> <p>7. Populate Table 5 with the list determined in the above steps. Note the following regarding the “Total” row:</p> <ol style="list-style-type: none"> The value for “Net emissions and removals” must be given as the sum calculated in step (5) above, for consistency with the presentation of information in Section 4.2.1 of the ERPD. The value for “Relative contribution to the absolute level of the total GHG emissions and removals in the Program GHG Inventory” must be 100% (any other value indicates a calculation error). 				
RA-17	PR§4.3.4; T§4.2.1	<p>From this list, all ISFL ER Programs shall initially select the following subcategories:</p> <ol style="list-style-type: none"> Any subcategories involving conversions from or to forest land; Forest land remaining forest land; Any subcategories involving conversions between land-use categories other than forest land that, cumulatively with the conversions from or to forest land, amount to 90% of the absolute level of the total GHG emissions and removals associated 	<p>The following procedure, or a different procedure that, in conjunction with other procedures, results in an identical Step 1 selection and identical reporting within the ERPD, has been followed:</p> <ol style="list-style-type: none"> From Table 5, identify any subcategories associated with conversions⁴² from or to forestland. For each such subcategory, transcribe the information in the two left-most columns in Table 5 to the corresponding columns in the first provided table in Section 4.2.1 of the PD 	Confirmed through independent recalculation of the program GHG inventory, independent selection of subcategories based on the program GHG, and review of the ERPD.	R	B	C

⁴² “Conversion,” as used in this indicator, means a change from one land-use category to another, consistent with the usage of this term on page 3.7, Chapter 3, Volume 4 of the IPCC 2006 Guidelines.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		with all land use conversions in the Program GHG Inventory; and iv. The single most significant of the remaining subcategories in order of the relative magnitude of contribution of these subcategories to the absolute level of the total GHG emissions and removals in the Program GHG Inventory.	<p>Template (Table 6)⁴³, preserving the ranking of subcategories as provided in Table 5.⁴⁴</p> <ol style="list-style-type: none"> From Table 5, identify any subcategories associated with conversions between land-use categories other than forest land. For each such subcategory, transcribe the information in the two left-most columns in Table 5 to the corresponding columns in Table 6, preserving the ranking of subcategories as provided in Table 5, as in step (1) above. For each subcategory in Table 6, calculate the absolute value of the value in the “Net emissions and removals.” Note that this information is not directly reported in Table 6. Sum the absolute values calculated in step (3) above. This sum is reported in Table 6 as the “Total absolute GHG emissions and removals associated with all land use conversions in the Program GHG Inventory.” Divide each value calculated in step (3) above by the value calculated in step (4) above and multiply by 100 to convert to a percentage; this value is reported in Table 6 as the “Relative contribution to the total absolute GHG emissions and removals associated with all land use conversions in the Program GHG Inventory.” 				

⁴³ The table in question is referred to as Table 6 in the PD Template and will be referred to as such within this checklist, for purposes of brevity. If additional tables have been added to the ERPD under assessment, said table may be assigned a different number.

⁴⁴ I.e., the ranking of the subcategories in Table 5 must be the same as the relative ranking of those same subcategories in Table 6.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>6. For each subcategory in Table 6, populate the “Cumulative contribution to the total absolute GHG emissions and removals associated with all land use conversions in the Program GHG Inventory” column by summing, from top to bottom, all values of the “Relative contribution to the total absolute GHG emissions and removals associated with all land use conversions in the Program GHG Inventory” up to and including the subcategory in question.⁴⁵</p> <p>7. Include the following in the Step 1 selection:</p> <ul style="list-style-type: none"> a. Any subcategories from Table 6 involving conversions from or to forest land. b. Forest land remaining forest land.⁴⁶ c. Any subcategories from Table 6 involving conversions between land-use categories other than forest land meeting the following criteria: <ul style="list-style-type: none"> i. The associated value of “Cumulative contribution to the total absolute GHG emissions and 				

⁴⁵ An example of this operation is given in Table 4.5, Section 4.5, Chapter 4, Volume 1 of the IPCC 2006 Guidelines. Columns F and G in Table 4.5 correspond to the columns entitled “Relative contribution to the total absolute GHG emissions and removals associated with all land use conversions in the Program GHG Inventory” and “Cumulative contribution to the total absolute GHG emissions and removals associated with all land use conversions in the Program GHG Inventory” in Table 6, respectively.

⁴⁶ If the subcategory “Forest land remaining forest land” has been further disaggregated in the Program GHG Inventory (e.g., if this subcategory has been disaggregated into subcategories pertaining to forest type), the reference to “Forest land remaining forest land” in this indicator should be read as referring to all of the subcategories that, together, can be aggregated as “Forest land remaining forest land.”

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>removals associated with all land use conversions in the Program GHG Inventory” is less than 90.000%.</p> <p>ii. The subcategory is the first subcategory encountered in Table 6, when reading from top to bottom, for which the associated value of “Cumulative contribution to the total absolute GHG emissions and removals associated with all land use conversions in the Program GHG Inventory” is greater than or equal to 90.000%.</p> <p>d. The first subcategory encountered in Table 5, when reading from top to bottom, that is not already included in the Step 1 selection through application of the above steps.</p>				
RA-18	PR§4.3.5	Additional non-forest related subcategories may be included at the discretion of the ISFL ER Program if the quality requirements in Section 4.2 are met, provided there is a clear rationale for including these subcategories in terms of improving ISFL ER Program mitigation performance.	If a voluntary decision is made to include any non-forest related subcategories in the Step 1 selection, additional to those included in the Step 1 selection through application of the above indicators, a “justifiable” determination has been made that there is a reasonable expectation that Emission Reductions related to the subcategory will be generated within the ERPA Term.	Confirmed through review of the calculation workbook and the ERPD.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
RA-19	T§4.2.1	For additional non-forest related subcategories included at the discretion of the ISFL ER Program, provide a clear rationale for including these subcategories in terms of improving ISFL ER Program mitigation performance.	The second table in Section 4.2.1 of the PD Template is populated with a list of non-forest related subcategories that have been voluntarily included in the Step 1 selection, along with a justification for such inclusion.	Confirmed through review of the ERPDP.	R	B	C
RA-20	PR§4.2.2, PR§4.2.5-4.2.6, PR§4.3.7, PR§4.3.8, PR§4.3.9	ISFL ER Programs shall review the historic activity data and emission factors available for the subcategories selected in step 1, and the methods used to collect these activity data and emission factors against the quality and baseline setting requirements for ISFL Accounting listed in Section 4.2. ISFL ER Programs shall account for the total net emission reductions across eligible subcategories by estimating the baseline and monitoring emissions and removals for the eligible subcategories using at minimum IPCC Tier 2 methods and data. Subcategories are considered to meet Tier 2 if all the significant pools and gasses are estimated using Tier 2 methods and data. For Subcategories referenced in paragraph 4.3.4ii, jurisdiction-specific Activity Data Proxies may be considered if Tier 2 methods and data are not available to meet the requirement of paragraph 4.2.2.	<p>The following procedure, or a different procedure that, in conjunction with other procedures, results in an identical Step 3 selection, has been followed for each subcategory included in the Step 1 selection, in order to determine whether each subcategory will (a) be retained in the selection (in which case it is termed a “retained subcategory” and considered to have “RET status” or (b) be provisionally considered for removal from the selection (in which case it is termed a “provisionally removed subcategory” and said to have “PREM status”):</p> <ol style="list-style-type: none"> 1. Identify the section(s) of Volume 4 of the IPCC 2006 Guidelines that contains guidance required for quantification of emissions or removals related to the subcategory⁴⁷. For each area where applicable guidance is provided, review the descriptions of higher tier methods⁴⁸. 2. Note the following requirements for quantification of baseline emissions: 	Confirmed through independent review and recalculation of activity data and emission factors.	R	B	C

⁴⁷ For example, for subcategories pertaining to land conversion to cropland, one would refer to Chapter 5.3, “Land Converted to Cropland.” One would also refer to other portions of the IPCC 2006 Guidelines as needed. For example, if biomass is burned in the process of converting forest land to cropland, one would refer to Chapter 5, Section 5.3.4 of the IPCC 2006 Guidelines for quantification guidance.

⁴⁸ Following IPCC convention, “higher tier” refers to either Tier 2 or Tier 3.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		<p>The Emissions Baseline should be constructed based on the average annual historical GHG emissions and removals (or, where legacy effects are significant, the GHG emissions and removals resulting from average annual historic activities if it can be documented that this is more conservative for the relevant subcategory(ies) and the required data is available) over a baseline period (Baseline Period) of approximately 10 years. This Emissions Baseline should be constructed based on at least two data points.</p> <p>The end date for the Baseline Period for each ERPA Phase is the most recent date prior to two years before the submission of the ISFL ER Program document for each ERPA Phase for independent technical assessment. An alternative start-date of the Baseline Period could be allowed only with a convincing justification, and is not more than 15 years before the end date of the Baseline Period.</p> <p>For Subcategories listed in paragraph 4.3.4iv, if 10 years of historical data are not available at the beginning of the first ERPA Phase to construct the Emissions Baseline, a Baseline Period of 5 years may be considered for the</p>	<p>a. Data must be available to quantify an average annual estimate of GHG emissions and removals across the Baseline Period⁴⁹, using at least two data points, according to one of the following methods:</p> <ul style="list-style-type: none"> i. Direct quantification of average annual historical GHG emissions and removals within the Program Area during the Baseline Period; or ii. Quantification of GHG emissions and removals resulting from average annual historic activities within the Program Area during the Baseline Period where all of the following criteria apply: <ul style="list-style-type: none"> 1. Legacy effects⁵⁰ are likely to impact the Emissions Baseline. 2. Required data are 				

⁴⁹ See step (2)(b) below for requirements regarding the determination of the Baseline Period.

⁵⁰ Legacy effects are emissions during the Baseline Period that are a result of land-use change that occurred before the start of the Baseline Period. Legacy effects are most likely to occur in the below-ground biomass, dead wood and soil organic matter pools, for which emissions attributable to land-use change may occur over extended periods of time.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		first ERPA Phase with sufficient justification, with the requirement to construct the Emissions Baseline using an approximate 10-year Baseline Period for subsequent ERPA Phases where possible.	<p>available, following the requirements on data quality set out below, in order to implement the approach.</p> <p>b. The Baseline Period must meet the following temporal requirements:</p> <p>i. The Baseline Period must be approximately⁵¹ 10 years in length, unless all of the following are true:</p> <ol style="list-style-type: none"> 1. The subcategory was added to the Step 1 selection per indicator step (7)(d) in indicator RA-17. 2. Sufficient data for a Baseline Period of approximately 10 years are not available 				

⁵¹ For the purposes of this indicator, “approximately” refers to a period of time within 365 days of the indicated number of years (e.g., “approximately 10 years” means a period of time that is exactly between 9 and 11 years).

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>at the beginning of the first ERPA Phase.</p> <p>3. Sufficient data for a Baseline Period of at least 5 years⁵² are available at the beginning of the first ERPA Phase.</p> <p>4. The Baseline Period is set to between 5 and 10 years in length.</p> <p>5. A compelling rationale⁵³ is provided regarding the propriety of a Baseline Period of between 5 and 10 years for this subcategory.</p> <p>6. Where possible, a commitment</p>				

⁵² Baseline Periods less than five full years (e.g., in general, five consecutive periods of 365 days) in length are not permitted.

⁵³ It is expected that the most common reasons that may be given for a shorter Baseline Period will be related to lack of data availability. The assessment team should closely scrutinize any claims made but should be prepared to accept any justifiable explanation for lack of feasibility.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>is made to construct the Emissions Baseline using an approximate 10-year Baseline Period for subsequent ERPA Phases.</p> <p>ii. Both of the following must be true regarding the date falling exactly two years before the date of submittal of the ERPD for quality review by the World Bank (referred to in this step (2) as the “date of interest”):</p> <ol style="list-style-type: none"> 1. The Baseline Period must end on or earlier than the day just before the date of interest. 2. If the Baseline Period does not end on the day just before the date of 				

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>interest, the Baseline Period must end as recently as possible prior to the day just before the date of interest, and good reason must be provided for why the Baseline Period cannot end on the day just before the date of interest.</p> <p>iii. If the start date of the Baseline Period is not approximately 10 years before the end of the baseline period, all of the following are true:</p> <p>1. A compelling rationale can be provided regarding why it would be</p>				

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>infeasible⁵⁴ for the start of the Baseline Period to be within approximatel y 10 years of the end of the baseline period.</p> <p>2. The start date of the Baseline Period is not more than 15 years before the end data of the Baseline Period.</p> <p>3. Use the following procedure for determining whether the subcategory “meets Tier 2” (i.e., can be quantified using higher tier methods) and, thus, adheres to the requirements of this step (3):</p> <p>a. Refer to Table 5 to identify any greenhouse gases or carbon pools (referred to in the remainder of this indicator as</p>				

⁵⁴ It is expected that the most common reasons that may be given for lack of feasibility will be related to lack of data availability, but perhaps other reasons may be given for lack of feasibility. The assessment team should closely scrutinize any claims made but should be prepared to accept any justifiable explanation for lack of feasibility.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>“G/Ps”) associated with the subcategory.⁵⁵</p> <p>b. Of the G/Ps identified in step (3)(a) above, assess whether there are any G/Ps for which higher tier methods are not available for the entire process of quantifying both (a) baseline emissions (in consideration of the data requirements for baseline quantification as identified in step (2) above) and (b) monitoring emissions related to the subcategory.</p> <p>c. If no such G/Ps exist, the subcategory meets Tier 2; skip to step (4). Otherwise, the following significance testing procedure must be applied:</p> <ol style="list-style-type: none"> Using information in the Program GHG Inventory, determine the GHG emissions or removals associated with each greenhouse gas or carbon pool identified in step (3)(a) above. Calculate the absolute value of each quantity determined in step (3)(c)(i) above. Rank the absolute values calculated in 				

⁵⁵ For any subcategory with one or more associated carbon pools, the greenhouse gas CO₂ must be disregarded for purposes of assessing whether the subcategory meets Tier 2 (double-counting in the significance testing would otherwise result).

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>step (3)(c)(ii) above, and the associated G/Ps, from highest to lowest.</p> <p>iv. Sum the absolute values calculated in step (3)(c)(ii) above.</p> <p>v. Divide each value calculated in step (3)(c)(ii) by the value calculated in step (3)(c)(iv) above and multiply by 100 to convert to a percentage. This is the relative contribution to the absolute level of the total GHG emissions and removals in the subcategory.</p> <p>vi. Work through the list of G/Ps in sequential order from top to bottom, adding, for each G/P, the value calculated in step (3)(c)(v) for that G/P to the sum of the corresponding values across all G/Ps that are higher-ranked (i.e., that appear higher in the ranked</p>				

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>list).⁵⁶ The result of this operation, for each G/P, is the calculation of the cumulative contribution of that G/P to the total absolute GHG emissions and removals.</p> <p>vii. Identify all G/Ps meeting at least one of the following criteria (such G/Ps are considered “significant”):</p> <ol style="list-style-type: none"> 1. Having an associated relative contribution to the absolute level of the total GHG emissions and removals in the subcategory, as calculated in step (3)(c)(v) above, that is greater than 				

⁵⁶ This is the same operation as that set out in Step (6) of indicator RA-17. An example of this operation is given in Table 4.5, Section 4.5, Chapter 4, Volume 1 of the IPCC 2006 Guidelines.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>or equal to 25.000%.</p> <p>2. Having an associated cumulative contribution to the absolute level of the total GHG emissions and removals in the subcategory, as calculated in step (3)(c)(vi) above, that is less than 60.000%.</p> <p>3. Being the first G/P encountered, when reviewing the list of values calculated in step (3)(c)(vi) from top to bottom, for which the calculated value is greater than or equal to 60.000%.</p>				

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>viii. For each G/P identified in step (3)(c)(vii) above, determine whether higher tier methods are available for the entire process of quantifying both (a) baseline emissions (in consideration of the data requirements for baseline quantification as identified in step (2) above) and (b) monitoring emissions related to the subcategory.</p> <ol style="list-style-type: none"> 1. If an affirmative determination is made for each G/P identified in step (3)(c)(vii) above, the subcategory meets Tier 2. 2. Otherwise, the subcategory does not meet Tier 2. <p>4. If the subcategory is related to land use change⁵⁷, determine whether the</p>				

⁵⁷ This step is not applicable to subcategories not related to land use change.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>following requirements for quantification of activity data, in respect of Approaches 1, 2 and 3 as described in Volume 4, Chapter 3, Section 3.3.1 of the IPCC 2006 Guidelines, can be adhered to for the entire process of quantifying both (a) baseline emissions (in consideration of the data requirements for baseline quantification as identified in step (2) above) and (b) monitoring emissions related to the subcategory:</p> <ul style="list-style-type: none"> a. Quantification of activity data using Approach 1 is not permitted. b. Activity data using must be quantified using Approach 3, unless this is not possible, in which case Approach 2 may be used, provided that ancillary information is available that allows to land-use conversions to be tracked over time. <p>5. Determine whether the subcategory meets Tier 2, through application of the procedure set out in step (3) above, and adheres to any applicable requirements for land representation as set out in step (4) above.</p> <ul style="list-style-type: none"> a. If yes, the subcategory is assigned RET status. b. If not: <ul style="list-style-type: none"> i. If the sub-category in question is “forest land remaining forest land” and all of the following are true, the 				

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>sub-category is assigned RET status.</p> <ol style="list-style-type: none"> 1. The only issue is that sufficient activity data⁵⁸ are not available to meet the requirements of higher tier methods for each G/P identified in step (3)(c)(vii) above. 2. Data from an Activity Data Proxy are available to serve as a substitute for the missing activity data in the implementation of a higher tier method, and are used for this purpose. 3. In respect of baseline emissions, 				

⁵⁸ “Activity data” is defined in Volume 1, Chapter 1 of the IPCC 2006 Guidelines as “information on the extent to which a human activity takes place”; such data are most frequently calculated using units of land area (e.g., hectares).

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>quantification follows guidance for baseline quantification set out in step (2) above.</p> <p>ii. Otherwise, the subcategory is assigned PREM status.</p> <p>6. The outcome of the above steps is a list of subcategories with a status identifier (either “RET” or “PREM”) attached to each); this is termed the Step 2 selection.</p>				
RA-21	PR§4.3.11-4.3.13	<p>For each ERPA Phase, ISFL ER Programs shall only account for those subcategories for which step 2 has shown that the historic activity data and emission factors available, and the methods used to collect these activity data and emission factors, meet the quality and baseline setting requirements for ISFL Accounting listed in Section 4.2 while taking into account the provisions of paragraph 4.3.8 and 4.3.9.</p> <p>If a subcategory selected in step 1 has historic data available to construct an Emission Baseline over a Baseline Period of approximately 10 years but these data do not meet the other quality requirements of Section 4.2, it can only be included for accounting in the ERPA Phase if all the quality requirements can be met through the</p>	<p>The following procedure, or a different procedure that, in conjunction with other procedures, results in an identical Step 3 selection, has been followed for each subcategory included in the Step 2 selection:</p> <ol style="list-style-type: none"> 1. If the subcategory has a status of RET, it is included in the Step 3 selection. 2. If the subcategory has a status of PREM: <ol style="list-style-type: none"> a. If the subcategory was assigned a status of PREM for the sole reason that, while historic data available to construct an Emission Baseline over a Baseline Period of approximately 10 years do exist, these data do not meet the requirements set out in steps (3) and (4) of indicator RA-20, the subcategory is included in the Step 3 selection 	Confirmed through independent review and recalculation of activity data and emission factors.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		<p>application of improved methods and data. ISFL ER Programs that intend to include such a subcategory need to ensure that the quality requirements can be met at the latest at the end of the ERPA Phase. In this case, ISFL ER Programs shall provide an interim Emissions Baseline at the beginning of the ERPA Phase using best available data to be able to provide ex-ante estimations of the Emission Reductions.</p> <p>Each relevant subcategory selected in step 1 that does not have sufficient historic data available to construct an Emission Baseline over a Baseline Period of approximately 10-year period at the start of an ERPA Phase (with the exception of the subcategories that meet the requirements of 4.3.9), cannot be included for accounting and the calculation of the emission reductions and removals in that ERPA Phase. In this case the ISFL ER Program shall monitor the emissions for that subcategory in accordance with the quality requirements of Section 4.2 for the ERPA Phase and these monitored data collected during the ERPA Phase (and potentially earlier ERPA Phases) shall be used to estimate the Emissions Baseline during the subsequent ERPA Phase in order to fulfill the baseline period requirements outlined in Section 4.2</p>	<p>if a “justifiable” determination is made that it will be possible to produce an Emissions Baseline adhering to the requirements of the same steps (3) and (4) by no later than the end of the first ERPA Phase. Otherwise, the subcategory is not included in the Step 3 selection.</p> <p>b. If the subcategory was assigned PREM status because, at least in part, historic data available to construct an emission baseline over a Baseline Period of approximately 10 years do not exist, the subcategory is not included in the Step 3 selection.</p> <p>c. If the subcategory was assigned PREM status for any reason other than given in steps (2)(a)-(b) above, the subcategory is not included in the Step 3 selection.</p>				
RA-22	T§4.2.2	For each of the subcategories selected in step 1, provide a summary of the	For each of the subcategories included in the Step 1 selection, the provided table in Section	Confirmed through review of the ERPD.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		review of the available data and methods for the subcategories against the quality and baseline setting requirements for ISFL Accounting using the table template below. Copy and complete the table for each individual subcategory	4.2.1 of the PD Template is populated (the table is populated uniquely for each such subcategory) with summary information regarding the review of the available data and methods against the quality and baseline setting requirements for ISFL Accounting.				
RA-23	TAnnex 7	<p>For each of the selected subcategories in Section 4.2.1:</p> <ul style="list-style-type: none"> Identify the parameters that were used to determine the activity data and emission factors in the calculation of the emissions and removals for that subcategory; For each parameter used to determine activity data, describe the historic time series available for that parameter including how they relate to the proposed start date and end date of the Baseline Period (see Section 4.4.1); Provide details on the source of the parameters (e.g., official statistics) or a description of the method for determining the parameter (e.g., for parameters derived from remote sensing images describe the process applied including details such as the type of sensors and the details of the images used). If proxies have been used, describe the data sources for the proxies and their application to estimate activity data; Provide details on the spatial level of the parameters (local, regional, national or international) and if they allow for spatially explicit observations 	<p>The following information is included in Annex 7 of the ERPD for each of the subcategories included in the Step 1 selection:</p> <ol style="list-style-type: none"> Identification of the “parameters: used to determine the activity data and emission factors in the calculation of the emissions and removals for the subcategory For each “parameter” identified in (1) above: <ol style="list-style-type: none"> If the “parameter” is used to determine activity data, a description of the historic time series available for that “parameter”, including how the available time series relates to the start date and end date of the Baseline Period Details on the data source for the “parameter”, following one of the below options, as applicable: <ol style="list-style-type: none"> If the “parameter” has been measured, a description of the 	Confirmed through review of the ERPD and calculation workbooks.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		<p>of land-use categories and land-use conversions;</p> <ul style="list-style-type: none"> • Provide an analysis if the parameters comply with the requirements on the use of, at minimum, IPCC Tier 2 methods and data. For parameters used for land use change-related subcategories, also provide an analysis if they data allows for the use of Approach 3 for land representation. 	<p>method for determining the “parameter” (e.g., for “parameters” derived from remote sensing images describe the process applied including details such as the type of sensor and the types of imagery used).</p> <p>ii. If proxies have been used, describe the data sources for the proxies and their application to estimate activity data.</p> <p>iii. For other data sources (e.g., literature or expert judgment), provide a description of the source of the data.</p> <p>c. If the “parameter” is spatial in nature, details on the level to which it applies (local, regional, national or international) and clarification as to whether the “parameter” allows for spatially explicit observations of land-use categories and land-use conversions.</p>				

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			<p>d. An analysis as to whether the “parameter” complies with the requirements on the use of, at minimum, IPCC Tier 2 methods and data.</p> <p>e. If the “parameter” is used for land use change-related subcategories, an analysis as to whether data provided by the “parameter” allows for the use of Approach 3 for land representation.</p>				
RA-24	T§4.2.3	Based on the analysis above, complete the table below by listing all subcategories from step 1 and identifying those subcategories for which step 2 has shown that the historic activity data and emission factors available, and the methods used to collect these activity data and emission factors, meet the quality and baseline setting requirements for ISFL Accounting.	In the provided table in Section 4.2.3 of the PD Template, list all subcategories included in the Step 1 selection and populate the table according to its instructions, with those subcategories included in the Step 3 selection (and only such subcategories) being identified as “Eligible for ISFL Accounting” ⁵⁹ .	Confirmed through review of the ERPD and calculation workbooks.	R	B	C
RA-25	PR§4.3.1; T§4.3; TAnnex 8	[For] Each relevant subcategory selected in step 1 that does not have sufficient historic data available to construct an Emission Baseline over a Baseline Period of approximately 10-year period at the start of an ERPA Phase (with the exception of the	A description of the time-bound plan to increase the completeness of the scope of accounting and improve data and methods for the subsequent ERPA Phases during the ERPA Term is provided in Section 4.3 of the PD Template, and the full plan itself is provided in Annex 8 of the PD Template.	Confirmed through review of the ERPD, calculation workbooks, and discussions with the program team.	R	B	C

⁵⁹ The distinction in the provided table between “Emissions Baseline setting requirement(s),” “Methods and data requirement(s)” and “Spatial information requirement(s)” is not clear, so the assessment team should be flexible regarding how these columns are filled out. The factors of primary importance are that all subcategories included in the Step 1 selection are included in the table and that the “Eligible for ISFL Accounting?” column is correctly populated in respect of whether or not each subcategory is included in the Step 3 selection.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		<p>subcategories that meet the requirements of 4.3.9)... the ISFL ER Program shall monitor the emissions for that subcategory in accordance with the quality requirements of Section 4.2 for the ERPA Phase and these monitored data collected during the ERPA Phase (and potentially earlier ERPA Phases) shall be used to estimate the Emissions Baseline during the subsequent ERPA Phase in order to fulfill the baseline period requirements outlined in Section 4.2.</p> <p>For subcategories that were included in Section 4.2.1 above as part of the initial selection (step 1) but were not eligible for ISFL Accounting, please provide a summary of the time bound plan (approximately 500 words) to increase the completeness of the scope of accounting, improve data and methods and start collecting data to be able to estimate the Emissions Baseline for the subsequent ERPA Phases during the ERPA Term. Also, discuss those subcategories selected in step 1 that have historic data available to construct an Emission Baseline over a Baseline Period of approximately 10 years but where these data do not meet the other quality requirements and identify if all the quality requirements can be met through the application of improved methods and</p>	<p>The time-bound plan, and the description thereof, have the following attributes:</p> <ol style="list-style-type: none"> 1. For any subcategory included in the Step 1 selection but not included in the Step 3 selection, concrete actions are identified that will meet the following objectives: 2. Increase the completeness of the scope of accounting. 3. Improve data and methods. 4. Start collecting data to be able to estimate the Emissions Baseline for one or more subsequent ERPA Phases during the ERPA Term. 5. For any subcategory identified in step (2)(a) of indicator RA-21: 6. If the subcategory was included in the Step 3 selection, it is affirmed that all the quality requirements can be met through the application of improved methods and data by the end of the first ERPA Phase⁶⁰ and concrete actions are identified that will result in the subcategory being granted RET status, upon application of the procedure set out in indicator RA-20, by the end of the first ERPA Phase. 7. If the subcategory was not included in the Step 3 selection, this is clearly 				

⁶⁰ For such subcategories, this is a precondition for inclusion in the Step 3 selection.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		data at the latest at the end of the current ERPA Phase. Please include the full-time bound plan in Annex 8 below.	stated and the information requested in (1)(a)-(c) above is provided.				
RA-26			The time-bound plan to increase the completeness of the scope of accounting and improve data and methods for the subsequent ERPA Phases during the ERPA Term, as described in Section 4.3 of the ERPD and provided in full in Annex 8 of the ERPD, has the following attributes:				
RA-27			The time-bound plan is specific , with actions to be taken and responsible parties clearly identified.	Confirmed through review of the ERPD and discussions with the program team.	R	P*	II
RA-28			The time-bound plan is measurable : describing actions to be taken with a sufficient level of detail that it will be possible to objectively measure progress towards any objectives. ⁶¹	Confirmed through review of the ERPD and discussions with the program team.	R	P*	I
RA-29			The time-bound plan is achievable : feasible given resources that can reasonably be assumed to be available to the Program Entity.	Confirmed through review of the ERPD and discussions with the program team.	R	P*	II
RA-30			The time-bound plan is relevant , with the largest amount of planned effort granted to subcategories that of the highest priority for eligibility for ISFL Accounting. ⁶²	Confirmed through review of the ERPD and discussions with the program team.	R	P*	II
RA-31			The time-bound plan is time-bound , with specific milestones provided by which key implementation actions will be completed.	Confirmed through review of the ERPD and discussions with the program team.	R	P*	I
RA-32			The time-bound plan is likely to increase the completeness of the scope of accounting.	Confirmed through review of the ERPD	R	P*	I

⁶¹ For example, of the two planned actions described below, the second is more measurable than the first.

1. "We will acquire updated medium-resolution imagery for the Program Area."
2. "We will acquire cloud-free medium-resolution imagery from the Landsat-8 sensor as it becomes available, with an objective of having wall-to-wall coverage of the Program Area by 31 March 2019."

