Validation Report

Version 1.2

24-October-

2025

Document Prepared by AENOR CONFÍA S.A.U.

Forest Carbon Partnership Facility (FCPF) Carbon Fund **Validation Report (VAR)**	
ER Program Name and Country:	**East Kalimantan - Jurisdictional Emission Reductions (EK-JER) Program, INDONESIA**
Crediting Period	01-07-2019 to 31-12-2024
Name of the VVB:	AENOR CONFÍA S.A.U.
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Date of the Validation Report:	24-10-2025
Version:	1.2
Report Approved by	José Luis Fuentes

1. VALIDATION STATEMENT

The review and cross-check of explanations and justifications included in the Monitoring Report dated 11-December-2023 and supporting documents, have provided AENOR with sufficient evidence to determine with a reasonable level of assurance the compliance of the Emission Reduction Program in East Kalimantan (EK-JER), Republic of Indonesia, with the applicable validation criteria and materiality set out in the Forest Carbon Partnership Facility (FCPF) requirements.

The scope covered by the validation with extended scope includes the ER Program´s crediting period (01-07-2019 to 31-12-2024), the selected Reference Period (01-07-2006 to 30-06-2016), the accounting area (12,734,692 ha), the REDD Country Participant's Forest Monitoring System, the national REDD+ Programs and Projects Data Management System and the following GHG sources and sinks (REDD+ activities), carbon pools and type of GHGs:

GHG sources and sinks (REDD+ activities)
Emissions from deforestation – Included Emissions from forest degradation – Included Removal as a result of improved carbon stocks – Excluded Emissions and removals from carbon stock conservation – Excluded Emissions and removals from sustainable forest management - Excluded
Carbon pools
Above Ground Biomass (AGB) – Included Below Ground Biomass (BGB) – Included Dead Wood – Excluded Litter – Excluded Soil Organic Carbon (SOC) – Partially Included (organic soils), excluded for mineral soils
GHG
CO_2 – Included CH_4 –Partially Included (peat and forest fire), excluded for peat drainage N_2O– Included

The validation with extended scope was performed through a combination of document review, interviews and communications with relevant staff. Findings were issued, requesting: MAJOR Corrective Action Request (MCAR); MINOR Corrective Action Request (mCAR); and Observations (OBS) according to the FCPF validation and verification guidelines (VVG) v2.4 section 11, to ensure compliance with all requirements.

A total of 43 MCARs, 5 mCARs and 2 Observations were raised as part of the validation with extended scope process. All MCAR and mCAR were successfully addressed by the ER Program and closed by the VVB and 1 Observation (OBS 2) remains open. The findings are reported in the Appendix 1 of this report.

Regarding the reference Level, it is AENOR´s opinion that the ER Program of East Kalimantan within the Republic of Indonesia meets the applicable validation criteria set out in the FCPF requirements, and that it is free of material misstatements. Hence, AENOR recommends the FCPF Carbon Fund to continue with the relevant subsequent steps to proceed with the verification of the FCPF ERs.

Statement issuing date: 24-October-2025

Intended User: World Bank Group, FCPF Carbon Fund Participants

Adrián Vidal
Team Leader

José Luis Fuentes
Climate Change Manager

2. Agreement

2.1 Level of Assurance

The validation with extended scope audit assessment was conducted to provide a reasonable level of assurance concerning material misstatements, errors, or omissions in conformance with the validation criteria and scope set out in the FCPF requirements, in conformance with paragraph 31 of the VVG v2.4. The provisions undertaken to ensure such a reasonable level of assurance included a risk assessment of the sources and the magnitude of potential errors, omissions, and misstatements, as required by section 4.4.1 of ISO 14064-3:2006, previous to the elaboration of a sampling/evidence-gathering plan.

Based on the previous provisions and considering the findings raised during the audit, a positive evaluation statement reasonably ensures that the FCPF Program Reference Level is materially correct and is a fair representation of the GHG data and information provided in the ER Monitoring Report and supporting documents.

2.2 Objectives

The objective of audit was to conduct a systematic, independent, and documented process for the evaluation of the GHG assertion made by the Emission Reduction Program in East Kalimantan (EK-JER), Republic of Indonesia, against the FCPF criteria applicable to validation with extended scope to determine if the Program is in compliance to the agreed criteria, and its implementation can be expected to result in the proposed GHG reductions and removal enhancements as described in the ER Monitoring Report and its Annex 4.

The general objectives of the validation, as required by paragraph 32 of the VVG v2.4, were:

- Review of the ER Monitoring Report and supporting information to confirm the correctness of presented information;
- Identify if the methodological steps and data are publicly available in accordance with applicable criteria;
- Assess whether the start date of the crediting period proposed by the ER Program is in compliance with the definition provided in the FCPF Glossary of terms;
- Assess the extent to which the Reference Level has been reported with a transparent and coherent step-by-step process that enables reconstruction and have meet the requirements of applicable criteria;
- Assess the extent to which the Reference Level is materially accurate;
- Identify sources of uncertainty due to both random and systematic errors related with the Reference Level setting and determine whether the ER Program has conducted the uncertainty analysis in compliance applicable criteria;
- Assess the National Forest Monitoring System (NFMS) of the ER Program and validate that there are controls for sources of potential errors, omissions, and misstatements in place;
- Identify components of the NFMS that require attention and/or adjustment in future monitoring and reporting or identify areas of risk of future non-compliance.

The specific objectives of the validation with extended scope, as required by paragraph 33 of the VVG v2.4, were:

- Determine that the ER Program's scope in terms of sources, sinks and carbon pools is in accordance with the applicable validation criteria;
- Assess whether the ER Program's methods are in accordance with applicable validation criteria as the latest IPCC Guidelines;
- Assess if the Reference level is in accordance with applicable validation criteria.

2.3 Criteria

The audit assessment was carried against the criteria set for validation with extended scope by the following documents:

- FCPF Methodological Framework, v3, April 2020.
- Validation and Verification Guidelines v2.4 August 2021.
- Buffer Guidelines v3.1 May 2022.
- Guidelines on the application of the Methodological Framework.
  1. Use of Interpolation of Data in Relation to the Reference Period of an ER Program v1 June 2016.
  2. Technical Corrections to GHG Emissions and Removals Reported in the Reference Period v2 November 2020.
  3. The Definition of Reporting Periods of Emission Reduction Programs v1 November 2018.
  4. Uncertainty Analysis of Emission Reductions v1.0 November 2020.
- Process Guidelines v5.2 August 2021.
- Glossary of Terms v2.2 May, 2022.
- Guidelines contained in the ER Monitoring Report Template (v2.4), the Validation Report Template (v1.2, September 2021) and the Verification Report Template (v1.3, August 2022);
- ISO 14064-3:2006
- ISO 14065:2013
- ISO 14066:2011

The following documents will be considered as documents that provide acceptable methods for satisfying requirements provided in the above criteria, as per VVG paragraph 38:

- 2006 IPCC Guidelines;
- 2013 IPCC Wetlands Supplement;
- 2019 refinement to the 2006 IPCC Guidelines;
- GFOI 2016 Methods and Guidance Document;
- FCPF Guidance Notes.

