BioCarbon Fund
Initiative for Sustainable Forest Landscapes

Phase 2 Validation Report

Oromia Forested Landscape Program (OFLP), Federal Democratic Republic of Ethiopia

Version 1.1

13 January 2026

Document Prepared by Jimena Terrazas Lozano & Alexa Dugan

SCSglobal SERVICES

BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) **Validation Report (VAR)**	
ISFL ER Program Name and Country	Oromia Forested Landscape Program (OFLP), Federal Democratic Republic of Ethiopia
Applicable ISFL ERPA Phase	1 January 2025 to 31 December 2029
Name of the VVB	Scientific Certification Systems Global Services (SCS)
Contact information of the VVB	2000 Powell Street, Suite 600, Emeryville, CA 94608, USA http://www.scsglobalservices.com Email: cpollet-young@scsglobalservices.com Telephone: +1 (510) 452-8000
Date of the Validation Report	13 January 2026
Report Version	V1-1
Report Approved by	Christie Pollet-Young

1. VALIDATION STATEMENT

The review and cross-check of explanations and justifications included in the ER-PD dated 12 December 2025 (version 4) and supporting documents have provided SCS Global Services (herein referred to as SCS) with sufficient evidence to determine with a reasonable level of assurance the compliance of the Oromia Forested Landscape Program (OFLP) with the applicable validation criteria set out in the ISFL requirements.

The scope covered by the validation includes ISFL ER Program's ERPA Phase 2, which is 1 January 2025 to 31 December 2029, the selected Baseline Period of 1 January 2012 to 31 December 2021, the defined accounting area 32,302,020 hectares, the OFLP's Monitoring System, the Data Management System, and the following subcategories eligible for ISFL accounting, with their respective carbon pools and greenhouse gases:

- GHG sources, sinks and/or reservoirs from REDD+ Activities:
  - Forestland to Cropland
  - Forestland to Grassland
  - Forestland to Shrubland
  - Cropland to Forestland
  - Grassland to Forestland
  - Shrubland to Forestland
  - Forestland remaining forestland
  - Enteric fermentation (Cattle)
- Carbon pools:
  - Above Ground Biomass (AGB)
  - Below Ground Biomass (BGB)
  - Deadwood (DW)
  - Soil organic carbon (SOC)
- Types of GHGs:
  - CO_2
  - N_2O
  - CH_4

As part of the Validation process, 11 Non-Conformity Reports (NCRs), 20 New Information Requests (NIRs), 2 Observations (OBS), and 1 Forward Action Request were issued. Of these, 11 NCRs and 19 NIRs, were adequately addressed by the Oromia Forested Landscape Program, and the OBS findings are considered to be closed upon issuance. One NIR was unable to be fully addressed and therefore converted to a (FAR) which remains open. These findings are described in Appendix 1 of this report.

With respect to the Emissions Baseline, it is the opinion of SCS Global Services that the Oromia Forested Landscape Program (OFLP) meets the applicable Validation criteria under the ISFL Requirements and that the Emissions Baseline is free from material misstatement. Therefore, SCS Global Services recommends that the BioCarbon Fund ISFL proceed with the subsequent steps required for the Verification of the ISFL Emission Reductions units.

Statement Issuing Date: 13 January 2026

Intended User: World Bank Group, BioCarbon Fund ISFL Participants

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	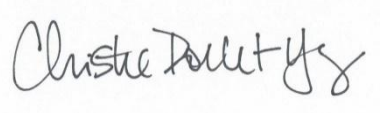
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TEAM LEADER: Alexa Dugan	LEGAL REPRESENTATIVE: Christie Pollet-Young

2. AGREEMENT

2.1 Level of Assurance

The audit assessment was conducted to provide a reasonable level of assurance concerning material misstatements, errors, or omissions in conformance with the ISFL program Validation criteria and scope stated in the ISFL Validation and Verification Requirements. The provisions undertaken to ensure such a reasonable level of assurance included:

- Perform a risk-based assessment of the program area, the baseline emissions, and program activities to ensure that the program, and the measuring, monitoring and quantification of GHG emissions and removals for the crediting period conforms to the ISFL validation and verification criteria.
- Assess and select samples of data and information in order to confirm a reasonable level of assurance and the materiality requirements of the program, as required by the ISFL.
- Assessment of the data collection, the selection of categories, the measuring, monitoring and reporting methods, standard operating procedures, the ER program documentation, the parameters, equations, calculations and supporting documentation are correct and in conformance with the ISFL program requirements.

Based on the previous provisions and considering the findings raised during the audit, a positive evaluation statement reasonably ensures that the ISFL Program GHG assertion is materially correct and is a fair representation of the GHG data and information provided in the ER Program Description (ERPD) and supporting documentation.

2.2 Objectives

The assessment team conducted a systematic, independent, and documented process for the evaluation of the GHG assertion made by the Oromia Forested Landscape Program (OFLP) against the ISFL criteria applicable to phase 2 validation to determine if the program is in compliance.

The validation assessment included the following objectives:

- Ensure the information provided in the addendum to the ER Program Document is correct and complete (i.e. not leaving out information that might affect the opinion of the reader).
- Review previous assessment reports and ensure that any Forward Action Requests affecting the second phase are addressed by the Program.
- Conduct an independent assessment of the compliance of the amended ER Program against the approved ISFL 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's and Contributors' review of the ISFL ER Program.
- Assess the conformance of the ER-PD against the applicable criteria as presented in the following table (Phase 2 only):

Aspect	Objective of the Assessment
Risk for displacement	• 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.
Emissions baseline	• 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.
Monitoring and Emission Reduction Estimation	• 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. • 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. • Expert judgement of the assumed effectiveness of the program in addressing the drivers and their impact on the emissions is justified and based on reasonable assumptions.
Uncertainty analysis	• Assess whether the uncertainty in the Emissions Baseline has been correctly identified and assessed in accordance with IPCC good practice. • 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	• 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.

2.3 Criteria

The criteria applicable for the assessment included:

- ISFL ER Program Requirements, Version 1.3, January 2023 ("the Program Requirements")
- ISFL Buffer Requirements, Version 3.0, February 2023 ("the Buffer Requirements")
- ISFL Program Document Template, Version 2.0 January 2020 ("the PD Template")
- Any formal clarification provided by the OFLP
- ISFL Validation and Verification Requirements, Version 1.3 October 2024
- ISFL Glossary of Terms, v1.3 January 2023

The following guidance documents (or collections of documents) were considered to contain good practice in undertaking the assessment, though said documents were not formally considered to be part of the assessment criteria.

- 2006 IPCC Guidelines for GHG Inventories
- 2019 refinement to the 2006 IPCC Guidelines
- Guidance Note on Application of IPCC Guidelines for Subcategories and Carbon Pools…, Version 1.0, March 2021 ("the Carbon Pools Note")
- GFOI 2016, 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")
- ISO 14065:2013 and ISO 14064:2006

2.4 Scope

The scope of the phase 2 validation of the Oromia Forested Landscape Program (OFLP), which is the subject of the audit engagement described above, included the following:

- The time periods:
    - The ERPA Phase (Phase 2): 1 January 2025 to 31 December 2029
    - Baseline Period: 1 January 2012 to 31 December 2021
- The ER Program Accounting Area: Oromia, Ethiopia
- This assessment serves as the Phase 2 Validation, whereby SCS conducted the validation of a limited scope consisting of the updated or added baseline for the following subcategories:
    - Forestland to Cropland
    - Forestland to Grassland
    - Forestland to Shrubland
    - Cropland to Forestland
    - Grassland to Forestland
    - Shrubland to Forestland
    - Forestland remaining forestland

- Enteric fermentation (Cattle)

- The Carbon Pools and Greenhouse Gases to be accounted for as required by the ISFL Program Requirements
  - Above Ground Biomass (AGB)
  - Below Ground Biomass (BGB)
  - Deadwood (DW)
  - Soil organic carbon (SOC)
  - CO_2
  - N_2O
  - CH_4

2.5 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.
- 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.

3. METHODOLOGY AND PLANNING

3.1 Validation Team

Name	Role	Activities				
		Desk review	Site visit	Reporting	Supervision	Technical review
Alexa Dugan	• Lead auditor, Sr. Technical Manager	X		X	X	
Jimena Terrazas Lozano	• Auditor, Verification Scientist	X		X		
Carolin Judd	• Auditor, Technical Manager	X				
Dr. Erynn Maynard-Bean	• Technical Reviewer, Technical Manager					X

3.2 Validation schedule

An indicative schedule developed for the assessment of the milestones and activities planned, is included below. The table includes details of the start and end date of each of the milestones undertaken for the assessment.

Milestone	Start Date	End Date
Kick Off Call	Wednesday, May 7, 2025	Wednesday, May 7, 2025
SCS Receipt of Project Documents	Friday, May 9, 2025	Monday, May 12, 2025
SCS Audit Plan & Sampling Plan	Monday, May 12, 2025	Monday, May 19, 2025
SCS Data and Document Review	*Monday, May 19, 2025*	Friday, June 27, 2025
SCS Issuance of Findings	Friday, June 27, 2025	Tuesday, July 1, 2025
Fourth of July Holiday, SCS Closed	Friday, July 4, 2025	Friday, July 4, 2025
Client Response to Findings	Wednesday, July 2, 2025	Tuesday, September 30, 2025
SCS Review of Responses to Findings	Wednesday, October 1, 2025	Wednesday, October 29, 2025
Client response to findings	Thursday, October 30, 2025	Thursday, November 13, 2025
SCS Review of client responses	Friday, November 14, 2025	Wednesday, November 19, 2025
Client Response to findings	Thursday, November 20, 2025	Wednesday, November 26, 2025
SCS Review of findings	Wednesday, November 26, 2025	Wednesday, December 3, 2025
Closure of All Findings	Wednesday, December 3, 2025	Wednesday, December 3, 2025
Holiday - SCS Closed	Thursday, November 27, 2025	Friday, November 28, 2025
SCS Report Writing	Friday, November 14, 2025	Friday, December 5, 2025
SCS Technical Review	Friday, December 5, 2025	Friday, December 12, 2025
SCS Issuance of Draft Report	Friday, December 12, 2025	Friday, December 12, 2025
Client Response to Draft Report	Monday, December 15, 2025	Monday, December 15, 2025
SCS Issuance of Final Report	Tuesday, December 16, 2025	Thursday, December 18, 2025
Exit Meeting	Friday, December 19, 2025	Friday, December 19, 2025

3.3 Methodology description

The assessment was performed through a combination of document review and interviews with relevant personnel. At all times, the ERPD and the ER Program described therein were assessed for conformance to the criteria described in Section 2.3 of this report. 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 2.5 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.

The assessment team took the following steps to assess whether the best available data sets, methods, models and assumptions have been used with transparency, consistency, completeness and accuracy, and are in conformity with the ISFL’s Methodological Framework requirements:

- 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 employed by the program.

- Independently reviewed available literature regarding the availability of datasets pertaining to forest inventory, land cover change, and emissions from cattle operations in Ethiopia to confirm that the best available data sets have been utilized by the program.
- Independently reviewed the Program's Forest Reference Level and Enteric Fermentation quantification to assess whether the data, methods, and assumptions used to quantify the GHG emissions and removals are in conformity and represent the best available data in the country.
- If no country-specific or region-specific information was available, the assessment team confirmed that the most relevant and accurate default values from the IPCC Guidelines were applied in conformance with the ISFL Methodological Framework requirements.

3.4 Review of documentation

The Phase 2 ERPD (V4 Dated December 12 2025) was carefully reviewed for conformance to the assessment criteria. The following additional documents, provided by ER Program personnel in support of the ERPD, were also reviewed by the assessment team:

Description	File name	Ref. #
Phase 2 ERPD	Draft_ERPD_amendment_V4_December_12_2025_Clear version_FMT4	1
ERPD Financial Plan	ERPD @2 revised financial plan_November 8_2025.xlsx	2
Baseline Emissions calculation workbook	ERPD-LULUCF BSL_2025-2029 Oromia_V5_December_07_2025.xlsx	3
Enteric Fermentation Baseline Emissions Calculation workbooks	Supplementary sheet Baseline cattle GHG emission intensity_Oromia region.xlsx	4
Degradation analysis calculation workbook & supporting information	ETH_BIOME_degradation_analysis_25June2025.xlsx; Forest degradation in NFI-I data (12.5.2023).pptx	5
Livestock uncertainty analysis and parameters	Oromia livestock UNC input parameters.xlsx	6
Collect Earth plot data	plots No 135990 and 156746.zip	7
Collect Earth imagery screenshots	[Various files]	8

Collect Earth Raw Data	ceo-AD_eSBAE_Oromia_1_1000-sample-data-2025-07-30.csv; ceo-AD_eSBAE_Oromia_2_4010-sample-data-2025-07-30.csv	9
Oromia Enteric Fermentation Baseline Emissions Report	Estimation of baseline emissions from cattle in the Oromia Region (2012-2021).pdf	10
Ethiopia's National Forest Inventory Report & Manuals	Ethiopia's National Forest Inventory 2018.pdf; National_Forest_Inventory_Field_Manual.pdf	11
Ethiopia's soil assessment reporting & Manuals	Evaluation of the Forest Carbon Content in Soil and Litter in Ethiopia.pdf; Soil and Litter Carbon Assessment.pdf; Litter and Soil Sampling Technical Manual.pdf	12
Ethiopia's NDCs	Ethiopia's updated NDC JULY 2021 Submission_(3).pdf	13
Requirements and Guidance	Final report-OFLP strategy options.pdf	14
Requirements and Guidance	ISFL ER Monitoring Report final for verification V4 Clean_without Annexes.pdf	15
Explanation on Fire Risk	Link for fire document.docx	16
Documentation from Phase 1 Val	[Various files]	17
Phase 1 ERPD	OFLP- Final ERPD - Phase 1- 27 May 2021_0.pdf	18
Collect Earth SOPs	[Various files]	19
Oromia boundary spatial data and map	Oromia_Boundary.zip; Boundary Map.docx	20
Phase 1 Monitoring Report Ers	Updated Baseline (Annex 4 of 1st MR).docx	21
Report on Enteric Fermentation Mitigation Potential	ISFL-Livestock GHG mitigation potential and associated costs in Oromia region	22

3.5 ISFL Country Visit

The audit team conducted a strategic risk assessment to determine the required audit activities to reach a reasonable level of assurance regarding the assessment criteria. Through this risk assessment and analysis of likelihood of material misstatements, the VVB determined that a site visit was not needed for the following reasons:

- The scope of the baseline review predominately focused on the evaluation of land use change from remotely sensed aerial imagery and on emission factors from published sources.
- High-resolution imagery from Planet and Google Earth provided sufficient and verifiable evidence to confirm land-use change classifications (Refs. 7-9, 19).
- In addition, the emission factors utilized were sourced from published forest inventory data (Ref.11, 12), which were subject to documentary verification.