⁶² The determining of priority is to be made by the Program Entity.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
				and discussions with the program team.			
RA-33			The time-bound plan is likely to improve data and methods for the subsequent ERPA Phases.	Confirmed through review of the ERPD and discussions with the program team.	R	P*	I
RA-34	PR§1; PR§4.4.1	For each ERPA Phase, ISFL ER Programs shall determine an Emissions Baseline comprising those subcategories that are eligible for ISFL Accounting in the ERPA Phase as determined by the steps in Section 4.3. ISFL ER Programs are expected to demonstrate conformity with this document and apply general principles of... conservativeness in order to be able to receive result-based finance from the ISFL.	For each subcategory included in the Step 3 selection, the following are true, as applicable, regarding the Emissions Baseline for the first ERPA Phase ("the First Phase Baseline"): 1. The First Phase Baseline has been constructed, in respect of the subcategory, following the requirements set out in step (2) of indicator RA-20. 2. If the subcategory was determined to meet Tier 2 in step (3) of indicator RA-20, only higher tier methods are used to construct the First Phase Baseline for any greenhouse gases or carbon pools identified in step (3)(c)(vii) of the same indicator (no Tier 1 methods are used for such greenhouse gases or carbon pools). 3. If the subcategory is related to land use change, the requirements of step (4)(a)-(b) of indicator RA-20 are adhered to in constructing the First Phase Baseline. 4. If step (5)(b)(i) of indicator RA-20 applies to the subcategory, the requirements in step (5)(b)(i)(1)-(3) of	Confirmed through review of the ERPD and calculation workbooks.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			the same indicator are adhered to in constructing the First Phase Baseline. 5. If step (2)(a) of indicator RA-21 applies to the subcategory, an Interim Emissions Baseline is produced for the sub-category using “best available” data and incorporated into the First Phase Baseline for purposes of ex-ante quantification of Emission Reductions.				
RA-35			The First Phase Baseline is constructed through summation of the individual subcategory-specific baselines across all subcategories included in the Step 3 selection.	Confirmed through review of the ERPD and calculation workbooks.	R	B	C
RA-36			The following guidance is applied in constructing the First Phase Baseline, as applicable: 1. The good practice suggestions of the IPCC 2006 Guidelines. 2. The guidance of Sections 3-5 of GFOI.	Confirmed through review of the ERPD and calculation workbooks, and independent recalculation of the baseline.	R	P	III
RA-37			The First Phase Baseline has been constructed using conservative methodological assumptions and approaches in order to ensure that Emission Reductions are not over-estimated (i.e., to err on the side of underestimating baseline emissions). ⁶³	Confirmed through review of the ERPD and calculation workbooks, and independent recalculation of the baseline.	R	P	II

⁶³ This language paraphrases Section 3.7 of ISO 14064-2:2006. Note, however, the following:

1. The principle of conservativeness does not necessarily imply that choices leading to a higher Emission Baseline are made at every turn. It simply requires that, in the face of uncertainty, methodological assumptions and approaches are selected that err on the side of over-estimating the baseline.
2. As referenced in this indicator, the principle of conservativeness does not extend to the selection of data sources, such as emission factors. It is not expected, for example, that where an uncertainty range around an emission factor is provided in the literature, the lower bound of that range will be selected for use in quantification. Uncertainty in data sources will be accounted for in the calculation of the uncertainty set-aside factor, per Section 4.6 of the Program Requirements.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
RA-38			Where legacy effects are likely to be present, these have been accounted for in construction of the First Phase Baseline through appropriate implementation of the accounting approach set out in step (2)(a)(ii) in indicator RA-20.	Confirmed through review of the ERPD and calculation workbooks, and independent recalculation of the baseline.	R	P	III
RA-39			In constructing the First Phase Baseline, all emissions from the below-ground biomass, dead wood, litter and soil organic matter carbon pools following land-use change are not assumed to be instantaneous or to occur within a short period of time, but are projected using a decay function over a “justifiable” period of time. ⁶⁴	Confirmed through review of the ERPD and calculation workbooks, and independent recalculation of the baseline. However, FARs and observations have been issued regarding the quantification approach for several pools and nonforest to forest transitions.	R	P	III
RA-40			Emissions Baselines for ERPA Phases after the first ERPA Phase, as reported in Section 4.4.2 of the PD Template, are “justifiable” in light of (a) projected trends in average emissions (over future Baseline Periods as relevant to future ERPA Phases) within the Program Area and (b) subcategories that were not included in the Step 3 selection that are predicted to become eligible for ISFL Accounting in respect of future ERPA Phases.	Confirmed through review of the ERPD and calculation workbooks, and independent recalculation of the baseline.	L	P	I
RA-41	PR\$4.6.1	ISFL ER Programs shall systematically identify and assess sources of	A “justifiable” assessment of sources of uncertainty in the construction of the Emissions	Confirmed through review of the ERPD	R	B	FAR

⁶⁴ Page 3.9 of Chapter 3, Volume 4 of the 2006 IPCC Guidelines suggests a default time period of 20 years for “dead organic matter and soil carbon stocks to reach equilibrium following land-use conversion” and, therefore, a default time period of 20 years will automatically be considered justifiable for purposes of this indicator. However, time periods other than 20 years may also be justifiable.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		uncertainty in the determination of the Emissions Baseline... following most recent IPCC guidance and guidelines...	<p>Baseline for the first ERPA Phase has been carried out; this assessment has the following attributes:</p> <ol style="list-style-type: none"> 1. The assessment is systematic, in that it proceeds in a methodical manner through the various components of the quantification process and assesses uncertainty independently for each component. 2. The classification of uncertainties is undertaken using the “eight broad causes of uncertainty” identified in Section 3.1.5 of Chapter 3, Volume 1 of the IPCC 2006 Guidelines; an exhaustive identification of all instances of each of these causes of uncertainty is provided. 	<p>and calculation workbooks, discussions with the program team and independent recalculation.</p> <p>A FAR has been issued related to the uncertainty (accuracy assessment of LULC).</p>			
RA-42	PR§4.6.1	ISFL ER Programs shall, to the extent feasible, follow a process of managing and reducing uncertainty in the determination of the Emissions Baseline...	A “justifiable” assessment has been undertaken regarding how uncertainty in the construction of the Emissions Baseline for the first ERPA Phase can be managed and reduced, given the means that can reasonably be made available to the Program Entity. This assessment has been acted upon.	Confirmed through review of the ERPD and calculation workbooks, discussions with the program team and independent recalculation. A FAR has been issued related to the uncertainty (accuracy assessment of LULC).	R	B	FAR
RA-43			The guidance set out in Section 3.1.6 of Chapter 3, Volume 1 of the IPCC 2006 Guidelines has been duly considered in assessing how uncertainty in the construction of the Emissions	Confirmed through review of the ERPD and supporting data and documentation, and independent	R	P	I

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			Baseline for the first ERPA Phase can be managed and reduced.	recalculation. However, a forward action request has been issued regarding the final baseline uncertainty.			
RA-44			The “best available” data have been used in the construction of the Emissions Baseline for the first ERPA Phase.	Confirmed through review of the ERPD and supporting data and documentation, and independent recalculation of the baseline. However, FARs/observations have been issued in section 5.2 above regarding the dead organic matter data and land classification data.	R	P	II
RA-45	T\$4.4.1	Building on the information provided in 4.2 above, please provide a short description (maximum two pages) of the approach used for estimating the Emissions Baseline. Please provide: <ul style="list-style-type: none"> A description of the general approach applied to estimate the Emissions Baseline in the current ERPA Phase Identification and assessment of uncertainty in the determination of the Emissions Baseline. 	The following information is provided in Section 4.4.1 of the ERPD: <ol style="list-style-type: none"> A description of the general approach applied to estimate the Emissions Baseline in the current ERPA Phase.⁶⁵ Identification and assessment of uncertainty in the determination of the Emissions Baseline The start date(s) and end date(s) of the Baseline Period(s) used in the 	Confirmed through review of the ERPD and supporting data and documentation, and independent recalculation of the baseline.	R	B	C

⁶⁵ All references to the “current ERPA Phase” refer to the first ERPA Phase.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		<ul style="list-style-type: none"> The Baseline Period(s) used in the construction of the Emissions Baseline for the current ERPA Phase by indicating the start-date and the end-date for the Baseline Period(s). If different Baseline Periods are used for different subcategories, explain how this meets the requirements. In case an interim Emissions Baseline is provided at the beginning of the ERPA Phase, identify those subcategories that led to the use of the interim baseline and describe how best available data have been used. Ex-ante estimate, including assumptions made, of how the Emissions Baseline will change in future ERPA Phases. 	<p>construction of the Emissions Baseline for the current ERPA Phase</p> <ol style="list-style-type: none"> If different Baseline Periods are used for different subcategories, clarification regarding how this meets any relevant clauses of the Program Requirements. In case an interim Emissions Baseline is provided at the beginning of the ERPA Phase, identification of those subcategories that led to the use of the interim baseline and a description of how “best available” data have been used. An ex-ante estimate of how the Emissions Baseline will change in future ERPA Phases (with a description of any assumptions made in producing the estimate). 				
RA-46	TAnnex 9	Please provide a step-by-step calculation of the Emissions Baseline. Provide a transparent, complete, consistent and accurate description of the approaches, methods, and assumptions used and provide an overview of the activity data and emission factors used in a way that is sufficiently detailed to enable the reconstruction of the Emissions Baseline. Identify and assess the sources of uncertainty in the determination of the Emissions Baseline and describe actions that have been taken to manage or reduce uncertainty	<p>A step-by-step calculation of the Emissions Baseline, including the following information, is provided in Annex 9 of the ERPD:</p> <ol style="list-style-type: none"> A transparent, complete, consistent and accurate description of the approaches, methods, and assumptions used An overview of the activity data and emission factors used in a way that is sufficiently detailed to enable the reconstruction of the Emissions Baseline. An identification and assessment of the sources of uncertainty in the 	A Forward Action Request has been issued regarding Annex 9.	R	B	FAR

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		Attach any spreadsheets, spatial information, maps and/or synthesized data used in the calculation.	determination of the Emissions Baseline and a description of actions that have been taken to manage or reduce uncertainty. Any spreadsheets, spatial information, maps and/or synthesized data used in the calculation of the Emissions Baseline are incorporated by reference to Annex 9.				
RA-47	T§4.4.2	Provide the estimate of the Emissions Baseline in the table below.	An estimate of the Emissions Baseline is provided, for each ERPA Phase included in the ERPA Term, in the provided table in Section 4.4.2 of the PD Template.	Confirmed through review of the ERPD and the calculation workbook.	R	B	C
RA-48	T§4.5.1	Please provide a description (two pages or less) of the methods and standards for generating, recording, storing, aggregating, collating and reporting data on monitored parameters, including equations if necessary.	Section 4.5.1 contains a description of the methods and standards ⁶⁶ for generating, recording, storing, aggregating/collating and reporting data on monitored “parameters”, including equations if necessary.	Confirmed through review of the ERPD and the calculation workbook.	R	B	C
RA-49	T§4.5.2	Please provide a description or flow diagram (one page or less) indicating how the monitoring system will operate and who will be responsible for monitoring the parameters.	Section 4.5.2 of the ERPD contains a description or flow diagram indicating how the monitoring system will operate and who will be responsible for monitoring the “parameters”.	Confirmed through review of the ERPD.	R	B	C
RA-50	TAnnex 10; PR§4.6.1	Using the table provided, clearly describe all the data and parameters to be monitored (copy table for each parameter).	Using the table provided ⁶⁷ in Annex 10 of the ERPD a clear description is provided of all the data and “parameters” to be monitored (copy table for each “parameter”).	Confirmed through review of the ERPD.	R	B	C
RA-51		ISFL ER Programs shall systematically identify and assess sources of	A “justifiable” assessment of sources of uncertainty in the monitoring of emissions and	Confirmed through review of the ERPD	R	B	C

⁶⁶ The definition of “standard” that applies to here is (from Merriam-Webster): “something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality.” For example, when speaking of collection of remotely sensed data, a standard for pixel size (such as 30 meters) could be described in the ERPD.

⁶⁷ An overly-stringent interpretation of the table in Annex 10 would not be in anyone’s best interest. While clarity in how the table is populated is important, brevity should be permitted so long as clarity is not degraded. References to external documents (e.g., if a certain section of a Standard Operating Procedures document is referenced under “Quality Assurance/Quality Control procedures to be applied”) should be permitted, so long as the external documents are clearly provided.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		uncertainty in the... monitoring of emissions and removals following most recent IPCC guidance and guidelines...	<p>removals has been carried out and documented in Annex 10 of the ERPD (under “Identification of sources of uncertainty for this “parameter”...”); this assessment has the following attributes:</p> <ol style="list-style-type: none"> 1. The assessment is systematic, in that it proceeds in a methodical manner through the various “parameters” used in quantification and assesses uncertainty independently for each component. 2. The classification of uncertainties is undertaken using the “eight broad causes of uncertainty” identified in Section 3.1.5 of Chapter 3, Volume 1 of the IPCC 2006 Guidelines; an exhaustive identification of all instances of each of these causes of uncertainty is provided. 	and calculation workbook, and discussions with the program team.			
RA-52	T§4.5.3	<p>The details on all data and parameters to be monitored in Annex 10 below should also provide a systematic identification and assessment of uncertainty in the data and parameters to be monitored. Based on the information provided in the Annex, indicate how uncertainty will be managed and reduced in the monitoring of emissions and removals (roughly 500 words or less).</p> <p>ISFL ER Programs shall, to the extent feasible, follow a process of managing and reducing uncertainty in the... monitoring of emissions and removals.</p>	A “justifiable” assessment has been undertaken, and documented in Section 4.5.3 of the ERPD, regarding how uncertainty in the monitoring of emissions and removals can be managed and reduced, given the means that can reasonably be made available to the Program Entity.	Confirmed through review of the ERPD and discussions with the program team.	R	B	C
RA-53			The guidance set out in Section 3.1.6 of Chapter 3, Volume 1 of the IPCC 2006 Guidelines has been duly considered in assessing how uncertainty in the monitoring of emissions and removals can be managed and reduced.	Confirmed through review of the ERPD and discussions with the program team.	R	P	II
RA-54			The “best available” data have been used in the monitoring of emissions and removals.	Confirmed through review of the ERPD and discussions with the program team	R	P	II

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
				However, FARs/observations have been issued in section 5.2 above regarding the dead organic matter data and land classification data.			
RA-55			<p>The following guidance is applied in constructing the monitoring of emissions and removals, as applicable:</p> <ol style="list-style-type: none"> 1. The good practice suggestions of the IPCC 2006 Guidelines. 2. The guidance of Sections 3-5 of GFOI. 	Confirmed through review of the ERPD and discussions with the program team.	R	P	I
RA-56	PR§4.2.2-4.2.3; PR§4.5.1	<p>ISFL ER Programs shall estimate all the subcategories and their associated carbon pools and gases included in the scope for ISFL Accounting following the quality requirements in Section 4.2. ISFL ER Programs shall account for the total net emission reductions across eligible subcategories by estimating the baseline and monitoring emissions and removals for the eligible subcategories using at minimum IPCC Tier 2 methods and data. Subcategories are considered to meet Tier 2 if all the significant¹² pools and gasses are estimated using Tier 2 methods and data. ISFL ER Programs are encouraged to improve data and methods, and to move to a higher tier over time, as possible. For accounting emission reductions from land use change-related</p>	<p>For each subcategory included in the Step 3 selection, the following are true, as applicable, regarding the planned monitoring data and methods as described in Section 4.5 and Annex 10 of the ERPD:</p> <ol style="list-style-type: none"> 1. If the subcategory was determined to meet Tier 2 in step (3) of indicator RA-20, only higher tier methods are planned for monitoring emissions from any greenhouse gases or carbon pools identified in step (3)(c)(vii) of the same indicator (no Tier 1 methods are planned for such monitoring). 2. If the subcategory is related to land use change, the requirements of step (4)(a)-(b) of indicator RA-20 are adhered to in monitoring emissions. 	Confirmed through review of the ERPD and supporting data and documentation, and discussions with the program team.	R	B	C

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		subcategories, Approach 3 should be used for land representation; Approach 2 may be used if this is not possible if ancillary information is available that allows to track land over time.					
RA-57	PR§4.5.2	In estimating the subcategories and their associated carbon pools and gases included in the scope for ISFL Accounting, ISFL ER Programs shall ensure methodological consistency between the Emissions Baseline and the monitored net GHG emissions. Methodological consistency implies that same methods and datasets have been used to calculate the Emission Baseline and the actual GHG emissions and removals. In case methods and/or datasets differs, methodological approaches provided by IPCC Guidelines to ensure time series consistency are applied.”	<p>One of the following is true:</p> <ol style="list-style-type: none"> 1. The planned monitoring methods and data as described in Section 4.5 and Annex 10 of the ERPD are identical to the methods and data that have been used to calculate the Emissions Baseline (with the obvious exception that the temporal scope differs: the monitored data will pertain to the ERPA Phase to which the monitoring applies, while the baseline data pertained to the Baseline Period). 2. There are differences between the planned monitoring methods and data as described in Section 4.5 and Annex 10 of the ERPD and the methods and data that have been used to calculate the Emissions Baseline, in which case either the description in Section 4.5 contains a commitment to either update the Emissions Baseline to use the same methods and data to be used in monitoring⁶⁸, or to use one of the 	Confirmed through review of the ERPD and data/supporting documentation, and through discussions with the program team.	R	B	C

⁶⁸ Noting, however, that revisions to the baseline during the ERPA Phase should be limited to the following:

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
			splicing techniques described in Sections 5.3.3-5.3.3.6 of Chapter 5, Volume 1 of the IPCC 2006 Guidelines in order to ensure time series consistency.				
RA-58	PR\$4.4.2; PR\$4.5.1	The Emissions Baseline shall be expressed as tonnes of CO2e per year. The measured [monitored] emissions and removals shall be expressed as tonnes CO2e per year.	Each Emissions Baseline reported in the ERPD is expressed as metric tons (i.e., megagrams) of CO2-equivalent per year. Greenhouse gases are converted using 100-year global warming potentials derived from one of the two following sources. 1. The IPCC's Second Assessment Report, which has the following global warming potentials: a. Carbon dioxide: 1 b. Methane: 21 c. Nitrous oxide: 310 2. The IPCC's Fourth Assessment Report, which has the following global warming potentials: a. Carbon dioxide: 1 b. Methane: 25 c. Nitrous oxide: 298	Confirmed through review of the ERPD and supporting data and documentation, and independent recalculation of the baseline that the IPCC Second Assessment Report GWPs were applied.	R	B	C
RA-59			If a process for quantifying monitored emissions in terms of CO2e per year is documented within the ERPD, that process utilizes the same global warming potentials that are used in construction of the Emissions Baseline.	Confirmed through review of the ERPD.	R	B	C
RA-60	T\$4.6	Please provide a simplified ex-ante estimation of the expected Emission	Section 4.6 of the ERPD contains a simplified ex-ante estimate of the expected Emission	Confirmed through review of the ERPD	R	B	C

- Replacement of emission factors used in the construction of the Emissions Baseline by others that have improved accuracy.
- Corrections to historical activity data resulting from improvements in data accuracy.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		Reductions of the ISFL ER Program. Where the calculation requires monitored data that is not available yet, use best estimates based on expected impacts of the ER Program and data that might be available from other actions (either in the country or in other countries). List all assumptions, and provide the values used for each parameter and the sources for these data. Summarize the outcome in the table below.	<p>Reductions of the ER Program for each year of the ERPA Term, having the following attributes:</p> <ol style="list-style-type: none"> Where the calculation of the ex-ante estimate requires monitored data that are not available yet, best estimates are used based on the expected impacts of the ER Program and/or data from similar circumstances. All assumptions are listed. For each “parameter” included in the analysis, the value(s) used and data sources are provided. The provided table in Section 4.6 is populated. 	and supporting calculation workbooks.			
RA-61			<p>Assumptions regarding the following, as incorporated into the ex-ante estimate presented in Section 4.6 of the ERPD, are “justifiable”:</p> <ol style="list-style-type: none"> The effectiveness of the ER Program in addressing the key drivers of land use change, as identified in indicator PD-27, considering the planned actions and interventions of the ER Program (as assessed in indicators PD-28 through PD-33) and the financing plan (as assessed in indicators PD-34 through PD-58). The impact of the ER Program on emissions within the Program Area, considering the factors identified in (1) above. 	Confirmed through review of the ERPD, calculation workbooks and expert judgement.	L	P*	I

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
RA-62	PR§4.5.3	ISFL ER Programs determine the total net emission reductions across the eligible subcategories by comparing monitored emissions and removals with a baseline as follows: Actual GHG net emissions minus Net Emission Baseline for the Program Area equals Net emission reductions	For each year of the ERPA Term, the total net Emission Reductions are calculated by taking the ex-ante estimate of actual GHG net emissions and subtracting the Emissions Baseline applicable to the corresponding ERPA Phase; the subtraction operation described above is carried out correctly.	Confirmed through independent recalculation and review of the ERPD.	R	B	C
RA-63	PR§4.6.1	Good practice requires that bias be prevented wherever possible, such as by using appropriate QA/QC procedures. Where biases cannot be prevented, it is good practice to identify and correct them when developing a mean estimate of the emission reductions. In particular, the point estimate of the emission reductions that is used for requesting	Sources of bias ⁶⁹ that can reasonably be projected to impact the estimate of the total net Emission Reductions are identified, and steps are taken to correct them to the extent practical.	Confirmed through review of the ERPD.	R	P	I

⁶⁹ In the context of this indicator, a “source of bias” is a factor resulting in divergence between the Emission Reductions that will be calculated for each year of the ERPA Term and the theoretically knowable (but, for practical purposes, unknowable) difference between the following quantities:

1. The emissions from the Program Area during the year in question that are attributable to the subcategories eligible for ISFL Accounting.
2. The average yearly emissions from the Program Area during the Baseline Period(s) that were attributable to the subcategories eligible for ISFL Accounting. In practice, some bias in the constructed Emissions Baseline is inevitable, for a multitude of reasons.

The following should be noted:

1. For all practical purposes, bias in the estimated Emission Reductions are inevitable.
2. The focus of this indicator is on bias in the estimated Emission Reductions, rather than on bias in the individual components of that estimate (e.g., in the Emissions Baseline). In theory, if the Emissions Baseline and the monitored emissions were both “off” by the same quantity, the biases would compensate and the estimate of the Emission Reductions would be free from bias.
3. At the time of the assessment, it may not be possible for all sources of bias to be identified and corrected, as only the Emissions Baseline is finalized and the quantification of monitored emissions has yet to occur. Therefore, at this time, the focus should be on identifying and correcting sources of bias in the Emissions Baseline and, to the extent that sources of bias can reasonably be projected to impact the monitoring of emissions based on the monitoring plan as described in Section 4.5 and Annex 10 of the ERPD, such sources of bias are also addressed.

No.	Sec.	Requirement Text	Indicator	Assessment Findings	LA	CT	CC
		payment should be free of biases as much as it is practical and possible.					
RA-64	T§4.7.1	Please provide an assessment (roughly 500 words or less) of the anthropogenic and natural risk of Reversals that might affect emission reductions during the ERPA Term and, as feasible, the potential risk of Reversals after the end of the last ERPA Phase.	A “justifiable” assessment of the anthropogenic and natural risk of Reversals that might affect Emission Reductions during the ERPA Term and, as feasible, the potential risk of Reversals after the end of the last ERPA Phase, is provided in Section 4.7.1 of the ERPD.	Confirmed through review of the ERPD and supporting documentation. However FARs have been issued in section 5.2 regarding the reversal risk.	R	B	FAR
RA-65	T§4.7.2; BR§7.2	Please provide an ex-ante assessment of the level of risk of Reversals, using the ISFL approved risk assessment and buffer tool. The Reversal risk assessment tool shall be used to determine the Reversal Set-Aside Percentages based on the two identified risk factors. The risk indicators in the second column of Table 2 below are indicative and non-exclusive and are provided as an example to show how to assess the risk of Reversal for each of the risk factors. The risk of Reversal is assessed for both risk factors (A and B) as high, medium or low with associated Reversal Set-Aside Percentages. The Reversal Set-Aside Percentage for the whole ER Program is calculated as the sum of the Reversal Set-Aside Percentages for both of the Risk Factors.	<ol style="list-style-type: none"> 1. An ex-ante assessment of the level of risk of Reversals is provided in Section 4.7.2 of the ERPD. 2. This estimate is calculated as the sum of the reversal set-aside percentages identified in Result A and Result B of Table 2 in the Buffer Requirements. 	Confirmed through review of the ERPD and independent recalculation of the reversal set aside. However FARs have been issued in section 5.2 regarding the reversal risk.	L	B	FAR
RA-66			The reversal set-aside percentages identified in Result A and Result B of Table 2, for purposes of the ex-ante estimate reported in Section 4.7.2 of the ERPD, have been determined in a “justifiable” manner. ⁷⁰	Confirmed through review of the ERPD. However FARs have been issued in section 5.2 regarding the reversal risk.	L	B	FAR

⁷⁰ Note that the risk indicators provided in Table 2 of the Buffer Requirements are simply examples. The assessment against this indicator should have both an element of (1) assessing the select risk indicators (i.e., assessing whether the selected indicators the applicable indicators in the context of the ER Program) and (2) assessing the level of risk assigned to each risk factor.

Appendix B: Audit Plan

Program	Original name: Jambi Sustainable Landscape Management Program (J-SLMP) Final name: Jambi Emissions Reduction Program (JERP)
Program Entity	Jambi's Ministry of Environment and Forestry
Program Location	Jambi Province
Date last updated	13 November 2023 (last shared with client 8/8/2023)

Introduction

This plan provides a description of the assessment services to be performed in respect of the Emission Reductions Program Document (ERPD) submitted for review by SCS Global Services (SCS). The structure of the assessment (e.g., the assessment objectives, scope and criteria), as described in this report, is established in SCS' inception report (version 2-4), which was updated in March 2021 and approved as final by the World Bank Group. The reader is directed to SCS' inception report for further background information.

Assessment Objectives

The objectives of the assessment are as follows:

- Ensure, according to the applicable level of assurance (see Section 4, below), that the information provided in the ERPD is correct and complete (i.e., not leaving out information that might affect the opinion of the reader)
- Conduct an independent assessment of the conformance against the approved ER Program Requirements and associated guidelines
- Apply expert judgement to evaluate the feasibility of program design aspects and identify areas of improvement to inform the World Bank Group's and ISFL Contributors' review of the ER Program.

Assessment Scope

The scope of the assessment entails review as required to achieve the above objectives; the following areas will be particularly emphasized. In some cases, consideration of the areas indicated below extends the scope of the assessment beyond a strict assessment for conformance to the assessment criteria.

Aspect	Expected Scope of the Assessment
Drivers of AFOLU emissions and removals	<ul style="list-style-type: none"> Correctness and completeness of the analysis on historic and future trends (qualitative and quantitative) in drivers of AFOLU emissions and removals Expert judgement of the analysis, including the barriers to mitigation
Description and justification of the ISFL ER Program's planned actions and interventions	<ul style="list-style-type: none"> Expert judgement whether the proposed actions and interventions address drivers of emissions and are informed by the contribution of key sources and sinks to the total GHG emissions and removals in the Program GHG Inventory and the analysis of trends Expert judgement of continued private sector engagement achieved or planned in addressing drivers of emissions Expert judgement of risks to implementation and potential benefits of planned actions and interventions
Financing plan for implementing the planned actions and interventions of the ISFL ER Program	<ul style="list-style-type: none"> Correctness and completeness of information on the transaction costs and the identified funding gaps for the ISFL ER Program and the plan for mitigating gaps Expert judgement whether the identified sources of finance are sufficient to affect the land use activities and drivers of emissions and removals Expert judgement of the financial and economic analyses, discount rates, and flows of funds
Analysis of laws, statutes, and other regulatory frameworks	<ul style="list-style-type: none"> Correctness and completeness of the information provided in the program document Expert judgement to identify any known legal or regulatory issues in the program area that can affect the program design.
Risk for displacement	<ul style="list-style-type: none"> Correctness and completeness of the information provided in the analysis of displacement risk Expert judgement on the effectiveness of the proposed strategy to mitigate and/or minimize, to the extent possible, potential Displacement
Participation under other GHG initiatives	<ul style="list-style-type: none"> Correctness and completeness of the information provided whether parts of the program area, or projects in the program area, are included in other GHG initiatives and if this creates a risk of double counting, and/or double payment
Data management and registry systems to avoid multiple claims to ERs	<ul style="list-style-type: none"> If applicable, expert judgement whether the Program and Projects Data Management System is sufficient, secure, and robust If the ISFL ER Program is not using the World Bank's transaction registry for FCPF and ISFL ER Programs, expert judgement whether the transaction registry is sufficient, secure, and robust

Aspect	Expected Scope of the Assessment
	<ul style="list-style-type: none"> ▪ If applicable, expert judgement of the data management and registry systems to recognize nested projects and avoid multiple claims to ERs
ISFL Reporting	<ul style="list-style-type: none"> ▪ Assess whether the GHG Inventory is comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report ▪ Assess whether the best available data sets, methods, models and assumptions have been used in the ISFL Reporting and that the inventory applies the general IPCC principles of transparency, completeness, consistency, accuracy and comprehensiveness
Selection of subcategories for accounting	<ul style="list-style-type: none"> ▪ Correctness and completeness of the data and information provided on the choice of the subcategories ▪ Assess whether the quality and baseline setting requirements have been applied correctly and the choice of the subcategories is correct and justified ▪ Assess whether all significant pools and sources of greenhouse gas emissions are included. If a major carbon pool/ or gas is excluded, assess whether this has been sufficiently explained and justified, provided it is not a significant pool
Emissions baseline	<ul style="list-style-type: none"> ▪ Assess whether the methods used to construct are in line with the IPCC and best practice approaches as defined, for example by the GFOI ▪ Correctness and completeness of the data used to construct the baseline ▪ Assess whether the baseline requirements have been applied correctly and the Emissions Baseline estimate is calculated correctly ▪ Assess whether the uncertainty in the Emissions Baseline has been correctly identified and assessed in accordance with IPCC good practice
Time bound plan to increase the completeness of the scope of accounting and improve data and methods for the subsequent ERPA Phases during the ERPA Term	<ul style="list-style-type: none"> ▪ Expert judgement whether the proposed plan is feasible, addresses priority subcategories and is likely to increase the completeness of the scope of accounting and improve data and methods for the subsequent ERPA Phases
Ex-ante estimation of the emission reductions	<ul style="list-style-type: none"> ▪ Expert judgement if the assumed effectiveness of the program in addressing the drivers and its impact on the emissions is justified and based on reasonable assumptions
Monitoring approach	<ul style="list-style-type: none"> ▪ Assess whether the data and methods proposed for monitoring are consistent enough with the data and methods used for the determination of the baseline to allow for meaningful comparison and calculation of the emission reductions

Aspect	Expected Scope of the Assessment
	<ul style="list-style-type: none"> Assess whether the proposed monitoring methods and arrangements are in place as described in the Program Document and are technically capable of collecting the data Assess whether the uncertainty in the data and parameters to be monitored has been correctly identified and assessed and if the proposed approach to manage and reduce uncertainty reflects good practice
Reversals	<ul style="list-style-type: none"> Correctness and completeness of the data and assumption used in the assessment of the reversal risk Assess whether the ISFL Buffer Requirements have been applied correctly

Assessment Criteria and Good Practice Guidance

The criteria for the assessment are as follows:

- The approved ISFL ER Program Requirements, Version 2.0, April 2021 (“the Program Requirements”)
- The following associated guidelines:
 - ISFL Buffer Requirements, Version 2.0, April 2020 (“the Buffer Requirements”)
 - ISFL Program Document Template, Version 2, January 2020⁷¹

The following guidance documents (or collections of documents) will be considered to contain *good practice* in undertaking the assessment, though said documents are not formally considered to be part of the assessment criteria. Where professional judgment may be applied in assessing against the indicators set out in the checklist set out in Annex A of SCS’ inception report (“the assessment checklist”), methodological approaches that appropriately follow *good practice* will automatically be assumed to meet the intent of a given indicator.⁷²

- 2006 IPCC Guidelines for National Greenhouse Gas Inventories (“the IPCC 2006 Guidelines”)
- The following ISFL Program documents:
 - Guidance Note on the Preparation of Financing Plan of REDD+ and Landscape Emission Reduction Programs, Version 1.0, August 2017 (“the Financing Plan Note”)
 - Guidance Note on the Ability of Program Entity to Transfer Title to Emission Reductions, Version 1.0 March 2018 (“the Title Transfer Note”)

⁷¹ Noting that any guidance within the PD Template pertaining to brevity or word count will not be considered part of the auditable criteria, though said guidance will be referenced in determination of the level of detail that should be within the ERPD.