Specifically, the following criteria and indicators of the MF were applicable to the validation with extended scope, as per paragraph 37 of the VVG 2.4:

Criteria/indicator	Topic
3	Scope and methods
4	Carbon pools and GHG
5	IPCC guidelines
6	Data availability
7, 8, 9.1	Identification and address source(s) of uncertainty
10 to 13	Reference level
14.2, 14.3	Robust Forest Monitoring system
15	National Forest Monitoring System
16	Community participation in Monitoring and Reporting

2.4 Scope

The scope of validation included as per section 8.4 of the VVG v.2.4:

- The Crediting Period of the FCPF program applicable to the ER Program;
- The selected Reference Period
- The ER Program Accounting Area as defined in the ER Program's Final ER Program Document (ER-PD);
- The GHG sources and sinks associated with any of the REDD+ Activities accounted for as required by the Methodological Framework;

- The Carbon Pools and greenhouse gases to be accounted for as required by the Methodological Framework;
- The REDD Country Participant's Forest Monitoring System as described in the ER Monitoring Report;
- The national REDD+ Program and Projects Data Management System (DMS) as described in the Monitoring Report.

2.5 Materiality

The materiality threshold of the validation, as required section 8.5 of the VVG v2.4, was:

- Quantitative: the threshold for materiality with respect to the aggregate of errors, omissions, and misrepresentations relative to the total reported GHG emission and removals was one percent (1%). Under-estimation of the Reference Level was not considered a material discrepancy.
- Qualitative: any issue related to management system and controls, poorly managed documentation, and non-compliance with the applicable requirements of the MF and other applicable criteria; and any errors in reporting of factual information in the ER Monitoring Report as required by the FCPF MF.

The validation process based on the onsite visit and desk review found that there are not quantitative and or qualitative material discrepancies affecting the Reference Level and the Reference Level setting.

3. METHODOLOGY AND PLANNING

3.1 Validation Team

Name	Role	Activities				
		Desk review	Site visit	Reporting	Supervision	Technical review
Adrián Vidal	Team leader (from 05/06/2025)	X		X	X	
Carlos Jiménez	Team Leader (until 05/06/2025)	X	X	X	X	
Javier Cócera Cañas	Validator/Verifier auditor	X		X		
Marta Mugica	Auditor in trainee	X		X		
Carlos O'Neill	Auditor in trainee	X		X		
Fanor Alberto Lozada	Auditor in trainee	X		X		
Elena Llorente	Validator/Verifier auditor (until 06/03/2023)	X		X		
Daniel Bermejo	Validator/Verifier auditor (until 31/01/2025)	X		X		
José Luis Fuentes	Reviewer				X	X

3.2 Validation schedule

Tasks	Deliverable	Date	Responsible
1. Kick off meeting		01.09.2022	All parties
2. Desk review of documents	Preliminary findings (if required: for example, related to missing documentation to carry out the audit. Other findings would be delivered in week 9.)	-	AENOR
3.1. Draft sampling plan	Sampling plan draft	23.09.2022	AENOR
3.2. Sampling plan	Sampling plan	V1 30.09.2022 V2 14.10.2022	AENOR
4.1. Draft Audit plan	Audit plan draft	30.09.2022	AENOR
4.2. Audit plan	Audit plan	V1 07.10.2022 V2 14.10.2022	AENOR
5. Country visit	-	26-28.10.2022	AENOR/ Country participant
6. 1st round of findings	1st round of findings	18.11.2022	AENOR
7. Answer to findings	Answer to findings	05.01.2023	Country participant
8. Review of findings and potential 2nd round of findings (if required)	2nd round of findings	24.01.2023	AENOR
9. Answer to the 2nd round of findings (if required)	Answer to findings	17.03.2023	Country participant
10. Review of answer and 3rd round of findings.	3rd round of findings	25/03/2023	AENOR
11. Answer to the 3rd round of findings	Answer to findings	02/06/2023	Country participant
12. Review of answers.	-	08/06/2023	AENOR
13. Draft reports	Validation and verification draft reports	22/06/2023	AENOR
14. Technical review	Comments to draft reports	29/06/2023	AENOR
15. 4th round of findings.	4th round of findings.	28/06/2023	AENOR
16. Answer to the 4th round of findings	Answer to findings	31/08/2023	Country participant
17. Review of answer and 5th round of findings.	5th round of findings.	07/09/2023	AENOR
18. Answer to the 5th round of findings	Answer to findings	05/10/2023	Country participant
19. Review of answer and 6th round of findings.	6th round of findings.	10/10/2023	AENOR
20. Answer to the 6th round of findings	Answer to findings	06/11/2023	Country participant

21. Review of answer and 7th round of findings.	7th round of findings.	22/11/2023	AENOR
22. Answer to the 7th round of findings	Answer to findings	11/12/2023	Country participant
23. Updated answer to the 7th round of findings	Answer to findings	02/10/2025	Country participant
24. Review of answer	Confirmation of close of findings (or issuance of mCAR / OBS)	21/10/2025	AENOR
25. Draft reports	Validation and verification draft reports	24/10/2025	AENOR
26. Provide opportunity to REDD Country and FMT to comment draft reports	Comments to draft reports (if required)	28/10/2025	Country participant/ FMT
27. Final validation report and final verification report with statements. AENOR technical review	Final validation and verification reports	31/10/2025	AENOR

3.3 Methodology description

The validation with extended scope was performed simultaneously with the first verification, through a combination of document review, interviews, and communications with relevant personnel. The conformity was evaluated against the criteria described in section 2.3.

A sampling/evidence-gathering plan was developed for the validation with extended scope and first verification of the ER Program, as required by section 9.4 of the VVG v2.4. A risk assessment of the sources and the magnitude of potential errors, omissions, and misstatements was carried out, as required by section 4.4.1 of ISO 14064-3:2006, previous to the elaboration of the sampling/evidence- gathering plan. The sampling/evidence-gathering plan was developed considering all the criteria set by section 4.4.3 of ISO 14064-3:2006:

a) Agreed level of assurance;

b) validation and verification scope;

c) validation and verification criteria;

d) amount and type of evidence (qualitative and quantitative) necessary to achieve the agreed level of assurance;

e) methodologies for determining representative samples; and

f) risk of potential errors, omissions, or misstatements.

All evidence requested and reviewed was crosschecked in order to evaluate the consistency of information in the ER Monitoring Report. All statements, claims and procedures described within the scope of the validation included in the ER Monitoring Report were part of the assessment of the sampling/evidence-gathering plan and all the reviewed supporting evidence were evaluated against the ER Monitoring Report.

The magnitude of the sampling was based on the previous experience of AENOR as VVB and ensure the achievement of reasonable level of assurance. The sampling/evidence-gathering plan was open to be modified based on any new risks or materiality concerns that could potentially lead to errors, omissions or misstatements identified during the validation process.

The validation team carried out a deep and meticulous review of the calculation spreadsheets to verify the correct application of the used methodology (formulae, equations) and checked that data required to calculate the GHG emission was appropriately provided.

All documentation provided by the Country Participant was assessed against the applicable criteria described in section 2.3. Several MCAR, mCAR and OBS were raised and submitted to the Country Participant to ensure compliance with all requirements, which addressed them either by providing to the validation team with the requested information or by making the appropriate corrections. Updated versions of the documentation were submitted by the Country Participant and the validation team reassessed them against the guidance documentation. This process was repeated iteratively until all MCAR were fully closed.