- Based on the nature of the evidence required to achieve a reasonable level of assurance, the auditors concluded that an on-site visit was not warranted.

4. VALIDATION OF ER PROGRAM DESIGN

4.1 Correctness and completeness of Report

After an extensive review of the ER Program information, the ER Program Document (ERPD), calculations, procedures, and other supporting documentation, SCS confirms that the ISFL ERPD includes the necessary information required by sections specific to Validation and that such information is correct.

4.2 Risk for displacement

After an extensive review of the ERPD, calculations, procedures, and other supporting documentation, and professional judgement, SCS confirms that the ERPD includes a complete and accurate report on the analysis of displacement risk, to the extent possible, on the following:

- GHG sources and sinks that may be impacted by the proposed ISFL ER Program and an assessment of their associated risk for displacement
- The strategy for mitigating and/or minimizing, to the extent possible, potential displacement, prioritizing key sources of displacement risk
- How the ISFL ER Program's planned actions and interventions have been designed to address displacement.

The assessment team agrees that displacement risk is negligible based on the design of the program area and that the analysis of displacement is appropriate based on the program design. The auditors applied expert judgement to confirm the adequacy and likely effectiveness of the strategy proposed to mitigate and/or minimize, to the extent possible, potential Displacement.

4.3 Double Counting

Not applicable. Not included in the scope of this assessment.

4.4 Double Claiming

Not applicable. Not included in the scope of this assessment.

4.5 ISFL Reporting

Not applicable. Not included in the scope of this assessment.

4.6 Subcategories for accounting

Not applicable. Not included in the scope of this assessment.

4.7 Plan to increase the completeness of the scope of accounting for future ERPA Phases

Not applicable. Not included in the scope of this assessment.

4.8 Data and Parameters

The assessment team used the following steps to assess whether all relevant data and parameters necessary for the implementation of the ISFL ER Program have been transparently reported in the ER Program Document (ERPD), in accordance with the ISFL Program Requirements, and to validate the appropriateness and consistency of the data and parameters reported:

- The assessment team conducted a detailed review of Annex 10 of the ERPD while cross-checking each parameter against the calculation workbook and the source data to confirm the accuracy of the reported values.
- The assessment team conducted a thorough review of Annex 10 against all required calculation parameters to confirm that the Annex contains a complete list of data and parameters relevant to the implementation of the program. We confirmed that each carbon pool for each subcategory details the activity data and emission factor parameters needed to be monitored.
- We applied expert judgement and independent recalculation to confirm that there is sufficient transparency and detail provided in Annex 10 to allow for replication of the quantification (Ref. 3).
- We applied expert judgement to confirm that the sources, assumptions, and methods used to derive the data and parameters are clearly documented and justified.
- Through independent recalculation and cross-checks on the source data, we confirmed reliability of data sources, appropriateness of selection criteria, and transparency of conversions, default values, or assumptions applied (Ref. 3).

The auditors used the above steps to confirm that the information is complete, consistently presented, and appropriate for the methodological approach outlined in the ERPD. The assessment team concludes that the quality and completeness of the reported data and parameters adequately support the design and future implementation of the ISFL ER Program.

4.9 Emissions Baseline

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 and best practice approaches to independently quantify the emissions baseline using the complete datasets or samples of data utilized by the program team (Refs. 3-5).
- Independently reviewed the data sources and assumptions used to develop the emission factors for all subcategories included in the Emissions Baseline (Ref. 3).
- Ensured that the ERPD includes a transparent and systematic and step-by-step calculation of the Emissions Baseline, including whether the methods, assumptions, approaches and equations used for the calculation of the average historical emissions during the Baseline Period, in sufficient detail to enable the reconstruction of the Emissions Baseline.

- Independently assessed the land use land cover (LULC) classification from a sample with the use of ancillary imagery sources (i.e., Google Earth, Planet), to determine whether the Collect Earth tool, as well as the training and QA/QC processes employed (Ref. 19), were appropriate to ensure high-quality data and minimize the impact of any measurement errors.
- Independently assessed the number of Collect Earth sample points (Refs.3, 7-9) within the Oromia boundary by performing an intersection of the sample points within the boundary.
- Reviewed the Ethiopia National Forest Inventory Report (Refs. 11, 12) to confirm that the emission factors applied to the land use subcategories are accurate and reliable.
- Independently recalculated the Emissions baseline for the land use change subcategories following the ISFL and IPCC calculation requirements (Refs. 3, 5).
- Conducted a thorough review of the Oromia report on emissions from cattle (Ref. 10) to crosscheck the data on heads of cattle used in the calculation work and reported in the ERPD.
- Independently recalculated the emission intensity baseline for enteric fermentation (cattle) following the ISFL Program Requirements (equations 1 and 2) (Ref. 3).
- Independently recalculated the emission reductions cap for eligible livestock subcategories following the ISFL requirements.

Through the above steps, the assessment team confirms that the data used to construct the Emissions Baseline is complete, accurate, and appropriate. We conclude that the applicable baseline requirements were correctly applied and that the resulting Emissions Baseline was estimated in accordance with those requirements. Additional information about the verification of the activity data and emission factors are detailed in the sections below.

4.10 Activity data and emission factors

4.10.1 Activity data

After reviewing the ERPD, calculations, standard operating procedures, and other supporting documentation, SCS confirms that the data and parameters related to the activity data have been reported in conformance with the ISFL program requirements and the guidelines provided in the ERPD template. The steps taken to conduct the assessment of the activity data are described as follows for the AFOLU (land use/land cover change) activity data and the livestock (enteric fermentation activity data):

- For the land-use subcategories:
    - We independently assessed the land use land cover (LULC) classification from a sample with the use of ancillary imagery sources (i.e., Google Earth, Planet), to determine whether the Collect Earth tool, 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 (Refs. 7-9, 19).
    - Independently assessed the number of Collect Earth sample points within the Oromia boundary by performing an intersection of the sample points within the boundary.

- Through independent checks of land use change spatial data, we confirmed that the activity data for each specific subcategory are free of errors and material misstatements.
- We confirmed through review of the Collect Earth data that the land use change analysis covers the 10-year historic time series for the baseline period (2012-2021), and utilized high resolution source imagery from Google Earth, Sentinel, Planet, etc.
- We confirmed that the spatial level of the parameter (5003 Collect Earth point) is a robust sample for monitoring land use change in the region (Ref.20).
- We confirmed that the Collect Earth data are systematically placed across the entire Oromia region ensuring a complete and comprehensive sample covering the jurisdiction (Ref. 7-9, 19, 20).
- Confirmed through recalculation that the area assigned to each land use subcategory was accurate and replicable (Ref. 3, 5).

- For the enteric fermentation subcategory:
  - The assessment team conducted a thorough review of the Oromia report on emissions from cattle (Refs. 4, 10) to crosscheck the source data used in the calculations against the reported values of heads of cattle for the region (Ref. 3).
  - We confirmed through review of the Livestock report (Refs. 4, 10) that the data on the heads of cattle were derived from livestock survey data covering the 10-year historical baseline period (2012-2021) from across the Oromia Regional State.
  - Through review of the ERPD we confirmed that the source and methods used to determine the activity data are clearly described and transparent.
  - Confirmed that the classification of the cattle populations reflects cattle type, feed characteristics and animal characteristics in alignment with the IPCC.
- We reviewed the ERPD and confirmed that all parameters used to determine activity data for all subcategories are reported accurately in the ERPD.

Through the above checks, the assessment team concludes that the activity data used to estimate emissions and removals complies with relevant quality and baseline setting requirements, including with regards to methods and data (Tier 2 or higher) and spatial information (Approach 2 or 3).

4.10.2 Emission factors

After reviewing the ERPD, calculations, standard operating procedures, and other supporting documentation, SCS confirms that the data and parameters related to the emission factors have been reported in conformance with the ISFL program requirements and the guidelines provided in the ERPD template. The steps taken to conduct the assessment of the activity data are described as follows for the AFOLU (land use/land cover change) activity data and the livestock (enteric fermentation activity data):

- For the land-use subcategories:
    - The assessment team reviewed the national forest inventory report (Refs. 11, 12) to confirm that the correct aboveground and belowground biomass values were applied to each of the land use categories (Refs. 3, 5) and that all decisions and assumptions were adequately justified and conservative.
    - The assessment team confirmed that the correct IPCC root to shoot ratios were applied and justified for the calculation of the belowground biomass across subcategories.
    - Reviewed the forest inventory report to confirm that the correct deadwood carbon stocks were applied to the corresponding land use classes.
    - Crosschecked the reference soil organic carbon stocking against the source documentation (Ref. 12) and the soil stock change factors against the IPCC to confirm the accuracy of the soil pool emission factors.
    - Reviewed the forest inventory data on disturbed forest carbon stocks versus undisturbed and recalculated the forest remaining forest emission factors (Ref. 5).
- For the enteric fermentation subcategory:
    - The assessment team crosschecked the gross energy values for various cattle types published for the Oromia Region State (Ref. 10).
    - Cross-checked the methane conversion factors applied for the various cattle types from the IPCC to ensure accurate factors were applied.
    - Following the IPCC enteric fermentation equations, the assessment team utilized the gross energy and methane conversion factors to recalculate the emission factors for each type of cattle by production system (Ref. 3, 4).

The assessment team reviewed the ERPD and Confirmed that all approaches, methods, and assumptions used to estimate the Emission Factors considered to calculate the emissions baseline are sufficiently detailed in Annex 9 of the ER-PD.

Through the above steps, the audit team also confirmed that the emission factors used to estimate emissions and removals comply with relevant quality and baseline setting requirements (e.g., tier 2, derived for the Oromia region).

4.11 Estimated Emissions Baseline

The following details the estimated Emissions Baseline for the Oromia Forested Landscape Program (OFLP). Through independent recalculation and assessments described above, the assessment team confirms that the Emissions baseline is materially accurate. The project applied the emission intensity approach for the enteric fermentation-cattle emissions baseline and therefore reports emissions as tCO2/t protein.

4.11.1 Land use change subcategory Emissions Baseline

Year of reporting period t	Baseline Emissions								Total emissions baseline LULUCF (tCO2e)
	Forest to cropland	Forest to grassland	Forest to shrubland	Cropland to forest	Grassland to forest	Shrubland to forest	Forest remaining forest	SOC	
2025	*8,709,828*	*361,917*	*130,779*	*(194,138)*	*(35,293)*	*(114,020)*	*1,258,249*	*1,027,142*	11,144,464
2026	*8,779,302*	*364,933*	*131,837*	*(388,276)*	*(70,586)*	*(228,041)*	*1,258,249*	*1,120,518*	10,967,936
2027	*8,848,775*	*367,948*	*132,894*	*(582,414)*	*(105,880)*	*(342,062)*	*1,258,249*	*1,213,895*	10,791,405
2028	*8,918,248*	*370,964*	*133,952*	*(776,552)*	*(141,173)*	*(456,083)*	*1,258,249*	*1,307,272*	10,614,877
2029	*8,987,722*	*373,979*	*135,010*	*(970,690)*	*(176,467)*	*(570,104)*	*1,258,249*	*1,400,648*	10,438,347
Total Emissions Baseline LULUCF									**53,957,029**

4.11.2 Enteric Fermentation Subcategory Emissions Baseline

Following the emission intensity equation in the ISFL Program Requirements (Eqn. 1), the enteric fermentation baseline is 291 t CO2e/t protein.

4.12 Monitoring and ER estimation

The assessment team took the following steps to assess and confirm that the data and methods proposed for monitoring are consistent with those used for the determination of the baseline and allow for meaningful comparison and accurate calculation of Emission Reductions.