⁷² This does not necessarily preclude methodological approaches that do not follow good practice. It does, however, mean that additional professional judgment will be required to determine whether such methodological approaches are in conformance with the assessment criteria.

- Guidance Note on Application of IPCC Guidelines for Subcategories and Carbon Pools Where Changes Take Place Over a Longer Time Period, Version 1.0, March 2021 (“the Carbon Pools Note”)
- GFOI 2020, Integration of remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests: Methods and Guidance from the Global Forest Observations Initiative, Edition 3.0, Food and Agriculture Organization, Rome (“GFOI”)

Level of Assurance

Both a reasonable and limited level of assurance have been selected for the assessment work described in this plan and are determined at the indicator level as set out in the assessment checklist.

Treatment of Materiality

Where one or more discrepancies are identified during the course of assessment activities, the following criteria will be able in order to determine whether said discrepancies are material:

- In respect of quantitative matters, discrepancies will be identified and quantified by the audit team based on the audit team’s recalculation, based on the guidance found in the indicators in the assessment checklist. Where the methodology used in production of the ERPD does not follow the guidance in the assessment checklist, a discrepancy between the output produced by the audit team and the information reported in the ERPD will likely result, and any such discrepancies will be evaluated for materiality according to the following criteria:
 - A discrepancy in the Program GHG Inventory and/or the process used to select subcategories eligible for ISFL Accounting (including a discrepancy in the ordering of subcategories by total GHG emissions and removals on an absolute basis) will be considered material if it results in an incorrect determination of the subcategories eligible for ISFL Accounting.
 - A 1.00% materiality threshold applies to any over-estimation of the Emissions Baseline.⁷³
- Regarding reporting of information in the ERPD:
 - Any errors in the reporting of factual information in the ERPD will be considered material if the incorrectly reported information is directly or indirectly required to be reported in the ERPD by the assessment criteria.

Any discrepancies identified as material through application of the above criteria will be treated as non-conformities in the assessment process. Any discrepancies not identified as material through application

⁷³ The materiality analysis will be carried out by first calculating the difference between the reported Emissions Baseline and the assessment team’s calculation of the same quantity, and then dividing by the reported Emissions Baseline. If the resulting quantity is greater than 1.00%, the discrepancy is considered material. Otherwise, the discrepancy is not considered material. Under-estimation of the Emissions Baseline will not be considered a material discrepancy.

of the above criteria will inherently be considered immaterial. It is possible that discrepancies may be identified that do not need to be corrected immediately but that will require corrective action or mitigation at some later time. Under this situation, a special type of finding, termed an Observation, will be issued by SCS (see “Description of SCS’ Findings Process,” below, for more information).

Description of Assessment Process

Introduction

The planned assessment services will be performed through a combination of document reviews, interviews with relevant personnel, and on-site inspections.

The scope of this assessment has been divided into two phases:

(1) Part 1: GHG elements

(2) Part 2: Non-GHG elements

Non-GHG elements	<ul style="list-style-type: none"> • Drivers of AFOLU emissions and removals • ISFL ER Program’s planned actions and interventions • Financing plan for implementing planned actions and interventions • Laws, statutes and other regulatory frameworks • Risk for displacement • Participation under other GHG initiatives • Data management and registry systems to avoid multiple claims to ERs
GHG elements	<ul style="list-style-type: none"> • ISFL Reporting • Selection of subcategories for accounting • Emissions baseline • Time-bound plan to improve methods and parameters • Ex-ante estimation • Monitoring Approach • Reversals

Project Kickoff

The assessment process will begin with a “kickoff call” or conference call. This meeting is an opportunity for introductions as well as a chance to ensure that all parties involved are fully informed regarding the

basic parameters of the assessment engagement (e.g., scope, criteria, materiality threshold, level of assurance) and to clarify expectations regarding the assessment timeline. A preliminary Gantt chart and logistics regarding milestones as well as any upcoming in-person or remote office meeting(s) and the one site visit will be discussed during the kickoff call. The Gantt chart will be updated throughout the assessment process as it is subject to changes based on the completion of milestones by participants.

Document Review and Desk Review Findings

Upon receipt of relevant project documentation, including the ERPD, a document review will take place. During this phase of the assessment, the assessment team will likely request additional documentation and information to support this review. The objectives of the document review are as follows:

- Assess conformance for any requirements against which it is possible to check conformance as a desk-based exercise, and:
 - Where conformance is confirmed, document such in the assessment checklist
 - Where clear evidence of nonconformance is identified, document such in the assessment findings (see below)
 - Where more information is needed to clarify whether conformance has been attained, the following options may be taken:
 - Issue a finding (see below)
 - Follow up with a more in-depth investigation during subsequent meeting(s) and/or the site visit
- Identify any circumstances that would threaten the integrity of the planned site visit

The outcomes of the document review are the following:

- A round or more of “desk review findings,”⁷⁴ highlighting any clearly identified areas of nonconformance or formally identifying any areas in which additional information is required in order to assess conformance
- Inputs to inform the development of the risk assessment and sampling plan (see below)

It is important to note that one possible outcome of the document review is that the assessment team determines that the ER Program is not yet ready for the site visit. In such cases, the assessment team would have identified “red flags” which would lead them to determine that the site visit would be premature. Should this situation arise, the assessment team would promptly alert the ISFL team in the World Bank Group of the “red flag” issues and work with them to develop an appropriate course of action. Examples of issues that could preclude a site visit are as follows:

- Documents submitted by ER Program personnel contain non-conformances of a nature that indicate potential ER Program-wide deficiencies or areas of significant risk.

⁷⁴ See “Description of SCS’ Findings Process,” below, for a description of the types of findings issued by SCS.

- Documents submitted by ER Program personnel contain significant areas of incomplete information.
- Documents submitted by ER Program personnel fail to meet professional standards (e.g., poor/unclear organization, writing or translation).

In the absence of such “red flag” issues, the assessment team will alert the ISFL team in the World Bank Group of the intent to proceed with the site visit, and will await approval prior to initiating site visit preparation (e.g., booking airline tickets and coordinating with ER Program personnel). Once clearance is received, there will be a one month to one and a half month window following the delivery of the desk review findings to allow for adequate preparation.

Office Meetings and Site Visit

Office meetings

The office meeting(s) will consist of program personnel being invited to explain various elements of the ERPD and to demonstrate to the assessment team the manner in which assessment criteria have been met. The assessment team will work with personnel being interviewed to identify means of independent confirmation of important assertions (in a manner that does not jeopardize the independence of the assessment engagement).⁷⁵ This process will proceed most smoothly when personnel being interviewed are ready to actively engage with the assessment team to provide the requested information. In this sense, personnel being interviewed are invited to work collaboratively with the assessment team to demonstrate, based upon the agreed upon level of assurance, that the criteria requirements have been complied with and that the ERPD is free from material discrepancy.

Site Visit

Due to the audit team’s expert assessment regarding the need for an in-person site visit, no site visit occurred during this assessment. In lieu of a site visit, the assessment team performed web-based meetings with program personnel and program partners. In addition, the assessment team utilized remotely sensed imagery to assess land use classes in the program area.

Site Visit Findings

A round of findings, termed the “site visit findings” will be issued after the site visit. In conjunction with the desk review findings, the site visit findings constitute the comprehensive listing of all outstanding issues that have been identified as part of the assessment process. It is anticipated that site visit findings will be issued within approximately one to two weeks after the end of the site visit. (This entails

⁷⁵ For example, if it is asserted that certain emissions data originated from a certain government agency, the assessment team may request assistance in making independent contact with said agency.

an approximately three and one-half month time period from SCS' receipt of the phase 2, non-GHG elements to issuance of site visit findings.)

Report Writing

In the assessment report, the assessment team will document how conformance with the assessment criteria has been assessed. The assessment report will be supported with the assessment checklist.

Technical Review

An independent technical review will be carried out. This technical review is not intended to be a second iteration of the assessment process, but emphasizes review of the assessment team's activities, findings and conclusions, as well as a review of the assessment report. While the review is targeted more at review of the assessment documentation than the ERPD, it is always possible that additional discrepancies could come to light during the technical review, which may result in issuance of new findings.

Release of Report

Once the technical reviewer has signed off on the assessment report, a draft assessment report and opinion will be submitted to the ISFL team in the World Bank Group. SCS will modify the draft assessment report based on feedback from the ISFL team in the World Bank Group and will then submit a final assessment report and opinion. A videoconference with ISFL Contributors to discuss the assessment findings will also take place at this time.

Description of SCS' Findings Process

Findings Overview

Findings are the formal mechanism used by SCS to either (a) require corrective action, (b) request additional information, analysis or justification or (c) identify areas of risk or concern. Findings will be issued against the relevant text of the assessment criteria (not necessarily against the specific language of the applicable indicator in the assessment checklist); any additional good practice guidance will also be cited.

The findings are issued to ER Program personnel using a proprietary workbook-based approach, termed the Findings Presentation Workbook. This gives ER Program personnel the opportunity to respond to the findings and allows for efficient and transparent tracking of the current status of each finding. With each round of findings (one from the desk review and one from the site visit), the assessment team will typically go over the findings via conference call or webinar with the entity being assessed to ensure that the findings are understood.

Throughout the engagement, SCS strives to keep ER Program personnel informed of the findings and potential findings as soon as any issue arises. This can be done by phone, e-mail or virtual communication such as Skype and Zoom, but should be documented by sending an updated version of the Findings Presentation Workbook. The assessment team will also communicate the potential impact of material findings to ER Program personnel. ER Program personnel will be given a deadline, based on the agreed upon Gantt chart, for providing a written response. After the response is received, the assessment team will evaluate the submission and determine if adequate information has been provided to correct the non-conformity or if additional findings should be issued.

In special cases, findings may be withdrawn if the assessment team finds that the finding itself is no longer relevant.

Certain circumstances may arise under which the steps set out below (report writing, technical review and release of the assessment report) will be completed even though open findings persist.

Potential triggers for issuance of an assessment report and opinion while findings are open are as follows:

- The assessment team receives communication from the World Bank Group and/or the Program Entity indicating a decision not to respond (or respond further, in the case that a response has already been provided) to one or more open findings.
- It is the judgment of the assessment team, in consultation with other parties to the process, that closure of one or more findings would be infeasible, given the time and resources available to the ER Program personnel.
- One or more findings remain open and the time required for issuance and review of responses to findings exceeds the number of days set out in SCS' financial proposal.

Should this situation arise, SCS will consult with the World Bank Group and the Program Entity regarding whether to proceed with issuance of an assessment report and opinion.⁷⁶

When an assessment report and opinion is issued while findings are open, any outstanding issues will be detailed in a designated section entitled "Potential or Actual Areas of Risk or Concern." Here, the assessment team will document conclusions as they relate to any unresolved findings. This section can be considered a summary description of areas of potential opportunity for improvement as well as areas of current non-conformance or potential risk of non-conformance in the future.

Categorization of Assessment Findings

The following discusses the types of findings that may arise from the assessment process.

New Information Requests (NIRs)

⁷⁶ However, SCS reserves the right to proceed with issuance of an assessment report and opinion while findings are open at its sole discretion.

When the assessment team determines that they have not been furnished with sufficient information to make a decision regarding conformance, a New Information Request (NIR) will be issued. After the response is received, the assessment team will evaluate the submission and determine if adequate information has been provided or if additional findings (NIR, NCR, OBS) should be issued.

Non-Conformity Reports (NCRs)

When the assessment team has identified (1) a clear non-conformity with respect to a specific indicator (where a given indicator is of the “binary” conformance type) or (2) a material discrepancy (see “Treatment of Materiality”, above, for more information), a Non-Conformity Report (NCR) will be issued. Closure of an NCR requires that the assessment team be provided with evidence that the underlying issue resulting in issuance of the NCR has been duly addressed. While SCS’ Auditor Code of Conduct precludes consulting as to how to address non-conformities, the assessment team is encouraged to provide a thorough explanation of the basis of any non-conformities or material discrepancies observed, including a detailed explanation regarding (1) the nature of any discrepancies observed and/or (2) how applicable requirements have not been complied with.

Observations (OBSs)

An OBS indicates one or more of the following:

- An area where immaterial discrepancies exist between the observations, data testing results or professional judgment of the assessment team and the information reported or utilized (or the methods used to acquire such information) within the ERPD.
- An area where the expert judgement of the assessment team suggests that there are opportunities for improvement in the areas falling within the assessment scope.
- An area which may become a non-conformity in the future.

Where an OBS is written against an indicator of the “professional judgement” conformance type, the OBS will be written when a low (III) or medium (II) conformance rating has been assigned. The General Guidance section in the assessment checklist contains more detail regarding the two conformance types and ratings.

Forward Action Requests (FAR)

When the assessment team finds that one or more NIR or/and NCR have not been closed after significant⁷⁷ efforts made by the Program Entity to provide sufficient evidence to resolve the underlying issue. A FAR can be issued only after having discussed it with the World Bank and upon the approval of the Fund Manager/FMT. FAR will be turned into World Bank Conditions of Effectiveness that need to be fulfilled by ER Programs during the Conditions Fulfillment period following the signature of the ERPA to ensure the FAR is addressed prior to the submission of the first ER Monitoring Report.

⁷⁷ Significant effort can be considered when more than three rounds of findings are needed to close one or more NIR or/and NCR or by an ad hoc decision made by the ISFL Fund Manager

A FAR shall be addressed during the first monitoring event, and a VVB shall provide a positive opinion as part of the first verification report.

Audit Team

The following audit team has been assembled to provide the audit services described in this plan:

- Lead Auditor: Alexa Dugan
- Auditor (s): Vanessa Mascorro, Dr. Raleigh Ricart, Michael Hoe
- Technical Reviewer: Dr. Erynn Maynard-Bean

Dates of Substantive Meetings, Interviews and/or Site Visits

The planned meetings, interviews and/or site visits are listed in the table below. In accordance with SCS' inception report, this table includes the following information:

- Individuals/groups/organizations to be interviewed
- Locations/communities to be visited

Date(s)	Attendees	Purpose
22 August 2022	World Bank Group, World Bank FMT, Program Participants, SCS	Kick off call: Introductions, scope and criteria review, logistical planning
13 October 2022	World Bank Group, World Bank FMT, Program Participants, SCS	Data/documentation overview and GHG Quantification
29 November 2022	World Bank Group, World Bank FMT, Program Participants, SCS	GHG quantification, Activity Data and Emission Factors
6 July 2023	World Bank Group, Program team, SCS auditors	Review second submission including the GHG quantification updates
8 August 2023	World Bank Group, Program team, SCS auditors	Call regarding activity data, uncertainty, biomass burning, and significance testing
25 September	World Bank Group, Program team, SCS auditors	Discussion regarding addressing findings – Peat decomposition, peat fires
27 October 2023	World Bank Group, Program team, SCS auditors	Discussion of peat decomposition, land cover change accuracy assessment

Meeting Agendas

Tuesday, 29 November 2022; Internet-Based Meeting	
Time	Interviews, Document and Data Review
7:30 am	<p>Compilation of Program GHG Inventory and Reporting of Results (PR\$4.1.2, 4.1.3 PR\$4.1.7)</p> <ul style="list-style-type: none"> ■ Program personnel to provide an overview of the determination of emission factors and their respective sources for each of the GHG inventory pools/subcategories <ul style="list-style-type: none"> ○ Be prepared to point directly to publications reporting these emission factors ○ If emission factors have not been published, be prepared to demonstrate their calculation. ■ Program personnel to provide a brief overview of the spatial activity data inputs and their respective sources for each of the GHG inventory pools/subcategories (there will likely be a follow up call to specifically cover activity data). <ul style="list-style-type: none"> ○ Provide info. on area calculation approaches, projections/transformations, etc. ■ Program personnel to provide overview of the BioCF tool including demonstration of the required inputs and the tool outputs ■ Program personnel to provide overview of how the tool accounts for gradual emissions/removals that occur for nonforest to forestland transitions, as well as SOC and deadwood for all transitions ■ Program personnel to provide overview of the post-processing steps/calculations for the BioCF tool outputs. ■ Program personnel to provide evidence that the contents of Annex 6 of the ERPD have been received by appropriate personnel at the agency or ministry responsible for compiling the national GHG inventory for Indonesia.

8:30 am	<p>Completeness of Reporting (PR§4.1.1, PR§4.1.2, PR§4.1.4)</p> <ul style="list-style-type: none"> ■ Indicator RA-01 requires the assessment team to assess the extent to which the Program GHG Inventory reports on all emissions and removals associated with each category identified as “AGRICULTURE, FORESTRY, AND OTHER LAND USE” (i.e., with a category code beginning with 3) in Table 8.2, Volume 1, Chapter 8 of the IPCC 2006 Guidelines. ■ Indicator RA-02 requires the assessment team to assess the extent to which, if a national-level GHG inventory reporting document exists, all categories and subcategories listed in the national-level GHG inventory reporting document are also included in the Program GHG Inventory. ■ Therefore, Program personnel to clarify why the following categories are not included: <ul style="list-style-type: none"> ○ Biomass Burning (3 C 1) from forest land – these appear to be included in the 2nd FREL. The FREL states “The inclusion of the calculation of emissions from Non-CO₂ gases (CH₄ and N₂O) from forest and land fire activities in areas experiencing deforestation or forest degradation.”) <ul style="list-style-type: none"> ■ Provide justification that the variation relative to the national processes increases the likelihood of being able to assess the impacts of ISFL interventions. ■ Provide an explanation to clarify how methodological consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory. ■ Indicator RA-03 requires the assessment team to assess whether Subcategories are differentiated to at least the level of specificity set out in Annex 1 of the Program Requirements. ■ Therefore, please why, in the following respects, all subcategories are not differentiated in the calculation workbook tables or the ERPD to at least the level of specificity set out in Annex 1 of the Program Requirements: <p>In the workbook: Database_Agriculture_SignSmart.xlsx, several subcategories are aggregated into single subcategories such as: Enteric Fermentation, Rice Cultivation, Manure management, liming, Biomass burning in cropland. Etc.</p>
9:00 am	Adjourn

6 July 2023; Internet-Based Meeting

Interviews, Document and Data Review

TOPIC: Gradual Transitions from nonforest to forest

- It remains unclear how the program is handling any changes from nonforest to forest (true land use transitions)
- It is unclear how the program is determining any land COVER changes such as post-harvesting regeneration – if the harvests are tracked the regeneration after the harvest must also be tracked
- How are SOC and DOM transitions tracked – is it gradual?

TOPIC: Stock Difference Approach

1. Accordingly to IPCC **“The Stock-Difference Method** requires biomass carbon stock inventories for a given land area, at two points in time.” How many repeat inventory timesteps have there been?
2. How are the repeat forest inventories utilized to determine the stock change?
 - For FL-FL – a C stock at time 1 would be measured and a C stock at time 2 would be measured, if that C stock increased, that would suggest growth and carbon accrual, if the C stock is lower at time 2 that would indicate a loss in carbon due to a harvest or disturbance.
 - it does not appear that the program is taking a true stock difference approach in line with the IPCC, but is rather using a modified gain-loss approach.
 - If sufficient tier 2 data in accordance with the IPCC methodologies is not available, then the subcategory cannot be included.
 - Must consider forest growth in FL-FL for balanced and conservative accounting!!!! –
 - what about primary forest remaining primary forest, or secondary remaining secondary... that forest has to be growing
3. How do you determine emissions due to degradation in forest remaining forest if you are not tracking harvesting or disturbances and rather only tracking land use change?
 - a. What is the definition of degradation? Is it change from Primary forest to secondary forest?
 - b. What about degradation of secondary forest?
 - c. What about fires – is that constitute degradation emissions?

** Drivers of emissions seem to suggest that illegal logging, overlogging, timber plantations, encroachment are some of the main drivers – thus how will the program monitor the impacts of these drivers if it is only assessing land use change and not directly attributing emissions to timber harvesting, etc? – in FL- FL

8 August 2023; Internet-Based Meeting
Interviews, Document and Data Review
<p>TOPIC: Activity data</p> <ul style="list-style-type: none"> ■ In conducting our land use checks with available imagery (a mix of Google Earth, Planet, Sentinel), we have noted some very large areas are mapped as a single land use change classification. In looking at those individual large polygons, they appear to contain several land uses and various land use changes during the baseline period <ul style="list-style-type: none"> ○ E.g., ObjectID 49768: This corresponds to 70,595 ha of mixed dry agriculture converted to dry shrub (the area within the cyan polygon. In reviewing the polygon, it appears to contain several land uses including settlement, agriculture, forest, plantations, etc. It is unclear how such a large area could have a single land use change classification for the 2006-2018 period, especially considering we can see in the imagery multiple land uses present and changes occurring at different times ○ E.g., ObjectID 51277: This polygon corresponds to 10,852 ha of dry agriculture remaining dry agriculture. However, in reviewing the polygon, it contains several land uses and several land use changes (settlement, agriculture, forest, plantations, etc)
<p>TOPIC: SOC significance and inclusion</p> <ul style="list-style-type: none"> • The SOC pool appears to be significant for some subcategories that have been included in the baseline. Significance testing must be done at the subcategory level? • It appears that SOC is included in the baseline quantification in the ERPD.
<p>TOPIC: Biomass Burning</p> <ul style="list-style-type: none"> • What is the difference between the subcategory Biomass burning in Grassland versus the biomass burning included in other subcategories. • How can you ensure there is no double counting? • How is this approach consistent with the FREL? With the BUR3?

Meeting: September 25, 2023

Topics:

1. Go over individual findings
2. SOC and DOM quantification
3. Accounting for emissions from Peatland (decomposition and fires)

Meeting: October 27, 2023

Topics:

1. Land use land cover change accuracy assessment
2. Peatland emissions – decomposition accounting

Client/Responsible Party Contact

Name of Program Entity	Jambi's Ministry of Environment and Forestry
Contact Individual	Dr. Bambang Hendroyono
Contact Information	Banghen_11@yahoo.co.id

Audit Schedule

An indicative schedule for the assessment, based on the best knowledge currently available to the assessment team, is included below. This timetable was subject to updates during the assessment process, and such updates were provided directly to program personnel via email.

* Note that the table below shows the last schedule provided to the program team during the audit. The timeline may have been altered due to delays in closing final findings, updating the ERPD, and/or completing the Technical Review.

Milestone	Start Date	End Date
Kick Off Call	Monday, August 22, 2022	Monday, August 22, 2022
Initial GHG documents provided	Wednesday, August 31, 2022	Wednesday, August 31, 2022
GHG Quantification call #1	Thursday, October 13, 2022	Thursday, October 13, 2022
Additional data request made/received	Thursday, October 20, 2022	Tuesday, November 29, 2022
<i>Conditional: SCS issues draft audit plan</i>	Wednesday, November 16, 2022	Wednesday, November 16, 2022
SCS Closed for Holidays	Thursday, November 24, 2022	Friday, November 25, 2022
SCS Data and Document Review (GHG)	Tuesday, November 29, 2022	Friday, December 23, 2022
Client Response to Round #1 Findings (GHG)	Friday, December 23, 2022	Thursday, July 13, 2023
SCS Review Responses Findings R#1	Friday, July 14, 2023	Monday, August 28, 2023
Alexa Out of Office (site visit)	Monday, August 21, 2023	Friday, August 25, 2023
SCS Issuance of Findings R#2	Monday, August 28, 2023	Friday, September 1, 2023
Client Response to Findings & R#2	Friday, September 1, 2023	Friday, September 22, 2023
SCS Review of Responses to Findings R#2	Friday, September 22, 2023	Friday, October 13, 2023
Auditors Out of office (site visit)	Monday, September 25, 2023	Thursday, October 5, 2023
<i>Conditional: Closure of All Findings (GHG)</i>	Friday, October 13, 2023	Monday, October 16, 2023
<i>Conditional: NonGHG Remote calls</i>	Monday, October 16, 2023	Thursday, October 26, 2023
SCS Submits Non-GHG findings (R#3)	Thursday, November 9, 2023	Tuesday, November 14, 2023

Holiday SCS Closed	Thursday, November 23, 2023	Friday, November 24, 2023
Client responds to NonGHG Findings	Tuesday, November 14, 2023	Monday, November 27, 2023
Closure of all findings (non GHG)	Monday, November 27, 2023	Thursday, December 7, 2023
<i>Conditional: SCS Report Writing</i>	Thursday, December 7, 2023	Friday, December 22, 2023
SCS Closed Holiday	Monday, December 25, 2023	Monday, January 1, 2024
<i>Conditional: SCS Technical Review</i>	Monday, January 1, 2024	Tuesday, January 16, 2024
<i>Conditional: SCS Issuance of Draft Report</i>	Tuesday, January 16, 2024	Wednesday, January 17, 2024
<i>Conditional: Client Response to Draft Report</i>	Wednesday, January 17, 2024	Friday, January 19, 2024
<i>Conditional: SCS Issuance of Final Report</i>	Friday, January 19, 2024	Friday, January 19, 2024
<i>Conditional: Closing Meeting</i>	Friday, January 19, 2024	Friday, January 19, 2024

Appendix C: List of Findings

Please see Section 3.5 above for a description of the findings issuance process and the categories of findings issued. It should be noted that all language under “Recipient Response” is a verbatim transcription of responses provided to the findings by ER Program personnel.

NIR 1 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements

Document Reference: BioCF ToolBox

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidance and guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC.” When reviewing the Emission Factors hard coded in the BioCF Toolbox, the audit team could not verify the source of the Emission Factor for Gef CH4 (CH4 Emission Factor) of 177.87. For instance, in the “2nd_FRL_indonesia_submit_UNFCCC.pdf”, Table 7, “Parameters to estimate peat fire emissions” the value reported for Gef CH4 (CH4 emission factor) is 237.27. Further, in table A.6-8 of the ERPD, it lists the GEF CH4 as 8.47 g kg CO₂eq. Please provide more information regarding the intended emission factor and the source of this emission factor.

Project Personnel Response: - The parameter to estimate peat fire emissions used in the ERPD is 8.47 g kg⁻¹ CH₄. However this value is not CO₂ equivalent (we will revise the unit in Table A6-8 of ERPD), thus require further multiplication with GWP of CH₄, i.e. 21. Therefore the GEF value for CH₄ is 177.87 g kg⁻¹ CO₂e (Sources:Modified_2nd FRL, 2022). The EF in the 2nd FRL submitted to UNFCCC, that the reviewer download from UNFCCC website, was not the latest one. The modified version of the file has been recently added to the UNFCCC website, called: "Modified submission on proposed reference level" (https://redd.unfccc.int/files/modified_2nd_frl_indonesia_20220529_clean.pdf).

In the old version of BioCF Toolbox, the value of the CH₄ EF was 177.89, which was incorrect, because the value will be multiplied with the GWP value. Thus it has been changed to 8.47 and uploaded in latest file "BioCF_ISFL_Jambi_2022"

Auditor Response: Thank you for this explanation. The auditors confirmed the value has been updated to 8.47. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NCR 2 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx

Finding: Section 4.1.2 of the ISFL Program requirements states "ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC." Thus all pools are required to be included in the initial GHG inventory.

Next, section 4.1.3 of the ISFL Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data. This may include the use of Activity Data Proxies if needed, and IPCC Tier 1 data and methods if no data are available to apply higher Tier methods. ISFL ER Programs are encouraged to apply higher Tiers over time, as possible." Therefore, if Tier 2 data is not available, Tier 1 data must be used to compile the GHG inventory.

Lastly, Section 4.1.4 of the ISFL Program Requirements states "The Program GHG Inventory shall be comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report. The Program GHG Inventory Programs may select definitions, categories, or subcategories that are different from the ones that have been used in national processes, if this increases the likelihood of being able to assess the impacts of ISFL interventions. In that case, an explanation shall be provided to clarify how methodological Consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory." The 2nd version of the FREL indicates that it has been updated to include "The calculated carbon pool includes all carbon pools (Above Ground Biomass, Below ground Biomass, dead wood, litter, soil)." Thus, the exclusion of the SOC and DOM pools from the ISFL GHG inventory represents an inconsistency with the national GHG inventory.

Section 4.1.1 of the ERPD states that "The estimation of the emissions and removals from land cover change currently account only the aboveground biomass and belowground biomass." This is not in conformance with the ISFL requirements as all pools must be included in the GHG inventory and the GHG inventory shall be comparable to the national GHG inventory, which includes these pools.

Project Personnel Response: Thanks for the finding. In our national GHG inventory and BUR, SOC and DOM are not included. The statement in the 2nd FRL correspond to the peatland SOC, not SOC in mineral soils, and biomass burning of DOM. For emissions and removal from forest and land cover change, the 2nd FRL accounted only AGB and BGB.

However we considered the addition of DOM into the GHG calculation of our ERP, align with the 2nd FRL. In addition we also included SOC in mineral soil into the GHG inventory to be in conformance with the ISFL requirement, in which all pools must be included.

Inclusion of DOM and SOC calculation in the ERP have been added in the following sections: Section 4.1.1, Section 4.2.1 and Annex 6 (section 6.2.2.2). A new spreadsheet calculation file is generated for this analysis, i.e. SOC_DOM_BiomassBurning_accounting_20230220.xls (see Google Drive folder MAR>Data>Data Calculation), which has been used in the overall GHG accounting and updates have been made to the Table 24 of Section 4.1.2 and Table 25 of Section 4.2.1.

Auditor Response: Thank you for the clarification regarding the BUR. The auditors confirmed that accounting of SOC and DOM has been included across subcategories. However the auditors have some further inquiries regarding the DOM pool and SOC pool. See findings below.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 3 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements, 2nd FREL

Document Reference: FINALDRAFT_ERPD_rev20221026.docx, BioCF ToolBox

Finding: Section 4.2.3 deals with the final selection of subcategories from the GHG inventory for ISFL accounting. It states that "ISFL ER Programs shall account for the Total Net Emission Reductions across eligible subcategories by estimating the baseline and monitoring Emissions and Removals for the eligible subcategories using at minimum IPCC Tier 2 methods and data. Subcategories are considered to meet Tier 2 if all the significant pools and gasses are estimated using Tier 2 methods and data. ISFL ER Programs are encouraged to improve data and methods, and to move to a higher tier over time, as possible." Therefore, for inclusion in ISFL accounting, only subcategories which use a minimum of Tier 2 methods and data for all "significant" pools are eligible for inclusion. Note that foot note 13 of the ISFL program requirements states that "Significant here refers to the individual pools or gases that make up at least 25% of the absolute level of the total GHG Emissions and Removals in the subcategory, and the pools and gases that, when listed in the relative magnitude of contribution to the Emissions of the overall subcategory, contribute to 60% of the cumulative Emissions." For all ISFL selected subcategories (i.e., in Table 19 of the ERPD) in which it is the intention to exclude the soil and DOM pool, please demonstrate that the soil and DOM pools are not significant.