All MCAR and mCAR were successfully addressed by the ER Program and closed by the VVB and 1 Observation (OBS 2) remains open. The findings are reported in the Appendix 1 of this report. The findings issued during the validation process and the inputs for their closure are described in Appendix 1 of this report.

3.4 Review of documentation

A detailed review of all documentation was conducted to ensure consistency with and identify any deviation from FCPF requirements. Initial review focused on the ER Monitoring Report and included an examination of the Annex 4. Specially, in relation to the carbon pools, sources and sinks included within the scope of the ER Program, the methodological approach for the determination of the Reference Level, its alignment with IPPC guidelines, the data and parameters used for calculations, the estimated uncertainty, and the design of the NFMS.

In addition to the ER Monitoring Report, all documentation cited in it was downloaded and reviewed in order to verify its public accessibility and to crosschecked with the statements made in the ER Monitoring Report. These documents include, among others, calculation spreadsheets used for the determination of emission factors (EF) and estimation of the Reference Level, GIS data (satellite images and remote sensing analysis) used for determination of activity data (AD), and additional documents related to monitoring procedures, literature sources of parameters, etc.

As result of the desk review of documents and interviews, the validation team required additional documentation to the Country Participant to verify certain statements or have further clarification regarding GHG assertions, data and parameters used or employed procedures. All the additional documents requested were added to the later versions of the ER Monitoring Report, as required by criterion 6 of the MF.

For a listing of all documents provided by the Country Participant and review for the validation, see Appendix 2.

AENOR confirms that sufficient evidence was presented for all GHG assertions and that there is a clear audit trail that contains the evidence and records that validate the stated figures in this validation report since:

- Sufficient evidence available: the Country Participant has provided the 100% of data used in the calculations to achieve the final estimated amount of GHG emissions and removals.
- Nature of evidence: the raw data were collected from reliable sources. They are detailed in the program documents and have been provided to the validation team.
- Cross-checked evidence: AENOR cross-checked the collected information through interviews with stakeholders and reproducing calculations.

3.5 REDD Country Visit

This section is developed in the Verification Report section 3.5, as the country visit for the validation and first verification was carried out at the same time.

4. VALIDATION OF ER PROGRAM DESIGN

4.1 Completeness of Report

AENOR made a review of the ER Monitoring Report, supporting information, procedures, calculations, and supporting documentation of the Emission Reduction Program in East Kalimantan (EK-JER), Republic of Indonesia, and confirms that Annex 4 of the ER Monitoring Report contains the required information to be subject to validation with extended scope.

4.2 Start date of the crediting period

AENOR assessed information provided in the ER Monitoring Report and is able to confirm that the start date of the ER Program's crediting period, 1st July 2019[1], complies with the definition of the start date provided in the FCPF Glossary of Terms, since:

- It is not earlier than the date the first ER Program Measure generating ERs has been implemented.
- It has been independently assessed and justified with objective to AENOR.
- It is not earlier than January 1, 2016, the date on which all ER-PINs were already approved.
- It does not fall within the Reference period (01-07-2006 to 30-06-2016).
- It has been demonstrated to AENOR that the ER Program complies with requirements on safeguards, carbon accounting, and double-counting as specified in the MF since the start date.

4.3 Sources and Sinks

The ER Program selected the following GHG sources and sinks (REDD+ activities):

GHG sources and sinks (REDD+ activities)
Emissions from deforestation – Included
Emissions from forest degradation – Included
Enhancement of forest carbon stocks – Excluded

[1] According to ERPA, the crediting period start date was on 18th June 2019. However, FCPF Secretariat allowed the crediting period to start on 01 July 2019 to match the Program Participant calculations. Please, see context in non-conformity MCAR 17.

Conservation of forest carbon stocks– Excluded Sustainable management of forests– Excluded

AENOR assessed the justifications and methods provided in Annex 4 - section 7.1 of the ER Monitoring Report and found acceptable the justifications provided to include or exclude the sources and sinks. Emissions from deforestation and forest degradation are included in the Reference Level, in compliance with the requirements set by criterion 3 of the MF.

Additionally, AENOR confirms that the ER Program excludes:

- Emissions and removals from conservation of carbon stocks, since the national REDD+ framework does not define activities for the conservation of carbon stocks.

- Emissions and removals from sustainable management of forest, due to limited data and information

- Removals from enhancement of carbon stocks, due to limited data and information and that the FREL does not account for this sink.

There are no plans for improving data since the excluded sources represent a small fraction of forest-related emissions.

4.4 Carbon pools and GHG

The following carbon pools and types of GHG have been included from the ER Program:

Carbon Pools
Above Ground Biomass (AGB) – Included Below Ground Biomass (BGB) – Included Dead Wood – Excluded Litter – Excluded Soil Organic Carbon (SOC) – Partially Included (organic soils), excluded for mineral soils
GHGs
CO_2 – Included CH_4 –Partially Included (peat and forest fire), excluded for peat drainage N_2O– Included

AENOR has assessed the rationale of the ER Program for selecting or excluding carbon pools and greenhouse gases and deems that it is reasonable and in accordance with criterion 4 of the MF. The program accounts all significant carbon pools and GHG. No overestimations are occurring due to the inclusion of non-significant carbon pools and GHG.

AENOR confirms that the ER Program has no proposed plans for improving data on excluded pools, as they already included them all.

4.5 Reference Period

AENOR confirms that the start and end dates of the Reference Period (01-07-2006 to 30-06-2016) have been defined in accordance with criterion 11 of the MF and that it complies with the definition provided in the FCPF Glossary of Terms. The Reference Period has not changed from the proposed period in the ER-PD.

4.6 Forest Definition

The submitted national FREL has successfully undergone technical assessment by the UNFCCC. In the construction of the FREL for the ER Program, the same definition of forest has been adopted, which excludes plantation forests. The use of this definition is in line with the spirit of REDD+ activities as defined in paragraph 2e in the Appendix 1 of Decision 1/CP.16. This definition is in accordance with the Indonesian National Standard (SNI) 8033:2014 on “Method for calculating forest cover change based on results of visual interpretation of optical satellite remote sensing image”.

AENOR confirms that the definition of "forest" used in the construction of the Reference Level of the Emission Reduction Program in East Kalimantan (EK-JER), Republic of Indonesia, is consistent with the forest definition used in the context of the national GHG inventory, as verified by the validation team.

AENOR assessed the information according to criterion 12 MF and the guidance from UNFCCC decision 12/CP.17 and deems that it was an appropriate selection of a forest definition.

4.7 Calculation of average annual historical emissions

After review of all ER Monitoring Report information, procedures, calculations, and supporting documentation, and according to the scope of the validation with extended scope carried out, AENOR confirms that:

- EK-JER made a systematic and step-by-step assessment of the methods, assumptions, and approaches used for the calculation of historical emissions, i.e., the Reference Level;
- All equations parameters and fixed data, such as AD and EF, are appropriately linked to the equations used for the quantification of the Reference Level;
- The correctness of presented information, publicly available, reported with a transparent and coherent step-by-step process that enables reconstruction of the Reference Level to validate its compliance with the requirements of applicable criteria;
- The start date of the crediting period proposed by the ER Program is in compliance with the definition provided in the FCPF Glossary of terms;
- The GHG emissions, emission reductions of the Reference Level, and its technical corrections, are materially accurate, and free of material misstatements, errors, or omissions;
- The ER Program's equations and methods are in accordance with applicable validation criteria as the latest IPCC Guidelines, using the most recent guidance and guidelines, as adopted or encouraged by the Conference of the Parties as a basis for estimating forest related GHG emissions by sources and removals by sinks.
- The emissions from forest degradation are accounted. These emissions were estimated using the best available data.