- Reviewed the ERPD to confirm that the monitoring approach details the use of the same approach for acquiring activity data (Collect Earth) and the use of high-resolution imagery monitor any land use changes or degradation.
- We confirmed that the satellite imagery referenced in this approach will remain readily accessible for use.
- Confirmed that the program intends to keep emission factors the same through the ERPA phase so no additional monitoring will be needed. However, as the National Forest Inventory will continue to be updated, the program may utilize updated biomass values if available.
- For enteric fermentation, the program intends to utilize the Climate Smart Agriculture (CSA) annual livestock sample survey reports which contain information on the heads of cattle by types of cattle, region, production systems etc. For any cattle types or systems not available (e.g., commercial dairy) the project intends to use linear extrapolation from the most recent estimates which is likely to be conservative.
- For other factors such as protein production, feed digestibility, percentage of females that give birth and milk yield, the program indicates continued use of the CSA annual livestock sample surveys.
- The auditors confirmed that the ERPD contains detailed information regarding the monitoring of both land use change and enteric fermentation subcategories that allows consistency with the Emissions Baseline approach.
- We independently assessed whether the data needed for monitoring will be continually updated and available by reviewing the monitoring frequency of the NFI and Activity Data including LULC (Google Earth with Collect Earth), and agricultural sector data collected and reported by the Central Statistical Agency (CSA).
- 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.

Through the above steps, the assessment team confirmed the proposed monitoring methods and arrangements are technically capable of collecting the required data.

4.13 Uncertainty analysis

The assessment team took the following steps to assess whether the uncertainty in the quantification of GHG emissions and removals has been correctly identified and assessed in conformance with the ISFL requirements:

- Independently reviewed the ERPD, source data and calculation workbooks (Refs. 3-6) to verify that all potential sources of uncertainty arising in the emissions baseline (e.g., activity data, emission factors, calculations, etc.), and the monitoring and reporting

have been identified and assessed in conformance with the ISFL program requirements.

- Applied expert judgement to assess whether a comprehensive approach to mitigate and reduce key areas of uncertainty have been addressed to minimize systematic errors (bias) through the implementation of a consistent and comprehensive set of Quality Assurance / Quality Control (QA/QC) procedures.
- Assessed whether all assumptions and sources of uncertainty associated with activity data, emission factors, the equations and calculation methods that contribute to the uncertainty of the estimates of emissions and removals were assessed with a step-wise approach and are correct.
- Independently assessed and recalculated the uncertainty set-aside factor following Part One of the Buffer Requirements tool.
- Independently recalculated the estimated emission reductions (Table 20 of the ERPD) set-aside to the uncertainty buffer
- Applied expert judgement to conclude that the assessment of sources of uncertainty in construction of the Emissions baseline is justifiable.

Through our above checks, we confirm that the Uncertainty associated to the Emissions Baseline and the data and parameters to be monitored have been correctly identified and assessed. We confirmed through crosschecking against the IPCC methodologies that the proposed approach to manage and reduce Uncertainty reflects good practice.

4.14 Reversals

The assessment team took the following steps the assess that the data and assumptions used in the Reversal Risk assessment are correct, complete and in compliance with the ISFL Buffer Requirements.

- Applied expert judgement when reviewing the assessment of the reversal risk as described in section 4.7.2 of the ERPD.
- Reviewed ancillary documentation regarding natural disturbance risks such as fires (Ref. 16), droughts, and pests in the program area.
- Reviewed ancillary information related to anthropogenic risks in the project area such as conflicts and land tenure insecurity.
- Applied expert judgement to determine whether the Reversal risk assessment tool was applied correctly.
- Independently recalculated the total reversal set-aside percentage for the whole ER program as evaluated in Table 21 of the ERPD, using part two Buffer Requirements tool.
- Independently recalculated the estimated ex-ante emission reductions (Table 20 of the ERPD) and allocation of emission reductions to the reversal buffer.

Due to the above, the assessment team confirms that the reversal risk score estimated by the ER Program is accurate.

5. NON-COMPLIANCES AND OBSERVATIONS

As part of the validation process, any potential or actual discrepancies and non-compliances with the ISFL program requirements were identified and resolved through the issuance of findings. Findings are the formal mechanism used by SCS to identify any actual or potential areas of risk or concern.

This validation was comprised of three main formal rounds of findings. The findings were issued to the ER Program personnel using a proprietary document-based approach. This gave the ER Program personnel the opportunity to respond to the findings and allowed for efficient and transparent tracking of the current status of each finding. The following discusses the types of findings that were issued during the assessment process.

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.

Forward Action Request (FARs)

A FAR is issued when one more NIR or/and NCR have not been closed after significant efforts made by the Program Entity to provide sufficient evidence to resolve the underlying issue.

APPENDIX 1: List of findings

Overview of findings issued during the validation process by the assessment team. It should be noted that all language under "Project Personnel Response" categories are a verbatim transcription of responses provided to the findings by program personnel.

NIR 1 Dated 20 Jun 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia; OFLP- Final ERPD - Phase 1- 27 May 2021_0

Finding: Section 4.1.3 of the ER Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data."

In the calculation workbook, sheet BSL_Transition Matrix, it indicates that the total Oromia program area is 32,438,199 ha. However, section 2.1.1 of the validated ERPD, indicates that the program area is 29.991 million ha, resulting a discrepancy. Please note that a similar finding was issued in Phase 1 Validation (see finding 40), whereby the program indicated "The Oromia area has been modified so that it reflects the map presented in the PAD. The final Oromia area is 29.991.384 ha and is obtained from the shapefile that has been already shared with SCS." During that first validation engagement the "assessment team confirmed that the Oromia boundary provided (oromia_region_boundary2.shp) had an area of 29,991,384 ha. Lastly the program area shapefile provided to the auditors for this Phase 2 engagement shows an area of 32,314,131ha.

The audit team requests the following:

1. Please confirm and clarify the total program area.

2. If the program area has increased by 2 million ha since the last validation, please justify why this has occurred.

3. Please provide a consistent spatial file delineating the official boundary of Oromia.

Project Personnel Response:

1. The first ERPD was updated following its validation for several compelling reasons, and the program area was corrected to **32,302,019.7 hectares**. Annex 4 of the 1st MR, which outlines the updated sections and the rationale for these changes, is attached to this response. However, the Area of Interest (AOI) differences arose from the software and the respective method being used to calculate the area. For example, QGIS does provide 2 different ways of calculating the area. One is taking the Earth's curvature into account and uses the reference ellipsoid of the file's projection, which is closer to the actual value. The other uses a planimetric method that calculates the area on a 2-D surface. The latter method is also used by python's geopandas package that in some instances has been used for the area calculation. More information can be found here: https://docs.qgis.org/3.40/en/docs/user_manual/expressions/functions_list.html#area
2. In order to resolve the issue, the team decided to stick to the spatial file as provided, using the EPSG:20137 projection (https://epsg.io/20137). This projection uses the UTM projection based on the Adindan datum that is optimized for the North-East African region. By using QGIS's $area function (including the Earth's curvature), the project area has been set to 32,302,019.7 ha and will be used throughout the program.
3. Here is the spatial file of the region and Annex 4 of the 1st MR:


Oromia_Boundary.zip


Annex 4 of 1st MR.zip

Auditor Response: The audit team found the area to be 32,302,017.3734 ha. This difference is non material, therefore, the finding is closed.

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

NIR 2 Dated 20 Jun 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL 2012-2021 Oromia (Marco)

Finding: Section 4.1.3 of the ER Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data." The project provided the raw data points for the Collect Earth data within the file ERPD-LULUCF BSL 2012-2021 Oromia (Marco).xlsx, sheet Raw Data. With regards to these points, the audit team found the following:

plots 135990 and 156746 are located on the Kenyan side of the southern Oromia border.

Not all the plots shared by the client fell within the ONR32 boundary. Out of 5010 plots, only 5001 were within the ONRS_32 project area boundary. The following is a non-comprehensive list of plots outside the project area boundary: 28988, 93544, 93462, 131683, 130483, 135990, 243425.

Furthermore, Section 4.4.1 of the ERPD indicates "In line with good practice guidelines of IPCC and GFOI, as well as the ISFL ER program requirements (4.6.2), this analysis has been performed by applying a stratified random sampling approach which involved the analysis of 5002 sample points across Oromia." However, the Raw Data sheet of the calculation workbook, workbook shows there are a total of 5010 points.

Due the above, the audit team requests clarification regarding which of the CE points have been included in the final LULUCF analysis (e.g., sheet BSL_Transition Matrix) and demonstration that all of these points fall within the Oromia boundary.

Project Personnel Response:

Similar to NIR 1, this stems from the use of different programs and projections. Originally a national systemic 2km hexagonal grid was created for Ethiopia. This has been overlaid with the regions layer to identify a first phase sample for the Oromia region by using python's geopandas' overlay function. Subsequently, the points have been stratified into 4 strata based on their likelihood of being forest change, and a sub-selection of those points has been done for the second phase sample that was interpreted.

The issue has been addressed by exporting the 5010 points from the CEO database, transforming them into the same projection as being used for the AOI (see NIR1) and apply an intersection within QGIS vector functionality. This resulted in 6 points being excluded. 49891, 85311, 134394, 243425, 131683, 93544. Files are provided to allow the re-production of this operation.

Also, it should be noted that 2 data collections took place, and 1 point with plotid 141877 was selected twice. In order to avoid redundant samples, one of them has been removed. Thus, the final number of samples being used in the re-calculation of the areas was 5003.

Auditor Response: The audit team confirmed that the mentioned plots have successfully been excluded from all datasets. All 5003 plots now fall within the project area. However, the audit team was not able to verify that plots 135990 and 156746 now fall within the political boundaries of Ethiopia. The audit team used Adindan_UTM_Zone37N to re-project Ethiopia's borders and noted

that a small percentage of the project area in the south still falls in Kenyan territory and a small percentage extends in the west into South Sudan's territory. To correct this inconsistency, we request the project proponent to share the official shapefile of Ethiopia's national borders and the projection used to replicate the results. This finding remains open.

Project Personnel Response:

We also used a similar projection, and the Ethiopian Forest Development (EFD) has reviewed and shared the image attached below with us.

plots No 135990 and 156746.zip

Auditor Response 2: Thank you for this response. We have confirmed that all observation points are within the Oromia project area, and now we would like to confirm that the project area itself falls entirely within Ethiopia. This finding has been closed.

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

NIR 3 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL 2012-2021 Oromia (Marco)

Finding: The ER Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data." The assessment team randomly selected a sample of the 5010 Collect Earth points (within the sheet Raw_Data) to verify the land use classification conducted. For the majority of the sample points selected, we confirmed the land use classification. However, for the following points, we could not verify the classification made by the program team. The audit team thus requests justification for the land use classification as well as screenshots of the imagery and collect earth/control points used to classify each of the points listed here:

(1) ID: 134917: Classified as Forest to Cropland. However, appears to be forested or a shrubland in 2022, not cropland,

(2) ID 136399: Classified as forest remaining forest, Appears to be shrubland in 2022, not forest land.

(3) ID: 137789: Classified as Forest to Cropland, but appears to be forest in 2022, not cropland.

(4) ID: 143124: Classified as Forest to Cropland, but appears to be shrubland in 2022, not cropland.

(5) ID: 147617: Classified as forest remaining forest, but appears to be shrubland in 2022, not Forestland.

(6) ID: 173897: Classified as forest remaining forest, but appears to be shrubland remaining shrubland, not forest remaining forest.

(7) ID: 177556: Classified as Forest to Cropland, but appears to be shrubland in 2022 instead of cropland.

(8) ID: 241550: Classified as Forest to Grassland, but appears to be shrubland to grassland transition.

(9) ID: 65102: Classified as Shrubland to forest, but in 2022, it appears to be shrubland or grassland, and not forest land.

Please provide the imagery/screenshots and justification for the land use classification for the 9 points listed above.

Project Personnel Response:

The MRV team has reviewed the AD sample plots requested by the audit team for revisitation. Based on this review, the team confirmed the classifications using supporting screenshots of imagery, as detailed below:

ID 134917: Initially classified as *Forest to Cropland;* now confirmed as *Forest to Cropland* in 2022.

ID 136399: Initially classified as *Forest remaining Forest*; now confirmed as *Forest remaining Forest* in 2022.

ID 137789: Initially classified as *Forest to Cropland*; now confirmed as *Forest to Cropland* in 2022.

ID 143124: Initially classified as *Forest to Cropland*; now confirmed as *Forest to Shrubland* in 2022.

ID 147617: Initially classified as *Forest remaining Forest*; now confirmed as *Forest remaining Forest* in 2022.

ID 173897: Initially classified as *Forest remaining Forest*; now confirmed as *Forest remaining Forest* in 2022.

ID 177556: Initially classified as *Forest to Crop*; now confirmed as *Forest to Cropland* in 2022.

ID 241550: Initially classified as *Forest to Grassland*; now confirmed as *Forest to Grassland* in 2022.

ID 65102: Initially classified as *Shrubland to Forest*; now confirmed as *Shrubland to Shrubland* in 2022.