Project Personnel Response: All activity data on forest and land cover change used in the ERPD is Tier 2, therefore the mentioned subcategories meet requirement for the baseline development. We revised the Table 19 accordingly (now Table 28). We also included the mineral SOC and DOM into the GHG Inventory (see above response).

However, we excluded SOC for baseline estimates due to insignificance and the Tier 1 level data that we used. The SOC contributes to less than 9% of total net absolute emissions from the land cover change. The largest carbon pools are AGB and BGB, with absolute contribution of more than 86% (see table below)

Auditor Response: Thank you for this explanation and for the inclusion of DOM and SOC calculations. The auditors have received the demonstration of the significance testing in the latest workbook (All_GHG_Accounting_20230808). However, ISFL requires that only subcategories that use tier 2 data for all significant pools can be included in the baseline. It appears that the program is currently including subcategories in which the soil pool is significant and uses tier 1 data (not in conformance). For instance, for the cropland converted to grassland subcategory, the workbook SOC_DOM_BiomassBurn_Accounting workbook, sheet ALL, Table 1 shows that the Absolute emissions are ~30million tCO₂ and the absolute SOC emissions are ~23 million tCO₂, suggesting that the SOC pool makes up > 25% of the absolute level of the total GHG Emissions and Removals in the subcategory. This subcategory has been included in the ISFL baseline as indicated in table 28 of the ERPD. Please justify why the subcategory cropland converted to grassland meets the requirements of section 4.2.3 of ISFL Program requirements.

Furthermore, in the response to this finding, you have indicated that you have excluded SOC for baseline estimates due to insignificance, but it appears that the SOC emissions/removals have been included in the estimates (e.g., the totals in table 30 include SOC). Note that the confusion within this table has been discussed with the program team via email. Please clarify the statements in the finding response.

Due to the above 2 information requests, this finding remains open.

Project Personnel Response 2: In the previous version, where SOC, DOM and Biomass Burning were excluded, the CL-GL subcategory was part of the key subcategory. However, when we included the SOC, we did not check the significance of the SOC pool. We remove the CL-GL subcategory from the baseline, because the most significant pool (SOC) still used Tier 1 data. The revision are made to the Monte Carlo Simulation, and ERPD section 4

Regarding the inclusion of SOC in the baseline refer to Table 30, we replace the column total, with the values that exclude SOC pools.

Auditor Response 2: The audit team confirmed the changes provided. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 4 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** MC Simulation_BioCF_20220714

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidance and guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC.”

Section 3.2.3.2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 1, Chapter 3 states “The Monte Carlo analysis is suitable for detailed category-by-category assessment of uncertainty, particularly where uncertainties are large, distribution is non-normal, the algorithms are complex functions and/or there are correlations between some of the activity sets, emissions factors, or both. In Monte Carlo simulation, pseudo-random samples of model inputs are generated according to the PDFs specified for each input. The samples are referred to as ‘pseudo-random’ because they are generated by an algorithm, referred to as a pseudo-random number generator (PRNG), that can provide a reproducible series of numbers (according to the random seeds assigned as input to the PRNG) but for which any series has properties of randomness.”

During the review of the quantification of uncertainty within workbook "MC Simulation_BioCF_20220714.xls", the audit team found that the values within the workbook constantly update and change resulting in differences in the mean, standard deviation, standard error and confidence intervals. Therefore, the audit team cannot replicate the results provided by the client because a random seed has not been assigned to the PRNG. Please provide workbook that is consistent with the most up-to-date ERPD, where the values do not continually update (define a random seed that does not change) resulting in different values.

Project Personnel Response: The changes of the calculated values are due to the automatic calculation in the spread sheet setting. Once we open the file, it will automatically run the new simulation with specific iteration, thus the values will be changed once we open or change it. in Excel, go to Formulas -> Calculation Options and select 'Manual' instead of 'Automatic'.

We already created a new version of the MCS calculation with manual running, so that the value will not change automatically. We provide the latest MCS calculation using this manual calculation setting and consistent with the revised ERPD (MC Simulation_BioCF_20230315b.xls). However, it is important to set the Microsoft Excel into manual calculation, before downloading the file, otherwise the simulation will be started when the file is being downloaded and saved.

Auditor Response: Thank you for this explanation. This finding has been satisfied.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NCR 5 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** MC Simulation_BioCF_20220714

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidance and guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC.”

During the review of the quantification of uncertainties, the audit team identified an error in the estimation of standard error, upper and lower bounds and percent uncertainty. For example, the values reported in worksheet "results Sims Jambi" in workbook "MC Simulation_BioCF...", report the Standard Error in column D. Cell D4 reports a value of 9,599,905 tCO₂e/yr, whereas, the auditor's independent recalculation returns a value of 94,320. The resulting percent uncertainty is 0.74% (standard error as a percent of the mean). Whereas, the value you report is 74.5%. Please review and update the quantification of uncertainty and associated inputs to ensure the reported confidence statistics are accurate. For example, the standard deviation does not equal the standard error. Rather, the standard error equals the standard deviation divided by the square root of the sample size (n) and the uncertainty is the percent standard error with respect to the mean.

Project Personnel Response: The uncertainty number in the Column G3 in worksheet “Result Sims Jambi” is in percentage (%) format. While the uncertainty number in column N347 in worksheet "Sims Jambi" is in ratio format, which need to multiply with 100%.

For consistency we changed the values in Column N of worksheet "Sims Jambi" into percentage format.

Auditor Response: This finding relates to the formula used for the calculation of standard error. The quantification of uncertainty remains incorrect. The error occurs in worksheet “Sims Jambi”, column K, named “std error”. The equation used by the project is STDEV.P. This is the standard deviation of the data which is shown below.

$$\sigma = \sqrt{\sum (x_i - \mu)^2 / N}$$

Where, σ = population standard deviation

N = the size of the population

x_i = each value from the population

μ = the population mean

The standard error of the sample is calculated as follows:

$$SE = \sigma / \sqrt{n}$$

Where, SE = standard error of the sample

σ = population standard deviation

n = the size of the sample

The Monte Carlo simulation was run 10,000 which would yield a n of 10,000.

Despite the errors in this formula of the FAO workbook, the auditors have found that this results in a higher uncertainty and thus is more conservative. As a result, this finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 6 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** MC Simulation_BioCF_20220714

Finding: Section 3.2.3.2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 1, Chapter 3 states “Under Approach 2, the simplifying assumptions required for Approach 1 can be relaxed. Thus, numerical statistical techniques, particularly the Monte Carlo technique, as they can be generally applied, are more appropriate than Approach 1 for estimating uncertainty in emissions/removals (from uncertainties in activity measures and emission factors/estimation parameters) when:

- uncertainties are large;
- their distribution are non-Gaussian;
- algorithms are complex functions;
- correlations occur between some of the activity data sets, emission factors, or both;
- uncertainties are different for different years of the inventory.

Please provide documentation and evidence to support the assertion that a Monte Carlo analysis is appropriate to use when estimating baseline uncertainty and meets the “Key Assumptions of Approach 2” as defined in Section 3.2.3.2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 1, Chapter 3.

Project Personnel Response: We follow the ISFL Program Requirement section 4.6.3, which states "ISFL ER Programs shall quantify the uncertainty of the emission reductions using a Monte Carlo simulation. The uncertainty of the emission reductions shall be combined into a single combined uncertainty estimate and reported at the two-tailed 90% confidence level."

Auditor Response: Your team responded that you are using a Monte Carlo simulation following the requirements of the ISFL program.

The finding is requesting documented evidence that the assumptions (listed in the finding) have been met.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 7 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** ERPDP; MC Simulation_BioCF_20220714

Finding: Section 3.2.3.2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 1, Chapter 3 states “Step 1: Specify category uncertainties. This includes estimation parameters and activity data, their associated means and PDFs, and any correlations. The uncertainties can be assessed following the guidance in Sections 3.2.1 and 3.2.2. For guidance on assessment of correlations, see ‘Dependence and correlation among inputs’ in this section and Box 3.2.”

The ERPDP states “Furthermore, we performed Monte Carlo Simulation using the following steps. First, we generated the mean and standard deviation or standard error of all ADs and EFs (from each pool and gas). The means of AD for each activity were data taken from the forest and land cover change database. Standard error of AD was estimated based on the approach suggested by Olofsson et al. (2014) and Probability Density Function (PDF) was defined to estimate the 2.5% and 97.5% quantiles that define the lower and upper uncertainties of the total emissions from a category. Therefore, we assumed that all ADs and EFs have a normal distribution and used a 95% confidence level for estimating the random values of ADs and EFs. Based on the selected random values of ADs and EFs, the annual emissions of each activity were estimated, and the process was repeated with 10,000 iterations. More detailed analysis of the uncertainty can be found in a separate excel file (MC Simulation - BioCF_20220713.xlsx).

Please provide the audit team with documentation and evidence to support the assertion that a normal distribution is appropriate for each input data parameter. Please provide documentation and evidence on how correlations between parameters was assessed.

Project Personnel Response: The Central Limit Theorem from statistics states that the distribution for sample means tends toward a Normal (Gaussian) distribution regardless of the distribution of the underlying variables. Since both activity data estimates and emission factor estimates are means based on samples, it is reasonable to assume that they will be Normally distributed. Truncating the Normal distribution is a reasonable approach for handling large variation because it prevents highly unlikely values in the simulation (for example negative EFs where positive are expected, e.g. deforestation). IPCC Good Practice Guidance and Uncertainty Management A1.2.5 endorses the choice of a Normal distribution unless evidence exists to suggest some other distribution. Please see the annex document on the data distribution analysis based on the NFI data in Sumatra Island.

To define the data distribution, we did some analysis based on the NFI data of Sumatra Island. However we found that not all data is normal distribution. Therefore we use normal and truncated normal distribution for the MCS.

We define normal distribution if Mean is greater than 2x SE, and truncated normal distribution if Mean is less than 2x Standard Error.

For both AD and EF the use of stratified sampling reduces the potential for meaningful correlation in the results.

This explanation has been added in the ERPDP Annex 9.2.

Auditor Response: Your response has been reviewed and found adequate. The audit team agrees that in most cases, the normality assumptions are met, when sample sizes are large.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 8 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** ERPD; MC Simulation_BioCF_20220714

Finding: Section 3.2.2.2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 1, Chapter 3 states “Statistical analysis of empirical data is an approach that can be employed to quantify uncertainty in inventories, emission factors and other estimation parameters, and it can be summarized as the following major steps (e.g., Frey and Zheng, 2002):

- ② Step 1: Compilation and evaluation of a database for emission factors, activity data and other estimation parameters. Such data typically represent variability.
- ② Step 2: Visualization of data by developing empirical distribution functions (in which the data are plotted vertical according to their rank order and are plotted horizontally according to their numerical value – see Cullen and Frey, 1999, for details) for individual activity and emission factors.
- ② Step 3: Fitting, evaluation, and selection of alternative PDF models for representing variability in activity data and emission factor data.
- ② Step 4: Characterization of uncertainty in the mean of the distributions for variability. If the standard error of the mean is small enough (as discussed in Section 3.2.1.2), a normality assumption can be made regardless of the sample size or skewness of the data. If the standard error of the mean is large, then either a lognormality assumption can be made, or other methods can be employed (e.g., bootstrap simulation) to estimate uncertainty in the mean. Publicly available software tools could be used to assist with the latter.
- ② Step 5: Once uncertainties have been appropriately specified, these can be used as input to a probabilistic analysis for purposes of estimating uncertainty in total emissions.
- ② Step 6: Sensitivity analysis is recommended to determine which of the input uncertainties to an inventory contributes most substantially to the overall uncertainty, and to prioritize efforts to develop good estimates of these key uncertainties (see Chapter 4, Methodological Choice and Identification of Key categories).

Step 3 typically involves; identification of candidate parametric PDFs to fit to the data, estimation of the parameters of such distributions, and evaluation of goodness-of-fit (e.g., Cullen and Frey, 1999). Rigorous methods can be applied to data sets that contain values below the detection limit of a measurement method, called non-detects (e.g., Zhao and Frey, 2004a). Distributions can be used in combination even when the data contain two or more subgroups that cannot otherwise be separated (e.g., Zheng and Frey, 2004).”

Please provide documentation and evidence that shows how each step was conducted or performed by your team so that the audit team can assess compliance with the requirements.

Project Personnel Response: For our MCS analysis, we follow the analysis carried out for the 2nd FRL, which was based on the spreadsheet developed by FAO (<https://www.fao.org/redd/information-resources/tools/en/>). Explanation of detailed steps on MCS has been added in Annex 9.2. The manual on developing MCS for Jambi province is provided in google drive (in Bahasa Indonesia) (<https://drive.google.com/drive/u/0/folders/1jmmknDXnU-PdOO711kpOtnBN5a4HrcnK>).

An analysis on Monte Carlo Simulation using R was carried out for the Indonesian 1st FREL. The process was documented in Negrete (2016) (https://drive.google.com/file/d/1xKyXDC8X6M5zY3iEIUjPjblwwkPZgS9H/view?usp=share_link)

Auditor Response: Thank you for this explanation. The current estimates of uncertainty are assumed to be very large. When uncertainties are assumed to be large, the normality assumptions are often violated. However, the project asserts that a truncated-normal distribution is OK even though they know some of the distributions are not normal. Ultimately the auditors found that the large uncertainties are likely conservative. As a result this finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 9 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements, 2nd FREL

Document Reference: FINALDRAFT_ERPD_rev20221026.docx, BioCF ToolBox

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidance and guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC.” The audit team found that the biomass values for nonforest land used in the BioCF tool are sourced from Table 6 in section 5.1.5 of the 2nd FREL. These parameters in Table 6 are in carbon, not biomass. As described by the program team during a meeting, these values were converted back from “Carbon” to “Biomass” (by dividing by the carbon fraction, 0.47 which is indicated in the ERPD). When independently conducting this calculation, the audit team has derived very minor differences in the biomass values for some land covers. For instance, we found a value of 213.62 t.d./ha for Plantation forest, while the BioCF lists 213.63 t.d./ha. For wet shrub, we found a value of 50.87, while the program team lists 50.86. These appear to be differences in rounding. Although the differences appear to be minor, they can have a larger cumulative effect when applied across an entire landscape. It is likely that these minor differences will not produce a material error. However, the audit team would like to inquire about the rounding rules that were applied during this conversion from carbon back to biomass. Please clarify and provide more evidence on this approach.

Project Personnel Response: The differences in the biomass values for some landcovers are due to rounding. We use the original values of biomass stock from the original excel file for the 2nd FRL. For example, to generate biomass stock for plantation forest we use carbon stock value of aboveground biomass of 75.7770302002345 tC/ha and belowground biomass of 7.52204947596263 tC/ha, which will result in 213.63 t.d.m/ha of total biomass, as written in the document.

Auditor Response: Thank you for this clarification. This NIR has been satisfied and closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 10 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements; 2nd FREL

Document Reference: FINALDRAFT_ERPD_rev20221026.docx,

Finding: Section 4.1.4 of the ISFL Program Requirements states “The Program GHG Inventory shall be comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report. The Program GHG Inventory Programs may select definitions, categories, or subcategories that are different from the ones that have been used in national processes, if this increases the likelihood of being able to assess the impacts of ISFL interventions. In that case, an explanation shall be provided to clarify how methodological Consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory.” The Modified 2nd FREL indicates that “Several things were updated in the National 2nd FREL/FRL document, including:... The inclusion of the calculation of emissions from Non-CO2 gases (CH4 and N2O) from forest and land fire activities in areas experiencing deforestation or forest degradation” which indicates that the subcategory Biomass Burning (3 C 1) from forest land has been included. The 3rd Biennial Update Report also includes accounting of this subcategory (3C1). The audit team requests the following information:

- (a) Please provide justification for why the biomass burning from forest land subcategory has been excluded from the program GHG inventory
- (b) Provide an explanation to clarify how in the absence of this subcategory, methodological consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory.
- (c) Provide justification that the variation (absence of the biomass burning subcategory) relative to the national processes increases the likelihood of being able to assess the impacts of ISFL interventions.

Project Personnel Response: Thanks for the finding, we incorporated the biomass burning into the calculation (see the All SOC_DOM_BiomassBurn_accounting_20230320.xlsx and All_GHG_accounting_20230315b.xlsx)

Auditor Response: Thank you for the update. The auditors have confirmed that biomass burning related to land use activities had been incorporated in the subcategories. This NIR has been therefore been addressed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 11 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements, IPCC 2006, ISFL Guidance note on application of IPCC guidelines_March 2021

Document Reference: FINALDRAFT_ERPD_rev20221026.docx,BioCF ToolBox, sum_c_data_ghg_lcc_peat_2006_2018_20220617

Finding: Section 3 of the ISFL Guidance Note on the Application of IPCC Guidelines provides additional guidance on the to the quantification of the change in biomass carbon stocks for land converted to forest as described in the 2006 IPCC Ch2. More specifically, section 3.2 states “The net annual CO₂ removals shall be calculated using equations 2.15 and 2.16 from the 2006 IPCC Guidelines, Volume 4, Chapter 2. These equations shall be simplified by assuming that during the conversion from non-forest to forest, carbon stocks will go from average carbon stocks in non-forest to average carbon stocks in forests during a period of time. This calculation shall consider the maximum carbon stocks in different forest types and it shall be ensured that the estimated forests carbon stocks will not continue growing beyond this maximum value. A conservative default period of 20 years is suggested for the forest to grow from the carbon stock levels of non-forest to the level of biomass, stable soil and litter pools of the average forest. Alternative periods may be used but shall be justified and this justification shall also consider the maximum carbon stocks in different forest types.” This means that when there is a transition from nonforest to forest, the biomass accrues gradually over a 20 year period. In replicating the BioCF module and reviewing the program teams model output summary, it appears that the increase in biomass in nonforest to forest occurs in the year of the transition and is not spread out over a 20-year period. This affects future transitions for that land area. For example, if a parcel transitions from grassland to forest in year 1, then by year 5 it will have only accrued 5 years of the full forest carbon stock (one quarter of the forest carbon stock), but not the full forest carbon stock. However, if in year 5, this parcel experiences another transition to cropland, this will impact the emission factors as the parcel will only lose that quarter and not the full carbon stock associated with forestland. Ultimately, by assuming that transitions to forestland occur immediately and not gradually overtime, it represents a nonconformity with the ISFL and IPCC guidelines. Please note that the IPCC requirements for nonforest-nonforest transitions also indicate the need for a gradual transition, generally when that transition is from a lower to a higher biomass (see finding number 26 below).

Project Personnel Response: We use stock-difference method for estimating both emissions and removals from forest converted to land and land converted to forests. This is aligned with the method used in National GHG inventory Report, BUR and the 2nd FREL.

We don't apply gradual change of removals, because we define forestland as land cover, not land use. We used the actual change in the remote sensing data. If the land cover of a polygon shows a change in the remote sensing data, then we will classify it into a new land cover class. Otherwise it remains the same. We don't apply the assumption of the forest growth in a polygon that remains the same class. But we apply full change of carbon removal if there is a change.

In our case, the change of bare land (Other Land) to Forest Land is possible due to the conversion into fast growing plantation forest, which has a short harvesting cycle. The fast growing species can reach to a maximum annual increment in 5 to 7 years and can be detected in remote sensing data. However, when a timber plantation is harvested and become bareland, we still classify it as timber plantation. Therefore we applied time-average carbon stock for the timber plantation, which is an average of carbon stocks from the initial planting year to the mature condition prior to harvesting. Any cases of grassland or bareland change into natural forests, this could be part of error. Such error has been compensated in the uncertainty analysis, through an area adjustment.

In addition, it is also impractical to incorporate transition period in our annual land cover change. Therefore to eliminate the transition period, we are now using data from two monitoring points, i.e. beginning and end of reference period, instead of annual data. This is in compliance with the baseline calculation of national FRL. This will reduce the error occurring in the short period, which often happens due to unavailability of good imageries, or different interpretations from operators.

The explanation has been added in ERPD section 4.4.1.

Auditor Response: The auditors confirmed that an updated approach has been applied in which only two points in time are considered, year 2006 and 2018. Findings #11, 23 and 26 are related and have similar responses from the program team, Thus the auditors have closed findings 11 and 26 and provide a single response in finding #23.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 12 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements, IPCC 2006,

Document Reference: FINALDRAFT_ERPD_rev20221026.docx,

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines.” Section 4.1.1 of the ERPD states “CO₂ emissions from peat decomposition were estimated based on the land cover classes (national forest and land cover classes) of peatlands. It is assumed that degraded peat forests and lands are drained, and therefore emitting CO₂ gasses. So, the calculation is based on the land cover classes but reporting falls into wetlands category. The separation of reporting for peat decomposition is because peat emissions baseline considers inherited or legacy emissions. To develop a baseline for peat decomposition, the mean increase of annual emissions during the baseline period was used.” The audit team requests evidence supporting the baseline assumption that all degraded peat forests and lands in the Jambi region are considered to be decomposing.

Project Personnel Response: The degraded peat swamp forests once were logged or burned, which are the results of human activities. To extract timber from logged peat swamp forests, access is required. The most common access in peat swamp forest is through canal digging, which will drained the water level, flowing them to the rivers. The drained degraded peatland will result in peat decomposition of dry peat soil due to aerobic condition (Hooijer et al, 2006).

The evidence of drained degraded peatlands can be seen in the map of the annex, which suggest that the canal development exist in the degraded peatland, while none of the canal exist in the primary swamp forest.

Explanation has been added in Annex 6.2.2.3

Auditor Response: Thank you for providing this additional evidence and for including such demonstration and evidence within the ERPD. This finding has been addressed and closed.

Bearing on Material Misstatement or Conformance (M/C/NA): NA

NIR 13 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx,

Finding: Section 4.2.3 of the ER Program requirements states “ISFL ER Programs shall account for the Total Net Emission Reductions across eligible subcategories by estimating the baseline and monitoring Emissions and Removals for the eligible subcategories using at minimum IPCC Tier 2 methods and data. Subcategories are considered to meet Tier 2 if all the significant pools and gasses are estimated using Tier 2 methods and data. ISFL ER Programs are encouraged to improve data and methods, and to move to a higher tier over time, as possible.” Section 4.2.4 of the ER Program requirements states “For accounting emission reductions from land use change-related subcategories, Approach 3 shall be used for land representation; Approach 2 may be used if this is not possible if ancillary information is available that allows to track land over time.”

Finally, section 4.2.6 of the ER Program Requirements states “The Emissions Baseline shall be constructed based on the average annual historical GHG Emissions and Removals¹⁴ over a historical period (Baseline Period) of approximately 10 years. This Emissions Baseline shall be constructed based on at least two data points.” Table 19 of the ERPD indicates that subcategories ‘cropland converted to forestland’, ‘Settlements Converted to Forest Land’ and ‘Cropland Converted to Settlements’ do not meet the emissions baseline setting requirement or the data requirements (tier 2) for inclusion in ISFL accounting. However, table 20 indicates that for these three subcategories as well as several others that include conversions to and from forest cover, there is a baseline period of 12 years, follow approach 3 for activity data and use tier 2 emission factors, which contradicts Table 19. Furthermore, section 4.2.2 indicates that the data for these classes are tier 2 and the baseline covers a 12 year period, also contradicting Table 19. Please provide more information regarding why these three subcategories do not meet the baseline setting or tier 2 data requirements for inclusion in ISFL accounting.

Project Personnel Response: All activity data on forest and land cover change used in the ERPD is Tier 2, therefore the mentioned subcategories meet requirement for the baseline development. We revised the Table 19 accordingly (now Table 28).

Auditor Response: The auditor confirmed that table 28 has been updated accordingly and this finding has been addressed. However, the auditors have determined that the Cropland Converted to Grasslands subcategory does not meet the Methods and Data Requirement as the tier 1 SOC pool is significant. Please see the related NCR below.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 14 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements, IPCC 2006, 2nd FREL

Document Reference: FINALDRAFT_ERPD_rev20221026.docx, BioCF ToolBox

Finding: Section 4.2.3 of the ER Program requirements states “ISFL ER Programs shall account for the Total Net Emission Reductions across eligible subcategories by estimating the baseline and monitoring Emissions and Removals for the eligible subcategories using at minimum IPCC Tier 2 methods and data. Subcategories are considered to meet Tier 2 if all the significant pools and gasses are estimated using Tier 2 methods and data. ISFL ER Programs are encouraged to improve data and methods, and to move to a higher tier over time, as possible.” Page 74 of the Final GHG Accounting BioCF document indicates that for Peat decomposition “The data is Tier 1, since they are IPCC default values for tropical region. However, the emission factors compiled in the IPCC (2014) were derived mostly from studies in Indonesia, and are considered as Tier 2.” Similarly, section 4.2.2 of the ERPD states “The emission and removal factors used for this sub-category are compiled from the 2013 Wetlands Supplement, which mostly originated exclusively from various research conducted in Indonesia, therefore could be considered as Tier 2 (Indonesia FREL, 2016).” Table A.6-7 of the ERPD indicates that the source of the peatland EFs is a mix of the IPCC 2006, 2014, and 1st FREL. Table A.6-7 details the peatland decomposition emission factors for each land use class. However, the values in this table differ from the emission factors applied in the BioCF tool (01 GHG Emission from Land Cover Change and Peat Decomposition). For instance, the bioCF tool lists a value of 32.42 Mg CO₂ha/yr for all secondary forests. However, Table A.6-7 lists a value of 19.4 Mg CO₂ha/yr for these classes. This table contains other discrepancies with the EF values in the BioCF tool. Furthermore, annex 7 indicates that that “The emission factors used in this analysis are based on the IPCC (2014) and 1st FREL (2016).” However, in the 2nd FREL, it states “During the 1st FREL, Indonesia relied on the default emission factor from the IPCC Wetlands Supplement (2014). Later, there were more new empirical field studies from several land use types in Indonesia. Although the GHG emissions database of tropical peatlands has been recently updated (Prananto et al., 2020), we realised that there are still some issues related to references, including duplicated measurement, non-peer reviewed articles and methodology discrepancies in the paper. In order to improve the emission factor from peat decomposition, the literature-derived data are used to assess the emission factor of CO₂, N₂O and CH₄ emissions based on land cover types in Indonesia. There is a synchronisation in the reported land use category from publication with Indonesia’s land cover classes. Afterward, we reanalysed the original datasets derived from reviewed literature (N=274) to update the emission factor of each gas. For studies that reported total soil emissions, we converted to heterotrophic respiration only using the percentage of heterotrophic respiration contribution to total respiration. Heterotrophic respiration is a better representation of the carbon losses from the decomposition of soil organic matter by microorganisms (Hergoualc’h et al., 2017).” Lastly, the EFs in the BioCF tool appear to match the EFs in Table 9 of the 2nd FREL.

The audit team requests additional information regarding the following:

- The source of the Peatland Decomposition emission factors and how these values were derived.
- Why there are discrepancies between table A6-7 in the ERPD and the values applied in the BioCF tool
- Justification regarding how these EF values constitute tier 2 data.

Project Personnel Response: The EFs used in the modified 2nd FRL were derived from Novita et al. 2021, which compiled previous studies in Indonesia and analyse using meta-analysis (https://drive.google.com/file/d/1-WVTFBYvEcsa0AdWgtrmX1AnCrizJ_G/view?usp=share_link). As stated in Novite etal, 2021, Section 2.2: "The dataset on total CO2 and heterotrophic emissions was collected through a systematic review of publications of peatlands in Indonesia, as shown in Table 1. Additional data were also extracted from the publications to provide predictor variables (moderators) that might explain the heterogeneity of CO2 emissions. Among others, the predictor variables used in this meta-analysis were geographical coordinates (latitude and longitude), land use class/land cover class, water table depth (cm), air temperature, annual rainfall (mm year⁻¹), and bulk density (g cm⁻³). Where necessary, the CO2 emissions and predictor variables data were elicited by converting graphical data using the GetData Graph Digitizer (<http://getdata-graph-digitizer.com> (accessed on 23 February 2021)) and by accessing an online climate database (<https://power.larc.nasa.gov/data-access-viewer> (accessed on 24 February 2021)) when air temperature and annual rainfall data were absent in the publications." This additional explanantion has been added to the Annex 6.2.23

Table A.6-7 was not updated, we revised it following the 2nd FRL document, which is used in BioCF Tool, under the new name of Table A.6-9. Thanks for the finding.

Justification regarding the EF of peat decomposition in the IPCC guidelines that are considered as Tier 2 is provided in the annex. Most of studies used in developing EF for peat decompsoition in the IPCC guidelines are mostly from Indonesia (see Novita etal, 2021).

Additional explanation has been added into ERPD Section 6.2.2.3

Auditor Response: The auditors confirmed that the peat decomposition emission factors come from Novita et al. 2021 and are tier 2. We have confirmed that Annex 6 has been updated to indicate that source and tier for these emission factors and that additional explanation has been added to Annex 6. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): NA

NIR 15 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements; ISFL Validation and Verification Requirements

Document Reference: FINALDRAFT_ERPD_rev20221026.docx

Finding: Annex 6 of the ERPD is to include the Full Program GHG Inventory. Section 4.1.2 of the ER Program Requirements states "In accordance with the IPCC guidance and guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC." Annex 6 Section C.2 of the ERPD states "To estimate the annual emission, we involved the emission factors from the previous and current land cover classes, assuming that the conversion was happening in between these two periods. The activity data used for this analysis is the land cover change maps overlaid with peatland maps to select the area of interest for peat decomposition estimation. The emission factor used the same emission factor used in the national approach (FREL, 2016)." It is unclear what process or calculation was applied when you state "we involved the emission factors from the previous and current land cover classes, assuming that the conversion was happening in between these two periods." Please provide more specific information regarding how exactly the peatland EFs from the previous and current land cover classes were used and provide justification for this approach.

Project Personnel Response: The method used in the 1st FREL, national GHG Inventory and BUR. The method was a result fo a discussion during the technical assessment of the 1st FREL document. see the documentation of the technical assessment in here:

https://drive.google.com/file/d/1SW4_Opkgv_rSURn9A6lZppgCiHcMCIEs/view?usp=share_link.

The reviewer was questioning the long period of monitoring to track deforested peatlands (point 27, page 47):

"The emissions from peatland decomposition are applied also for many years after the actual conversion event (e.g., deforestation) took place. During such long time frames, much could happen on these lands. Lands could recover, be converted to different land use types, regenerate, peatlands could be rewetted. All of such events would change the emissions profile. Will data be collected to track deforested peatlands across the years and decades after the conversion? Given the long time periods of land use change, would such data already available?"