4.8 Activity data and emission factors

4.8.1 Activity data

AENOR confirms that the reliability of the source and nature of the reported evidence justified the selection of the monitored data and parameters; and that all parameters related to activity data and described below have been reported in line with guidelines provided in the template and validation criteria.

AENOR confirms the correctness of each step of monitoring from measurement to data transfer and calculation and confirmed the information for each parameter is complete and that the stated parameters are free of error and material misstatements.

AENOR also confirms that methodological steps and data are publicly available in accordance with applicable criteria, and the open links to the multiple sources are provided in the ER Monitoring Report. AENOR confirms that the evidence provided by the ER Monitoring Reports is sufficient and appropriate to determine the GHG reductions and removals.

AENOR confirms that Activity Data were determined periodically and allowed for the Reference Level to be estimated for the Reference Period.

Assessment details are as follows per activity data grouped parameters:

Parameters	Deforestation in the RL: - Land cover change from forest categories to non-forest

	categories (hectare) - Peat decomposition in peatland forest that has been deforested and continue to release emissions, leading to future inherited emissions (hectare) - Mangrove forest deforestation to pond/aquaculture (hectare) Degradation in the RL: - Land cover change from primary forest to secondary forest (hectare) - Secondary forest affected by fire (hectare) - Peat deforested affected by fire (hectare)
Free of Material Misstatement	Yes
Reported Appropriately	Yes
Assessment Details	For emissions calculation due to deforestation (forest to non-forest) and forest degradation (primary forest to secondary forest), the land cover classification was built based on visual on-screen digitizing interpretation of Landsat mosaic data of East Kalimantan for different periods. The activity data was shown in land cover change matrix transition to describe their emission. This information was combined with Reference Data to conduct a sample based estimation analysis. On the other hand, for emissions calculation due to fire on stable secondary forest, activity data from satellite-based fire mapping or hot spot analysis were used. EK-JER presented information about data sources for estimating Activity Data, description of measurement/calculation methods and procedures applied, QA/QC procedures applied, values applied, and uncertainty associated with these parameters. The validation team conducted an independent analysis of similar remotely sensed data to confirm that the source data was reliable and appropriate. Additionally, the validation team was able to ensure that LULC classification was appropriate and followed the defined classification system. The validation team conducted independent data checks for each step necessary for the quantification of these parameters. Activity data parameters were examined using remotely sense imagery to ensure accurate classification of LULC classification. Spatial analyses conducted in ESRI GIS confirmed the geographical boundary, ensuring that all activity data fell within the Accounting Area and that the Accounting Area was computed correctly. Independent data checks were used to ensure that the quantification of the parameters was performed correctly. This included an independent review of the literature cited in reference to the applied equations. The uncertainty associated with this parameter was independently calculated after a thorough review of the calculation spreadsheets. The calculation of uncertainty applied the methodology from Olofsson, et al. (2014), and the validation team reviewed and confirmed that the estimation was correct and without any error.

Thus, AENOR confirms the sufficiency of quantity and appropriateness of quality of the evidence used to determine the Activity data factors and later used in the GHG reductions and removals calculations, and also that the Activity data is compliant with the Methodological Framework and the IPCC Guidelines and Guidance.

4.8.2 Emission Factors

AENOR confirms the reliability of the source and nature of the reported evidence justified the selection of the emission factors; and that these have been reported in line with guidelines provided in the template and validation criteria.

AENOR confirms the correctness of each step of monitoring from measurement to data transfer and calculation and confirms the information for each parameter is complete and that the stated parameters are free of error and material misstatements.

AENOR confirms the source of emission factors is from data collected during different national inventories, and models or average values of direct measurements reported in literature and following IPCC Guidance and Guidelines.

AENOR confirms that emission factors of the EK-JER and the methods to determine them are the same for Reference Level setting and for Monitoring. IPCC Tier 2 or higher methods are used to establish emission factors, and the uncertainty for each emission factor is documented.

Assessment details on emission factors are as follows:

Parameters	- Emission factor for the estimation of emission from deforestation and degradation (tCO2e/hectare) - Emission factor for the estimation of emission from fire in secondary forest (tCO2e/hectare) - Emission factor for the estimation of emission from peat fire (tCO2e/hectare) - Emission factor for peat decomposition (tCO2e/hectare) - Emission factor for mangrove soil deforestation due to aquaculture/ponds (tCO2e/hectare)
Free of Material Misstatement	Yes
Reported Appropriately	Yes
Assessment Details	EK-JER Monitoring Report presented the following information about emission factors: source of data; values applied in reference period; QA/QC procedures applied; and uncertainty associated with each emission factor. The validation team conducted independent analysis of the information provided to confirm that the source data was reliable and appropriate. Additionally, the validation team judged that the methods to estimate these parameters were reasonable and appropriate. The validation team performed an independent check of the IPCC Guidance and Guidelines to ensure the parameters ensuring correctness. The validation team conducted independent data checks for each step necessary in the quantification of these parameters. Additionally, the validation team conducted an independent review of the literature cited in reference to each equation in the calculation procedure. The uncertainty associated with these parameters was independently calculated after a thorough review of the calculation spreadsheets; and

	the validation team reviewed and confirmed that the estimation of uncertainty was correct and without any error. The validation team reviewed the ER Monitoring Report and associated links to ensure that all data related to this parameter are made public.

Thus, AENOR confirms the sufficiency of quantity and appropriateness of quality of the evidence used to determine the Emission factors and later used in the GHG reductions and removals calculations, and also that the Emission Factors are compliant with the Methodological Framework and the IPCC Guidelines and Guidance.

4.9 Adjustments to the average annual historical emissions over the reference period

Adjustments

EK-JER does not meet the qualifications for an upward adjustment as outlined in the Methodological Framework, and it was confirmed by AENOR that an upward adjustment was not applied to the Reference Level. However, the CFPs agreed to provide a one-time waiver to Indicator 13.1 of the MF to use emission level of peat decomposition year 2018 as baseline historical emission and keep it constant for years after 2018. Documented evidence was provided to AENOR to justify this exemption, which is not under the scope of the extended validation and which does not qualify as an adjustment, but a correction.

Indonesia proposed a downward correction to the average annual historical emissions over the Reference Period (from an average 68,406,197.00 tCO2e/yr in ER PD to 27,469,856.40 tCO2e/yr in this current ER Monitoring Report). AENOR confirms that the justifications and explanations for this correction are accurate and in compliance with criterion 13 of the MF.

Additionally, AENOR assessed the calculations and spreadsheets for the quantification of the proposed downward correction to the average annual historical emissions over the Reference Period, and confirms that the methods, equations, data, and parameters used are correct.

Technical corrections

On the other hand, the Country Participant made technical corrections to the Reference Level of the ER Program in this ER Monitoring Report submission. These corrections are not related to any change to policy and design decisions that could affect the Reference Level regarding the carbon pools and gases, GHG sources, reference period, forest definition, REDD+ activities, Accounting Area, forest types, and REDD+ activities. However, the Country Participant replaced emission/removal factors for degradation by higher precision EF based on additional sample plots, replacing the allometric equation from Basuki et al. (2009) to Manuri et al. (2017) and establishing new sample plots in mangrove forest. Paragraph 3 positive list of the Guideline on the application of Methodological Framework Number 2 includes these technical corrections.