Note: To interpret the land uses, the team referred to the document titled *"Land Use Land Cover, Land Use Land Cover Change and Forest Disturbance Interpretation Key for Ethiopia".* Additionally, most forests in Ethiopia's lowland areas are small in size and tend to resemble shrubland especially during the dry season. The audit team's comments primarily

concern this ambiguity, which requires local knowledge of the area for accurate interpretation. To address this, the MRV team conducted ground verification to resolve such uncertainties during the classification process.

screen shoot.zip

Auditor Response: Thank you for the response. We agree that on-the-ground verification is key in understanding land use and land use change. We have accepted your classifications as you presented them. This finding is closed.

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

NIR 4 Dated 20 Jun 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL 2012-2021 Oromia (Marco)

Finding: The ER Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data."

The ERPD states "After data collection, the area estimates, and uncertainty calculation used standard estimators for stratified area estimation as described in Cochran 1977, Olofsson (2014) and Stehman (2013). Calculations have been made for all relevant land use categories and change classes, including the unbiased sample estimate as well as the surrounding uncertainty."

The calculation workbook, sheet Raw data, shows a total of 5010 Collect Earth points. The BSL_Transition Matrix indicates that the program area is 32,438,199 ha. This would suggest that each CE point accounts for 6475 ha if an expansion factor approach was applied, like in the Phase 1 Assessment (Oromyia LULUCF GHG Inventory 21042021c.xlsx). However in generating a matrix between the Majority LULC 2012 column and Majority LULC 2022 column from the Raw data sheet, we find that an expansion factor approach was not used.

Please demonstrate how the program determined the total areas for each LULC class in the BSL_Transition matrix and the total area of Forest remaining Forest. The audit team would prefer if such a demonstration could be provided transparently in the excel workbook, but will also accept a script file provided it is clear and transparent. Please also justify and explain this approach and ensure that the ERPD contains sufficient transparency.

Project Personnel Response:

Throughout the program, sampling methods have been used to derive area statistics of LULCC. In the first reference period of Phase 1 a systematic grid of roughly 90000 points with a 2x2km expansion factor has been used. As the cost of regularly interpreting 90000 samples has been too high, OFLP decided to move to a stratified sampling as a more efficient strategy to reduce uncertainties around rare classes such as forest change and described in Olofsson et al 2014.

This decision allowed to drastically reduce the number of visually interpreted points. Stratification itself, if the appropriate estimators are used, is no different than a systematic sampling, as it does not introduce bias. By dividing the area into homogeneous regions, and use optimized allocation schemes to distribute the total number of samples among those stratums, the sampling exercise will be more efficient, meaning that either less samples are needed to arrive at equivalent levels of precision, or that with the same amount of samples as being used in a systematic sample the precision (i.e. the CIs) will be reduced.

For the Phase 2 assessment of the reference period a two-phase sampling strategy was employed. In the first phase an ensemble of remote sensing-based algorithms and thematic layers from global products has been used to assign a probability of change to a dense systematic grid similar as used in phase 1. While the application of remote sensing-based information is cheap, the information is usually biased. The change probability has therefore been used to assign each point a stratum according to their likelihood of change. Subsequently, a random selection of points has been conducted for each stratum. The number of points were derived from the optimal Neyman allocation scheme. This unavoidably leads to different sampling intensities within each stratum, thus leading to varying expansion factors within each stratum.

In order to ease the interpretation of the procedure, the CEO data has been structured in python, and then brought into an Excel spreadsheet, where expansion factors are shown per stratum. Also the rest of the calculations can be traced.

Auditor Response: Thank you for this demonstration. The auditors confirmed the expansion factor approach as demonstrated for the land use land cover change classes. However, we found that forest remaining forest areas (degradation versus enhancement) have not been updated with new areas. Please provide more information as to why these classes have remained the same.

Project Personnel Response 2:

This has now been updated and properly addressed in both the Excel and Word documents.

Auditor Response 2: In the Excel document you shared (tab *BSL_Transition Matrix*), you report an area of *stable to disturbed forest (degradation)* of **258,261.20 ha** and *disturbed to stable forest (enhancement)* of **6,456.53 ha**. Since these cells are hard-coded, we are unable to trace your calculation process. Based on our understanding, there are a total of 1,685 observations of *forest remaining forest* (36 with degradation, 1 with enhancement, 2 with loss, and 1,646 undisturbed) and a total area of 9,508,006 ha (*forest remaining forest*, as per your *BSL_Transition Matrix* tab and our

independent review). Likewise in Annex 9 it states “The different findings on the forest are summarized in **Error! Reference source not found.** below.” However, the figure is unreadable and it is u nclear what it is trying to show relative to the forest remaining forest subcategory

As was done for the other transitions, the auditors request a clear and replicable demonstration of the steps used to derive the 120369.66 ha (degradation) and 2736.4 ha (enhancement) values for the FL remaining FL subcategory. If there have been any updates to the raw data, including the classification of Collect Earth points, we request that these changes be clearly highlighted and conveyed to the audit team. We also request that Figure 20 in Annex 9 be clarified and greater transparency in the forest-remaining-forest subcategory be provided.

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

Project Personnel Response 3:

Previously, we calculated the area based on the total proportion, which was incorrect due to varying proportions across different strata. We have now corrected this by using the proportion of each plot within the four strata.

Based on this adjustment, the remaining forest area has been calculated as follows:

Stable to disturbed (degradation): This category includes a total of 38 plots. According to the “Stratum Areas” tab in the Excel sheet ‘’*Data Analysis_Phase2_ref_period*’’, the area is 116,218.41hectares.

Disturbed to stable (enhancement): This category includes only one plot, with an area of 2,736.41 hectares.

The table below shows how these areas were derived.

stratum	**No plot**	**Type of disturbance**	**Expansion factor**	**total value**
stratum 2	2	degradation	19,426.36	38,852.72
stratum 3	4	degradation	2,736.41	10,945.64
stratum 4	32	degradation	2,075.63	66,420.05
total	**38**			**116,218.41**
stratum 3	1	Enhancement	2,736.41	**2,736.41**

Auditor Response: Thank you for the explanation and the calculations provided. This finding is closed.

NIR 5 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL 2012-2021 Oromia (Marco).xlsx; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: Section 4.1.3 of the Program Requirements states "The Program GHG Inventory shall utilize best available methods and existing data." In the sheet EF-F-F of the calculation workbook, the project applies the root to shoot ratios from the FRA classes Forest and Other wooded land calculated from Table A8.2 in the NFI to the Disturbed and Stable forest classes. More specifically, the root to shoot ratio for Forest is applied to the Disturbed forest classes while the root to shoot ratio for the Other Wooded Land is applied to the Stable forest classes. Given that the category stable forest would appear to more closely correspond with Forest whereas disturbed forest may more closely correspond with other wooded land, it is unclear why the program assigned the root to shoot ratios as they did. Please justify this decision.

Project Personnel Response:

This was a mistake and this has been corrected. The same root-shoot values for forest have now been used for both the disturbed and the stable forest class. Changes are reflected in the workbook 'ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2' and the updated ERPD amendment.

Auditor Response: The auditors confirmed that this update has been made. This finding is closed.

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

NIR 6 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL 2012-2021 Oromia (Marco).xlsx; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: Section 4.1.3 of the Program Requirements states "The Program GHG Inventory shall utilize best available methods and existing data."

For calculating the weighted average of biomass shown in the sheet 'EFs reproduced', it appears there is an error in the cell values selected. More specifically, for the Other Wooded land use, cells D56 and D57 reference the area of the Other Land Dry Afromontane and Moist Afromontane biomes. This results in an error in the total carbon calculation for the Other Wooded land use.

First, please clarify whether this in fact is in error or justify the use of the Other Land areas fot the Other Wooded land use. Second, please clarify the use of the EFs calculated in this sheet. The auditors have been unable to determine if and how they are utilized.

Project Personnel Response:

The references in cells D56 and D57 were a mistake and this has been corrected. Changes are reflected in the workbook 'ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2' and the updated ERPD amendment.

In terms of the use of the EFs calculated in this worksheet. This worksheet was created because the NFI report does not provide information on how the values in Table A8.4 were calculated and since the same weighing is used in the estimation of the EFs for F-F, it was important to replicate the approach. However, as can be seen because of the rounding there is a small difference between the replicated value and the actual value in Table A8.4 of the NFI report. It was decided to use the value from the NFI table since it was assumed that this was more accurately calculated using the raw data

Auditor Response: The auditors confirmed that the emission factors have been updated accordingly and that this is reflected in both the workbook and the ERPD. This finding has been closed.

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

OBS 7 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023; ISFL Guidance Note on IPCC Guidelines, 2006 IPCC Guidelines Volume 4 Ch2

Document Reference: ERPD-LULUCF BSL 2012-2021 Oromia (Marco).xlsx; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: As indicated in the ISFL Program Requirements, the carbon accounting shall use the "best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines."

Section 4.1 of the ISFL Guidance note on the IPCC states "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."

Equation 2.23 of the 2006 IPCC Guidelines states "The conceptual approach to estimating changes in carbon stocks in dead wood and litter pools is to estimate the difference in C stocks in the old and new land-use categories and to apply this change in the year of the conversion (carbon losses), or to distribute it uniformly over the length of the transition period (carbon gains) Equation 2.23."

Equation 2.23 then shows the annual change in carbon stocks in dead wood and litter due to land conversion. For Parameter T, it states "time period of the transition from old to new land-use category, yr. The Tier 1 default is 20 years for carbon stock increases and 1 year for carbon losses."

In the calculation workbook, sheet BSL_def _deadwood shows the deadwood emissions gradually occurring over a 20 year period from years 2025 to 2029. The auditors are issuing this as an observation as the approach employed by the project results in a more conservative estimate of deadwood emissions. However, for an accurate accounting of Emissions Removals, this same approach shall be applied for the project scenario accounting.

Project Personnel Response:

We considered applying equation 2.23 of the 2006 IPCC Guidelines, however the data provided in the NFI report do not allow to separate between the change in the year of the conversion and the changes over the length of the transition period. The current approach therefore was indeed considered as a conservative alternative.

E can confirm that the same approach will be applied during monitoring and this is already the approach taken for the first and second monitoring report of the first ERPA phase (first MR is available online)

Auditor Response: Thank you for this explanation.

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

NIR 8 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ETH_BIOME_degradation_analysis_28April2023 (to Marco 8-2024) (1); ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: As indicated in the ISFL Program Requirements, the carbon accounting shall use the "best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines."

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 intime. 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)." It also states "When using the Stock-Difference Method for a specific land-use category, it is important to ensure that the area of land in that category at times t1 and t2 is identical, to avoid confounding stock change estimates with area changes."

In reviewing forest remaining forest calculations, it appears that the stock difference approach is being applied. However, when reviewing the calculation of emission factors in the workbook ETH_BIOME_degradation_analysis_28April2023 (to Marco 8-2024).xlsx, the program is using a single inventory period and plots that have been classified as disturbed. Annex 9 of the ERPD states "To determine the interim emission factors for forest-remaining-forest, the data of the 2014-2016 were re-analyzed. When the field work for the NFI was done, information was collected for the plots on the impact of human disturbances."

It is unclear whether the approach applied by the project constitutes a valid stock change approach as it does not entail a repeat inventory at two points in time. Please provide a justification for this approach and indicate i

Project Personnel Response:

A new NFI is currently being implemented in Ethiopia. Originally the results of this new NFI were originally expected to be available by 2025 but this will now only be in 2026 because of delays.

When the results from the new NFI are available, it will be possible to apply a stock change approach based on data from two points in time. The current EF for F-F is therefore meant as an interim value that will be used until the new EFs are available.

For the interim value, an approach has been applied that is more similar to stock change then gain-loss. Since there are only data from one point in time available, the F-F area is stratified into a stable and disturbed stratum and biomass was estimated for both strata, with the EF being the difference between the two. This is linked to the land use change analysis where the same strata are applied.

As an interim value this felt more logical than applying a gain-loss method for the interim value and then later change to stock change, also considering that there aren't necessary good data to apply gain-loss. The approach for the interim values can be seen as resembling the stock change approach since the strata are expected to approximate the degradation process that under the stock change approach would be observed as the difference between t1 and t2

Auditor Response: Thank you for this response. The auditors confirmed that this interim approach is sufficient and that the approach will be replaced with a true stock change approach when the inventory is completed. This finding is closed.

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

NIR 9 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023; ISFL Guidance Note on IPCC Guidelines, 2006 IPCC Guidelines Volume 4 Ch2

Document Reference: ETH_BIOME_degradation_analysis_28April2023 (to Marco 8-2024) (1); ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: Section 4.1.3 of the ER Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data." In the workbook ETH_BIOME_degradation_analysis_28April2023 (to Marco 8-2024) (1);, sheet Data, cell N62, the program team has calculated a disturbed biomass of 26.8 ton/ha for the Acacia-Commiphora biome. This used rows 62-79 in the worksheet, which are all classified as Acacia-Commiphora biome. However, it is unclear why rows 49 through 61 are excluded although they are also classified as Acacia-Commiphora biome. Please clarify why these acacia-Commiphora records are not included in the calculation of the disturbed emission factor.