Indonesia responded: "We approach the estimate of peat decomposition emission by investigating the initial land cover and the subsequent land cover types. For example, if in 1990 there was primary peat forest which was converted to shrub in 1996, we used mean EF (i.e. primary peat forest and shrub on peat) in the earlier and latter period (following the 2013 IPCC Table) to estimate the peat emissions. Subsequently, if the area was then converted to oil palm in 2000, mean EF of shrub and oil palm 48 was used to estimate peat decomposition emission between 1996 and 2000. This is actually our approach to capture the dynamic of peat decomposition emissions over the period of analysis." Explanantion has been added in Annex 6.2.2.3

Auditor Response: Thank you for your response. The auditors now have a better understanding of the quantification of EFs for peat decomposition. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): NA

NIR 16 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements; 2nd FREL**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx

Finding: Section 1 of the ERPD Template Requirements states “Provide definitions of key terms that are used and use these key terms, as well as variables etc., consistently using the same abbreviations, formats, subscripts, etc.” While section 4.1.1 of the ERPD includes descriptions of the different types of forest classes, the ERPD does not include a definition of what constitutes “forest” in ISFL. Furthermore, section 4.1.4 of the ER Program Requirements states “The Program GHG Inventory shall be comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report.” The audit team request that the definition of ‘forest’ as applied for ISFL accounting be supplied and included in the ERPD. We also request a description or justification detailing how this forest definition is consistent with the definition of forest as used in the national-level GHG inventory reporting.

Project Personnel Response: The definition of “forest” is consistent with the one used in the national GHG inventory and FREL.

Section 3.1 Modified_2nd FRL Indonesia "Indonesia defines a forest as “a land area of more than 0.25 hectares with trees higher than 5 meters at maturity and a canopy cover of more than 30 percent, or trees able to reach these thresholds in situ” (MoFor, 2004). Therefore, the forest definition for this submission is aligned with the official Indonesian definition, and the FAO and IPCC definition, which is classified into seven classes by type and disturbance or level of succession, with only six classes classified as natural forests (see Table 2).

However, this submission of FRL for REDD+ activities also emphasizes the importance of protecting current tropical natural forests. Accordingly, this submission also considers the differentiation of forests and natural forests in the definitions of deforestation and forest degradation.

Similar to the FREL, we apply the working definition of forests and natural forests, which is slightly different from the formal definition of forest, particularly as regards the minimum area, which is 6.25 ha rather than 0.25 ha. The working definition of forest used in this submission is “a land area of more than 6.25 ha with trees higher than 5 meters at maturity and a canopy cover of more than 30 percent”(see SNI 8033:2014 on “Method for calculating forest cover change based on results of visual interpretation of optical satellite remote sensing image”, and SNI 7645:2010 on “Land Cover Classification”).

The explanation has been added in the ERPD section 4.1.1

Auditor Response: The auditors have confirmed that the latest version of the ERPD contains a clear definition of forest land which is consistent with the FREL. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 17 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements; IPCC 2006, 2nd FREL; Biennial Update Report

Document Reference: FINALDRAFT_ERPD_rev20221026.docx; BioCF Toolbox

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines.” Volume 1 Chapter 8 of the 2006 IPCC Guidelines defines Wetlands (3B4) as “Emissions from 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. The category can be subdivided into managed and unmanaged according to national definitions. It includes reservoirs as a managed sub-division and natural rivers and lakes as unmanaged sub-divisions.” It further defines wetlands remaining wetlands as “Emissions from peatland undergoing peat extraction and from flooded land remaining flooded land.” Section 4.1.1 of the ERPD states “CO₂ emissions from peat decomposition were estimated based on the land cover classes (national forest and land cover classes) of peatlands. It is assumed that degraded peat forests and lands are drained, and therefore emitting CO₂ gasses. So, the calculation is based on the land cover classes but reporting falls into wetlands category.” Furthermore, in table 17 of section 4.1.2 of the ERPD, and in section 4.2.2 of the ERPD emissions from peatland fires and peat decomposition are considered within the subcategory wetlands remaining wetlands. However in Annex 6, section C.1 (Table A.6-1) peatland decomposition and peatland fires are considered as their own subcategories. Similar to Table A.6-1, in the Indonesia Third Biennial Update Report (BUR), peatland fires and peatland decomposition are considered as their own categories.

In reviewing the BioCF Tool and input data, it is evident that the peatland soils are located within land uses that are not considered wetland. For instance, according to the Peatland spatial data provided, only a few hundred hectares of peatland are in the flooded land cover/wetland classes of fishpond/aquaculture, open water, or open swamp. Thus, it is unclear how the peatland fires and peatland decomposition are intended to be classified. The classification of these two processes in the subcategory wetland remaining wetland is not supported by the IPCC literature, which rather indicates these processes are emissions from the organic soil pool of the land cover classes these peatlands exist within (e.g., forestland, cropland, grassland, etc). The audit team requires additional clarity on the intended classification of peatland fires and peatland decomposition, a justification for this classification approach, as well as justification that the classification approach is consistent with national processes (e.g., FREL, BUR, REDD+).

Project Personnel Response: The sub category peat decomposition and peat fire are classified into Wetlands remaining Wetlands sub category, because peatland has characteristic similar to wetlands. However, the National GHG Inventory and BUR classified them into "3. Other" category, because they are not necessarily related to the biomass emissions from forest and land cover change. We used similar categorization to the national GHG Inventory, which separate peat decomposition emissions from land cover change emissions. Therefore we will classified peat decomposition into "Others", not wetlands, to avoid confusion.

Peatland distribution was defined using the peat land map generated by Ministry of Agriculture based on soil organic distribution identified using satellite imageries and ground truthing. Therefore peatlands can be covered by various land cover, including forest, cropland, grassland, otherland, wetland or settlement.

The explanation has been added in the ERPD section 4.1.1, and the categorization of peat-related emissions have been changed to "Other" in all tables related to GHG accounting section 4.1.2

Auditor Response: Thank you for this clarification. We have confirmed that section 4.1.1 of the ERPD states "Therefore we will classified peat decomposition into "Others", not wetlands, to avoid confusion." This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 18 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements; 2nd FREL**Document Reference:** BioCF Toolbox

Finding: Section 4.1.4 of the ER Program Requirements states “The Program GHG Inventory shall be comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report.” Section 3.7 of the 2nd FREL states that “Primary peat swamp forests that are deforested or degraded are normally drained due to canal development for improved access. Once the peat swamp forest is drained, the mean water level decreases which creates an aerobic environment where organic soil decomposition will continue to occur if the peatlands remain drained and unforested. Consequently, deforestation and forest degradation in peatlands result in greenhouse gas emissions from peat decomposition. In this submission, emissions from peat decomposition are accounted for in the area that has experienced deforestation, forest degradation and forest gain during the monitoring period. Emissions inherited from peat decomposition from the previous monitoring period will not be considered.” Thus it indicates that peat decomposition is only accounted for in transitions to and from forestland. However, from independent runs of the BioCFTool and review of the outputs, the audit team has found that peatland decomposition emissions are also being accounted for in stable non-forest classes and non-forest to non-forest subcategory transitions. The audit team requests more information regarding this discrepancy between the ISFL GHG inventory and that used in national processes. More specifically, please provide the following:

a. Justification that the variation relative to the national processes increases the likelihood of being able to assess the impacts of ISFL interventions

b. An explanation to clarify how methodological consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory (e.g., any definitions used in the Program GHG inventory are consistent with, and/or readily nest into, the definitions used in the national GHG inventory).

Project Personnel Response: The calculation method for peat decomposition in the ERPD is different to the 2nd FRL, because the 2nd FRL is focusing on the emissions from REDD+ activities or forest-related emissions, i.e. deforestation, forest degradation and enhancement of forest carbon stock. However, the ISFL ERPD includes consideration of all changes between land cover classes, not just REDD+ in forested land.

However our method is consistent with national GHG inventory and BUR, which involved GHG inventory of peat decomposition with legacy emissions. See SIGNSMART <https://signsmart.menlhk.go.id/>

The explanation has been added in the ERPD section 4.1.1.

Auditor Response: Thank you for this explanation, however, we continue to have questions about these assumptions.

Please note that Section 5.1 of the ISFL Validation and verification Requirements indicate that "Accuracy and conservativeness: Estimations should be neither over- nor under-estimated and uncertainties should be reduced as far as practical. If this cannot be assured, use conservative assumptions, values, and procedures to ensure that reported Emission Reductions are not overestimated."

Section 4.1.1 of the ERPD states "The calculation method for peat decomposition in the ERPD is different to the 2nd FRL, because the 2nd FRL is focusing on the emissions due to forest-related emissions, i.e. deforestation, forest degradation and enhancement of forest carbon stock. The ISFL ERPD includes consideration of all changes between land cover class, not just forested land. However, our method is consistent with national GHG inventory and BUR, which involved GHG inventory of peat decomposition with legacy emissions. " Thus indicating that peat decomposition is accounting for on all land cover types and not just forested land.

However, Annex 6, section 6.1.3 states "The emission calculation from peat decompositions involved only emissions in peatland that in 2006 covered with natural peat swamp forests." This suggests that only land classified as natural peat swamp forest in 2006 is included in the peat decomposition quantification, but this is unclear.

Furthermore, Annex 6, section 6.2.2.3 of the ERPD states "CO2 emissions from peat decomposition were estimated based on the land cover classes of the peatlands. Disturbances in peat forests are normally due to anthropogenic factors, which lead to deforestation or drained of the peatlands." It later states "To estimate the annual emission, we involved the emission factors from the previous and current land cover classes, assuming that the conversion was happening in between these two periods." Finally this section states "The activity data used for this analysis is the land cover change maps overlaid with peatland maps to select the area of interest for peat decomposition estimation." Through these descriptions in Annex 6 of the ERPD, it suggests that peatland decomposition is only accounted for when there is a land use change, such as forest to cropland, or a degradation event like primary forest to secondary forest, but there is not indicate that it occurs in stable land use classes, which contrasts the description in section 4.1.1 of the ERPD resulting in confusion.

However, in reviewing the excel file Database_PeatDec_2006_to_2018_20221118.xlsx, sheet Database_LCC_2006_to_2018_20221, it appears that emissions from peatland decomposition are accounted for when there is no land use or land cover change (in like with 4.1.1 of the ERPD).

However, the auditors have concerns regarding the conservativeness of this approach of accounting for peat degradation on all lands (e.g., stable lands). Thus, the auditors have the following questions:

- (1) Please justify the inclusion of peatland decomposition emissions in stable land use classes (e.g., wet shrub remaining wet shrub, secondary swamp remaining secondary swamp forest), that have not experienced a land use/cover change. Justify that this approach and assumptions are conservative.
- (2) After a land use/cover change occurs, please indicate how long the peatland decomposition will occur, i.e., how many years after the transition? Is there an assumption of perpetual emissions from peatland decomposition. If so, please provide justification and references for this assumption that demonstrate it is a conservative approach.
- (3) Please ensure the approach for peatland decomposition in the ERPD is clear, transparent (i.e., ensure consistency between the Annex 6 and rest of the ERPD. Provide more information on this approach and a justification that your approach).
- (4) Please indicate how this approach for emissions from peatland decomposition are consistent with the FREL and if they are not consistent, please justify why a different approach was applied and how it is conservative.

Also see related findings #36 and #37 below.

Project Personnel Response 2: 1. The peat decomposition emissions from non forest classes are included in the calculation, therefore not only in forested areas but also non forested areas where the peatlands are. Also we include the emissions of peat decomposition from stable classes, because of the inclusion of legacy emissions. We revised the statement in Annex 6, section 6.1.3. The inclusion of peat decomposition emissions from stable classes or called legacy emission is possible following the footnote 15 of ISFL Program Requirement which stated that "Alternatively, for subcategory(ies) where legacy effects are significant, ISFL ER Programs may use the GHG Emissions and Removals resulting from average annual historic activities if it can be documented that this is more conservative for the relevant subcategory(ies) and the required data is available"

2. We don't define how long the peat decomposition will occur specifically in the calculation. But our peatland distribution map is updated based on new data, eventually every 5 - 10 years. The first national peatland maps was produced in 2011 - 2014, which was later updated in 2019 based on new remote sensing and ground truthing data (Anda et al, 2021). The definition used in the map was the peatland with minimum peat depth of 50 cm. If there is a change of peatland in certain area, (i.e. less than 50 cm) then the emission from peat decomposition in the area will not be further estimated.

3. Description of the approach has been further detailed

4. The emissions calculated from peat decomposition of Jambi emission reduction program was covering all FOLU subcategories, while REDD+ focusing only in forest related subcategories, i.e. deforestation, forest degradation and enhancement of forest carbon stock. The subcategories or REDD+ activities, in which the peat decomposition was calculated in the FREL are also included in the FOLU subcategories reported in Jambi ER program. However our approach similar to the approach used for estimating peat decomposition in national GHG inventory in BURs documents.

Revision has been made to the ERPD Annex 6 section 6.1.3 and 6.2.2.3

Auditor Response 2: Thank you for this explanation. The auditors have confirmed that the ERPD has been updated in several sections and that this finding has been addressed for the most part. However, two issues remain:

First, section 4.1.1 of the ERPD states "The calculation method for peat decomposition in the ERPD is different to the 2nd FRL, because the 2nd FRL is focusing on the emissions due to forest-related emissions, i.e. deforestation, forest degradation and enhancement of forest carbon stock. The ISFL ERPD includes consideration of all changes between land cover class, not just forested land." However, through review of the quantification files and discussions with program team, peat decomposition is also accounted for on stable land cover classes that do not involve land cover change. The ERPD text seems to suggest that peat decomposition is only quantified where there is a land cover change (forest to nonforest, nonforest to forest, nonforest to nonforest class), but does not mention stable land cover classes. The PD continues to require additional information and clarity to ensure transparency.

Second, the PD does not mention the frequency of monitoring of the peatland distribution map or indicate that any monitoring of the distribution of peatland is underway (e.g., Section 4.5.1, Annex 7, Annex 10). If the peat distribution map was created in 2019, and is updated every 5-10 years, then a second peat distribution map could become available during the ERPA. Please ensure that the ERPD includes sufficient details about the monitoring of peat distributions.

Project Personnel Response 3:

Auditor Response 3: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 19 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements; IPCC 2006**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx; BioCF Toolbox

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. Section 2.2.1 of the 2006 IPCC Guidelines states “An alternative stock-based approach is termed the Stock-Difference Method, which can be used where carbon stocks in relevant pools are measured at two points in time to assess carbon stock changes, as represented in Equation 2.5.” later in section 2.3.1.1 of the IPCC 2006 which describes methods for land remaining land, it states “The Stock-Difference Method requires biomass carbon stock inventories for a given land area, at two points in time. Annual biomass change is the difference between the biomass stock at time t2 and time t1, divided by the number of years between the inventories (Equation 2.8).” The stock difference approach as outlined in the IPCC relies on at least two distinct inventories for which biomass change is derived. This differs from the approach outlined in the ERPD, section 4.1.1 which states “For calculating emissions and removals from land use and land cover change, we used a stock difference approach. Activity data was derived from the results of land cover change analysis using annual land cover maps. The emission and removal factors were calculated based on the carbon stock difference of the associated forest and land cover changes. By doing this, we include the carbon stock from the post conversion classes.” Thus, for the approach applied by the program team, only emissions and removals associated with land cover changes appear to be accounted for and it does not appear that repeat inventories have been conducted to constitute a stock-difference approach. Given this approach, it is unclear how biomass increases due to differences in growth rates or recovery after disturbances/harvesting or biomass decreases due to disturbances/harvesting, that do not appear as land use changes in the imagery are accounted for without a repeat forest inventory. Please provide additional information regarding the following:

- How the "stock-difference approach" applied by the program team is consistent with the stock-difference approach described by the IPCC guidelines
- If/and how there is any accounting of carbon stock changes without remote sensing derived changes in land use.

Project Personnel Response: For estimating emissions and removals, we use Stock-Difference approach based on activity data and emission factors. Emission Factors were derived from the deduction of carbon stock of initial year land cover (Ca) and the carbon stock of the land cover of the following year (Cb). We don't apply growth rate assumption into the equation, since they are difficult to validate annually. We don't have sufficient data for gain and loss for each stratum. The most comprehensive forest growth data is only available for production forests recorded by timber concessions until 2009. Also we don't have sufficient monitoring and recording system for carbon loss due to harvesting both planned and unplanned.

Instead, we use the carbon stock values that represent each land cover class. Due to limitation in finalizing national forest inventory (NFI) every year, we used the same values for all baseline and monitoring period. Currently we are redesigning the NFI to be simpler and possible to complete every 5 years for all plot distributed nationally. This is the best available data based on the national forest inventory plot data, which stratified into various forest cover classes derived from the national forest monitoring system (NFMS) that has been developed since 1990s.

Instead of using the harvested growing stock data at various strata, we use the carbon stock data at various strata. The gain and loss of carbon stock are represented in the difference of carbon stock among strata, including the harvested timber, forest growth and biomass loss due to disturbance. For example, the carbon stock difference between primary forest and secondary forest is assumed to include the biomass loss due to timber extraction (planned and unplanned), natural disturbances as well as biomass increments at the same time. Indonesia may have data on harvested timber, with certain uncertainty, but that may not include data from illegal harvesting or fuel wood extraction, which may cause over or under estimation with high uncertainty.

We believe that all methods should have similar results, if all used data have low uncertainty. Therefore the selection of method should be based on the best available data. Indonesia has strong interest in using their own data, especially for forest inventory and mapping products from their NFMS. Otherwise, Indonesia adopts Tier 1 approach as guided by IPCC Guideline, as we did for the SOC. In addition, uncertainty analysis will reduce the risks due to over- or underestimation, which we implemented carefully following good practices suggested by GFOI and the FMT.

So basically our approach is consistent with the IPCC. The GHG inventory in our approach, however, used the same carbon stock values for the same land cover classes for the reference period and monitoring period. Therefore, if the forest or land cover did not change, then the carbon stock remains the same. If the land cover of a parcel changed, it should be based on the change of land cover that can be identified in the satellite imagery.

If a parcel with land cover A in year 1 (T1) changes partly into land cover B and A - B in T2, and the carbon stock of land cover B is Cb, and carbon stock of land cover A is Ca, then to estimate C stock in T1 (Ct1)

$$Ct1 = A * Ca$$

to estimate C stock in T2 (Ct2) :

$$Ct2 = (B * Cb) + ((A-B) * Ca)$$

Delta C = Ct1 - Ct2 which is equal to the equation in 2.5 IPCC 2006

$$= (A * Ca) - ((B * Cb) + ((A-B) * Ca))$$

$$= (A * Ca) - (B * Cb) - (A * Ca) + (B * Ca)$$

$$= (B * Ca) - (B * Cb)$$

Similarly, this could be calculated using the following equation that we apply in ERPD:

Delta C = B * (Ca - Cb), where B is activity data and (Ca - Cb) is emission factor.

Auditor Response: The auditors respectfully disagree with the statement that the program is applying a stock difference approach for land remaining land. Such an approach would require two distinct inventories in time that would track the changing carbon stocks in forest land due to processes such as growth and or loss.

Regardless, the auditors better understand the approach taken by the program team and that such forest growth and loss data is insufficient for monitoring, and therefore an activity data approach is used to track degradation and enhancement. As indicated, the ISFL program requires the use of the best available data. This NIR has been satisfied and closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 20 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements

Document Reference: All_GHG_Accounting_20220714.xlsx; 0221101_manual for spatial analysis biocf toolbox_eng

Finding: Section 4.1.3 of the ISFL Program Requirements states “The Program GHG Inventory shall utilize best available methods and existing data.” In the workbook

All_GHG_Accounting_20220714.xlsx, sheet Peat fire Emission, the audit team has found two errors resulting in inaccuracy estimates of the peatland fire emissions for both CO2 and non-CO2.

(1) In the first pivot table (rows 4-27), it summarizes the column TCO2_BA for each of the fire years. The total values from each year, are summed across all subcategories for each year and reported as the CO2 emission in row 60 below. However, in reviewing the BioCF toolbox manual, Table 7 indicates that the field “TCO2_BA” signifies “Total Emissions from Peatland Fires CO2 and CH4”. The field TCO2_BA_CO2 signifies the total emission from peatland fires for CO2 alone. Thus it appears the pivot table is utilizing the incorrect column from the model output.

(2) In the second pivot table (rows 32-54) show the sum of the column “EF_BA_CH4” for each period during the baseline. These values are then summed across each of the land use subcategories to form the estimate of CH4 emissions due to peatland fires. However, in reviewing the BioCF toolbox manual (0221101_manual for spatial analysis biocf toolbox_eng.pdf), Table 7 indicates that the field “EF_BA_CH4” signifies the Emission Factor from Peatland Fires for CH4. Thus it is unclear why this field EF_BA_CH4 and not the field ‘TCO2_BA_CH4’ which signifies the “Total Emissions from Combustion Peatland CH4” was summarized to derive the total peatland fire emissions.

Please confirm these two pivot tables and the intended summary of data.

Project Personnel Response: Thanks for the finding. We confirm that there were some mistakes in the pivot tables of the GHG accounting spread sheet. We already revised the calculation and uploaded the new calculation file in the Google Drive folder MAR>Data>Data Calculation>

"All_GHG_Accounting_20230315b.xlsx"

Auditor Response: The assessment team has confirmed that the pivot tables have been corrected. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 21 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** All_GHG_Accounting_20220714.xlsx; 0221101_manual for spatial analysis bioconf toolbox_eng

Finding: Section 4.1.2 of the ISFL Program requirements states "ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC." The audit team has independently run the BioCF peatland fire script (02 GHG Emission from Peat Fires), but we had very different results from the project team's which are summarized in excel file All_GHG_Accounting_20220714.xlsx, sheet Peat fire Emission. While the finding above describes how the Peat Fires pivot table in the Peat fire Emission sheet has errors, if the audit team summarizes the peat fire emissions for methane using the column TCO2_BA_CH4, we still have very different results. For instance, for forest converted to grassland in 2011-2012, the program team shows a total peat fire emission of 2,647 tCO2e (CH4 emissions). However, for that same year and subcategory, the audit team's run of the tool produced a result of 55,585.8856 tCO2e (CH4 emissions). The tool calculated the same emission factors, the same TCO2_BA_CO2, and the same areas as the 2 peat fire records in forest to grassland 2011-2012. It appears there may be some discrepancy with the script tool provided to SCS or there was additional post-processing involved for the peat fire CH4 emissions. This may also relate to the differences in the GEF CH4 as cited in finding #1. The audit team requests additional clarification regarding how the peat fire CH4 emissions were calculated in the field TCO2_BA_CO2. Please provide a demonstration of this calculation in an excel workbook with active cell formulas.

Project Personnel Response: Thanks for the findings. It was a mistake and it has been revised and uploaded in latest file "All_GHG_Accounting_20230315b.xlsx"

Auditor Response: The auditors confirmed that the peat fire errors have been corrected. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 22 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements; IPCC 2006**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx; BioCF Toolbox

Finding: Section 4.1.2 of the ISFL Program requirements states "ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC." The IPCC Wetland Supplement (IPCC 2014) indicates that equation 2.8 is applied to calculate the annual CO₂-C and non-CO₂ emissions from organic soil (peatland) fires. This equation multiplies the A (area burned) by Mb (mass of dry organic soil fuel) by Cf (combustion factor) by Gef (emission factor for each gas) by 10⁻³ (0.001). The IPCC indicates that "The value 10⁻³ converts Lfire to tonnes." In Annex 6 of the ERPD, equation 5 is applied to calculate the emissions from peat fires. While the equation is quite similar to equation 2.8 in the Wetland supplement, equation 5 uses the bulk density * average burnt peat depth to calculate the mass of fuel available, which the audit team confirmed is applicable. However, equation 5 also multiplies by a value of 10 rather than a value of 10⁻³ (0.001). Please confirm the equation applied and provide more information on the units of the equation and why it is multiplied by 10.

Project Personnel Response: The equation 2.8 in 2013 IPCC Wetland Supplement use 10⁻³ as constant value for estimating emission from peat fires, while in ERPD use 10. The difference is due to the differences in units of all variables. For instance, in IPCC the Mass of burned fuel (Mb) is in t.dm ha⁻¹, while in our calculation the Mb is represented by the multiplication of burned peat depth (Db) in meter with soil bulk density (BD) in t.dm m³.

Auditor Response: Thank you for clarifying the units. The auditors confirmed these units.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 23 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements; IPCC 2006

Document Reference: BioCF Toolbox; sum_c_data_ghg_lcc_peat_2006_2018_20220617

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines.” Section 2.3.1.1 of the IPCC discusses how converted land remains in a conversion class for a period time, stating “In applying the Gain-Loss or Stock-Difference Methods, the relevant area is clearly the area of land remaining in the relevant category at the end of the year for which the inventory is being estimated. Any other land will be in a conversion category (see Section 2.3.1.2). The length of time that land remains in a conversion category after a change in land use is by default 20 years (the time period assumed for carbon stocks to come to equilibrium for the purposes of calculating default coefficients in the 1996 IPCC Guidelines and retained for GPG-LULUCF and used here also, though other periods may be used at higher Tiers according to national circumstances).” It is unclear how long converted land is staying within a conversion class in the client’s GHG inventory. For instance, in reviewing the results from the BioCF tool in the file “sum_c_data_ghg_lcc_peat_2006_2018_20220617” it appears that a parcel of land may transition through several land use categories or back and forth between categories over a short period of time. For instance, the land cover data provided shows that it is quite common for a parcel of land to transition across multiple land covers and experience the complete stock changes between those land covers over a handful of years. For example, secondary swamp forest (2006-2013) to bare ground (2013-2015) to plantation forest (2015-2017) then to primary swamp forest (2017-2018) is just one example of a parcel’s transition. It is unclear how long the land remains in a transitional subcategory and whether these assumptions are in conformance with the IPCC Guidelines. Likewise, it is also unclear about these rapidly changing land use dynamics if whether they are accurately reflecting the true land use changes on the ground or are rather a result of the remote sensing data processing. The audit team requests additional clarity about the land use transitions and duration in a transitional class.

Project Personnel Response: The national forest monitoring system (NFMS) apply the regularly updated forest and land cover mapping to define the forest and land cover changes. The maps, that were used in the previous version, were updated regularly by delineating the changes which identified in the satellite imageries. Once there is a change in the imageries, new land cover class is delineated. Therefore the change of land cover classes is based on the actual changes in the imageries. We don't assume the transition period of certain land cover remain in a conversion category after a change in land use (e.g 20 years). The land cover change in Indonesia could be very dynamic for certain land use classes, for example deforestation could occur in 1 year, and become a bare land, and the next year the land become a plantation. However it is not possible for a plantation forest to become primary forest within a year. In this case, this may be due to error in classification. However, we believe that the most current map products have better accuracies due to better understanding and capacities. Therefore, instead of using the annual maps, we used only the maps from the beginning and the end of the reference period, not using the maps from the interim years. Our approach could be verified using satellite imageries, as we did for the uncertainty analysis using Olofsson et al (2014) approach (see Annex 9.1).

This explanation has been added to ERPD Annex 7.

Auditor Response: (1) First, the auditors disagree with the response to finding #11 regarding only tracking land cover change. The ERPD states "The definition of forest used in this document is aligned with the definition of forest used for national reporting, i.e. a land area of more than 0.25 hectares with trees higher than 5 meters at maturity and a canopy cover of more than 30 percent, or trees able to reach these thresholds in situ' (per Indonesia 2nd FRL). Section 3.1 of the modified_2nd FRL Indonesia stated that "Indonesia defines a forest as "a land area of more than 0.25 hectares with trees higher than 5 meters at maturity and a canopy cover of more than 30 percent, or trees able to reach these thresholds in situ" (MoFor, 2004). Therefore, the forest definition for this submission is aligned with the official Indonesian definition, and the FAO and IPCC definition, which is classified into seven classes by type and disturbance or level of succession, with only six classes classified as natural forests."

- According to the definition of forestland, an area that was harvested and is bareground or only shrubs or seedlings remain, but which will regrow or be replanted would still be defined as forest under both the ER Program Forest definition and the IPCC definition ("all land with woody vegetation consistent with thresholds used to define Forest Land in the national greenhouse gas inventory. It also includes systems with a vegetation structure that currently fall below, but in situ could potentially reach the threshold values used by a country to define the Forest Land category.") Please confirm that this land-use based definition of forestland applies to the program.

(2) Second, the assumption of stable carbon stocks in a land use that remains the same is acceptable for ISFL reporting. However, consideration of a transition period for carbon pools to build up when changing land use, particularly from nonforest to forest is required by the IPCC. The reason for the transition period is to account for the time it takes for certain carbon pools to accumulate or lose carbon as it transitions into the new land use class (a fully grown forest does not occur instantly). Whether that is a 5-7 year transition period for plantation or a longer transition period for other subcategory transitions, a transition period is required and must be justified. Such transition periods are required for:

1. Aboveground and belowground biomass, DOM and SOC for nonforest to forest transitions (see section 4.3 of the IPCC "Forest ecosystems may require a certain time to return to the level of biomass, stable soil and litter pools of undisturbed state. With this in mind and as a practical matter, the default 20-year time interval is suggested. Countries also have an option to extend the length of transition period. After 20 years or other time interval chosen, the converted lands become forest" AND the ISFL Guidance note on IPCC requirements)
2. DOM for land use conversions (see section 2.3.2.2 of the IPCC AND the ISFL Guidance note on IPCC requirements)
3. SOC for land use conversions (see section 2.3.3.1 of the IPCC AND the ISFL Guidance note on IPCC requirements).

Please provide some sort of justification for a lack of transition period for the above 3 circumstances with evidence supporting that carbon pools can accumulate or be depleted immediately during conversions.

(3) The auditors confirmed that you are now only considering end of the inventory period (2018) and the start of the inventory period (2006) for the land use assessment. Please describe the assumptions for this 12 year period as far as quantification is concerned. For instance, for transitions that occur between 2006 and 2018, does the program assume the average annual rate of conversion

during the Baseline Period? For example, if 1,200 ha is identified converts from forest to cropland during that reference period, does the project assume that the 100 ha transitions per year? Such an assumption would be in line with IPCC requirements, but has important implications for quantification. Please confirm the assumptions and indicate how they are considered in the quantification particularly for pools that take several years to build up (see point 2 above).

Project Personnel Response 2: 1. The first definition of forestland that auditor mentioned is the definition used for land use, not land cover. However the IPCC definition clearly stated that the forest definition should be consistent with national GHG inventory and fall below the threshold values used by the country. Indonesia, use the definition of forest based on the land cover for all of their national reporting, including for GFRA and UNFCCC reporting (FREL, BUR etc), which have been verified by the independent verification coordinated by the UNFCCC Secretariat. The forest definition used in the ERPD, which is based on land cover based, is therefore aligned with national reporting.

Following the ISFL ER Program Requirement V2 section 4.1.4: "The Program GHG Inventory shall be comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report. The Program GHG Inventory Programs may select definitions, categories, or subcategories that are different from the ones that have been used in national processes, if this increases the likelihood of being able to assess the impacts of ISFL interventions. In that case, an explanation shall be provided to clarify how methodological Consistency will be maintained with the national GHG inventory so that Program GHG Inventory can be integrated with and inform the national GHG inventory" should justify our approach that use land cover instead of land use.

2. The land cover-based carbon stock calculation is primarily rely on the forest and land cover mapping using remote sensing. The accumulation of carbon stock takes place in the previous land cover classes before it change to other higher carbon stock classes. A new land cover class will be deliniate if there is a change of pixels in the remote sensing data. For example, if a set of pixles, which previously interpreted as shrub, meet criteria to be interpreted as a forest, then the pixels will be deliniate as a polygon of forest. The accumulation may take place in the previous years. Another example, in an area where tree planting has been conducted, will still be classified into the same land cover class, until the satelite imagery clearly detect the changes into forest or other classes, which may take several years.