Further detail about the technical corrections made to the Reference Level as compared to that the estimates provided in the ER PD were presented in detail in ER Monitoring Report.

4.10 Estimated Reference Level

AENOR assessed the Reference Level for the ER Program for the Crediting Period and confirms that the Reference Level is materially accurate. AENOR confirms the relation, and its consistency, between the Reference Level, the development of the FREL/FRL submitted to the UNFCCC and the country's existing greenhouse gas inventory.

The results of the estimated Reference Level are as follows, according to ER Monitoring Report:

Year of Monitoring/ Reporting period *t*	Average annual historical emissions from	If applicable, average annual historical emissions	If applicable, average annual historical	Adjustment, if applicabl	Reference level (tCO_{2-e}/yr)

	deforestation over the Reference Period (tCO_{2-e}/yr)	from forest degradation over the Reference Period (tCO_{2-e}/yr)	removals by sinks over the Reference Period (tCO_{2-e}/yr)	e (tCO_{2-e}/yr)	
MONITORING PERIOD					
1 July 2019 – 30 June 2020	23,949,437.32	3,520,419.08			27,469,856.40
1 July 2020 – 30 June 2021	23,949,437.32	3,520,419.08			27,469,856.40
Total	47,898,874.64	7,040,838.17			54,939,712.80
REPORTING PERIOD					
1 July 2019 – 30 June 2020	23,949,437.32	3,520,419.08			27,469,856.40
1 July 2020 – 31 December 2020	11,974,718.66	1,760,209.54			13,734,928.20
Total	35,924,155.98	5,280,628.62			41,204,784.60

4.11 Consistency of the Program's Reference Level with national FREL/FRL and GHG Inventory

AENOR confirms that EK-JER' proposed Reference Level is consistent with the national FREL/FRL submitted to the UNFCCC and with the country´s existing and future GHG inventory. Although some differences can be noted, all of them are measures that improve the accuracy of the Program's Reference Level. The differences were assessed and considered consistent and reasonable by AENOR and in conformance with indicators 10.2 and 10.3 of the MF.

4.12 Uncertainty of the Reference Level

4.12.1 Identification and assessment of sources of uncertainty

The Country Participant identified and assessed though a stepwise approach, the sources of uncertainty of the Reference Level in Activity Data (measurement, representativeness, sampling, extrapolation, Approach 3), Emission Factors (DBH measurement, H measurement, plot delineation, wood density estimation, biomass allometric model, sampling, and in other parameters such as Carbon Fraction, root-to-shoot ratios, etc.), as well as in Integration.

The validation team recalculated the uncertainty statistics independently to confirm the accuracy of the reported precision, reviewed assumptions and sources associated with parameters used in the quantification, and reviewed uncertainty of the Reference Level due to random and systematic errors. AENOR confirms that the sources of uncertainty are systematically identified and correctly assessed in the Reference Level, and addressed according to validation criteria, including the Guideline on the application of the Methodological Framework Number 4.

Additionally, AENOR confirms that there is an appropriate process for reducing uncertainty in the activity data and emission factors, where possible: systematic errors are minimized through the implementation of a consistent and comprehensive set of standard operating procedures, including a set of quality assessment and quality control processes; and random errors and other uncertainties are minimized to the extent practical based on the assessment of their relative contribution to the overall uncertainty of the emissions and removals.

4.12.2 Uncertainty of the estimate of the Reference Level

The Country Participant estimated the uncertainty of the Reference Level based on Monte Carlo analysis. A total of 10,000 iterations were calculated for the cumulative emissions of the reference period. The uncertainty estimate for the Reference Level strictly follows the guidelines of Approach 2: Monte Carlo simulation from 2006 IPCC Volume 1 General Guidance and Reporting Chapter 3 as well as the Guideline on the application of the Methodological Framework Number 4.

The validation team reviewed and confirmed that elements mentioned in section 4.12.1 related to the estimation of uncertainty for the Reference Level were all addressed in the provided Uncertainty spreadsheet. AENOR also confirmed that the estimations were correct and that the results matched the Reference Level included in the ER Monitoring Report. Therefore, AENOR concludes that the application of Monte Carlo simulation for the quantification of Uncertainty of the Reference Level was performed correctly and free of errors and misstatements.

4.12.3 Sensitivity analysis and identification of areas for improvement of the MRV system

In order to identify the relative contribution of each parameter to overall uncertainty, a sensitivity analysis was conducted by the Country Participant in which the uncertainty of each parameter was selectively removed prior to running Monte Carlo simulations and combining uncertainties.

AENOR confirms that uncertainty of AD and EF used in Reference Level setting is quantified in a consistent way, so that the estimation of emissions and removals is comparable among ER Programs.

AENOR reviewed and confirmed that above-mentioned (section 4.12.1) elements related to the sensitivity analysis were all addressed in the provided calculation spreadsheets. The validation team also confirmed that the estimations were free of errors and the results matched the sensitivity analysis included in the ER Monitoring Report. Therefore, AENOR concludes that the sensitivity analysis was performed correctly.

4.13 Data quality and availability

The validation team reviewed the quality and descriptions of the data and reproduced calculations of the Reference Level as presented in the ER Monitoring Report and related documents and is able to confirm that the steps are described with enough detail to enable the reconstruction of the Reference Level.

Additionally, AENOR confirms that the main methodological steps, relevant spatial information, maps, or synthesized data, related to the Reference Level, and the reported emissions are documented and included in the monitoring report and made publicly available online. There is not a specific webpage to find together all the references, but along the ER Monitoring Report there are links and references that lead to the data, methods, and assumptions.

5. NON-COMPLIANCES AND OBSERVATIONS

To ensure conformance of the ER Program with all requirements set by the FCFC and the audit criteria (section 2.3), the validation team issued findings in accordance with section 11 of the VVG v2.4 in the following cases:

- **Major Corrective Action Request (MCAR)**: i) the evidence provided to demonstrate conformity is insufficient, unclear, or not transparent and may lead to a material error, omission, or misstatement, and/or a breakdown in the systems delivery; ii) underlying assumptions used to develop the reported estimates are not supported by data; iii) material errors, omissions or misstatements have been made in applying assumptions, in data or calculations; or i) non-compliance with validation criteria.
- **Minor Corrective Action Requests (mCAR)**: i) the evidence provided to demonstrate conformity is insufficient, unclear, or not transparent, but does not lead to a material error,

omission, or misstatement, and/or a breakdown in the systems delivery; or ii) non-material errors, omissions or misstatements have been made in applying assumptions, in data or calculations;

- **Observations (OBS)**: i) there is no objective evidence to prove that there is a non-conformity, but the VVB observes practices and/or methods that could result in future MCAR and mCAR; or ii) the VVB wishes to identify an area of the Forest Monitoring System that requires attention and/or adjustment in future monitoring and reporting.

The findings were submitted by the validation team in a single document, in which the Country Participant was able to offer answers to each of them and list supporting documents provided.

The Country Participant made the requested corrections and provided the validation team with updated versions of the ER Monitoring Report, which the validation team reassessed against the guidance documentation. The validation team either closed the opened findings when corrections, evidence and answers were satisfactory to comply with the audit criteria or asked for further corrections or clarifications. This process was repeated iteratively until all MCAR were suitably closed, as required by paragraph 62 of the VVG v2.4.