Project Personnel Response:

As indicated in the ERPD amendment, plots were considered to be part of the class 'disturbed' if in the NFI they were classified as 'moderately disturbed' or 'heavily disturbed'. In the table, rows 49 through 59 belong to "slightly degraded" and where therefore excluded from the disturbed class.

In the attached spreadsheet 'ETH_BIOME_degradation_analysis_25June2025', the data has been reanalysed. For the Acacia-Commiphora biome, row 2 – 49 are part of the stable class calculation.

Plots 566_4 and 551_4, (row 60 and 61) are both labelled as "heavily disturbed". However including these 2 rows in the calculation of the disturbed class gives a strange result where the biomass of the disturbed class is higher than the biomass of the stable class (see worksheet 'Data', column O and worksheet 'Results', section on updated calculation, table labelled as 'with row 60 and 61'. These 2 plots therefore seem to be outliers or potentially misclassified. If the calculation is done without these rows, the results still show slightly higher biomass for the disturbed class but the value is almost equal for disturbed (26.8) and stable (26.3) ((see worksheet 'Data', column R and worksheet 'Results', section on updated calculation, table labelled as 'without row 60 and 61'.

Based on this, it is clear that the data available on the Acacia-Commiphora biome does not allow for clearly analysing the difference between stable and disturbed forest in the biome. In this context, the

difference between stable and disturbed will be considered as zero for the Acacia-Commiphora biome. This changes the weighted EF for degradation from 33.5 to 32.8. Changes are reflected in the workbook 'ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2' and the updated ERPD amendment.

Auditor Response: The auditors confirmed that the calculation has been clarified and updated to exclude the outliers and to conservative consider degradation in the Acacia-Commiphora biome to result in zero emissions. This finding has been closed.

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

NIR 10 Dated 20 Jun 2025 – Closed, but converted to a FAR

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 4.2.2 of the ER Program Requirements indicates that the ER program can apply the emission intensity approach if the subcategories comply with 3 criteria. Criterion iii states "ER programs shall implement interventions to reduce emissions from livestock sub-categories in their jurisdictions as part of program implementation

a. Data demonstrating the implementation of interventions to reduce livestock related emissions shall be presented at validation and verification. Evidence will include: Government budget, implementation of sector policies, regulations, plans, programs, NAMA, NDC roadmap, and other public and private investment supporting program interventions;

b. Data and evidence on continuation of interventions to reduce emissions from livestock sub-categories beyond the program period shall be presented at validation and verification of programs in each ERPA phase."

With regard to criterion iii, Annex 9 of the ERPD states "this is an ex-post requirement, that cannot be evidenced at this stage but can be done during the validation and verification of the emission reduction report." However, as this is validation and the requirement indicates that such data and evidence must be presented at validation and verification, the verifier does not find this statement to be accurate. As a result, the assessment team requests a data demonstrating the planned implementation of interventions to reduce livestock related emissions and the continuation of those interventions.

Project Personnel Response:

It is our understanding that the current review is a validation activity (confined to baseline validation) to confirm how Tier 2 enteric-methane emission factors for cattle were derived and to establish the

programmer's eligibility to apply an emission-intensity accounting approach. Regarding the ER program, no livestock-sector interventions have yet been rolled out under the OFLP programme, so no monitoring data exist that could attest to actual emission reductions. For this stage, we only provided general proof of the implementation of interventions to reduce livestock-related emissions in the ERPD section 4.4.1

Auditor Response: The audit team has received approval from the World Bank FMT to convert this finding to a Forward Action Request (see below) such that it will have to be addressed at the time of the first verification. Currently, it is therefore considered closed.

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

NIR 11 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL Validation and Verification Requirements_2023_Ver1.3; ISFL Guidance note on application of IPCC guidelines_March 2021; IPCC 2019 Refinement.

Document Reference: ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: Section 5.1 of the Validation and Verification Requirements states "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 2.2 of the ISFL Guidance note 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.

Under Tier 2, ER Programs shall apply Equation 2.25 from the 2006 IPCC Guidelines, Volume 4, Chapter 2. Since the ISFL ER Program Requirements requires IPCC Approach 2 or 3 for Activity Data collection, formulation B from box 2.1 of that same chapter will be applied." In replicating the approach as outlined in the Guidance Note and Box 2.2 of the IPCC 2019 refinement, the audit team found that the project's calculation assumes that all area is deforested at the start of the baseline period (year 2012) rather than an equal area deforested annually throughout the 10-year baseline period. This ultimately results in a less conservative emissions baseline as all 10 years are multiplied by a larger emission factor.

Please justify this assumption and demonstrate it's conservativeness.

Project Personnel Response:

In the workbook 'ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2' the period 10 year baseline period has been split out in the individual years. Please note that although this

changes the SOC values in each year, it does not change the emissions due to SOC losses in the years 2025-2029 since these changes do no effect the differences between the years

Auditor Response: The auditors confirmed that the SOC quantification has been updated to demonstrate the baseline period starting in 2012. Through this demonstration, we confirmed the calculation of free of error and has no impact on the baseline.

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

NCR 12 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL PD Template_January 2020

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 4.4.1 of the ERPD template 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

• Ex-ante estimate, including assumptions made, of how the Emissions Baseline will change in future ERPA Phases."

This section does not include an Ex-ante estimate, including assumptions made, of how the Emissions Baseline will change in future ERPA Phases, resulting in a nonconformity with the template requirements.

Project Personnel Response:

A description of the general approach applied to estimate the emission baseline for this ERPA phase was added to the ERPD Word document under Section 4.4.1, in response to the audit team's request. Regarding the ex-ante estimate, there is no change from the first ERPD, as explained under NCR 16 and 17.

Auditor Response: The auditors confirmed that section 4.4.1 of the ERPD has been updated to provide more information about the assumptions, the ex-ante estimate and potential changes. This finding is closed.

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

NIR 13 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023;

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 4.5.2 of the ER Program requirements states “In estimating the subcategories and their associated Carbon Pools and gases included in the scope for ISFL Accounting, ISFL ER Programs shall ensure methodological Consistency21 between the Emissions Baseline and the monitored net GHG Emissions.” Section 4.5.1 of the ERPD indicates “Data will then be collected, organized, stored, and analyzed using various tools such as Collect Earth Online (CEO), Google Earth, and other high-resolution satellite images like Planet NICFI.” The auditors confirmed that Planet NICFI data was used for the Baseline Collect Earth analysis. Given that Planet data is no longer freely available via NICFI, please clarify if and how the project will utilize this dataset and ensure consistency with the baseline methods and data.

Project Personnel Response:

Use of Planet NICFI Data and Methodological Consistency in Monitoring

The baseline data collection and interpretation process for the Oromia ER Program utilized high-resolution satellite imagery, including Planet NICFI (4.77m), in accordance with ERPD Section 4.5.1 and the ISFL Program Requirement 4.5.2, which emphasizes methodological consistency between baseline and monitoring activities.

Although the NICFI-funded open access to Planet data was discontinued globally, the Oromia MRV team continues to access Planet NICFI imagery through the Forest Observatory of Africa (FOA) platform. This arrangement ensures continued availability of the same spatial resolution and temporal coverage used during baseline assessment.

Ensuring Consistency across Monitoring Phases

To maintain methodological consistency between the Emissions Baseline and the monitored net GHG emissions:

The same imagery resolution (4.77m) and visualization tools used during the baseline will be employed for ongoing monitoring.

Data interpretation continues to be conducted within CEO, supported by Google Earth Engine scripts and consistent use of vegetation indices (NDVI and NDFI).

Interpretation keys and training materials have been retained and updated to reflect the same LULC classification framework

Auditor Response: Thank you for this explanation of the how the project plans to ensure consistency through the ERPA phases.

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

NCR 14 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL PD Template_January 2020

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 4.5.1 of the ERPD Template Requires the following "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." The auditors found the following:

For LULUCF monitoring, the ERPD provides some description of the datasets used, sampling approach, etc, but it does not include discussion of all the reporting requirements for this section (e.g., storing, aggregating, collating data, etc).

For methane emission monitoring, the ERPD does not provide a description of how the activity data, emission factors, and protein production will be monitored. For instance, it talks about the methods for calculating the emissions, but provides no indication of methods for future monitoring of activity data (i.e., heads of cattle) or emission factors.

This section also does not indicate how the project will quantify Emission Reductions using the emission intensity approach in alignment with section 4.5.4 of the ER Program requirements. It also does not specify how the cap in ERs will be considered (section 4.5.8 of the ER Requirements).

As a result of the above three points, Section 4.5.1 of the ERPD is not in conformance with the template requirements or the principle of transparency.

Project Personnel Response:

Processes for Storing, Aggregating, and Collating Land Use Data

To support the development of the emission reduction baseline report under REDD+ Oromia, 5,010 **Activity Data (AD)** points were collected to assess land use changes between **2012 and 2021**. Data collection was executed through two designated CEO institutions established on the REDD+ Oromia CEO platform: **AD_eSBAE_Oromia_1_1000**: 1,000 AD points **AD_eSBAE_Oromia_2_4010**: 4,010 AD points

These institutions enabled a standardized sampling framework, ensuring representative spatial coverage across Oromia. The Oromia MRV team oversaw interpretation of all AD records.

Survey Integration and Satellite Imagery Sources

Survey instruments within the CEO platform captured responses related to land use types and land cover changes for both **2012 and 2021** reference periods. These surveys were integrated with multiple high-resolution remote sensing datasets, including: Landsat imagery series, Google Earth time-series data, Norway's NICFI satellite datasets, Normalized Difference Vegetation Index (NDVI), Normalized Difference Fraction Index (NDFI). These imagery resources facilitated robust classification and temporal analysis of land use dynamics.

Data Management and Reporting Practices

In alignment with ERPD reporting requirements for LULUCF monitoring, the Oromia MRV team adopted the following data handling protocols:

Storing: All raw and interpreted AD datasets are stored in a centralized, version-controlled repository within the CEO platform to ensure long-term accessibility and integrity.

Aggregating: AD points were aggregated both spatially and thematically to detect regional trends and inform classification outputs.

Collating: Spatial data, survey responses, and imagery-derived classifications were systematically collated into harmonized formats, supporting transparency, traceability, and repeatability in monitoring and reporting workflows.

For cattle enteric fermentation, the monitoring section has now been revised, and a description of the methods and standards for generating, recording, storing, aggregating, collating, and reporting data on monitored parameters, including equations, all the activity data are now incorporated. The methodology used by the project to quantify Emission Reductions (ERs) using the emission intensity approach, in accordance with Section 4.5.4 of the ER Program Requirements, is detailed in Annex 9. Additionally, the approach for applying the cap on ERs is outlined in Section 4.4.1 of the draft ERPD

Auditor Response: The auditors confirmed that the ERPD was updated with the requirements information.

Section 4.5.1 of the ERPD now contains this text "*For cattle enteric fermentation, the monitoring section has now been revised, and a description of the methods and standards for generating, recording, storing, aggregating, collating, and reporting data on monitored parameters, including equations, all the activity data are now incorporated. The methodology used by the project to quantify Emission Reductions (ERs) using the emission intensity approach, in accordance with Section 4.5.4 of the ER Program Requirements, is detailed in Annex 9. Additionally, the approach for applying the cap on ERs is outlined in Section 4.4.1 of the draft ERPD,"* which appears to be an error.

Project Personnel Response 2:

All necessary information on how the project will quantify Emission Reductions using the emission intensity approach, in line with Section 4.5.4 of the ER Program Requirements, and how the cap on Emission Reductions will be applied in accordance with Section 4.5.8, is provided in Section 4.5.1 of the ERPD document.

Auditor Response 2: The audit team reviewed Annex 9 and confirmed that it thoroughly outlines the emission intensity approach to quantify emissions reductions. This finding is closed.

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

NCR 15 Dated 20 Jun 2025

Standard Reference: ISFL PD Template_January 2020

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Table 11 in the ERPD contains 5 columns that are required to be reported on. Column 3 shall be labeled "Estimation of Expected emissions under the ISFL ER Program (tCO2-e/yr)." In the Program's Phase 2 ERPD, this column is labeled as "Estimation of expected reversal emissions under the ISFL ER Program (tCO2e) (10%)", which does not match the template and results in a lack of transparency as reversals are separate from this ex-ante ER estimation.

Project Personnel Response:

The table has been adjusted and changes have also been made in the workbook 'ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2' on the worksheet 'Complete baseline 2025-2029' and it has also corrected in the 2nd ERPD word document (Table 10 column 3). For transparency, the expected emissions are separated between the LULUCF categories and the enteric fermentation.

Auditor Response: The auditors confirmed that the new table 19 is has been updated to correct the mis-labeled column and to include the uncertainty set aside, the reversal set aside and the ERs for the livestock and LULC. This greatly enhances the transparency of the table. This finding is closed.

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

NCR 16 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL PD Template_January 2020

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 4.6 of the ERPD Template requires "Please provide a simplified ex-ante estimation of the expected Emission 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." Section 4.6 of the ERPD states "The expected emissions are based on the actual annual emissions reported in the first monitoring report of the Oromia Emission Reduction project covering the period 2022-2023." However, there is little or no information on the assumptions and values for this ex-ante estimation of ERs. Also as indicated in the above finding, reversals are not relevant to this section. Due to a lack of information regarding the ex-ante emission reductions, this section is not in conformance.