However to be in compliance with the IPCC Guidelines, that all subcategories converted from low carbon stock class to a higher carbon stock class need to consider transition period for the accumulation of carbon stock into the full level of the post conversion land cover class. The 20 years transition period is applied to all AGB and BGB related removal calculation. While for SOC and DOM, the 20 years transition period is applied to all subcategories.

3. The use of two point of data for developing the baseline use the assumptions that the historical land cover change is the annual change during the reference period. So if 1,200 ha is identified as conversion during the reference period i.e. 12 years, then the project assume that the conversion rate is 100 ha per year.

Auditor Response 2: 1. Thank you for this response and justification. This component of the finding has been addressed.

2 & 3. We confirmed an attempt has been made to account for this 20 year transition period, but it does not appear that these calculations have been carried out correctly or conservatively. For instance, given your response that if 1200 ha converted from nonforest to forest from 2006-2018, would be 100 ha converted each year, this has implications for the accumulation of carbon stocks in the various pools. For instance year 2007 would contain the carbon accumulation of the 100 ha in year 1 and the 100 ha in year 2. Year 2008 would encompass the accumulation of carbon from the 100 ha in year 1 + the 100 ha in year 2 + 100 ha in year 3 and so on. Thus simply dividing by 20 years does not accurately account for the accumulation of carbon when this is a change from a low carbon land cover (bare land) to a high carbon land cover (forest). However, although inaccurate, the auditors have found that the approach taken by the program team results in conservative estimates (higher removals). As a result this finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 24 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements; IPCC 2006

Document Reference: BioCF Toolbox; sum_c_data_ghg_lcc_peat_2006_2018_20220617

Finding: This finding relates to #11 and 19 above. Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines.” To account for harvests in forestland remaining forestland the IPCC guidelines outline how a gain-loss method or a stock-difference method can be applied. For instance, section 2.3.1.1 of the 2006 IPCC states “The Stock-Difference Method requires biomass carbon stock inventories for a given land area, at two points in time. Annual biomass change is the difference between the biomass stock at time t2 and time t1, divided by the number of years between the inventories (Equation 2.8). In some cases, primary data on biomass may be in the form of wood volume data, for example, from forest surveys, in which case factors are provided to convert wood volume to carbon mass units, as shown in Equation 2.8.b.” The ERPD indicates that a stock-difference approach is used. However, it is unclear how plantation harvesting is distinguished in this approach as only aerial imagery is used and not repeat forest inventories. The aerial imagery may be showing a land use change (plantation to bare ground), but this may actually be a harvest. For example, Object ID 30107 in the file “sum_c_data_ghg_lcc_peat_2006_2018_20220617” begins as Secondary Swamp forest in 2006, transitions to plantation forest in 2009, remains as plantation forest through 2011, then transitions to bare ground through 2013 and then back to plantation forest in 2014-2018. For this particular example of plantation to bare land and back to plantation (which is quite common in the LCC data), it seems logical to assume that this forest has simply been harvested and does not actually represent deforestation when considering the trend over the entire baseline period. Thus, we request more information regarding how potential harvesting/degradation events like plantation to bare land back to plantation are distinguished from deforestation and whether consideration of the land use trends over multiple years are considered to prevent overestimation of land use changes.

Project Personnel Response: The forest plantation has defined as monoculture forest planted in a area of reforestation/rehabilitation/afforestation and industry (concession) activities. Generally, the plantation forest will harvest by land clearing every 5 years depending on the species, and will be planted again in 1 year. Bare land in plantation forest areas caused by plantation rotation has still classified as a forest plantation. This method can be applied using visual interpretation. Thus in our maps, the clear-cut harvesting within the plantation forests is not considered as deforestation. The approach is based on the guideline of interpretation for medium-resolution satellite images Section 5.C.1.h.2.d page 9 that can be accessed through a link:

<https://nfms.menlhk.go.id/download/petunjuk-teknis-penafsiran-citra-satelit-resolusi-sedang>

However this approach that considering forest plantation as a land use has been started only since 2017, previous approach still follow the actual land cover change. Therefore using the maps from the beginning and the end of reference year, will exclude this error and reduce the uncertainty.

This explanation has been added to ERPD Annex 7.

Auditor Response: Thank you for this explanation. The auditors confirmed that the program has adopted a new approach of considering the land use at the start of the baseline period and the end of the baseline period to ensure that the intermediate, potentially inaccurate transitions are not accounted for.

This finding is therefore closed, but please see finding #23 above regarding time in transitions.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NCR 25 Dated 23 Dec 2022**Standard Reference:** ISFL Program Requirements**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx**Finding:** Section 4.3 of the ER Requirements details the subcategory selection process as follows:

Step 1: Initial selection of subcategories

Section 4.3.3: "ISFL ER Programs shall list all the subcategories from the Program GHG Inventory, with the associated Carbon Pools and gases, in order of the relative magnitude of contribution of these subcategories to the absolute level of the total GHG Emissions and Removals in the Program GHG Inventory." This requirement has been complied with.

Section 4.3.4 "4.3.4 From this list, all ISFL ER Programs shall initially select the following subcategories:

- i. Any subcategories involving conversions from or to forest land;
- ii. Forest land remaining forest land;
- iii. Any subcategories involving conversions between land-use categories other than forest land that, cumulatively with the conversions from or to forest land, amount to 90% of the absolute level of the total GHG Emissions and Removals associated with all land use conversions in the Program GHG Inventory; and
- iv. The single most significant of the remaining subcategories in order of the relative magnitude of contribution of these subcategories to the absolute level of the total GHG Emissions and Removals in the Program GHG Inventory."

Item's i and ii have been complied with. However, for item iii, it indicates to include only those subcategories that "amount to 90% of the absolute level of the total GHG Emissions and Removals associated with all land use conversions." In reviewing Table 16 of the ERPD, this would include only the first subcategory to reach above the 90% mark, which is the Cropland Converted to Settlement. However, in table 17 of the ERPD, you also include cropland converted to grassland in this selection and cite that they "cumulatively amount to 95% of the absolute levels" which is incorrect as the requirement is 90% and not 95%. Thus, the inclusion of cropland converted to grassland for item iii represents a nonconformity.

Item iv has also not been complied with because it states "The single most significant of the remaining subcategories" which suggests only 1 subcategory or the "Peatland decomposition" subcategory (considering the current calculations). However, in table 17 of the ERPD, both subcategories peatland decomposition and peatland fires have been included. Section 4.3.5 states that "Additional non-forest related subcategories may be included at the discretion of the ISFL ER

Program if the quality requirements in Section 4.2 are met, provided there is a clear rationale for including these subcategories in terms of improving ISFL ER Program mitigation performance." The inclusion of peat fires for item iv without a clear rationale, represents a nonconformity.

Project Personnel Response: We thought that inclusion of subcategories with cumulative amount to 95% is better and more comprehensive in covering the significant GHG emission. However revised in to 90% cumulative (see Annex 9.2).

In the ISFL program requirement para 4.1.4: " The Program GHG Inventory shall be comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report". As the peat related emissions (peat fires and peat decomposition) are included in all national reports to UNFCCC, namely NDC, BUR, GHG Inventory report and FREL REDD+, it is therefore important for Jambi JSLMP to include the peat fire emissions. Moreover Page et al, 2002 stated that the peat and vegetation fires in 2015 alone was equivalent to 13–40% of the mean annual global carbon emissions from fossil fuels (<https://www.nature.com/articles/nature01131>). This suggests the importance of peat fires to be included in the national GHG inventory and REDD+ FRL. In Jambi, peatland area is 12% of total province land, which mostly already degraded and susceptible to fires.

This explanation has been added to ERPD Section 4.2.1.

Auditor Response: The auditors confirmed that a clear rationale supporting the inclusion of peat fires has been provided in section 4.2.1 of the ERPD. We also confirmed that the threshold of 90% has been applied to selection criteria III in section 4.3.4 of the Requirements. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 26 Dated 23 Dec 2022

Standard Reference: ISFL Program Requirements; IPCC 2006

Document Reference: FINALDRAFT_ERPD_rev20221026.docx; BioCF Toolbox; sum_c_data_ghg_lcc_peat_2006_2018_20220617

Finding: Section 4.1.2 of the ER Program Requirements states that “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines.” Similar to conversions from non-forest (lower carbon) to forestland (higher carbon), which require carbon stocks accumulate gradually over a transition period, according to the IPCC requirements, other non-forest to non-forest transitions from lower to higher carbon stocks also require a gradual transition period. For example, in Chapter 8 on settlements states “If carbon stocks in the previous land use were lower than in settlements, this abrupt transition would not take place in the first year. For example, abandoned Cropland converted to Settlements would experience only the gradual carbon stock increase and not the initial abrupt transition.” This chapter indicates a default transition period of 20 years. According to Chapter 4 of the IPCC default transition time for land converting to forest is also 20-years. Generally, it would take time for the carbon stocks to accumulate during transitions from lower carbon to higher carbon (e.g., nonforest to forest, cropland to settlement, savanna and grasses to estate crop. Please provide more information regarding if and how the program team is considering transitions from lower carbon stock to higher stock.

Project Personnel Response: The IPCC category refer mostly to "land use" or "land status", not "land cover". However, Indonesia use land cover for their GHG inventory, instead of land use, which defined from the interpretation of satellite imageries. We use the same approach as National GHG inventory for estimating emissions and removal using forest and land cover. The forest and land cover maps were derived from satellite image classificaton, where the change of land cover can be identified and verified. Moreover, to calculate the baseline we used the average historical emissions in 12 years, therefore impact of the transition years will be minimized and the results will be more or less similar.

Auditor Response: The auditors confirmed that an updated approach has been applied in which only two points in time are considered, year 2006 and 2018. Findings #11, 23 and 26 are related and have similar responses from the program team, Thus the auditors have closed findings 11 and 26 and provide a single response in finding #23.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NCR 27 Dated 23 Dec 2022**Standard Reference:** ISFL PD Template Requirements**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx;

Finding: Section 4.4.1 of the ISFL template requires to “Please provide: • Identification and assessment of uncertainty in the determination of the Emissions Baseline.” It appears that Annex 9(E) provides a description of the emissions baseline uncertainty but there is no reference to this Annex in section 4.4.1. It also appears that section 4.5.3 provides a description of the emissions baseline uncertainty, which is not the correct location for this description in the ERPD (see NCR below). Overall, section 4.4.1 of the ERPD does not contain this information on the emissions baseline uncertainty determination and is therefore not in conformance with the template requirements.

Project Personnel Response: Thanks for the findings, we revised subchapter 4.4.1 accordingly

Auditor Response: The auditors confirmed that section 4.4.1 of the ERPD was updated with some discussion of the baseline uncertainty. This section references Annex 6 and Annex 9 now. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C**NCR 28 Dated 23 Dec 2022****Standard Reference:** ISFL PD Template Requirements**Document Reference:** FINALDRAFT_ERPD_rev20221026.docx;

Finding: Section 4.5.3 of the ISFL template requires the following: “The details on all data and parameters to be monitored in Annex 10 below should also provide a systematic identification and assessment of uncertainty in the data and parameters to be monitored. Based on the information provided in the Annex, indicate how uncertainty will be managed and reduced in the monitoring of emissions and removals (roughly 500 words or less). [Corresponds to ISFL ER Program Requirement 4.6.1 and 4.6.2].” In reviewing section 4.5.3, it appears to describe the emissions baseline uncertainty assessment and not the planned assessment of uncertainty associated with the monitored emissions reduction. This section appears to also reference Annex 6, which does not relate to the uncertainty of emissions reduction. Overall, this section is not in conformance with the requirements of the template.

Project Personnel Response: Thanks for the findings, we revised subchapter 4.5.3 accordingly

Auditor Response: The auditors confirmed that section 4.5.3 of the ERPD has been updated to provide information about how uncertainty of monitored data could be minimized. This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 29 Dated 28 Aug 2023

Standard Reference: ISFL Program Requirements; ISFL Validation and Verification Requirements

Document Reference: BioCF Toolbox; sum_c_data_ghg_lcc_peat_2006_2018_20220617

Finding: Section 4.1.3 of the ISFL Requirements states "The Program GHG Inventory shall utilize best available methods and existing data." Furthermore Section 5.1 of the ISFL Validation and verification Requirements indicate that "Accuracy and conservativeness: Estimations should be neither over- nor under-estimated and uncertainties should be reduced as far as practical. If this cannot be assured, use conservative assumptions, values, and procedures to ensure that reported Emission Reductions are not overestimated."

The auditors have reviewed the land use classification again considering only years 2006 (start of the baseline) and 2018 (end of the baseline). In checking the classification against available aerial imagery, the auditors have found several discrepancies and relatively large areas that may have been incorrectly classified. We highlight several examples of ObjectIDs from the workbook

(1) ObjectID 49768: This corresponds to 70,595 ha of mixed dry agriculture converted to dry shub. In reviewing the polygon, it appears to contain several land uses including settlement, agriculture, forest, plantations, etc. It is unclear how such a large area could have a single land use classification for the 2006-2018 period.

(2) ObjectID 51277: This corresponds to 10,852 ha of dry agriculture remaining dry agriculture. However, in reviewing the polygon, it contains several land uses and several land uses changes (settlement, agriculture, forest, plantations, etc), thus classifying the entire area as a dry agriculture is not accurate.

(3) ObjectID 39063: This corresponds to 56,491 ha of mixed dry agriculture remaining mixed dry agriculture. In reviewing the polygon, we can see numerous land uses and land use changes within it, suggesting that the classification is not accurate.

(4) ObjectID 4052: This corresponds to 49,134 ha of mixed dry agriculture converted to estate crop. Again, in reviewing the large polygon, we can see several land uses and land uses changes within it over this period, suggesting that the land use classification is not accurate.

The above are just a few examples. Overall we are seeing a trend of multiple land uses/land use changes within a single large (several thousand hectare) polygon, particularly for non-forest land covers. The ERPD acknowledges the high uncertainty of the land use change data. However, the auditors request the following:

(1) evidence supporting these classification and/or a justification for why these land use classification are appropriate, and adheres to required principles of conservativeness and accuracy.

(2) We also request a justification as to why the data used for these classification constitutes the best available data, as we are aware of higher resolution and more accurate data available for the region.

(3) As mentioned on a call with the program team, we would like to request the accuracy assessment shapefile corresponding to the 984 assessed points (Annex 9.1 states "We selected the assessed samples that fall only within the 15 subcategories. We ended up with total sample of 984 that can be used for further analysis."). Ultimately we would like for the points to indicate the mapped class versus the assessor's assigned class.

Project Personnel Response:

1. The national land cover map is only used as a means of stratification to allocate reference sample data points. It is the reference points which are used in sample based estimation to generate unbiased estimates of AD. Regarding the land cover mapping procedures. The operators from BPKHTL at subnational level conducted the deliniation of image interpretation, following the guidelines provided by IPSDH. The preliminary result was then presented to IPSDH for final review and quality assurance. It seems that the operators missinterpreted the polygons and the qa/qc process did not find the mistakes. However, during the uncertainty analysis of the activity data, these errors have been quanytified and the areas have been adjusted to be included in the baseline calculation.

2. The land cover data produced from the Indonesia NFMS by far is the best data available. The data not only covering whole Indonesia with medium resolution satellite imageries, but also available historically since 1990 using the cosistent approach. The data has been used for various national reporting, i.e. for GFRA or UNFCCC related reports, hence comply with national reporting. In addition, according to the regulation (Government Regulation no 45/2021 on the implementation of geospatial information and MoEF Regulation no 24/2021 on the guidance on the implementation of geospatial information within MoEF), MoEF land cover data is the official data that Indonesia should use for any formal reporting.

According to our knowledge, other existing data available from the region were produced at regional and global level. We identify two global datasets that are available for Indonesia, i.e. tree cover and tree cover loss global data (Hansen etal, 2013) and the tropical moisture forest dataset (Vancutsem et al., 2021). The global datasets involve modeling based on ground thruthing data from other areas outside Indonesia. The other national coverage dataset available is from Biomass Map of Auriga, consist of dataset from 2000 to 2019. All datasets use the same satellite imageries, i.e Landsat family. All other data use automatic pixel based classification, which different to MoEF dataset. Most of datasets produce latest land cover in relatively timely manner, except the biomass map which is currently available only until 2019 (accessed in September 2023).

The most important criteria is that the datasets should comply with national reporting to UNFCCC, which required compliance with six IPCC categories. Most of the available datasets do not cover all six IPCC categories, except MoEF dataset.

3. The shapefile of the sample points have been sent

Auditor Response: Thank you for this detailed response and justification for the land use land cover mapping provided. The auditors have confirmed that this constitutes the best available for the country and that it is the same procedure applied for national reporting to the UNFCCC. We confirmed that the accuracy assessment shapefile has been provided and the auditors independently replicated the accuracy assessment checks to confirm the approach.

However, the auditors request clarification regarding the total number of accuracy assessment points actually utilized. Section 4.5.3 of the ERPD states "After removing the overlapping samples, we have 1427 assessed samples, which include samples that fall into subcategories other than the 15 key subcategories (see column "Samples within 24 subcategories). This number of assessed samples are the maximum samples can be allocated in each stratum, since adding more sample will not improve the accuracy further. " It later states "We selected the assessed samples that fall only within the 15 subcategories. We ended up with total sample of 984 that can be used for further analysis." However, the accuracy assessment shapefile provided to the auditors (Sampel_UA_Jambi_2006_2018.shp) includes 1389 samples. As a result the accuracy assessment points provided to not match the results shown in Table A9- 2. Confusion matrix of the ERPD. For instance, Table A9-2 shows 0 points in the CL-FL (reference), but the shapefile provided shows 3 points in this subcategory. The shapefile shows zero reference points as CL-GL but the table shows 1 point. We also noticed discrepancies with the accuracy assessment values shown in the calculation workbook versus those shown in the ERPD. Ultimately the tables and values in section 9.1 of the ERPD do not match the values in the calculation workbook or in the shapefile provided. Please provide clarification regarding why there are discrepancies and provide corrections or updated files/uncertainty analysis as needed. This finding remains open.

Project Personnel Response 3: N/A

Auditor Response 3: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NCR 30 Dated 28 Aug 2023**Standard Reference:** ISFL Program Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: This finding relates to #3 above. Section 4.2.3 deals with the final selection of subcategories from the GHG inventory for ISFL accounting. It states that "ISFL ER Programs shall account for the Total Net Emission Reductions across eligible subcategories by estimating the baseline and monitoring Emissions and Removals for the eligible subcategories using at minimum IPCC Tier 2 methods and data. Subcategories are considered to meet Tier 2 if all the significant pools and gasses are estimated using Tier 2 methods and data. ISFL ER Programs are encouraged to improve data and methods, and to move to a higher tier over time, as possible." Therefore, for inclusion in ISFL accounting, only subcategories which use a minimum of Tier 2 methods and data for all "significant" pools are eligible for inclusion. Note that foot note 13 of the ISFL program requirements states that "Significant here refers to the individual pools or gases that make up at least 25% of the absolute level of the total GHG Emissions and Removals in the subcategory, and the pools and gases that, when listed in the relative magnitude of contribution to the Emissions of the overall subcategory, contribute to 60% of the cumulative Emissions." The program team has provided a demonstration of the significance of the individual pools that make up the subcategories. it was demonstrated that the tier 1 SOC pool for the subcategory cropland converted to grassland is significant. Given that SOC is tier 1, the inclusion of this subcategory in the Emissions baseline is not in conformance with the requirements. Likewise, Table 28 and Table A8-2 of the ERPD which says 'Yes' for "methods and data requirements met?" for the cropland converted to grassland subcategory is not accurate or in conformance. Please note that section 4.3.14 of the ER Requirements does allow for an Interim baseline which includes subcategories that do not meet the data/method requirements.

Project Personnel Response: CL-GL has been removed from the baseline, because after the pool significance analysis, the SOC of the subcategory is significant but only Tier 1 data. Similar approach has been applied for the revised version of the selection of subcategory eligible for ISFL accounting. In the revised KCA, there is no non-forest conversion subcategory that are significant.

Auditor Response : The audit team confirmed the changes provided. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

OBS 31 Dated 28 Aug 2023**Standard Reference:** ISFL Program Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: This is an observational finding meaning no action is required. The auditors have noted that Table A8-5 in section 8.3.3 of the ERPD states "Not met the ISFL accounting requirement because it is not a conversion category or the third largest emission other than forest category." This statement seems to suggest that the subcategory selection/inclusion requirements may be misinterpreted. Section 4.3.5 of the ER Program Requirements states "Additional non-forest related subcategories may be included at the discretion of the ISFL ER Program if the quality requirements in Section 4.2 are met, provided there is a clear rationale for including these subcategories in terms of improving ISFL ER Program mitigation performance.¹⁵" Thus according to section 4.3.5 additional nonforest related subcategories can be included. Please note that any addition of subcategories will require additional time and resources to validate.

Project Personnel Response:**Auditor Response:****Bearing on Material Misstatement or Conformance (M/C/NA): NA****NCR 32 Dated 28 Aug 2023****Standard Reference:** ISFL PD Template Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 4.2.2 of the PD Template Requirements states "For each of the subcategories selected in step 1, provide a summary of the review of the available data and methods for the subcategories against the quality and baseline setting requirements for ISFL Accounting using the table template below. Copy and complete the table for each individual subcategory. Please provide the details of the full review in Annex 7 below. [Corresponds to ISFL ER Program Requirements 4.2.1 – 4.2.6 and 4.3.7 – 4.3.10]." In the 4.2.2 Table, a "Summary (150 words or less) of assessment if the data used for the subcategory are compliant with IPCC Tier 2 methods and data" must be included. The auditors have found that the summary of the data/methods (tier) provided in section 4.2.2 of the ERPD (table 27) is not sufficient. For instance, for several subcategories it states "The emission and removal factors used for this sub-category are compiled from NFI data and research conducted in Indonesia, therefore still considered as Tier 2." However, in response to finding #3 above indicates that the SOC data is tier 1. Second, the table does not provide any information regarding the years of the NFI data and research conducted in Indonesia. Overall, this section requires a detailed description of the tier level of each pool within each subcategory, including the tier of each pool for each subcategory and description of the source of each data including the vintage of the data. Ultimately this table is lacking sufficient and accurate information and is therefore not in conformance.

Project Personnel Response 2: More detailed description of the data for each sub categorie, each pool and each gas has been added in Table 27, section 4.2.2 of ERPD.

More info on NFI plots measurement year has been added in Table A7-1

Auditor Response 2: The audit team confirmed the changes provided. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 33 Dated 28 Aug 2023**Standard Reference:** ISFL PD Template Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section 4.4.1 of the PD Template Requirements states "Building on the information provided in 4.2 above, please provide a short description (maximum two pages) of the approach used for estimating the Emissions Baseline. Please provide:

- A description of the general approach applied to estimate the Emissions Baseline in the current ERPA Phase
- Identification and assessment of uncertainty in the determination of the Emissions Baseline.
- The Baseline Period(s) used in the construction of the Emissions Baseline for the current ERPA Phase by indicating the start-date and the end-date for the Baseline Period(s). If different Baseline Periods are used for different subcategories, explain how this meets the requirements.
- In case an interim Emissions Baseline is provided at the beginning of the ERPA Phase, identify those subcategories that led to the use of the interim baseline and describe how best available data have been used.
- Ex-ante estimate, including assumptions made, of how the Emissions Baseline will change in future ERPA Phases."

The auditors have found the following unclear and needing additional information or revision:

- 1) Table 30 in this section is confusing. The first column shows "Total Emissions" and the second column shows "Annual Emissions and Removals". However, it appears that the first column contains the SOC pool, while the second column does not. Ultimately there is no explanation of this within the table, leading to confusion. Please update for greater clarity.
 - 2) Table 29 in this section is also misleading as under the column EF Used, it states "Tier 2, national data", but this is not always the case, as Tier 1 was used for SOC.
 - 3) When comparing table 29 to Annex 6, section 6.3.2, it is also quite confusing. Section 6.3.2 does not provide any information regarding the exclusion of the SOC pool and the impacts on the annual net emissions. This leads to inconsistency between the Annex and Section 4.4 of the ERPD.
- Please provide additional information or revise the PD to ensure greater clarity in sections 4.4 as well as consistency between Annex 6 and section 4.4.

Project Personnel Response: 1. "Total" column of Table 30 has been revised and replaced with the values derived from the annual baseline multiply with 14.

2. Table 29 has been revised by adding detailed description of each EF and tier level

3. Section Annex 6.3.2 is description of GHG inventory, not the baseline. Therefore Annex 6.3.2 is related to the section 4.1, not 4.4. The Section 4.4 summarize the annual baseline is related to the Annex 9.3, which provide description of the baseline.

Auditor Response 2: Thank you for the clarification. This finding is closed.**Bearing on Material Misstatement or Conformance (M/C/NA): C**

NIR 34 Dated 28 Aug 2023**Standard Reference:** ISFL PD Template Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 4.3 of the ERP template is used for "Summary of time bound plan to increase the completeness of the scope of accounting and improve data and methods for the subsequent ERPA Phases during the ERPA Term". Also, Annex 8 of the ERP is for a 'A time-bound plan to increase the scope of accounting and improve data and methods throughout the ERPA Term.'

In section 4.3 of the Jambi ERP it states "Improvement of activity data is the most crucial, because of the high uncertainty of the activity data. The least accuracy of the activity data are from non-forest related subcategories. Indonesia should improve the accuracy of the non-forest subcategories through involvement of new technology and robust methods. Additional high resolution remote sensing data is required to improve the estimates of the activity data, such as airborne lidar, orthophoto, drone or high resolution satellite imageries." Furthermore, In table A8-3, it indicates that for the spatial land representation "Most of subcategories from land use change have very low accuracy with uncertainty of more than 30%." It then indicates "Quality control and quality assurance of forest and land cover classification is required to improve the accuracy of the maps" and that such improvement will be completed by 2025.

The auditors request greater detail about the activity data improvement plan such as when the improvements will be made, what is the anticipated increase in activity data accuracy, how the improvement plan will address the issues described in finding #29 above, and when/if these improvements will be incorporated in the ISFL baseline and monitoring. The auditors are considering issuance of a Forward Action Request finding that will require that such improvements be included in the baseline update by the time of verification.

Project Personnel Response: Additional detail improvement plan for AD include:

- technical correction based on the results from uncertainty analysis of activity data, in particular for the subcategories that have the highest uncertainty. Technical correction will also make use available high resolution imageries. The technical correction will be implemented in 2024 and will involve not only MAR team but also mapping operators at BPKHTL (regional office of IPSH) and IPSDH as the data custodian.
- improvement of future land cover change mapping will involve automatic change detection based on 3-monthly Landsat data and MODIS/VIRS data. The change detection data will provide information on pixel changes that will serve as initial information during the land cover classification process. This hybrid method which involve visual interpretation and automatic classification will be a continuous process and become a standard procedure for land cover mapping by IPSDH. The process is expected to be commenced in 2024.
- improvement of activity data for monitoring tree planting is being developed by MoEF in cooperation with BRIN (national research agency), which expected to be finalized by 2025
- Intensive capacity development through training for operators on interpretation and supervisors for QA procedures. Currently, related training is conducted 1-2 times a year with only 1 representative from each BPKHTL. This should be commenced in 2024
- Develop standardization procedures for QA/QC in 2024

Auditor Response: The audit team confirmed the changes provided. This finding is closed.**Bearing on Material Misstatement or Conformance (M/C/NA): C**

NIR 35 Dated 28 Aug 2023**Standard Reference:** ISFL Program Requirements**Document Reference:** Database_PeatDec_2006_to_2018_20221118

Finding: Section 4.1.2 of the ER Program Requirements states that "In accordance with the IPCC guidance and guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC." The principle of consistency is to "Enable meaningful comparisons in GHG-related information. Use consistent methodologies to allow for meaningful comparisons of emissions over time." In response to finding #11 above, the program team has indicated "Therefore to eliminate the transition period, we are now using data from two monitoring points, i.e. beginning and end of reference period, instead of annual data. This is in compliance with the baseline calculation of national FRL. This will reduce the error occurring in the short period, which often happens due to unavailability of good imageries, or different interpretations from operators." Thus the program has used the start of the baseline (2006) and the end of the baseline (2018) for land use transitions. However, for the peatland decomposition which occurs during land use change, the project has maintained the annual land use changes, despite their high accuracies. This also suggests inconsistency in the methodologies applied to the land use change subcategories versus the peatland decomposition subcategory. The auditors request justification for the application of these two different approaches and how the program maintains consistency.

Project Personnel Response: Emissions from peat decomposition were calculated only at two points of time, similar to the land cover change emission calculation. We add more description of peat decomposition emission calculation to the methodology section in section 4.4. and Annex 6.

Auditor Response: Thank you for this explanation. The auditors continue to have doubts about the approach applied:

First, while the auditors see that the team has attempted to look at just two points in time, the approach applied is considering the land cover change in 2006 to 2009 and the land cover change from 2017 to 2018 which is actually four points in time and does not reflect the same approach as the LCC analysis which is comparing the land cover from 2006 to the land cover from 2018. It then appears that the difference of 2006-2009 and 2017-2018 is calculated (labelled as Annual legacy emission) and added annually onto the 2006 Peat decomposition emissions each year, presumably to approximate the use of two periods in time. It is unclear how this represents annual legacy emissions and what the purpose of this addition is. If this approach is to be maintained, greater justification and explanation (in the ERPD) is needed.

Second, it appears that the team has quantified the peat emissions assuming the land use in 2006 versus the land use in 2018 (which is what was done for the LCC analysis) in that same calculation workbook worksheet and found a value of 14,092,911 tCO₂yr, which would represent the annual peat decomposition emissions, but this value was not used in any way. Overall, the auditors request additional justification for the approach applied, particularly why the 4 land cover years were used over the uses land covers from 2006 versus 2018 (14,092,911 tCO₂yr) also shown in the workbook.

Third, it is unclear how the approach ultimately translates into the emissions baseline with the assumption of legacy emissions occurring after the reference period. Section 4.2.6 of the ER Requirements states “The Emissions Baseline shall be constructed based on the average annual historical GHG Emissions and Removals¹⁴ over a historical period (Baseline Period) of approximately 10 years. This Emissions Baseline shall be constructed based on at least two data points.” Footnote 14 indicates “Alternatively, for subcategory(ies) where legacy effects are significant, ISFL ER Programs may use the GHG Emissions and Removals resulting from average annual historic activities if it can be documented that this is more conservative for the relevant subcategory(ies) and the required data is available.” The program appears to have also considered legacy emissions in the final emissions baseline starting in 2020/2021. For instance, in the calculation workbook All_GHG_Accounting_20230918c.xlsx, sheet 4.4.2 baselines, cells H3-H8, the annual accumulation of peat decomposition emissions between the end of the baseline period (2018) and the start of the ERPA phase (2020-2021) are added. This results in a higher/less conservative emissions baseline. Also, it is unclear how the program intends to quantify the monitored peat decomposition emissions to compare to this baseline that considers accumulation over many years. Would the monitored emissions also include this same legacy? There is no explanation in the ERPD regarding this approach (table 30 shows 1,579,166 tCO₂/yr emissions in the baseline, while Table 31 shows 24,896,358 tCO₂ emissions for baseline years. Thus the auditors have several issues: (1) the approach used is unclear and has not been justified, and (2) There is not sufficient explanation in the ERPD. .