All MCAR and mCAR issued by AENOR's audit team during the joint validation and first verification process were successfully addressed by the ER Program and closed by the VVB, and 1 Observation (OBS 2) remains open.

Appendix 1 includes the description of all findings issued and the inputs for their closure.

APPENDIX 1: OVERVIEW OF NON-COMPLIANCES & OBSERVATIONS ISSUED DURING THE VALIDATION BY THE VALIDATION TEAM

Non Conformities (NCs)

NC ID: Major	**01**	**Date: 18/11/2022**
Description of NC		
In accordance with the MR template and MF indicator 17.3, this information it is not included in section 1.1: 1- Update on the implemented strategy to mitigate and/or minimize potential Displacement. 2- Highlight any key changes or deviations in the ER Program's design and key assumptions compared to the description of the ER Program in the ER-PD. 3- Implementation date is not complete, since it is now indicated only as 'July 2019 – December 2020'. Consider it also for other section along the MR.		
Project Participant response		**Date:** 04/01/2023
1. *Updated* 2. *Key changes have been highlighted* 3. *Date for reporting period has been revised.*		
Documentation provided by the Project Participant		
See ERMR1 version 2 January 2023		
VVB Assessment		**Date:** 24/01/2023
1. The section has been updated and deemed correct. 2. Key changes have not been highlighted in the section. 3. The reporting period has been updated on the Component 5: Project Management and Monitoring subsection and other sections but not at the beginning of section 1.1. Therefore MCAR 01 is not closed.		
Project Participant response		**Date:** 08/03/2023
2. Section 1.1 has been amended to include updates from the GoI team including: updates on social forestry permits (38 units in 2017 to 75 units in Dec 2022), policy change in estate crop sector, and an update on dispute settlements (27 in 2019 - 15 cases in 2020) (in pg 2). Other additions include how those 2 customary forests now have legal recognition, and that the provincial government is no longer the authority for the mining sector (as per the Omnibus Law), meaning that the target in the ERPD to examine 404 mining permits for termination is no longer relevant (as the authority to review has been transferred to the national government). *(page 2)* Key changes or deviations in the ER Program's design and key assumptions compared to the description of the ER Program in the ER-PD has been added, adding paragraphs related to changes in funding support and changes related to the new law. *(see highlighted blue text, page 6)* 3. Reporting period has been updated: …. this reporting period is reported from 1 July 2019 – 31 December 2020. *(page 1)*		

VVB Assessment	Date: 24/03/2023
1. Key changes have been highlighted in the section. 2. The reporting period has been updated at the beginning of section 1.1. Therefore MCAR 01 is closed.	

NC ID: minor	02	Date: 18/11/2022
Description of NC		
In section 1.1 of the MR, Component 1, 1.1. Strengthening the licensing regime, it is stated "This web platform can assess whether the area is overlapped or not. If the area is overlapped then the license must be postponed until the issue is solved." It is not clear what elements should not be overlapped.		
Project Participant response		**Date:** 04/01/2023
The proposed areas should not be overlapped with as follows: • *The Indicative Map for Termination of Issuing New Permits for Primary Natural Forest and Peatland* • *Existing legal permits (forest, mining, social forestry, plantation, and other land use permits)* • *The Indicative Map for Directions of the Production Forests Utilization that Are Not Encumbered with Permits for Forest Utilization Businesses*		
Documentation provided by the Project Participant		
https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Decree_of_MoEF__No.851_of_2020_concerning_Indicative_Maps_and_termination_of_the_issuance_of_new_permits_for_Primary_Natural_Forest_and_Peatlands.pdf https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Decree_MoEF__No.2111_of_2020_concerning_Indicative_Maps_and_Social_Forestry_Areas.pdf https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Decree of MoEF_No.10199_of_2019_concerning_Indicative Map_of_Production_Forest_Utilization_Directions_for_2020.pdf		
VVB Assessment		**Date:** 24/01/2023
The section has been updated and clarified, and supporting evidence is deemed correct. Therefore, mCAR 02 is closed.		

NC ID: minor	03	Date: 18/11/2022
Description of NC		
In section 1.1 of the MR, it is mentioned 'In order to minimise conflict within stakeholders, the provincial government has developed standard operation procedure (SOP) for conflict resolution in forestry		

sector'. However, no evidence (SOP) is provided. On the other hand, there is an inconsistency in the following sentence: "Fifteen (15) disputes have been addressed using this SOP up to July 2020. Most of disputes were about tenurial rights. The disputes have been decreased from 27 cases in 2019 to 5 cases in 2020"

Project Participant response	**Date:** 04/01/2023
SOP Provided with the link.	
Documentation provided by the Project Participant	
https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Forestry_Confict_Resolution_SOP_2020.pdf	
VVB Assessment	**Date:** 24/01/2023
Evidence of SOP is provided and deemed correct. However, the inconsistency in the number of disputes remain and has not been clarified. Therefore, mCAR 03 is not closed.	
Project Participant response	**Date:** 08/03/2023
Section 1.2 on Dispute Settlement. In 2020, there were 15 cases of conflict. Amended from 5 to 15. *(highlighted text page 2)*	
VVB Assessment	**Date:** 24/03/2023
The inconsistency in the number of disputes has been resolved. Therefore, mCAR 03 is closed.	

NC ID: Major	**04**	**Date: 18/11/2022**
Description of NC		
In section 1.1 of the MR, Component 3.1, it is stated that 'Berau district has put the committed areas of 83,876ha as HCV protection into Bupati's Decree'. However, previous paragraph mentions 'In early 2020 Bupati Berau signed a Decree on HCV indicative map No 287/2020 covering 83,000ha'.		
Project Participant response		**Date:** 04/01/2023
Based on the Bupati's Decree the total area is 83,876 ha. The text has been revised.		
Documentation provided by the Project Participant		
https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Decree_of_the_Head_of_Berau_District_No_287_2020_regarding_indicative_map_of_HCVA_for_plantations.pdf		
VVB Assessment		**Date:** 24/01/2023
The section has been updated and deemed correct.		

Therefore MCAR 04 is closed.

NC ID: Major	05	Date: 18/11/2022
Description of NC		
Table in MR 1.2.1 missed the driver 'Unlicensed Land clearing' reported above and its description on the progress of strategic actions to mitigate and minimize potential displacement.		
Project Participant response		**Date:** 04/01/2023
Added information: **7. Unlicensed Land clearing** **Risk of displacement** — **Medium** Progress of the strategy in Place — Strengthen forest security patrols, as well as develop and strengthen Forest Protection Communities in areas prone to illegal clearing activities. This includes strengthening the law enforcement process.		
Documentation provided by the Project Participant		
-		
VVB Assessment		**Date:** 24/01/2023
The section has been updated and deemed correct. Therefore, MCAR 05 is closed.		