Project Personnel Response:

Additional information has been provided in the updated ERPD amendment.

For the LULUCF related categories, the interventions that have been implemented in the first phase will be continued in the second phase of the ERPA. In the first phase, these activities had a significant impact. The (unverified) first monitoring report of the first phase in table 15 summarizes that in the period 2022-2023, the activities implemented were able to reduce emissions by almost 80% compared to the baseline. The baseline was 11,496,492 tCO2-e per year (or 22,976,432.39 tCO2-e over the period 2022-2023) while the actual emissions for 2022-2023 are estimated as 4,765,204.57 tCO2-e. The same efficiency has been assumed for this ex-ante estimation

Auditor Response: The auditors confirmed that section 4.6 of the ERPD was updated to include the assumptions for the ex-ante emission reductions. This finding has been closed.

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

NIR 17 Dated 20 Jun 2025

Standard Reference: TOR_2ND PHASE_ETHIOPIA_Jan 18 2024Document(s) Reference: N/A

Document Reference: NA

Finding: As indicated in the Terms of Reference for this audit engagement, one scope included in this assessment is the Ex-ante estimation of the emission reductions where SCS must apply "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." The audit team requests a detailed analysis (e.g., calculation workbook) demonstrating the assumptions of effectiveness and the simplified ex-ante an estimation of expected emission reductions.

Project Personnel Response:

Additional information has been provided in the updated ERPD amendment.

For the LULUCF related categories, the interventions that have been implemented in the first phase will be continued in the second phase of the ERPA. In the first phase, these activities had a significant impact. The (unverified) first monitoring report of the first phase in table 15 summarizes that in the period 2022-2023, the activities implemented were able to reduce emissions by almost 80% compared to the baseline. The baseline was 11,496,492 tCO2-e per year (or 22,976,432.39 tCO2-e over the period 2022-2023) while the actual emissions for 2022-2023 are estimated as 4,765,204.57 tCO2-e. The same efficiency has been assumed for this ex-ante estimation

Auditor Response: Thank you for this information. We confirmed that the ERPD was updated with information on the assumptions of the effectiveness of the program activities and the expected emission reductions. However, the calculation workbook sheet Ex-ante estimation of ERs leaves this column and calculation blank resulting in a lack of transparency and agreement between the calculation workbook and the ERPD. This finding remains open.

Project Personnel Response 2:

In Section 4.6 of the ERPD, we make two separate assumptions for the ex-ante estimation.

For the LULUCF-related categories, we used data from the first version of the first monitoring report of the first phase. The numbers in the ERPD match those in the worksheet 'Complete Baseline 2025–2029', cells B3:G4. This is the efficiency that is then used in cells P12:P16 to estimate ex-ante expected emissions from the LULUCF categories.

For the enteric fermentation, the ERPD says in section 4.6 that for the ex-ante assumption, it is assumed that there is 20% reduction in emission intensity compared to the baseline period and the protein production projections is estimated using a linear trend based on historical data from 2012 to 2021. This is also reflected in the worksheet 'LS ERP'. The 20% reduction in the emission intensity is reflected in cells M3:Q3 of this worksheet where the assumed value is 0.8 times the historic average. Cells M4:Q4 is the projection of the protein production where the values are based on the slope of the trend as shown in the figure on the same worksheet. The calculation is basically done in the worksheet 'Complete Baseline 2025-2029', cells Q12:Q16 where the 2 values from the previous worksheet are multiplied to estimate the actual emission from enteric fermentation,

Both the LULUCF and enteric fermentation estimates are then used again in the worksheet 'Ex-Ante Estimation of ERs'.

Auditor Response 2: The auditors confirmed that the assumption of similar effectiveness from MP1 to MP2 for LULC categories is reasonable. This assumption is explained in the ERPD and is detailed in the calculation workbook. The auditors found that the assumption of 20% effectiveness for the enteric fermentation is reasonable and well explained in the ERPD.

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

NCR 18 Dated 20 Jun 2025

Standard Reference: ISFL PD Template_January 2020

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 4.5.3 of the ERPD Template states "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]."

Section 4.6.1 of the ER Program Requirements states "Section 4.6.1 of the ER Program requirements states "ISFL ER Programs shall systematically identify and assess sources of uncertainty in the determination of the Emissions Baseline and the monitoring of Emissions and Removals following the most recent IPCC guidance and guidelines."

The auditors have found the following:

First, while section 4.5.3 of the Program's ERPD provides some description of the LULUCF uncertainty and how uncertainty will be managed, there is little to no description of the assessment of uncertainty for the livestock data and parameters in the baseline and how such will be managed and reduced.

Second, for both LULUCF and Livestock, there is no clear assessment of the level of uncertainty for the activity data and the emission factors comprising this baseline assessment. From the information provided, it is not clear how the uncertainty set-aside value of 8% was determined.

Ultimately the lack of detail in this section results in a lack of transparency and a nonconformity with the template requirements.

Project Personnel Response:

The level of uncertainty for activity data and emission factors related to livestock enteric fermentation has now been included in the 2nd ERPD word document section 4.5.3.1

Auditor Response: While the auditors confirmed that more information related to the uncertainty of *livestock data and parameters* has been included in section 4.5.3.1, the second part of this finding which relates to both livestock and LULC and their combined uncertainty has not been addressed. This states "Second, for **both LULUCF and Livestock**, there is no clear assessment of the level of uncertainty for the activity data and the emission factors comprising this baseline assessment." The project has not provided a clear demonstration (e.g., calculation workbook) showing how the uncertainty set-aside value of 8% (corresponding with a >30 and </+60% aggregate uncertainty of ex-ante ERs) was calculated. This finding remains open.

Project Personnel Response 2: For the ex-ante estimation of the emission reductions, the uncertainty of the LULUCF categories from the first monitoring report (53.8%) has been combined with the uncertainty of the emission intensity (42% for 2021 according to table 18) using simple error propagation. This results in an ex-ante estimation of future uncertainty of 68% and a resulting set-aside of 12%. This has been included in section 4.6 and the Excel calculations.

Auditor Response 2: Thank you for this information. The auditors confirmed that the ERPD has been updated to include detailed information on the uncertainty analysis for both LULUCF and livestock. As a result this NCR finding can be closed, but we have opened a NIR to request demonstration of this uncertainty analysis.

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

NIR 19 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL Buffer Requirements_2023

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 7.2 of the 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."

Section 4.7.2 of the ERPD states "This risk associated with natural disturbances remains low. The main natural risk in the OFLP_ERP accounting area is forest fires." Through an independent review of fires affecting the forests of Oromia, the auditors have found that fire risk in Oromia may be relatively high and increasing in recent years due to drought conditions associated with climate change. Please

provide further justification why the program assigned a low risk to "exposure and vulnerability to natural disturbances."

Project Personnel Response:

Section 4.7.2 of the OFLP Emission Reductions Program Document (ERPD) assigns a low-risk rating to the region's exposure and vulnerability to natural disturbances. This assessment is based on historical trends, the presence of institutional safeguards, and findings from the current reversal risk evaluation. According to the OFLP-ERP reversal risk assessment report, forest fire indicators were recorded in only two zones, while no natural forest fire incidents were reported in the remaining 18 zones.

Historically, forest fires in Oromia have occurred sporadically across only four zones, causing insignificant impact on carbon stocks. To reduce the effects of natural disturbances, various proactive measures have been implemented over the past decade by multiple programs, projects, and responsible institutions. The Oromia Regional State Environmental Protection Authority has identified high-priority fire-risk areas and introduced early warning systems based on climate condition and fire management strategies. These efforts include active involvement of local communities and stakeholders through public awareness campaigns and ongoing training sessions on fire prevention, management and monitoring.

Practical interventions such as providing fire management training for fire scout and community representatives, deploying appropriate firefighting equipment, establishing closely follow up and monitoring system and standby tack force during dry weather have been key to managing fire risks in these zones. The approach is further strengthened by incorporating Participatory Forest Management (PFM), which promotes community involvement and ownership on forest that fosters community forest management for early detection of fires. In addition to, safeguards and contingency plans are guided by the Environmental and Social Management Framework (ESMF) and the Strategic Environmental and Social Assessment (SESA), both designed to address challenges including forest fires.

Moreover, Oromia Regional Government continues to develop and refine strategies for mitigating natural disturbances, with increasing focus on Forest Landscape Restoration (FLR), community-based watershed management, Participatory Forest Management approaches (such as ANR, PFM, and Assisted Regeneration), agroforestry practices, and the Green Legacy Initiative. To ensure the long-term sustainability of these efforts, the government enforces policies and regulations related to land use and forest management.

Auditor Response: Thank you for this additional justification for the low natural disturbance risk classification. The auditors conducted an ancillary review of fire management initiatives and fire fighting in Oromia and are able to close this finding.

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

NIR 20 Dated 20 Jun 2025

Standard Reference: ISFL Buffer Requirements_2023

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: As indicated in the ISFL Program Requirements, the carbon accounting shall use the "best available methods and approaches that are consistent with the most recent IPCC guidance and guidelines." Section 4.2.1.2 of the IPCC states "Under Tier 2, biomass changes due to disturbances will be taken into account by forest category, type of disturbance and intensity. Average values for biomass are obtained from country-specific data." Annex 9 of the ERPD states "To determine the interim emission factors for forest-remaining-forest, the data of the 2014-2016 were re-analyzed. When the field work for the NFI was done, information was collected for the plots on the impact of human disturbances." Figure 18 then shows the human disturbance categories that include management and exploitation of products. However, there is no mention of disturbances associated with fires. As fires are the main natural disturbance affecting forests in Oromia, please indicate if and how the program accounts for degradation due natural disturbances such as fire.

Project Personnel Response:

Annex 9, Table 18 of the National Forest Inventory (NFI) presents data categorized exclusively by human disturbances at national level. However, both human and natural disturbances contribute to the transformation across each category, influencing land use and forest conditions.

The National Forest Inventory (NFI) assessment identified key human disturbances, including collecting forest products without conforming to forest management plans and removal at rates exceeding the annual natural growth. In response to forest degradation within the remaining forest areas, the Oromia Regional State through the OEPA and associated programs/ projects has implemented a multi-faceted strategy. This approach combines landscape restoration, community engagement, and alignment with national policy frameworks. A central pillar of this strategy is Participatory Forest Management (PFM), which empowers local communities to actively engage in the conservation and responsible management of natural forests. The current model has demonstrated significant potential in improving forest conditions and advancing rural livelihoods with supported grant-funded by initiatives that uphold community rights and responsibilities. A key complementary strategy is the establishment of area enclosures such as Assisted Natural Regeneration (ANR) and Farmer Managed Natural Regeneration (FMNR) which limit access by humans and livestock to degraded lands, enabling natural ecological recovery. These enclosures have effectively contributed to restoring vegetation covers and enhancing soil health.

Ethiopia is also a prominent participant to the African Forest Landscape Restoration Initiative (AFR100), committing to restore 15 million hectares of degraded land. This pledge aligns with the nation's Climate Resilient Green Economy (CRGE) strategy, which envisions a carbon-neutral economy by 2030.To support these ambitions, the government has undertaken wide-reaching afforestation and reforestation campaigns, most notably through the Green Legacy Initiative and launched degraded land restoration strategy which is implemented starting from this fiscal year. This nationwide movement engages millions of citizens each year in planting billions of trees across Ethiopia.

Overall, forest degradation management in Oromia is advancing through a comprehensive blend of progressive strategies, active community involvement, and ecological rehabilitation. The Oromia regional government is implementing this framework by promoting sustained investment, adaptive governance, and inclusive planning ensuring long-term forest resilience and ecosystem recovery across the region

Auditor Response: Thank you for this additional information about the accounting of degradation across the program area. This finding is closed.

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

NCR 21 Dated 20 Jun 2025 - CLOSED

Standard Reference: ISFL PD Template_January 2020

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Annex 10 of the ERPD template states “Using the table provided, clearly describe all the data and parameters to be monitored (copy table for each parameter).”The audit team found that many of these tables are incomplete and are missing information. For example, the “Identification of sources of uncertainty for this parameter following approaches from the most recent IPCC guidance and

Guidelines”, “Quality Assurance/Quality Control procedures to be Applied,” and “Process for managing and reducing uncertainty associated with this parameter” are often empty. This results in a nonconformity to the template requirements.

Project Personnel Response:

Addressed as per the audit team request.

Auditor Response: Confirmed that the Annex 10 tables have been completed. This finding has been closed.

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

NCR 22 Dated 20 Jun 2025

Standard Reference: ISFL ER Program Requirements V1.3 2023;

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: Section 4.4.2 of the ER Requirements states “The Emissions Baseline shall be expressed as tonnes of CO2e per year, or if an emission intensity approach is used in accordance with the equation in 4.2.7.”

In section 4.4.2, Table 9 of the ERPD, the Enteric fermentation baseline is presented as tCO2e and not as the emission intensity as calculated using equation 1 in section 4.2.7 of the ERPD, resulting in a nonconformity.