Overall the approach for quantifying peat decomposition emissions in the reference period baseline, the ERPA emissions baseline, and how peat decomposition emissions will be comparatively quantified during the monitoring period are unclear and need additional explanation and justification in order to determine conformance with the requirements.

Project Personnel Response 3: N/A

Auditor Response 3: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 36 Dated 28 Aug 2023**Standard Reference:** ISFL Validation and Verification Requirements**Document Reference:** Database_PeatDec_2006_to_2018_20221118; Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: This finding relates to finding #18 above. Section 5.1 of the ISFL Validation and verification Requirements indicate that "Accuracy and conservativeness: Estimations should be neither over- nor under-estimated and uncertainties should be reduced as far as practical. If this cannot be assured, use conservative assumptions, values, and procedures to ensure that reported Emission Reductions are not overestimated."

Annex 6, Section 6.1.3 of the ERPD states "The emission calculation from peat decompositions involved only emissions in peatland that in 2006 covered with natural peat swamp forests. The conversion of primary peat swamp forests is assumed to involve drainage of the peatland, either for water management purpose or accessibility.

Drained peatlands are susceptible to fires and release huge GHG emissions due to organic soil burning. The calculation of emissions from peat fires accounts only the loss of organic soils due to burning. " Thus peatlands may be susceptible to two processes that could occur at the same time: peat decomposition and peat fires. As indicated in the response to Finding #15 above, the project has indicated that quantification of peat decomposition uses the average peat emission factor of the two land use classes of, multiplied by the area. This suggests that the peat land may be decomposition and losing carbon due to decomposition processes. For peatland fires, the program applies a single emission factor for CH₄ and one for CO₂ from the 2nd FREL (table 7). The auditors request additional information regarding how the program can ensure there is no double counting of emissions from peat decomposition and peat fire that occur in the same location. More specifically, if an area has been undergoing peat decomposition for several years, and then is hit with a fire, how does this peat fire emission factor apply, considering that peat has already been emitted. Please justify that your approach is conservative and accurate.

Project Personnel Response: There is potential overlapping occurrences of peat decomposition and peat fires, but the processes are separately different. Peat decomposition is related to the annual accumulation of slow peat oxidation due to drainage or decreasing of water level, while peat fires occur normally in dry season and the oxidation happen instantly. However, as long as the peat soils are not completely oxidized, there will be no double counting. The double counting or overestimation could occur only if the peatland is totally decomposed or oxidized.

Auditor Response: Thank you for your clarification. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NIR 37 Dated 28 Aug 2023**Standard Reference:** ISFL Validation and Verification Requirements**Document Reference:** Database_PeatDec_2006_to_2018_20221118; Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: This finding relates to finding #18 above. Section 5.1 of the ISFL Validation and verification Requirements indicate that "Accuracy and conservativeness: Estimations should be neither over- nor under-estimated and uncertainties should be reduced as far as practical. If this cannot be assured, use conservative assumptions, values, and procedures to ensure that reported Emission Reductions are not overestimated." Also section 4.1.4 of the ER Program Requirements states "The Program GHG Inventory shall be comparable in its use of definitions, categories and subcategories with national processes such as the national GHG inventory, REDD+ and the Biannual Update Report."

In the 2nd FREL, forest carbon stock enhancement is considered as it relates to peatland. Section 3.6 of the FREL states "Enhancement of forest carbon stock is defined as the increase in carbon stock due to conversion of non-forest into forest categories (forest gain). The non-forest categories include agriculture, estate crop, grassland, shrub, settlement and other areas, whereas the forest categories used for assessing the EFCS include primary forests, secondary forests and plantation forests." Thus, it would be logical that a transition from grassland to forestland or cropland to forestland occurring on peatland entails removals of carbon from the atmosphere (negative sign). However, Section 6.2.3.2 of the FREL shows these enhancements on peatlands as emissions (positive sign). Likewise the calculations provided for ISFL (Database_PeatDec_2006_to_2018_20221118.xlsx) also shows these transitions on peatlands as causing emissions.

(1) Please provide justification as to why transitions from non-forest to forestland results in peat emission and why this approach is accurate and conservative.

(2) Please also indicate if there is any consideration of the removals from peat land re-wetting in the baseline and justify why or why not. If not, justify that such assumptions are conservative.

Project Personnel Response: (1) Emission from peat decomposition still occur in non-forest to forest land subcategories, because it is assumed that the land was drained and conversion to non primary or drained forest. Table 2.1 of 2013 supplement to the IPCC Guidelines on wetlands, stated that the emission factor from drained forest is 5.3 tC/ha/year. Only intact primary forest and water logged-related classes are considered undrained, therefore without CO₂ emissions, but CH₄ emissions in waterlogged-related classes.

(2) Currently method for estimating emissions from rewetting has not been adopted at national level, due to limited studies on the historical emissions especially related to the water level, required for baseline development. In addition, BIOCF program in Jambi has no direct activities on rewetting, but rather in cooperation with other agencies, including BRGM, forestry service, environmental service and NGOs. Unfortunately, baseline development for rewetting program seems not their priority.

Auditor Response : Thank you for the clarification. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 38 Dated 28 Aug 2023

Standard Reference: ISFL Program Requirements, 2006 IPCC Guidelines, ISFL Guidance note on application of IPCC guidelines_March 2021

Document Reference: SOC_DOM_BiomassBurn_Accounting_20230220;
All_GHG_Accounting_20230808

Finding: Section 4.1.2 of the ER Program Requirements states that "ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines." Furthermore the ISFL Guidance Note on the IPCC Guidelines provides additional clarity and some optional guidance on quantifying DOM (for a simplification of the quantification and assumptions). The auditors note that quantification of DOM has been added using factors from unpublished study "Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest." The auditors have several inquiries regarding the DOM approach and data:

(1) The study used for the DOM emission factors is for peat swamp forest which is only relevant to a portion of the Jambi land uses (forests on peat soils) and not all land uses or non-peat areas. Second the study area appears to have been logged and a focus of the results are about the logging effects on forest structure, which may impact the amount of dead wood, particularly if the sites were recently logged.

The auditors request justification of the applicability of this study for the DOM emission factors for non-peatland forests in Jambi province and for non-logged areas. Also, please justify the applicability of each stratum in the study for each of the land uses in the Jambi region (e.g., how does dense logged over forest apply to primary forests, how does Secondary forest Mahang dominated apply to plantation, how does Medium LoF apply to secondary forest, how does Recently logged apply to cropland, etc). Overall, the auditors are questioning the appropriateness of the use of data from this study over the IPCC tier 1 DOM data.

(2) Please confirm the units of DOM in the workbook SOC_DOM_biomassBurn_Accounting_2023..., sheet DOM. For the calculation of the DOM EF in cells O5-o26, the formula multiplies by 0.47 (converting biomass to carbon) and by 44/12 (converting carbon to CO₂). However, the cell O4 indicates that the unit is tC ha⁻¹. Next, in cells N32- N191, the header indicates that the values are t C yr⁻¹, which would suggest that these are annual values and not totals summer over the years in the baseline period. These DOM values are then transferred into the workbook ALL_GHG_Accounting_20230808.xlsl, sheet Section 4.1.2. They are compared to SOC and AGBG values that are in different units-- TCO₂e and account for total emissions over the entire baseline period, not just per year like the DOM. Please check that these units and time periods are comparable.

(3) The auditors found that the value for litter in the forest regrowth category of the study "Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest" is 0.1 t ha, but the project has applied a value of 0.01. Please indicate if this is an error or if intentional, justify this value.

(4) Annex 6, Table A6-8 of the ERPD shows that the C stock for Carbon in New class is 2.1 which is the IPCC default. However, this value is not used in any calculation within the SOC_DOM_BiomassBurn_Accounting workbook. Please indicate why this is listed.

(5) The 2006 IPCC Guidelines indicates that the DOM equation is equation 2.23 which is $(C_{\text{new land use}} - C_{\text{in old land use}}) \times \text{area converted} / \text{time period of transition}$. In sheet, DOM, cells M32-M194, the equation is not being applied correctly. For instance, it multiplies the difference of emission factors by 12. It is unclear why this is multiplied by 12. The auditors assume this pertains to 12 years, which is the duration of the baseline period. However, the total area of conversion shown in cells J32-J194 is already considering the whole baseline period and is not hectares per year. Please

indicate why you are multiplying by 12. It also divides by 20 years which suggests that the program is applying a transition time of 20 years. Annex 6 of the ERPD states "To estimate emissions and removals of DOM, we used the equation 2.23 of 2006 IPCC guidelines, where the delta carbon stock is the deduction of DOM in new land cover with DOM in the old land cover, multiplied with the activity data, then divided with the transition period, i.e. 12/20." which suggests a transition period of 0.6 years. This description does not match the calculation performed.

(6) Also see section 4.1 of the ISFL guidance note. It states "For lands converted to Forest Land during the inventory period, ISFL ER Programs may apply equation 2.23 from the IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Chapter 2 to estimate the changes in carbon stocks in dead organic matter during the inventory period. In applying this equation, it may be assumed that carbon in dead organic matter pools increases linearly to the value of mature forests over a specified time period (default = 20 years which is the default value provided in Section 2.3.2.2 of the IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Chapter 2).

For lands converted from Forest Land to any other land-use category during the inventory period, the assumption may be made that carbon in dead organic matter pools is lost in year 1." Also, see the example DOM quantification in Box 3 (nonforest to forest transition), which shows how the quantification must consider a transition period for DOM pools to build up. It does not appear that the program team is accurately applying the transition period for the accumulation of DOM, if that is the intention of dividing by 20. A transition period signifies that a portion of that DOM in the land use accumulates each year. So in a transition from cropland to forestland, in year 1 only 1/20th of the DOM accumulates, in year 2 another 1/20th accumulates. Also, if the total area in that transition is 12,000 ha over a 12 year baseline period, then each year 1000 ha converts to forest. Thus in year 2, there are 2 areas accumulating carbon (1/20th of the DOM, and 2/20ths of the DOM) that must be added together (see Box 3 of the Guidance note, which demonstrates this "waterfall approach" to gradual DOM accumulation). Please explain and justify how the program's quantification is in line with this approach. Overall, the auditors have independently quantified significantly DOM emissions and found significant differences.

(7) The auditors would also like to point out that Section 4 of the ISFL Guidance note on Application of IPCC Guidelines states "Therefore, unless the country where the ISFL ER Program is located is already using Tier 2 methods for estimating changes in carbon stocks in dead organic matter, ISFL ER Programs may exclude the changes in carbon stocks in dead organic matter from both the ISFL Reporting and ISFL Accounting for subcategories that involve land remaining within the same land-use category (including forest remaining forest) or subcategories that represent transitions between non-forest categories. Changes in carbon stocks in dead organic matter shall only be considered for subcategories involving lands converted from Forest Land to any other land-use category (carbon losses) and for lands converted to Forest Land (carbon gains) in accordance with the guidance below." Please indicate whether the program has considered this requirement and if the program would like to proceed with accounting of DOM for subcategories other than conversions between forestland.

(8) Lastly the auditors have found that the ERPD generally lacks sufficient information about this DOM pool (sources of uncertainty, improvement plan, data and parameters available, tier of the data, etc).

Project Personnel Response:

1. The use of study in peat swamp forests of South Sumatra due to unavailability of comprehensive DOM values from the 2nd FRL document, which available only for forest classes. In addition the DOM values in the 2nd FRL are mostly very high. Thus the use of the data from South Sumatra study, considered to be conservative compared to Tier 2 data used in the FRL. The source of Tier 2 data used in the 2nd FRL was from INCAS study in peatland of Central Kalimantan (INCAS)
2. Thanks we revised the unit of the EF in Sheet DOM to tCO₂/ha
3. Thanks for the finding, it should be 0.1
4. Thanks for the finding. Table A6-8 has been revised, the value was from IPCC default value, which was used initially. The calculation is now using the value from local study and thus the column is removed.
5. thanks for the correction. We revised the calculation of emission from DOM, by replacing the annual activity data by the total activity data during the reference period.

Auditor Response : 1. As indicated in the original finding, the program has applied an unpublished study ("Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest") DOM emission factors is for peat swamp forest and logged over forest, which may only be considered relevant to a portion of the Jambi land uses (forests on peat soils) and not all land uses or non-peat areas. Second the study area appears to have been logged and a focus of the results are about the logging effects on forest structure, which may impact the amount of dead wood, particularly if the sites were recently logged. Due to these characteristics of the study and data used, the auditors do not agree that it is applicable data for this analysis across the Jambi province. The values for DOM are also quite high as compared to the IPCC default values for tropical forests. Overall, more justification is needed regarding the appropriateness of this data from this Merang Peat Swamp Forest study in favor of the use of the IPCC tier 1 DOM data.

2. Cell M31 in the DOM sheet indicates that the unit is tC yr-1. Please confirm if this is accurate or if it is tCO₂ yr-1.

3. Confirmed value was corrected.

4. Confirmed the table was updated with the values used.

5. The auditors have found that the DOM calculations are not accurate. The program is simply dividing by 20 years but is not considering the accumulation of DOM overtime. For a deforestation land use transition (high DOM to low DOM), all DOM carbon can be considered lost in the year of conversion according to the ISFL Guidance note on IPCC guidelines. So if 1200 ha converted between 2006-2018, that would mean 100 ha lose all DOM each year so $(E_{\text{forest}} \text{ minus } E_{\text{nonforest}}) * \text{total area converted}$. To get the annual emissions one would need to divide by 12. For the opposite transition of reforestation, it takes 20 years for the carbon to accumulate. So if 1200 ha converted to forest between 2006-2018, the year 1 calculation would be $(E_{\text{nonforest}} \text{ minus } E_{\text{forest}}) * 100 \text{ ha}$. The year 2 calculation would be $2 * (E_{\text{nonforest}} \text{ minus } E_{\text{forest}}) * 100 \text{ ha}$ and the year 3 calculation would be $3 * (E_{\text{nonforest}} \text{ minus } E_{\text{forest}}) * 100 \text{ ha}$ and so on. This is not the calculation carried out by the Jambi team. However, the auditors found that the calculation carried out by the Jambi team, although incorrect, may in total across all subcategories result in a more conservative baseline.

However, the values shown in the workbook SOC_DOM_biomassburn_accounting_20230918b.xlsx, sheet DOM, do not match the values in the All_GHG_accounting workbook, sheet Section 4.1.2.

Please explain the discrepancy.

6. Item 6 was not addressed, but we have described it above a bit in item 5. Finding remains open.

7. Item 7 was not addressed. Finding remains open.

8. Item 8 was not addressed. Finding remains open.

Project Personnel Response 2: N/A

Auditor Response 2: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 39 Dated 28 Aug 2023

Standard Reference: ISFL Program Requirements, 2006 IPCC Guidelines, ISFL Guidance note on application of IPCC guidelines_March 2021

Document Reference:

SOC_DOM_BiomassBurn_Accounting_20230220;All_GHG_Accounting_20230808

Finding: Section 4.1.2 of the ER Program Requirements states that "ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines." Furthermore the ISFL Guidance Note on the IPCC Guidelines provides additional clarity and some optional guidance on quantifying SOC (for someone easier to achieve quantification and assumptions). The auditors note that quantification of DOM has been added using tier 1 data." The auditors have several inquiries regarding the SOC approach and data:

(1) Please justify the Stock change factors for grassland, other land and settlement and confirm how these values for Flu, Fmg, and Fi were selected. The auditors note that the stock change factors in the SOC sheet deviate from the grassland stock change factors provided in Chapter 5 (grasslands) of the 2006 IPCC Guidelines, from the settlement stock change factor approach described in Chapter 8 section 8.3.3.2, and Chapter 9 section 9.3.3.1 ("The initial (pre-conversion) soil organic C stock (SOC(0-T)) is computed from the default reference soil organic C stock (SOCREF) and stock change factor for land-use systems (FLU). The reference C stock at the end of the 20 year default transition period is assumed to be zero."). Please justify all stock change factors and reference C stocks.

(2) Similar to the gradual decline or accumulation of DOM, the SOC pool also requires a transition period as indicated in Chapter 2 of the IPCC Guidelines (default 20 years). Note that the ISFL Guidance note on the Application of IPCC Guidelines demonstrates a "waterfall approach" to quantification of SOC (e.g., Box 1), similar to that of DOM as described above, this results in increasing SOC emissions/removals as the baseline period progresses and more years are incorporated into the quantification. For instance it states "Determination of the Emissions Baseline shall assume that the average annual rate of conversion from Forest Land to other land categories (in ha/year) during the Baseline Period would have applied during the ISFL ERPA Phase and emissions and removals are calculated accordingly." This means that if 1200 ha are converted from nonforest to forest during 2006-2018, 100 ha is converted annually. It then states "It shall be assumed that the Soil organic C stock change during the transition to a new equilibrium SOC occurs in a linear fashion over a period of 20 years." Annex 6 of the ERPD states "The values were also used in the SIGN SMART. To estimate emissions and removals from SOC in mineral soil, we used the 2006 IPCC Guidelines equation 2.25, where the delta SOC is deduction of SOC in t0 with SOC in t1, then divided with transition period (D). The transition period used for this calculation is 12years divided by 20 years." Thus suggests that the transition period is 0.6 years. Further In the sheet SOC, Cells N32-N191, it appears the program team is multiplying by 12/20. Please justify this multiplication by 12/20, the use of a 0.6 year transition period, and demonstrate how the project considers the gradual accumulation or decline in SOC along with the gradual deforestation overtime (which requires adding emissions overtime). Overall, the auditors have independently recalculated the SOC emissions for a selection of the conversion subcategories, assuming that 1/12th of the area converts each year and that there is a gradual decline or accrual of the SOC pool and we have calculated significantly lower values than what is demonstrated in sheet the program teams SOC sheet. Please ensure that your calculations are in line with the IPCC.

(3) Lastly the auditors have found that the ERPD generally lacks sufficient information about this SOC pool (sources of uncertainty, improvement plan, data and parameters available, tier of the data, etc).

Project Personnel Response: 1. The SOCFREF and stock change factor values used the default value from Table 6.2 of 2006 IPCC Guidelines. The stock change factors of the $F_{mg_F_lu}$ and F_i values from grassland, other land, and settlement are selected based on stock change factor provided in Table 5.5, Table 5.10, Table 6.2, Section 8.3.3.2 and Section 9.3.3 of 2006 IPCC Guidelines. For the grassland, previously we used the value as in the SIGN SMART, which refer to Table 5.5 of 2006 IPCC Guidelines for cropland. The source of each factor has been added in the Table A6-7.

2. SOC calculation has been revised using 20 years transitional period

3. Detail info and description on SOC Pool has been provided in the revised ERPD

Auditor Response: 1. Thank you for this explanation, we have confirmed the values applied.

2. We confirmed that you are now dividing by 20 years. The auditors found that the program's calculations do not consider the build-up and accumulation of carbon stocks in SOC during the 20 years. However, this ultimately results in a more conservative estimate. Nonetheless it is not accurate. The auditors have closed this component of the finding because it does not have an impact on the baseline.

3. We confirmed that additional information was added to the PD.

This finding has been closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 40 Dated 28 Aug 2023**Standard Reference:** ISFL ER Program Requirements**Document Reference:**

SOC_DOM_BiomassBurn_Accounting_20230220;All_GHG_Accounting_20230808;

Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023; Database_Agriculture_SignSmart

Finding: Section 4.1.3 of the ER Program Requirements states "The Program GHG Inventory shall utilize best available methods and existing data." As a result of finding #2 above, the program has added emissions from fires occurring on the landscape. The calculation workbook

SOC_DOM_BiomassBurn_Accounting_20230220.xlsx, sheet Biomass Burning contains information on the area (hectares) burned during the baseline period. Annex 7 of the ERPD states "To generate activity data related to fire emissions, we used burnt areas generated by MoEF. MoEF generated burnt areas map based on visual interpretation of medium spatial resolution of satellite imageries (KLHK, 2021). The maps were produced from 2000 to 2020 by Forest Resource Inventory and Monitoring Directorate and validated using ground truthing data by Directorate of Forest and Land Fire Control of the MoEF. " However, while the auditors have been provided with the burn scar data, we would like to request that the remote sensed data showing these burn scars be provided. Second, it appears that the unpublished study "Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest" has been used for the aboveground biomass for the accounting of biomass burning emissions. It is unclear why data from this study outside the Jambi province and only on peatlands has been used instead of the National Forest Inventory data that has aboveground biomass values and has been used for other emission factors in the ISFL program (i.e., land use conversions) and values are published in the FREL. Thus, the auditors request the following:

(1) The remotely sensed data showing the burn scar for year 2013.

(2) The fire areas are assigned to individual land use change subcategories occurring annually from 2006-2018. However, the program has opted to only use the two analysis years (2006 and 2018) for the land use change assessment due to uncertainty in the classification. Thus it is inconsistent to apply these burn areas to land use changes occurring annually. Please justify the use of the annual land use change data for fire emission quantification.

(3) Justification for the use of the unpublished study "Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest" for the aboveground biomass values for the biomass burning in lieu of the NFI data that was used for all other aboveground biomass emission factors for land use change.

(4) The Biomass burning sheet references SignSmart data for the combustion factor for non-forest classes and the Gef's for non-forest. The auditors have not been able to locate these values in the SignSmart file provided (Database_Agriculture_SignSmart.xlsx). Please provide some sort of official reference or reporting to so that we can confirm these values.

(5) Justify why the values for biomass burning in the All_GHG_Accounting workbook sheet 4.1.2 do not match the values in the SOC_DOM_BiomassBurn_Accounting_20230220.xlsx, sheet Biomass Burning. For instance sheet 4.1.2 shows biomass burning emissions from Cropland Remaining Cropland are >4 million tCO₂e, whereas the Biomass Burning sheet in the other workbook show they are ~377,000 tCO₂e

(6) The auditors also note that table 33 of the ERPD does not make reference to the biomass burning as a source of uncertainty like it does other key datasets. Please provide information as to why it is not a source of uncertainty. Furthermore section 4.1.1 of the ERPD makes no reference to fire emissions.

Project Personnel Response: 1. Biomass burning and burned areas 2013 data is available in the Bioconf.gdb geodatabase file stored in the shared Google Drive folder. Bu Anna will provide the list of satellite imageries for deliniating 2013 burnscar

2. The use of annual land cover change in biomass burning emissions is to define which land use categories were burned annually. Since the fires occurrence must be monitored annually, the fire-related emissions must be estimated annually. It is not possible to monitor fire occurrence only from two point of time, i.e. beginning and end of reference period. Because the burnscar can not be detected from remote sensing over more than couple of months. Annual monitoring and emission estimation is also applied for generating baseline in the 2nd FRL.

4. We presented the tables shows the calculation in the SIGN SMART during the discussion in September 26th. In addition the activity data and emission factors used for the calculation

4. DOM data from South Sumatra study is more conservative than the Tier 2 national data, which was developed from a study in peatland of Central Kalimantan. NFI data is the best available data for Tier 2 AGB values but DOM value is not available. Currently a redesign of NFI is being developed, which will include the measurement of DOM. The implementation of new NFI will be commenced in 2024.

5. Biomass burning in All GHG accounting sheet 4.1.2. do not match with SOC_DOM, it is already revised

6. Table 33 and Section 4.1.1 need more detailed description on the uncertainty of biomass burning

Auditor Response : 1. Thank you for the burn scar information. This issue has been resolved.

2. The auditors accept the use of the annual land cover change due to the challenges associated with annual fire data versus the land use at 2 points in time. We also understand that this is the approach that was used with FRL. This issue is resolved.

3. It has not be sufficiently justified why the Aboveground and Belowground biomass values from the NFI were not utilized for the biomass burning and instead the study from outside the Jambi region were used. This question only pertains to AGBG and not the DOM.

4. We confirmed the values during the meeting on Sept. 26th.

5. Annex 6, section 6.1.1 of the ERPD states “The activity data for biomass burning was generated using the overlaid data of burned areas and forest and land cover change data. Emissions from CO2 gases were estimated for subcategories remaining in the same subcategories, to avoid double counting with the emissions from land cover change. Non CO2 emission was estimated for all subcategories. Additional spreadsheet calculation has been generated to estimate emissions from biomass burning (SOC_DOM_BiomassBurn_Accounting_20230918.xlsx).” The auditors found inconsistencies between the final baseline emissions workbook, All_GHG_Accounting_20230918c.xlsx, sheet LCC Emission and the values reported in the workbook SOC_DOM_BiomassBurn_Accounting_20230918.xlsx for the cropland to forestland subcategory. For instance, when double clicking cell B107 to see more detail of the individual values, we see that in year 2012, there are emissions (60.59 tCO2e) for the land cover transition Estate Crop converted to Plantation forest. However in the workbook SOC_DOM_BiomassBurn_Accounting_20230918.xlsx, the biomass burning emissions in 2012 for the subcategory are zero. Ultimately, there are still discrepancies between the two workbooks and thus this issue has not been resolved.

6. confirmed that additional information has been provided in the ERPD.

Due to item number 5 above, this finding remains open.

Project Personnel Response 3: N/A

Auditor Response 3: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NCR 41 Dated 28 Aug 2023**Standard Reference:** ISFL ERPD Template Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Annex 10 of the ERPD Template requires the following: "Using the table provided, clearly describe all the data and parameters to be monitored (copy table for each parameter)." Several key parameters appear to be missing from this section. For instance, the program team has added biomass burning in FOLU subcategories but there is no description of monitoring for fires and/or biomass burning emission factors. Likewise, DOM has been added a carbon pool, but there is no discussion of DOM in the monitoring of 'C stock of forest cover class' and 'C stock of non-forest cover class.' The ERPD references updates to the NFI data in coming years that could impact the emission factors, however, there is no discussion of monitoring of tree measurements (DbH, height, species, etc) or of emission factors. Furthermore, nowhere are the precise dates/years of the current or future NFI data that have been used for this analysis been disclosed. Due to the omission of key parameters and information, Annex 10 is not in conformance with the requirements.

Project Personnel Response: Further detail description of all parameters has been updated in the Annex 10

Auditor Response: The audit team confirmed the changes provided. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 42 Dated 28 Aug 2023**Standard Reference:** ISFL ERPD Template Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Annex 7 of the ERPD Template requires the following: "For each of the selected subcategories in Section 4.2.1:

- Identify the parameters that were used to determine the activity data and emission factors in the calculation of the emissions and removals for that subcategory;
- For each parameter used to determine activity data, describe the historic time series available for that parameter including how they relate to the proposed start date and end date of the Baseline Period (see Section 4.4.1);
- Provide details on the source of the parameters (e.g. official statistics) or a description of the method for determining the parameter (e.g. for parameters derived from remote sensing images describe the process applied including details such as the type of sensors and the details of the images used). If proxies have been used, describe the data sources for the proxies and their application to estimate activity data;
- Provide details on the spatial level of the parameters (local, regional, national or international) and if they allow for spatially explicit observations of land-use categories and land-use conversions;
- Provide an analysis if the parameters comply with the requirements on the use of, at minimum, IPCC Tier 2 methods and data. For parameters used for land use change-related subcategories, also provide an analysis if they data allows for the use of Approach 3 for land representation."

Overall, the auditors have found that this Annex of the ERPD is missing key required information. For instance, DOM and biomass burning has been added as a result of Finding #2, but little information is provided regarding the data supporting these analyses and quantification including the emission factors for both biomass burning and DOM. Likewise, the table in Annex 7 does not provide any information about biomass burning or DOM which are now included pools. Due to the omission of some of these key requirements, Annex 7 is not in conformance with the template requirements.

Project Personnel Response: More detail description on emission factor related to biomass burning and DOM has been added in the Annex 7

Auditor Response : The audit team confirmed the changes provided. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 43 Dated 28 Aug 2023**Standard Reference:** ISFL Buffer Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section 7.2 of the ISFL Buffer Requirements states "The risk of Reversal is assessed for both risk factors (A and B) as

high, medium or low with associated Reversal Set-Aside Percentages. The Reversal Set-Aside Percentage for the whole ER Program is calculated as the sum of the Reversal Set-Aside Percentages for both of the Risk Factors." Table 2 shows the various risk percentages as 5-25%. Table 38 in the ERPD shows a Reversal Risk Set aside percentage of 3.6% for Risk Factor A (Lack of long-term effectiveness in addressing underlying key drivers of AFOLU emissions and removals). This is below the threshold of ISFL Buffer requirements and thus not in conformance with the tool.

Project Personnel Response : Table 38 on buffer factor for the risk of reversal has been revised following the ISFL buffer requirement**Auditor Response :** Thank you for the changes provided. While updates were made to section 4.7.2 of the ERPD, Annex 11 of the ERPD also contains reporting on the reversal risks and this table has not been updated. This results in inconsistency in the ERPD.

Second, However, the ISFL Buffer Requirements state in Table 2 "Reversal Risk assessment tool for determination of Reversal Risk Set-Aside Percentage", Factor A, that a 5% is given when the "Reversal Risk is considered LOW for ALL eligible subcategories". However, in the risk assessment presented in Table 38 for Factor A, there are 2 categories with a Medium reversal risk. Table 2 of the buffer requirements states that a percentage of 15% shall be set when "Reversal Risk is considered high for some eligible subcategories and or medium /low for others". Hence, the audit team found that Table 38 is still not in conformance with the ISFL Buffer Requirements. Please correct the percentage of Reversal Risk set aside and ensure that Annex 11 and Table 38 are consistent.

Project Personnel Response 2: N/A**Auditor Response 2:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):**

OBS 44 Dated 28 Aug 2023**Standard Reference:** ISFL ERPD Template Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023

Finding: This is an observational finding and does not need a response. The ERPD contains numerous spelling and grammar errors as well as locations in which numbers appear to be lumped together with words. E.g., "Peatland distribution was defined using the peat land map generated by Ministry of Agriculture based on soil organic distribution identified using satellite imageries and groug thruthing. Therefore peatlands can be covered by various land cover, including forest, cropland, grassland, otherland, wetland or settelement.", section 4.1.2 "Subcategories involving conversions between land use categories based on dentifyin contribution , Section 4.2.1 "Subcategories involving conversion between land use categories others than forest land that, cumulatively amount to 90% of the absolute levels of the totals GHG 76dentify and removals associated."

While grammar and spelling do not impact conformity, this will be a published document and such errors may impact its readability.