NC ID: minor	06	Date: 18/11/2022
Description of NC		
In MR section 2.1 and 9.2, is stated that "the accuracy of the interpretation is assessed by comparing the land cover maps to field data from the ground check using a contingency matrix (MoFor, 2012, Margono et al., 2012). There are about 300 points for ground checking in East Kalimantan (MoEF, 2017), which are determined randomly by land cover classes". Please, provide evidences of the accuracy crosscheck carried out.		
Project Participant response		**Date:** 04/01/2023
Thank you for asking. About 300 points samples as initial samples were planned to check in East Kalimantan and North Kalimantan (before separated from East Kalimantan) at 2016. The samples were generated randomly based on land cover map in both provinces. Due to the limited time for ground check as well as the topography roughly that caused some of samples cannot be accessed. Only 57 samples can be assessed and calculated for accuracy as below.		

No	Classification of Accuracy	Accuracy (%)
1.	Accuracy of 23 classes of land cover	50.88
2.	Accuracy of forest – non forest	78.95
3.	Accuracy of forest - forest	100.00
4.	Accuracy of non forest – non forest	56.76

The report of ground check process as well as accuracy analysis of land cover can be access to link: https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/Report_groundcheck_East-North_Kalimantan_2017.pdf

Documentation provided by the Project Participant	
https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/Report_groundcheck_East-North_Kalimantan_2017.pdf	
VVB Assessment	**Date:** 24/01/2023
Evidence is provided and deemed correct, and the text has been updated for clarification. Therefore, mCAR 06 is closed.	

NC ID: Major	**07**	**Date: 18/11/2022**
Description of NC		
Regarding section 2.1 in MR: 1- As required per MR template, information about "the selection and management of GHG related data and information" is not included. 2- As required per MF indicator 16.1, regarding the 'role of communities in the forest monitoring system', please 1) provide specific evidences, and 2) report results in the MR for the monitoring period.		
Project Participant response		**Date:** 04/01/2023
1. *Selection and management of GHG has been described into the sub-section "Design and maintenance of the Forest Monitoring System"* – http://mrv.kaltimprov.go.id 2. *Capacity building for communities in the forest monitoring system have been conducted. However, the result report from community has not been integrated yet into the MR system for this monitoring report.*		
Documentation provided by the Project Participant		
https://ddpi.kaltimprov.go.id/berita/ddpi-kaltim-menggelar-pelatihan-mrv-redd		

https://fsc.org/en/newscentre/joint-forest-landscape-restoration-initiative-starts-in-east-kalimantan-indonesia

https://wwf.panda.org/wwf_news/?312610/Forests-and-community-in-East-Kalimantan

VVB Assessment	**Date:** 24/01/2023

1. The section has been updated for clarification and deemed correct.
2. Please report results related to the role of communities in the forest monitoring system (in the MR section 2.1) for the monitoring period, although the report has not been integrated yet into the MR system. The changes made to the text now very vaguely show the activities carried out in this regard.

Therefore, MCAR 07 is not closed.

Project Participant response	**Date:** 08/03/2023

Additional paragraph included to explain access to land cover maps. *(highlighted text page 14)*

VVB Assessment	**Date: 24/03/2023**

Section 2.1 has been updated and deemed correct.

Therefore, MCAR 07 is closed.

NC ID: Major	**08**	**Date: 18/11/2022**

Description of NC

In section MR 2.2.1:

1- Evidence (link or document) in footnote 15 is not provided (applies also for footnote 49 in MR Annex 4: 9.1 section).

2- Link in footnote 16 does not work (applies also for footnote 43 in MR Annex 4: 9.1 section) 3- Evidence (link or document) 'MRI 2013' is not provided.	
Project Participant response	**Date:** 04/01/2023
1. Document in footnote 15 is provided, please check again - https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/SOP%20AKURASI_ISI_EBOOK.pdf 2. Footnote 16 - https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/SNI 8033 2014.pdf	
Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023
1. The link to the document has been included (footnotes 27 and 140) 2. The link in footnotes 28 and 141 does not work. 3. Evidence (link or document) 'MRI 2013' is not provided yet. Therefore, MCAR 08 is not closed.	
Project Participant response	**Date:** 08/03/2023
2. Link footnote 28 : https://sigap.menlhk.go.id/sigap-trial/files/pages/perdirjen-planologi-2015-pedoman-pemantauan-penutupan-lahan.pdf There is no footnote #141. 3. MRI 2013 has been revised https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/8_Final Report_EN_Mitsubishi.pdf.	
VVB Assessment	**Date: 24/03/2023**
2. The link in footnote 28 has been updated and deemed correct. The link in footnote 141 is working. 3. The document has been provided and deemed correct. Therefore, MCAR 08 is closed.	

NC ID: Major	**09**	**Date: 18/11/2022**
Description of NC		
It is stated in sections MR 2.2.2, Annex 4: 8.3, and 9.1 that 'The GEF for CO2 is 1,701 g/kg dry matter burnt (Table 2.7 of the Chapter 2 of the 2013 Supplement to the 2006 IPCC, page 2.36)'. However, the parameter cannot be found in this document with that reference (Table 2.7, page 2.36).		
Project Participant response		**Date:** 04/01/2023
The table 2.7 is on page 2.41. The emission factor for dry matter burnt.		
Documentation provided by the Project Participant		

VVB Assessment	**Date:** 24/01/2023
The reference has been updated in some parts of the text and deemed correct. However, it remains cited as page 2.36 in some parts of section 2.2.2. and 9.1. Therefore, MCAR 09 is not closed.	
Project Participant response	**Date:** 08/03/2023
Revised and updated. Change from page 2.36 to page 2.41. (*page 21 and page 169*)	
VVB Assessment	**Date: 24/03/2023**
Sections 2.2.2. and 9.1 have been updated and deemed correct. Therefore, MCAR 09 is closed.	

NC ID: minor	**10**	**Date: 18/11/2022**
Description of NC		
It is stated in sections MR 2.2.2, Annex 4: 9.1 that 'The procedures of calculating peat decomposition from deforestation follow three steps as shown in Annex 4 E Figure 8.5'. However are not included or explained in that section.		
Project Participant response		**Date:** 04/01/2023
Adding figure 4 Flow chart for calculation of emissions from peat decomposition		
Documentation provided by the Project Participant		
Page 27 – ERMR document		
VVB Assessment		**Date:** 24/01/2023
The section has been updated with the figure and deemed correct. Therefore mCAR 10 is closed.		

NC ID: Major	**11**	**Date: 18/11/2022**
Description of NC		
In sections MR 2.2.2 and Annex 4: 9.1 it is stated that 'The emissions from the change of primary to secondary used the equation 8', however, the reference is not correct.		
Project Participant response		**Date:** 04/01/2023
Equation 19		

Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023
The sections have been updated and deemed correct. Therefore, MCAR 11 is closed.	