Project Personnel Response:

In line with Section 4.2.2 of the ISFL ER Program Requirements, the Oromia Program has adopted the emission intensity approach to estimate the emissions baseline from enteric fermentation in cattle from 2025-2029, as all criteria outlined in ERDP of Section 4.4.1 were met. Accordingly, a cap was applied in accordance with Section 4.5.7, defined as the average annual emissions projected for the ERPA phase based on the continuation of historical GHG emission trends from eligible livestock sub-

categories during the baseline period. This cap was established using projected emissions derived from a linear regression of data from the 2012–2021 baseline period (y = 517,563.98x - 1,013,901,901.64, with R2=0.9). The annual caps for 2025–2029 are presented in Table 8. Since the projected emissions were calculated using a linear trend based on total emissions over the baseline period, the unit tCO_2 is used consistently in Table 9.

Auditor Response: The auditors confirmed that the emission intensity (tCO2/t protein) has been calculated and is shown in Table 8 in accordance with Section 4.2.7. However, the Program Requirements requires that the Emission Baseline be expressed differently if an emission intensity is used. Similar for calculating the Emissions reductions, this EI will also be used and presented (e.g., see Section 4.5.4 & 4.5.5 of the ER Program Requirements).

It appears that the program team is confusing the emission intensity baseline and the emissions cap (monitoring). According to the ISFL program requirements, the emission intensity baseline (requirements in 4.2.7), is not a linear forecasted growth in emissions. To use the emission intensity approach, the linear trend/growth must be present (e.g., 4.2.2ii). The EI is simply a way of presenting the baseline and quantifying ERs. According to ancillary literature, the EI is a more useful measure for agriculture as it is a measure of efficiency of production rather than size. To reduce EI, you can either reduce total GHG emissions (for the same production), or increase total product produced (for the same emissions). Thus section 4.2.6 of the ER Program Requirements still applies to the EI approach in determining the numerator of the equation 1.

The ISFL requirements for the "cap" refers to a cap in **monitored** emissions that occur during the monitoring period (as they are in the Monitoring Section of the ER requirements), and are not the baseline emissions as described in the ERPD and shown in the calculation workbook. While the cap was calculated according to the requirements (4.5.8), this finding is not related to the cap, it is related to how the baseline is presented. This cap of emissions is independent of the emission intensity calculations from equation #1 and equation #2.

As a result, the following nonconformities exist:

(1) The EI is not reported correctedly in the ERPD as it is conflated with the monitoring cap

(2) The EI is calculated using linear forecasting and not a historic average.

Project Personnel Response 2:

The nonconformity previously identified regarding the expression of the Enteric Fermentation baseline has now been addressed. In alignment with Section 4.2.7 (Equation 1) of the ER Program Requirements, the emission intensity (EI) for enteric fermentation has been calculated using the historical average of the 2012–2021 baseline period. The EI values, expressed in t CO_2e/t protein, are now correctly presented in Table 9 of the revised ERPD document.

Auditor Response 2: The audit team confirmed that the emissions intensity is now correctly expressed as total emissions over total protein. Years 2025-2029 are now a historical average. This finding is closed.

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

NIR 23 Dated 20 Jun 2025

Standard Reference: ISFL ER Program Requirements V1.3 2023; ISFL Validation and Verification Requirements_2023_Ver1.3;

Document Reference: ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: The ER Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data." Section 5.1 of the Validation and Verification Requirements states that the Consistency Principle is to "Enable meaningful comparisons in ISFL ER Program-related information."

In the calculation workbook, sheet LA AD, the project proponent used linear modeling to estimate cattle population growth and increase in emissions factors for years 2022-2024 (e.g., columns O to Q). Then, it used an average of years 2012-2021 to estimate years 2025-2029 (columns T through X). Similarly, in sheet LS EFs, the project used linear modelling for emission factor projects in 2022-2024 (columns AB to AD), but average annual historical emission factors for 2025-2029 (Columns AG through AK). In the sheet LS total emission & protein, the values for total enteric fermentation emissions for years 2025-2029 are hard-coded so it is difficult to interpret how they were obtained, but they seem to use a linear regression approach to values in previous years. On the other hand, for all other years, the enteric fermentation emissions are calculated as the Activity data multiplied by the emission factor. to values in previous years. On the other hand, for all other years, the enteric fermentation emissions are calculated as the Activity data multiplied by the emission factor.

The audit team requires the following:

-Further clarification on the approaches used and justification for the mixing methods (average or linear regression) .

-Demonstration of the calculation of total enteric fermentation emissions for years 2025-2029 (e.g., from sheet LS total emission & protein, cells P9-T9).

Project Personnel Response: For cattle population (LS AD worksheet) and emission factors (LS Efs), a linear projection method was used to estimate values for 2022–2024, as this approach reflects the observed linear trend between 2012-2021, rather than using the average of the 2012–2021 period. However, for the 2025–2029 period, average values from 2012–2021 were used to maintain consistency with other sectors. It is also important to note that the linear method resulted in negative

values for certain cattle sub-categories within some production systems, such as the pastoral/agro-pastoral system, due to declining population trends during the historical baseline period. Additionally, total enteric fermentation emissions for 2025–2029, as shown in the "LS total emission & protein" sheet, were derived directly from Table 9 of the ERPD document, in accordance with the cap method. Since emissions for 2025–2029 were projected using a linear regression of the 2012–2021 data (Table 9), there is no need to predict baseline activity data, emission factors, or protein production for those years. Nevertheless, average values from 2012–2021 are included in the calculation workbook to ensure consistency with other sectoral approaches.

Auditor Response: Thank you for this detailed response and clarification on the approach. The auditors confirmed that the workbook has been updated to include average values for those years. We also confirmed that this has no impact on the baseline period (2025-2029). However, see findings NCR 22 and NCR 24 pertaining to the years 2025 through 2029.

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

NCR 24 Dated 20 Jun 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: This finding relates to the above finding. The ER Program Requirements states that “The Program GHG Inventory shall utilize best available methods and existing data.” Section 4.2.7 of the ER program requirements states “If the emission intensity approach is used, the emission intensity (EI) will be calculated using equation 1 and by combining the emissions of the eligible subcategories and livestock species:[equation 1].

In the calculation workbook, sheet LS baseline, the project team calculates the GHG emission intensity in row 4 by applying equation 1 of the ER Requirements. In tracing the Production component of the equation (total protein) values and their calculations for 2025-2029 back through the workbook, the audit team finds that the average annual historical period data was used (e.g., average activity data from the workbook LS AD). However, in tracing the numerator component (Emissions) back to its source, the audit team finds that a linear regression of total emissions (from sheet LS total emission & protein, cells P9-T9) was applied. This results in the numerator being derived from linear regression and the denominator derived from average historical data and ultimately an inaccurate and inconsistent calculation of the Emission Intensity.

Project Personnel Response:

The enteric fermentation values presented in the "LS total emission & protein" sheet (cells P9–T9) were predicted using a linear regression based on the overall 2012–2021 baseline period, in accordance

with the cap method. These values were not derived by multiplying emission factors from the "LS EFs" sheet with activity data from the "LS AD" sheet. In contrast, the denominator protein production was estimated using historical averages of 2012-2021, consistent with the approach used in other sectors. It is important to reiterate that the final values for the emission intensity, presented in the LS baseline worksheet of the workbook calculation is no longer applicable for the livestock sector during the 2025–2029 period because that enteric methane emissions (used in Table 9) are determined using the cap method, which relies on linear projections from the baseline period.

Auditor Response: Similar to the response to NCR 22, the auditors find that program team is confusing the emission intensity (EI) baseline and the emissions cap (monitoring). According to the ISFL program requirements, the emission intensity baseline (requirements in 4.2.7), is not a linear forecasted growth in emissions. Yes, to use the emission intensity approach, the linear trend/growth must be present (e.g., 4.2.2ii). However, the EI is simply an approach of presenting the baseline and quantifying ERs. According to ancillary literature, the EI is a more useful measure for agriculture as it is a measure of efficiency of production rather than size. To reduce EI, you can either reduce total GHG emissions (for the same production), or increase total product produced (for the same emissions).

On the other hand, the ISFL requirements for the “cap” refers to a cap in monitored emissions that occur during the monitoring period (as they are in the Monitoring Section of the ER requirements) and the fact that these emissions cannot exceed this cap or else the ERs will be considered zero and any livestock emissions over this cap will be deducted from the other subcategories.

Overall, the auditors find that the Emission Intensity using linear projected increases in emissions (numerator) is not in conformance with the requirements. Likewise, the presentation of the baseline emissions as the cap is not in conformance with the requirements. This nonconformity remains.

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

Project Personnel Response:

The EI values for 2025–2029 have now been recalculated to ensure full alignment between the numerator (total emissions) and denominator (total protein production). Specifically, both components are now consistently derived from the same basis (the average of historical data from the 2012–2021 baseline period). This adjustment eliminates the previously noted discrepancy where emissions were estimated using a linear regression while production data reflected historical averages. The updated approach complies with the methodology outlined in Section 4.2.7 of the ISFL ER Program Requirements and ensures methodological consistency and accuracy in the EI calculation.

Auditor Response 2: The auditors confirmed that the emission intensity approach and the emission cap have now been correctly calculated in alignment with the requirements. These are now described in detail in the ERPD accurately. This finding is closed.

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

OBS 25 Dated 20 Jun 2025 – CLOSED

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: The ER Program Requirements states that "The Program GHG Inventory shall utilize best available methods and existing data." The Program team has used values with several decimal places for their livestock emissions calculations. However, the project indicated that the source of the values was the file: "Estimation of baseline emissions from cattle in the Oromia Region (2012-2021)", which reports values rounded to one decimal figure. An example of this is that section 4.3.4 states: "Milk yield estimates of 8.6 and 6.7 kg/head were used for commercial and smallholder intensive dairy production systems, respectively. Consistent values were used throughout the time series." However, the project proponents used a value of 6.74, resulting in slight differences in the final calculation. While the assessment team found that differences were not material, we are highlighting this as an observation because rounding discrepancies could result in material differences in the future.

Project Personnel Response:

This is noted!

Auditor Response:

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

NCR 26 Dated 19 Aug 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia

Finding: Section 4.5.8 of the ER Program Requirements states, "The cap as referred to in 4.5.7 is equal to the average annual emissions of the projected trend in the ERPA phase, based on the continuation of the historical trend in GHG emissions from the eligible livestock sub-categories during the Baseline Period." While the project has followed the steps in determining the trend for the ER Cap, that is only relevant to the monitoring period/ex-ante ERs, the actual cap must be the *average annual emissions of the projected* trend". This final step was not conducted resulting in a nonconformity.

Project Personnel Response:

The actual Cap has now been recalculated as the average annual emissions of the projected trend and presented in Table 9.1. The Cap has now also been used for ex-ante ERs.

Auditor Response: The auditors confirmed that the actual cap has been recalculated using the annual emissions of the projected trend. This finding has been closed.

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

NIR 27 Dated 20 Oct 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025; Ethiopia_NFI_Final_Report; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2-.xlsx

Finding: Section 4.1.2 of the ER 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 shall apply the basic principles of Transparency, Accuracy, Completeness, Consistency over time and Comparability as defined by the IPCC."

The program applies a carbon fraction of 0.5 to convert biomass to carbon for the LULUCF subcategories. Annex 9 states "To estimate carbon, a carbon fraction of 0.5 tonne C (tonne d.m.)-1 was used." The country's BUR and FREL have applied a carbon fraction of 0.47. The auditors request clear justification for the use of a 0.5 carbon fraction with demonstration that it is a conservative assumption. Otherwise, a carbon fraction of 0.47 must be applied.

Project Personnel Response:

The following carbon fraction values have now been applied.

Vegetation type	Carbon fraction	Source
Forest	0.47	2006 IPCCC guidelines, vol4, chapter 4, table 4.3
Woody biomass	0.5	2006 IPCC guidelines, Vol 4, chapter 6, step 5 on page 6.29

Herbaceous biomass	0.47	2006 IPCC guidelines, Vol 4, chapter 6, step 5 on page 6.29

This has been adjusted in the calculations and the description of the methodology in the ERPD. In the Excel file with the calculations, the first worksheet now details how the carbon values are calculated including the application of the carbon fraction values

Auditor Response 2: The audit team reviewed this correction. This finding is closed.

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

NIR 28 Dated 29 Oct 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023, 2006 IPCC

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025; Ethiopia_NFI_Final_Report; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2-.xlsx

Finding: Section 4.1.2 of the ER Requirements states "ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools13 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."

(1) First, Annex 9 of the ERPD states "To compute the below-ground biomass (BGB) estimates, root-shoot ratios from the Intergovernmental Panel on Climate Change (IPCC) (2006) by the ecological zones have been adopted." In reviewing Table A8.4 of the NFI, it is unclear which root-to-shoot ratios from the 2006 IPCC TABLE 4.4 have been applied and why. Please provide an explanation of how the IPCC root to shoots were used and provide a clear justification for the use of these IPCC root to shoot ratios.

(2) Second, in the ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2-.xlsx, tabs EFs reproduced and EF-F, the project proponents calculated the biome level forest root to shoot ratios from the national level NFI data, rather than using the IPCC root to shoots as applied for the LUC EFs as described in Annex 9. Please provide a justification for this approach with an emphasis on how this approach of using different root to shoot ratios for forest land use class is conservative, accurate, and results in a consistent approach with the LUC root to shoots.