Project Personnel Response: NA**Auditor Response:** NA**Bearing on Material Misstatement or Conformance (M/C/NA):** NA**NIR 45 Dated 28 Aug 2023****Standard Reference:** ISFL ER Program Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_12_July_2023; SOC_DOM_BiomassBurn_Accounting_20230220;All_GHG_Accounting_20230808;

Finding: Section 4.1.3 of the ER Program Requirements states "The Program GHG Inventory shall utilize best available methods and existing data." The program accounts for degradation through the tracking of the conversion of primary forest to secondary forest. The ERPD indicates that secondary forest is "Natural tropical forest growing on non-wet habitat including lowland, upland, and montane forests that exhibit signs of logging activities indicated by patterns and spotting of logging (appearance of roads and logged-over patches)." The program is also tracking emissions due to fires on the landscape. We noted that there are some fires that occur in the primary forest to secondary forest conversion. Fires could result in degradation and potential conversion from primary forest to secondary forest. Thus the auditors request additional information regarding how the program can ensure there is no double counting between the primary-secondary forest conversion and the biomass burning emissions that also occur in those transitions. Does the program conduct some sort of spatial analysis to ensure that the conversions from primary to secondary forest do not coincide with the burn scars.

Project Personnel Response: Emissions from biomass burning only calculated for emissions of non CO2. For CO2 emissions of biomass burning we included only in the remaining subcategories.

Auditor Response: Thank you for the clarification. This finding is closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** M/C

NIR 46 Dated 30 Oct 2023**Standard Reference:** ISFL Buffer Requirements**Document Reference:** All_GHG_Accounting_20230918c.xlsx; Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3

Finding: Section 7.2 of the ISFL Buffer Requirements states "The Reversal Risk assessment tool shall be used to determine the Reversal Set-Aside Percentages based on the two identified risk factors. The risk indicators in the second column of Table 2 below are indicative and non-exclusive, and are provided as an example to show how to assess the risk of Reversal for each of the risk factors. The risk of Reversal is assessed for both risk factors (A and B) as high, medium or low with associated Reversal Set-Aside Percentages. The Reversal Set-Aside Percentage for the whole ER Program is calculated as the sum of the Reversal Set-Aside Percentages for both of the Risk Factors." One of the areas of risk is "Significant occurrences of conflicts over land and resources in the program area." Under this category, the program team has stated in the ERPD "Current analysis and exposure proved that conflict over natural resources, especially land, is a common and serious issue in Jambi. More than 30 conflicts, 50% of which are active cases and in the process of mediation/resolution involving government, local communities, and companies, have been recorded in Jambi (SESA, 2019). The government has already had institutional mechanisms in the form of Conflict Resolution Teams set up at the district level by the Head of the District to settle these conflicts. Efforts have been made to do so; some have been resolved, but more needs to be done in the future due to the complexity of the issues. Based on this assessment, conflicts can be considered a Medium Risk to the project but emission-wise for reversal, it can be considered Low Risk." The auditors request justification as to why the conflicts over land are considered a medium risk to the project but emission-wise a low risk. The Buffer Tool does not specify that the risk to the project versus the emissions can be separated. Given the number (>30 conflicts over natural resources and land, and how conflicts can result in significant impacts on land and resource use, in applying professional judgement, the auditors do not agree with the decision to label this a "low risk." Please provide adequate justifying of this decision.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

NCR 47 Dated 30 Oct 2023**Standard Reference:** ISFL ER Program Requirements**Document Reference:** All_GHG_Accounting_20230918c.xlsx; Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3

Finding: Section 4.2.6 of the ER Requirements states "The Emissions Baseline shall be constructed based on the average annual historical GHG Emissions and Removals¹⁴ over a historical period (Baseline Period) of approximately 10 years. This Emissions Baseline shall be constructed based on at least two data points." Footnote 14 indicates "Alternatively, for subcategory(ies) where legacy effects are significant, ISFL ER Programs may use the GHG Emissions and Removals resulting from average annual historic activities if it can be documented that this is more conservative for the relevant subcategory(ies) and the required data is available."

(1) The program has included of legacy emissions for peat decomposition. This is shown in the calculation workbook All_GHG_Accounting_20230918c.xlsx, sheet Peat Dec Emissions, cells B12 and cells C23-N23. By including legacy emissions, it results in a higher emissions baseline and is therefore significantly less conservative than with the exclusion of peat decomposition legacy emissions.

(2) The program has also considered legacy emissions in the final emissions baseline. For instance, in the calculation workbook All_GHG_Accounting_20230918c.xlsx, sheet 4.4.2 baselines, cells H3-H8, the annual accumulation of peat decomposition emissions between the end of the baseline period (2018) and the start of the ERPA phase (2020-2021) are added. This results in a higher/less conservative emissions baseline.

The inclusion of legacy emissions for peat decomposition from the pre-baseline period as well as for the gap years between the baseline and the monitoring period is not in conformance with the requirements.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):** M/C**NIR 48 Dated 31 Oct 2023****Standard Reference:** ISFL Validation and Verification Requirements**Document Reference:** All_GHG_Accounting_20230918c.xlsx; Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3

Finding: Section 5.1 of the Validation and Verification Requirements states that the principle of Consistency is to "enable meaningful comparisons in ISFL ER Program-related information." Section 3.1.1, Table 7 of the ERPD shows "Historical emissions from land use change from 2006 to 2016. It is unclear if this table is meant to reference the actual historical reference period of 2006-2018. Furthermore, the values in this table and in the text in this section do not match the latest values submitted in the calculation workbook All_GHG_Accounting_20230918c.xlsx, sheet "Drivers of Emission." It is unclear whether the other values and tables in this section correspond to the final calculation values submitted to the auditors. Please provide more information regarding this inconsistency, confirm that all other tables and figures in this section match the final calculations, and provide any corrections needed.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

NCR 49 Dated 31 Oct 2023**Standard Reference:** ISFL ER Program Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3

Finding: Section 4.1.2 of the ISFL Program requirements states "ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools in the Program Area (Program GHG Inventory) utilizing existing data that have been collected using best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines. In accordance with the IPCC guidelines, the Program GHG Inventory shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC." Tables A6-12 and A6-13 are not sized appropriately in the ERPD and thus are cut off. This results in a lack of transparency in the GHG inventory and ultimately a nonconformity.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 50 Dated 31 Oct 2023**Standard Reference:** ISFL Buffer Requirements**Document Reference:** Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3; All_GHG_Accounting_20230918c.xlsx; MC_Simulation_BioCF_20230918c

Finding: Section 1.1 of the Buffer Requirements states "1.1 "Uncertainty" results from the statistical Uncertainty related to the estimation of Emission Reductions to be generated during the ISFL ERPA Phase which account for, among others, errors related to Emissions Baseline estimation and Emission Reduction measurements." Section 1.2 states "A quantity of ERs out of the Total Net Emission Reductions across the eligible subcategories shall be allocated to the Uncertainty Buffer to help manage Uncertainty. Lastly, Section 2.1 of the ISFL Buffer Requirements states "SFL ER Programs determine the Total Net Emission Reductions across the eligible subcategories by comparing monitored Emissions and Removals with a baseline. For each Reporting Period, the Total Net Emission Reductions across the eligible subcategories shall be multiplied by the appropriate "Uncertainty set-aside factor" based on the quantified Uncertainty of the Emission Reductions following table 1 (values are taken from paragraph 4.6.4 of the ISFL Emission Reductions Program Requirements)." In review of Section 4.6 of the ERPD, it states "Therefore, with an expected set aside of 8% that reflect the level of uncertainty (43.3%), the annual estimated emission reduction is ranging from 0 million tCO₂ to 7.6 million tCO₂, annually." However, in looking at the Table 36 estimations, it appears that a 4% uncertainty set-aside has been applied. Please explain why there is a discrepancy and how a 4% uncertainty set aside was derived.

Furthermore, Annex 9, section 9.3 of the ERPD states "The overall accuracy of the emission estimates was 43.3%, the largest uncertainty was contributed by the emissions from land use change, with 55.8% of uncertainty. The uncertainty of emission estimates from peat fire and peat decomposition were relatively low, with uncertainty of 31.5% and 23.4%, respectively." However, the auditors have been unable to find these values in the table below it. It shows Peat fires have a 31.7% uncertainty and the Peat decomposition is 30%.

Ultimately it is unclear in the ERPD how the ex-ante uncertainty set-aside value was estimated and if the value stated in the text was actually applied. Please provide justification of the uncertainty set-aside, with a clear demonstration of the calculation and please ensure that the text and tables reflect these calculations.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):** M/C

NCR 51 Dated 31 Oct 2023

Standard Reference: ISFL Validation and Verification Requirements

Document Reference: Tracked_changes_Jambi_ERPD-improvement-draft_03_Oktober_2023b v3; All_GHG_Accounting_20230918c.xlsx; MC_Simulation_BioCF_20230918c

Finding: Section 5.1 of the Validation and Verification Requirements states that the principle of Consistency is to "enable meaningful comparisons in ISFL ER Program-related information." While many sections of the latest version of the ERPD have been updated, the auditors have found numerous inconsistencies between the values reported in tables and the values reported in the explanatory text. For instance, in Annex 9 (section 9.3) the descriptive text does not match any of the values in table A9-6 below. Likewise, these values do not match the values reported in section 4.4.1 of the text. We also found that the map accuracy values reported in section 9.1 do not match the values shown in the calculation workbooks. We found that the values reported in Table 7 of section 3.1.1 of the ERPD do not correspond with the values in the calculation workbook. These are just a few examples meant to highlight that the ERPD is not consistent in and of itself and with the calculations demonstrated. Due to the numerous inconsistencies, the ERPD is not in conformance.

Project Personnel Response:

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 52 Dated 23 Oct 2023

Standard Reference: ISFL PD Template, v2.0

Document Reference: Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 3.1.1 of the ERPD template states "Please provide a brief description (roughly 300 words or less) of the identified drivers of land use change that contribute to GHG emissions and removals associated with AFOLU in the Program Area." Drivers of land use change generally refer to the actual driving forces and underlying causes that result in deforestation, fires, degradation, or enhancements, such as the expansion of the agricultural frontier, agricultural practices involving burning, illegal logging, expansion of timber plantations, etc. This section includes information on the subcategories resulting in emissions (e.g., peatland, deforestation), but there is no information on the actual socio-economic or environmental drivers of emissions from these subcategories. Other sections of the ERPD, such as 3.1.2 appear to touch on these drivers of deforestation. For example, section 3.1.2 states "In summary, the largest driver of deforestation was timber plantation followed by estate crops, agriculture, encroachment, unlicensed land clearing, over logging, and illegal logging." Overall, section 3.1.1 does not provide a clear and sufficient description of the drivers of land use change and emissions in the program area, resulting in a nonconformity with the template requirements.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 53 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 2.1.2 of the ERP template requires “Please provide a brief description (roughly 150 words or less) of the rationale for the selection of the jurisdiction for the Program Area for an ISFL ER Program, including its unique characteristics that align with the ISFL Vision.” Section 2.1.2 of the JERP ERP provides information about the program implementation in the Jambi province including priority areas within the province. However, this section does not detail the rationale for selecting the Jambi province for this jurisdictional program as opposed to other provinces or regions in Indonesia and how Jambi’s unique characteristics align with the ISFL vision. As a result this section is not in conformance with the template requirements.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C**NIR 54 Dated 23 Oct 2023****Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 2.1.3 of the ERP states “Currently, the J-SLMP pre-investment grant is a major investment in the landscape.” This acronym has not been defined, but the auditors believe it refers to the “Jambi Sustainable Landscape Management Program.” Section 3.7 of the ERP also makes reference to this term. The auditors request more information about this program and whether it differs from the JERP (Jambi Emissions Reduction Program). If the JERP is simply the new name for the program, replacing J-SLMP, please ensure that there is consistency through the ERP and other program documentation.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): NA

NCR 55 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section 2.1.3 of the ERPD template requires states “Please provide a brief summary (roughly 300 words or less) of:

- i. The drivers of AFOLU emissions and removals, including deforestation and forest degradation
- ii. The broader vision of the ISFL ER Program, including the proposed interventions to address AFOLU emissions and the impact they will have in the jurisdiction on sustainable land use
- iii. How the ISFL ER Program will engage stakeholders, including Indigenous Peoples (if relevant), women, marginalized groups, and the private sector
- iv. The expected outcomes of the ISFL ER Program and how they will be sustained beyond the lifetime of the ISFL ER Program”

Section 2.1.3 of the ERPD does not provide any information about the drivers of the AFOLU emissions and removals (i.e., causes of deforestation and degradation), resulting in a nonconformity with the template requirements.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA): C****OBS 56 Dated 23 Oct 2023****Standard Reference:** ISFL Validation and Verification Guidance, v1.1**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** The ISFL Validation and Verification Guidance indicates in section 5 that the principle of consistency shall be adhered. Consistency refers to “enable meaningful comparisons in ISFL ER Program-related information;”

The auditors are conducting this review of non-GHG components and template conformance of these qualitative sections separate from the review of the GHG quantitative components. We have reviewed the ERPD with name Clean_Jambi_ERPD-improvement-draft_12_July_2023.pdf. However, we note that many of these sections (e.g., section 2.1.3, 3.1.1, etc) include information on the quantity of emissions by subcategory, management unit, etc. Given that the GHG review is still ongoing and may have additional updates, the auditors are issuing the observational finding as a placeholder to signal that the entire ERPD may need to be updated with the final emissions values, financial, etc to ensure consistency between the GHG and non-GHG components of the ERPD.

Project Personnel Response: NA**Auditor Response:** NA**Bearing on Material Misstatement or Conformance (M/C/NA): NA**

NIR 57 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 3.1.2 of the ERPD template requires to provide “1) A description of how the planned actions and interventions impact the main factors influencing emissions or address the drivers of land use change, deforestation, and forest degradation (identified in a. above) in the subcategories targeted by the ISFL ER Program 2) A description of the prioritization and timelines of the planned actions and interventions based on implementation risks for the activities and their potential benefits”.

The auditors request additional information regarding the following:

(1) In section 3.1.2 of the ERPD it is stated that “At least four current regulations/policy reforms in forest and land use are harmonized and accelerated into Jambi’s GGP objectives (such as RKTP 2022 – 2041, RPJM 2021 – 2024, RPJP 2026 – 2050, KLHS Province and 10 District KLHS, and Jambi Spatial Plan (2021 – 2031))”. Can you please provide an update about the RPJM 2021-2024 plan, what it entails, its progress and expected impact on the ER program by 2024, as well as the scope and expected impact for the other 3 policies listed here.

(2) It states that an expected result under this improving policies and regulations sub-component is “Social conflicts between different stakeholders are settled. Sixteen (16) conflict cases are resolved by utilizing harmonized maps.” Please provide additional information about these social conflicts between stakeholders including who the conflicts are between, the root of the conflict, and how the subcomponent intends to resolve such conflicts.

(3) Under 3.1.2 (2.1) it states that a proposed activity is “Facilitation and monitoring implementation of sustainable forest management in active forest concessions. The facilitation and monitoring will cover two active forest concessions (56,064ha), twenty timber plantation concessions (598,663ha), and two ecosystem restoration concessions (85,050ha).” It is unclear what is meant by sustainable forest management in active forest concessions. Please provide more information about the specific activities that are/Will be implemented.

(4) Under section 3.1.2(2.1), it is indicated that an expected outcome of promoting sustainable forest management is “Seventy percent of forested areas is restored (70% out of 1,038,981ha0> However, it is unclear which specific forest restoration activities are being implemented. Please provide more details on exactly how forests will be restored.

(5) Section 3.1.2 of the ERPD, subsection 2 “IMPLEMENTING SUSTAINABLE LAND MANAGEMENT” provides a list of planned actions and interventions. Can you please provide further information of how the list of proposed activities will be prioritized based on implementation risks and potential benefits

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 58 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section 3.1.3 of the ERPD Template (below table 4), requires the following: “Please briefly describe the following (roughly 150 words or less):

- i. Financial and economic analysis (e.g., NPV, IRR)
- ii. Sensitivity analysis (to assess the influence of changes in costs, revenues, funding sources and discount rates on program financing)
- iii. Proposed fund flow arrangements.”

This information is not included in section 3.1.3 of the ERPD resulting in a nonconformity with the template requirements.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA): C****NIR 59 Dated 23 Oct 2023****Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section 3.1.4 of the ERPD template report states “Please identify any potential compliance issues of

the actions and interventions with these laws, statutes, regulatory frameworks, conventions and agreements; and identify legal and regulatory gaps. If applicable discuss how these issues will be addressed.” Section 3.1.4 of the ERPD states that “The regulation gaps will be addressed through consultations with stakeholders including with relevant inline ministries such as MoEF, MoA, and National Land Agency (BPN) in the second quarter of 2023.”. The auditors request more information regarding whether the program has conducted such consultations with stakeholders and whether the Ministries Regulations or decrees have been decided upon during such consultations. Please provide any updated information that may be relevant.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA): NA**

NIR 60 Dated 23 Oct 2023**Standard Reference:** ISFL Validation and Verification Guidance, v1.1**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: The ISFL Validation and Verification Guidance indicates in section 5 that the principle of transparency shall be adhered. The Principle of transparency is to “disclose sufficient and appropriate ISFL ER Program-related information truthfully to allow intended users to make decisions with reasonable confidence.” Section 3.1.4 of the ERPD reference HCS areas, but there is no definition of HCS in the List of Acronyms section or elsewhere in the ERPD. Please define and ensure that all acronyms existing in the ERPD have been defined.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): NA**NCR 61 Dated 23 Oct 2023****Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 3.1.4 of the ERPD template requires the following: “Please provide an analysis (roughly 500 words or less) of the planned actions and interventions in the context of relevant local, regional and national laws, statutes and regulatory frameworks, including relevant international conventions and agreements. Please identify any potential compliance issues of the actions and interventions with these laws, statutes, regulatory frameworks, conventions and agreements; and identify legal and regulatory gaps. If applicable discuss how these issues will be addressed.” Section 3.1.4 of the ERPD lists the relevant laws, statutes and other regulations but does not provide much description of how these regulations are relevant to the planned actions and interventions nor much description of the laws. For instance, it states “ER activities are also regulated by Presidential Regulation no. 61/2011 on National Action Plan to Reduce GHG and Presidential Regulation No. 71/2011 concerning Inventory of National GHG. Currently Presidential Regulation No.98/2021 on the Economic Value of Carbon and subsequently the MoEF Decree No. 21/2022 on Arrangement for the implementation of Economic of Carbon have been issued.” Some of these laws and regulations are referenced in other sections, with more context and information, such as in section 3.7.1. However, more description of what all regulations listed in section 3.1.4 actually entail and how they relate to the ISFL program in Jambi is needed in order for section 3.1.4 to be in conformance.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 62 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 3.1.4 of the ERPD template requires the following: “Please provide an analysis (roughly 500 words or less) of the planned actions and interventions in the context of relevant local, regional and national laws, statutes and regulatory frameworks, including relevant international conventions and agreements. Please identify any potential compliance issues of the actions and interventions with these laws, statutes, regulatory frameworks, conventions and agreements; and identify legal and regulatory gaps. If applicable discuss how these issues will be addressed.” Through conducting an ancillary review of the laws and regulations governing carbon markets in Indonesia, the auditors found that Presidential Regulation No. 98 of 2021 may mean that country would not allow international carbon trading until its own domestic targets were met. Please provide additional information on Presidential Regulation 98/2021 and how it may impact the ability of the ISFL Jambi program to sell credits.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C**NIR 63 Dated 23 Oct 2023****Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 3.1.5 of the ERPD template requires the following: “Please describe (roughly 500 words or less) the following:

- i. GHG sources and sinks that may be impacted by the proposed ISFL ER Program and an assessment of their associated risk for displacement
- ii. A strategy for mitigating and/or minimizing, to the extent possible, potential displacement, prioritizing key sources of displacement risk
- iii. How the ISFL ER Program’s planned actions and interventions have been designed to address displacement.

Table 16 provides a description of the risk of displacement and, risk assessment, and displacement mitigation measures for the various drivers of deforestation. In the Displacement Mitigation measures column it indicates such measures such as “KLHK and Provincial Forestry Service should protect the conversion of forest into the plantation in the state forest land in neighbouring provinces” and “, the central government could also strengthen the law enforcement in other provinces to stop illegal activities that lead to deforestation or displacement.” Overall, it uses language such as “should” and “could” which does not indicate that a clear strategy is in place for mitigating or minimizing displacement. It is also unclear how the program’s planned actions have been explicitly designed to address/minimize displacement. Please provide more information on the above two points

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): NA

NCR 64 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 3.7.2 of the ERP template states “Please indicate whether the ISFL ER Program, or any part of the Program Area, has transferred, or is planning to transfer, any ERs to, or received or is planning to receive otherwise payment for, ERs from any other GHG mitigation initiative. Where the ISFL ER Program, or any part of the Program Area, has been registered under any other GHG mitigation initiative, provide the registration number(s) and details for each of these”.

Section 3.7.2 of the ERP states “The Bujang Raba project is an example of the community carbon initiative seeking to sell eRs. However, the Bujang Raba project started before the proposed ERPA. It sold its first eRs about 6,009 tonCO₂e in 2018. Sale of the ERs occurred before the start of the JERP implementation and proposed crediting period. The nested approach through possible sub-agreement might apply for Bujang Raba”. This section does not contain the registration number and details of the Bujang Raba project. This is in non-conformity with the program requirements.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C**NIR 65 Dated 23 Oct 2023****Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Section 3.7.2 of the ERP template states “Please indicate whether the ISFL ER Program, or any part of the Program Area, has transferred, or is planning to transfer, any ERs to, or received or is planning to receive otherwise payment for, ERs from any other GHG mitigation initiative. Where the ISFL ER Program, or any part of the Program Area, has been registered under any other GHG mitigation initiative, provide the registration number(s) and details for each of these”. Section 3.7.2 of the ERP states “The Bujang Raba project is an example of the community carbon initiative seeking to sell eRs. However, the Bujang Raba project started before the proposed ERPA. It sold its first eRs about 6,009 tonCO₂e in 2018. Sale of the ERs occurred before the start of the JERP implementation and proposed crediting period. The nested approach through possible sub-agreement might apply for Bujang Raba”. The auditors request more information regarding how the program can ensure there will be no double counting with this project moving forward, both in the Verra registry and in the JERP program transactional registry. For instance, has a nesting agreement or benefit sharing mechanism been established with the Bujan Raba project? Will the program clip the Bujan Raba project and its ERs from the program area?

Moreover, during our due diligence, the audit team found that there are other programs registered in the VCS registry for Indonesia. The auditors also request more information regarding how the program has confirmed Bujan Raba is the only emission reduction project currently existing within Jambi.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 66 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section 3.7.3 of the ERPD template states "...please indicate the choice and implementation of an ER Transaction Registry to ensure that any ERs from planned actions and interventions under the ISFL ER Program are not accounted for/registered more than once".

Section 3.7.3 of the ERPD states that "The SRN-PPI is designed as a web platform to accommodate all users and multi-platform devices that can be accessed by individuals or entities who want to register activities or search for information related to climate change.", and also that "Since the national transaction registry system has not been developed yet, the JERP agreed that the Jambi ERs will use the ISFL framework which utilizes a centralized registry (Carbon Assest Trading System). The system will be developed and managed by World Bank".

Moreover, Section 3.7.1 of the ERPD states "A robust legal basis for carbon rights in Indonesia, which governs clear relationships between the generation of such right with the land tenure holdings (including customary land) and natural resources licensing along with the authority of Program Entity to own and transfer such right, does not exist yet". This finding is related to the one above. The auditors have the following questions regarding the SRN-PPI.

- (1) Can you please confirm how are the program will verify that any ERs from planned actions and interventions under the ISFL ER Program are not accounted for/registered more than once or that all ERs are accounted for?
- (2) Please confirm if there a legal requirement to submit ER actions and projects on the SRN-PPI?
- (3) The ERPD states "From the beginning, SRN-PPI was designed for a spatial approach, but there were problems in identifying the implementers of REDD+ since the Government did not have sufficient spatial data and geo-coordinate information. However, the National Registry System for REDD+ would be refined continuously." Given the system has not spatial mechanism, how will the program monitor and manage for overlapping ER claims and/or double counting associated with other ER projects within the Jambi jurisdictional REDD program.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

NIR 67 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section 3.1.3 of the ERPD template states to “Please outline the financing plan for the ISFL ER Program. A guidance note on the preparation of financing plans for REDD+ and landscape emission reduction programs provides the details of the steps to be followed in the preparation of the financing plan². Please include the following information:

- i. Costs of program implementation (sum of implementation costs, institutional costs and transaction costs)
- ii. Sources of financing (public and private sources, reinvestment of revenue from program and amount of ER revenue proposed for use in program implementation)
- iii. Financing surplus or gap of the ER program; and options for addressing financing gap. Please include the full financing plan in Annex 2 below.”

Annex 2 of the ERPD provides a summary of the financing plan for the years 2021 to 2026. Please provide an update on the progress of the financing plan and confirm if the information provided for the these years is still accurate given that we are almost in 2024.

Project Personnel Response: N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NCR 68 Dated 23 Oct 2023****Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023**Finding:** Section A.1 of the Improvement Plan in Annex 8 states to “Please provide a short summary (maximum 500 words) of the process that was used to develop this plan, including a description of meetings or workshops organize”. Section 8.1.1 of the MR mentions that the “improvement plan was developed through a series of FGD on GHG accounting since 2019” and that “All workshops and meetings involved relevant stakeholders from the MoEF”. However, it does not provide details of how the process that was used to develop the plan and a description of those FGD meetings. This is in non-conformity with the requirements, please update accordingly.**Project Personnel Response:** N/A**Auditor Response:** Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

NIR 69 Dated 23 Oct 2023**Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Annex 10 of the ERPD template requires the following “Using the table provided, clearly describe all the data and parameters to be monitored (copy table for each parameter).” Annex 10 of the JERP ERPD includes the Peatland distribution map which “The peatland distribution map provides information on the extent of peatland in Indonesia. The map was generated based on analysis using satellite imageries and ground validation.” It indicates that this Will be “Fixed values during the ERPA terms.” However, during a meeting with the program team, it was indicated that this peatland distribution map is monitored and updated every approximately 5 years. Also, annex 7 states “Peatland distribution map was produced by the Ministry of Agriculture in 2019, based on compilation of several peat maps, field surveys, and further ground check for verification.” The auditors request more information regarding when the next peatland distribution map will be updated and if this map is updated during the ERPA terms, why will it not be utilized? Please provide additional information.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): NA**NCR 70 Dated 1 Nov 2023****Standard Reference:** ISFL PD Template, v2.0**Document Reference:** Clean_Jambi_ERPD-improvement-draft_12_July_2023

Finding: Annex 2 of the ERPD template requires "Please include the summary financing plan according to the template below." Annex 2 of the ERPD does not follow the template table in that it does not provide details on the sources of finances, how revenue from the sale of ERs will be used, information on the sensitivity analysis, identification of risks, etc. Further, several of the ERPD annex 2 table headers are missing titles resulting in a lack of transparency. Overall, Annex 2 is not in conformance with the template requirements.

Project Personnel Response: N/A

Auditor Response: Finding has been issued as a Forward Action Request in section 5.2 of the Validation Report.

Bearing on Material Misstatement or Conformance (M/C/NA): C

Appendix D: Responses to Contributor Comments

Written comments by the ISFL Contributors were submitted to the audit team prior to the outset of the assessment process. Where relevant, all such comments were taken into due account during the assessment process. The below table provides a brief description, for each comment received, of (1) how the comment was addressed during the assessment process, if said comment was deemed relevant by the assessment team, or (2) if said comment was deemed not relevant by the assessment team, the assessment team's reasons for this determination.

No.	Comment Type	Contributor	Text of Comment	Audit Team Response
1	Major	Unknown	More information needed on the stakeholders consultation process covering: - Content of consultations or issues and concerns raised and outcomes (can see there are details on number of participants, participating organizations and gender disaggregation in Annex 14	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
2	Major	Unknown	Important to see which beneficiary groups the Non-Carbon Benefits will benefit ? Maybe add another column in the table for clarity?	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
3	Major	Unknown	More information on how communities have been informed about the existence of FGRM would be helpful. Additionally, more information about ability to submit anonymous grievances/feedback. More clarity about how parties/individuals on the provincial, district/city and village level are able to submit anonymous grievances/ feedback. Ability to submit	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.

			anonymous grievances not via a person should be available on every level, not just for national level grievances. Its not currently clear if that is the case.	
4	Major	Unknown	Why are non-carbon benefits not included within the Benefit Sharing Plan?	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
5	Major	Unknown	In the case of non-performance (e.g., force majeure), how will benefits be distributed to beneficiaries? (the BSP outlines that Management Units will be compensated but does not seem to expand on how others will)	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
6	Major	Unknown	More information on the intermediary agency (LP) selected to distribute benefits to beneficiaries. - How will they be selected? How will they be monitored / evaluated?	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
7	Major	Unknown	How is gender considered within the BSP and distribution/allocation in beneficiaries?	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
8	Technical	Unknown	Is the 'programme area' the whole of Jambi province? 2.1.1 and Table 1 covers whole province. Table 2 seems to indicate it is not.	Auditors confirmed through independent checks on the spatial data that the programme area is the whole Jambi province.

9	Technical	Unknown	Section 2 notes the rich biodiversity and highlights that priority areas include many national parks. However, co-benefits section 3.3 includes limited information. Could there be more? eg reference to NBSAPs, any indicators for biodiversity? Indonesia NBSAP notes <i>REDD + schemes</i> , useful to see link in ERPD	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
10	Technical	Unknown	Please would it be possible to make clear in text how many phases there are? And confirm start year - Fig 7 on p47 indicates ER Programme starts in 21/22 but Section 4.3 p85 notes ERPA term running from 2020/21, which is correct? Text indicates that baseline will be refined in 2023 in the middle of the [first] phase, would it be possible to indicate how this would work? – I thought the baseline was reviewed for each phase. Table 22 on p89 seems to indicate each year is an ERPA phase	The ER Programme phases have been updated in the ERPD to indicate the years of monitoring which will begin in 2020/2021. Revisions to the baseline during the ERPA Phase should be limited to the following: <ul style="list-style-type: none"> 1. Replacement of emission factors used in the construction of the Emissions Baseline by others that have improved accuracy. 2. Corrections to historical activity data resulting from improvements in data accuracy.
11	Minor	Unknown	Figure 7 indicates that results-based payments phase runs to 25/26. The ISFL runs to 2030, interesting to understand why 25/26 is proposed for end of ERPA rather than a longer term?	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
12	Minor	Unknown	Source missing – it states “Error! Reference source not found”	This has been corrected.

13	Minor	Unknown	ER payments are in two years only – will that be reflected in the benefit sharing plan or will benefits be distributed more evenly over the ERPA term?	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.
14	Minor	Unknown	<p>There is lots of detail in the BSP. It would be useful to understand a little more about the general context.</p> <ul style="list-style-type: none"> • Broadly where benefits will be received – this related to the question above (p4) on the programme area – are they focused in the priority areas? • For the 70% performance element, is there a projection of what proportion will go to different stakeholder groups eg local people / FMU / PS? • Is there a projection therefore of actual \$ benefits that a typical FMU or an example local community would receive over the life of the ERPA? 	Comment pertains to components evaluated by the World Bank team, thus not evaluated by the assessment team.