Project Personnel Response:

For the root-shoot rations, the following values have now been applied

Forest type	Value	Source	Application	
Tropical mountain system	0.27	2006 IPCCC guidelines, vol4, chapter 4, table 4.4, default value for tropical moist deciduous	Applicable to Moist Afromontane forest	
Tropical Dry forest	0.28	2006 IPCCC guidelines, vol4, chapter 4, table 4.4, default value for tropical dry	Applicable to Dry Afromontane forest, Combretum-Terminalia, Acacia-Commiphora	
Tropical shrubland	0.4	2006 IPCCC guidelines, vol4, chapter 4, table 4.4, default value for tropical shrubland	Applicable to other wooded land	

These values are in line with the values used in the FREL document (see Table 13: IPCC ratios for Below Ground Biomass (2006))

Auditor Response 2: Thank you for this explanation. This finding is closed

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

NIR 29 Dated 29 Oct 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025

Finding: Section 4.1.2 of the ER Requirements states “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools13 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.”

In Annex 9 of the ERPD, the project proponent notes reliance on the Global Wood Density Database when local data is absent. Section 2.2 of the NFI states “After the operation from the National Data Base, only the values identified as Low Quality Data were excluded and replaced by the GWDDB data. As the result is out of 360 species identified during the NFI cycle, wood densities of 341 species have been selected using a validated value.” However, it is unclear what sources and values of wood density were used for what species, and specifically which species rely on the GWD-DB. The auditors request a description of which species use the GWD-DB as opposed to national or regional level data and that a clear justification is provided as to why.

Project Personnel Response:

Regarding wood density (WD), the analysis of the National Forest Inventory (NFI) field data was conducted using R scripts and OpenForis Calc by Lauri (NFOD). The details of the species for which he used the GWD_DB are only reflected in the script, and we have attached the link to that script together with these response documents for the audit team.https://drive.google.com/drive/folders/1ltYzKMXydtQGJvvHrJ9FavLR4oznw0oK

Auditor Response 2: Thank you for sharing these documents. The finding is closed.

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

NIR 30 Dated 29 Oct 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023,

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025; Ethiopia_NFI_Final_Report; ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2-.xlsx

Finding: Section 4.1.2 of the ER Requirements states “ISFL ER Programs shall, for the purpose of ISFL Reporting, compile a GHG inventory of all AFOLU categories, subcategories, gases and pools13 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.”

Annex 9 of the ERPD states “The NFI report (MEFCC, 2018) provides a summary of the information from the NFI per biome, major land use/land cover type and regions. For the purpose of determining the emission and removal factors, the level 1 classification from the NFI has been used since this most closely matches the IPCC categories used in the ISFL (see table A.1.1 of the NFI report for the level 1 categories and description).” However in reviewing A1.1, it appears that Level 2 or even Level 3 land

use classes would most closely align with IPCC categories. For instance, level 1 lumps grassland, barren land, built up land, any all sorts of cultivated lands together into a single class of Other Land. Chapter 9 section 9.1 of the IPCC states "Chapter 3 of this Volume defines Other Land to include bare soil, rock, ice, and all land areas that do not fall into any of the other five land-use categories treated in Chapters 4 to 8."

As a result of the use of level 1 categories, the auditors found that the same aboveground and belowground emission factor values were used for forest-to-cropland and forest-to-grassland scenarios (333.06 tCO2eq per ha). We confirmed that the NFI combines multiple other land uses classes such as grassland, marsh, coffee plantation, perennial crop, annual crop, etc. into "Other Land". The auditors request a clear justification for the application of the level 1 classifications that result in same emission factors for cropland and grassland. For transparency in the ERPD, such a justification is required in the ERPD.

Project Personnel Response:

Table A1.1 of the National Forest Inventory Report (MEFCC, 2018) provides a description of the land use/land cover categories used. In this table, different vegetation types related to cropland and grassland are all included under the FRA class 'Other land'. Therefore, it was initially decided to use the Oromia specific value for 'Other land'.

To increase accuracy and conservativeness, the values of cropland and grassland have been separated but still using data from the National Forest Inventory Report as this is regarded as providing the most comprehensive data set available.

Under the definitions of cropland and grassland used in Ethiopia, the following land uses from table A1.1 of the National Forest Inventory Report (MEFCC, 2018) would be included under the IPCC categories of Cropland and Grassland respectively:

Cropland	Annual crops, Perennial crops, Mixed annual and perennial crops, Coffee plantations, and Fallow land
Grassland	Natural grassland

Table A2.2 of the National Forest Inventory Report provides Ethiopia wide area estimates for each of these land use classes. Table A8.1 of the same report provides (tree) biomass for the same. Using these data, an Ethiopia level weighted biomass and carbon value was calculated for Cropland and Grassland respectively using the root-shoot ratios and carbon fraction from Error! Reference source not found. and Error! Reference source not fo und.. Since there are no Oromia specific area and biomass values available in the report, it was not possible to calculate an Oromia specific value.

This calculation can be found in the worksheet 'Biomass and Carbon' in the revised Excel workbook. These changes are also reflected in the updated monitoring report

Auditor Response 2: Thank you for this explanation. The audit team reviewed the calculations workbook. This finding is closed.

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

NCR 31 Dated 29 Oct 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023,

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025; Ethiopia_NFI_Final_Report

Finding: Section 4.1.2 of the ER 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 9 (page 188) states "**Error! Reference source not found.** below provides an overview of the d ifferent Oromia specific values and provides reference to the source tables in the NFI report.

Table 1 Area and above ground/ below ground biomass values per biome and FRA Class for Oromia (including the relevant source tables from the NFI report (MEFCC, 2018))."

Other places in Annex 9 reference Table 27. However, there is another Table 27 in Annex 9 that refers to "Criteria and indicators to assess the performance of Woredas." Ultimately it appears that there are type-os around Table 27. This results in a lack of transparency and accuracy and ultimately is a nonconformity to the requirements.

Project Personnel Response:

The discrepancy in the order of the list of tables, particularly in Annex 9 as indicated by the audit team, has been resolved in accordance with their comments.

Auditor Response 2: Thank you. This finding is closed.

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

NCR 32 Dated 29 Oct 2025 - Closed

Standard Reference: ISFL ER Program Requirements V1.3 2023,

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025;

Finding: Section 4.6.1 of the ER Requirements states "ISFL ER Programs shall systematically identify and assess sources of uncertainty in the determination of the Emissions Baseline and the monitoring of Emissions and Removals following the most recent IPCC guidance and guidelines."

Section 4.5.3.1 of the ERPD indicates "Uncertainty analysis for enteric fermentation was accomplished using Monte Carlo (MC) simulation implemented in Palisade @Risk software." It later states "**Error! Reference source not found.** shows the uncertainty for total cattle e nteric methane emissions for 2012 and 2021, which are within the range of ±18.8% in both years."

The auditors request a demonstration of this baseline uncertainty quantification.

Project Personnel Response:

the inputs (parameter list) data used for the uncertainty analysis is attached where the "5%" column is the lower confidence boundary, the "95%" column is the upper confidence boundary and the "mean" column is the central estimate of the parameter value. For most parameters there will be minor differences with the reported values because of the way @Risk works: For every parameter, we iteratively changed the standard deviation (or other pdf characteristics for non-normal parameters) until @Risk achieved the closest possible value to the target margin of error. However, some minor differences often remain

Auditor Response 2: Thank you for this explanation. The finding is closed.

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

NCR 33 Dated 29 Oct 2025 - Closed

Standard Reference: ISFL Validation and Verification Requirements

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025 (Submitted Oct. 21st 2025); ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2-09192025_September 30 2025

Finding: Section 5.1 of the Val/Ver requirements states "

The Validation and Verification Body shall adhere to the following principles in its Validation/Verification:…Consistency: enable meaningful comparisons in ISFL ER Program-related information."

On 21 October 2025, the program team submitted an updated calculation workbook to the audit team that shows changes to the LULUCF values. However, these changes are not reflected consistently throughout the ERPD. For instance, the emission baseline for in section 4.4.2 (e.g., Table 9) shows different values than the excel spreadsheet, sheet Complete Baseline 2025-2029. Similarly section 4.6 shows inconsistencies. These are just a few examples.

Such inconsistencies in reporting throughout the ERPD represent a nonconformity.

Project Personnel Response:

All the sections and tables revised are updated in the original document as per the comments of the audit team.

Auditor Response 2: The audit team reviewed the most recent version of the ERPD and realized that there are still values that need to be updated based on the workbook calculations. See file attached for a comprehensive list of inconsistencies. The project proponent must ensure that ALL values are consistent with those in the calculations workbook. Until then, this finding remains open.

Project Personnel Response 3: We have reviewed all the tables you noted and corrected them so that the values in the Excel sheets now align with those in the main Word document. The updated tables are highlighted in the attached Word document.

Auditor Response 3: Confirmed the updates were made.

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

NIR 34 Dated 29 Oct 2025 - Closed

Standard Reference: ISFL Validation and Verification Requirements

Document Reference: Draft_ERPD_amendment_V2 _091325_September 30 2025 (Submitted Oct. 21st 2025); ERPD-LULUCF BSL_Livestock Emission Intensity_2025-2029 Oromia V2-09192025_September 30 2025

Finding: In the file ERPD-LULUCF BSL_2025–2029 Oromia_V3_November 8_2025, tab EFs, cells D37:E39 show the change in deadwood carbon for areas that transitioned from cropland, grassland, and shrubland into forest. To calculate these values (t C/ha), we found that the project team assumed that all such areas became forest plantations, which have a deadwood carbon value of 0.5 t C/ha. This assumption results in a net carbon loss in deadwood rather than the expected carbon gain typically associated with forest expansion, especially when compared to naturally regenerated forests, which hold 15.8 t C/ha of deadwood carbon. We note that this is a nonconservative assumption and therefore must be sufficiently justified.

In contrast, in cells D34:E36, all forested areas that converted into cropland, shrubland, or grassland were assumed to have originally been natural forests.

Could you please explain the rationale for applying the plantation forest deadwood carbon value to shrubland, cropland, and grassland transitioning into forest, while applying the natural forest deadwood carbon value to forest areas transitioning into non-forest land types? Our audit team reviewed the raw data shared at the beginning of the assessment—which included forest types in 2012 and 2021—and concluded that forests in 2012 were not predominantly natural forests, nor were forests in 2021 mostly plantation forests. Similarly, we used Collect Earth to look at points that transitioned from non-forest to forest, but we were unable to ensure that they had become plantations.

Project Personnel Response:

In the calculations for deadwood, it was assumed that conversions from forest to other categories were from natural forest while for conversions to forest, the deadwood value for plantations was used. It is recognized that the existing forests area indeed contains plantations but also the other way around, a significant part of the conversions from non-forest to forest in Oromia includes conversions to natural forest (instead of 100% plantations as previously assumed). If a weighted EF would be calculated considering the ratio between the areas of natural forest and plantations, this would also need to be applied to subcategories involving conversions from non-forest to forest. For this, it would also need to be considered that this ratio will likely show (small) changes between the baseline and the monitoring period and therefore the EFs would also change between the baseline and the monitoring. Implementing this correctly would require sophisticated monitoring to track areas of natural forest vs plantations over time. We therefore propose to use the deadwood value for natural forest consistently between conversions from and to forest (and therefore not use the plantation value anymore). This would mean that for the subcategories involving conversions to forest, the deadwood pool will become a net sink as shown in V4 of the spreadsheet, making the overall baseline more conservative. Going forward, this would allow the program to keep the EF consistent between the baseline and the monitoring, ensuring that any ERs from the deadwood pool can be attributed to the observed different in land use change (and are not the result of changing EFs).

In addition, we have revised the root-to-shoot ratio for Moist Afromontane Forest from 0.27 to 0.24 to ensure consistency with the first ERPA phase MR and to make the baseline emissions for the second ERPA phase more conservative.

All the changes made in the Excel sheet have also been reflected in the main ERPD document.

Auditor Response 2: Thank you. We have reviewed the revised ERPD and confirmed that all appropriate corrections have been made. This finding is closed

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

FAR 35 Dated 30 July 2025 - Open

Standard Reference: ISFL ER Program Requirements V1.3 2023

Document Reference: 2025-02-11_Draft_4th_ERPD_amendment_CleanVersion

Finding: Section 4.2.2 of the ER Program Requirements indicates that the ER program can apply the emission intensity approach if the subcategories comply with 3 criteria. Criterion iii states "ER programs shall implement interventions to reduce emissions from livestock sub-categories in their jurisdictions as part of program implementation

Data demonstrating the implementation of interventions to reduce livestock related emissions shall be presented at validation and verification. Evidence will include: Government budget, implementation of sector policies, regulations, plans, programs, NAMA, NDC roadmap, and other public and private investment supporting program interventions;

Data and evidence on continuation of interventions to reduce emissions from livestock sub-categories beyond the program period shall be presented at validation and verification of programs in each ERPA phase."

The project has indicated that as it has not yet implemented any interventions to reduce emission from livestock, it does not have the required data or evidence to support demonstration of either of these requirements. As a result, the assessment team is issuing a FAR **to require** that demonstration of adherence to criterion iii of section 4.2.2 of the Program Requirements be provided at verification.

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