NC ID: Major	**12**	**Date: 18/11/2022**
Description of NC		
1- Fixed parameters in MR 3.1 section are not aligned with fixed parameters (validation) in MR Annex 4: 8.3 section. In the same way, parameters to be monitored in section MR Annex 4: 9.1 are not aligned with parameters monitored (verification) in section MR 3.2. 2- Review that all the references to the sources are complete (as detailed as possible), not only referencing to other sections (e.g. 'See chapter 2.2.2') or just the document. Note that the bibliography that not is not open-access (such as the ones in footnotes 17, 23, 25, 26, etc.) has to be provided as an evidence. 3- Include a description/summary of the QA/QC procedures (not only the reference of the source, e.g. 'Guidelines for Quality Assurance and Control QA/QC of Indonesia's Greenhouse Gases Inventory DGCC MoEF, 2018').		
Project Participant response		**Date:** DD/MM/YYYY
1. *Annex 4 8.3 has been corrected* 2. *The source has been mentioned in that chapter* 3. *It is recommended to read the document, as it cannot be summarized.*		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
1. Parameters are now aligned. 2. Bibliography documents have been provided in the footnote link and deemed correct. 3. Please provide a summarized description of the steps taken in the parameter tables.		
Project Participant response		**Date:** 08/03/2023
3. Text in the document Table 3.1.1: *Guidelines for Quality Assurance and Control (QA/QC) of Indonesia's Greenhouse Gases Inventory (DGCC MoEF, 2018[2])* QC/QA activity for Indonesia GHG inventory is intended to ensure the quality of GHG reported from		

[2] http://ditjenppi.menlhk.go.id/reddplus/images/adminppi/dokumen/Pedoman_QA_QC_FULL_ISBN.pdf

various sources in Indonesia. First step of QC is to fill data gap. It is quite normal that some data are not completed. To fill the gap, methods like interpolation and extrapolation are used. Another process of QC for every GHG data is calculation of the uncertainty. It is widely known that most of GHG data do not represent population instead of collection of the samples. In this situation, bias or uncertainty is something that cannot be avoided. Therefore, uncertainty value is pivotal to describe the character of data and it is good information to make data more proper for the next GHG reporting by program entities (i.e. government agencies). When GHG data has been collected and pooled in the authorized agency, the next step is to identify the main contributor of emissions from various sources (key category). It can be taken from annual emissions and projected trend. The process also is taken from any anomaly of GHG data reported such as extra ordinary changing of GHG (increase or decrease) in two periods of reported data. Further clarifications are then needed in order to ensure data valid or invalid.

VVB Assessment	**Date:** 23/03/2023
the statement about QA/QC has been provided in the corresponding section and it is deemed correct. Therefore, **MCAR 12 is closed**	

NC ID: Major	**13**	**Date: 18/11/2022**
Description of NC		
The sources 'Olofsson et al. 2014' and 'Olofsson et al. 2019' are not provided.		
Project Participant response		**Date:** 04/01/2023
1. Olofsson et al. 2014 - https://www.sciencedirect.com/science/article/abs/pii/S0034425714000704 2. Olofsson 2019 – Olofsson_Indonesia_AD_Estimation.pdf 1. *https://mrv.kaltimprov.go.id/access-directory/ERMR1/Guidance/olofsson et al_2014_good practices_estimating area_assessing accuracy_land change* 2. *https://mrv.kaltimprov.go.id/access-directory/ERMR1/Guidance/olofsson_Indonesia_AD_Estimation_2019*		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
The links are added with the sources and deemed correct. Therefore, MCAR 13 is closed.		

NC ID: Major	**14**	**Date: 18/11/2022**

Description of NC	
In MR 3.1.1, parameter 'Carbon stock used for the estimation of emission from deforestation and degradation' the sources of the root to shoot ratios is not indicated ("The value of the ratio is 0.24 for primary forest. For mangrove and swamp forest the value is 0.36 based on measurement from Komiyama et al., 2005 for mangrove. The values of the ratio vary between land cover types, i.e. 0.32 for forest plantation and estate crops), 0.48 for dry and wet shrubs, mix dryland agriculture and transmigration area, and 1.58 for savanna/grassland, pure dryland agriculture, rice paddy, bare ground and settlement").	
Project Participant response	**Date:** 04/01/2023
Source: Biomass Default Tables for Section 3.2 Forest Land https://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/Chp3/Anx_3A_1_Data_Tables.pdf	
Documentation provided by the Project Participant	
https://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/Chp3/Anx_3A_1_Data_Tables.pdf	
VVB Assessment	**Date:** 24/01/2023
The link is added in the MR and deemed correct. Therefore, MCAR 14 is closed.	

NC ID: Major	15	Date: 18/11/2022
Description of NC		
Procedures for estimating the fire on secondary forest are not provided in English or in a version that allows automatic translation. https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/Perdirjen P. 11 Pedoman Teknis Penaksiran Luas Karhutla (2).pdf		
Project Participant response		**Date:** 04/01/2023
docx file added.		
Documentation provided by the Project Participant		
https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/Perdirjen_P._11_Pedoman_Teknis_Penaksiran_Luas_Karhutla.docx		
VVB Assessment		**Date:** 24/01/2023
The document has been provided in Word and was automatically translated. Therefore, MCAR 15 is closed.		

NC ID: Major	16	Date: 18/11/2022
Description of NC		
Section MR Annex 4 does not include the rationale of the compliance of the technical corrections regarding the paragraph 3 of Guideline on MF nº 2, according to MR template request (Please indicate the changes applied and whether these are included in paragraph 3 of Guideline on the application of the Methodological Framework Number 2 – Technical corrections).		
Project Participant response		**Date:** 04/01/2023
Already complied with the template		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
No improvements in the text have been applied. Once technical corrections are indicated, please, explain why they comply with paragraph 3 of Guideline on MF nº 2, according to MR template request. E.g. if changes in Activity data are submitted, please, explain why these corrections comply (are amongst the possible cases) with the 'Acceptable technical corrections' listed in the paragraph 3 of the Guideline.		
Project Participant response		**Date:** 08/03/2023

Text added for technical correction paragraph in *page 122*.

Text in the document:

Rationale for proposing technical correction on Activity Data :

- East Kalimantan province shares border with adjacent provinces (North, Central and South Kalimantan). In particular segment, the boundary line is not clear. Ministry of Home Affair is appointed by regulation to facilitate synchronization of the border between two provinces or more (click this link to read news from local newspaper about boundary synchronizing meeting between East and Central Kalimantan in 2021). Therefore, it is normal if provincial administrative boundary slightly changed. The change of provincial boundary often is put then in the revision of regional spatial planning for every 5 years. In order to increase the accuracy of calculating jurisdictional emission reduction in East Kalimantan, it is highly necessary to use the latest East Kalimantan boundary line from East Kalimantan Regional Development Planning Agency (*Bappeda Kaltim*).
- We used the update data of burnt area produced by MoEF in order to use the reference data of higher accuracy and/or precision. As mentioned above, the new burnt area map is produced and taken from using hotspot data and is verified using Landsat imageries.
- Land cover classification map that is primary source to calculate deforestation and degradation needs adjustment as part of uncertainty analysis reported in this ERMR. This is part of improvement of the statistical design used in the emission calculation.

Rationale for proposing technical correction on Emission factor:

- Permanent Sample Plot Data established in 2018-2019 was designed following Indonesia Standard using small sample plot of 0.04 ha. Regarding the high variability of East Kalimantan forests, bigger sample plots are preferred. Therefore, in this ERMR, we decided to use only NFI plots with bigger size that is 1 ha for accuracy improvement.
- Recent published article by Manuri (2017) is used as reference for allometric equation to calculate biomass and is more relevant for East Kalimantan rather than previous

referenced article by Basuki et al. (2009) • Additional mangrove plots that recently established also increase the accuracy and at the same time reduced uncertainty of the emission calculation.
VVB Assessment **Date:** 24/03/2023
The section has been updated properly and it is deemed correct. Therefore, MCAR 16 is closed.

NC ID: Major	**17**	**Date: 18/11/2022**
Description of NC		
According to the ERPA (Section 6.01 ER Program Development) and Annex 4 in MR, the ER Program Start Date is 18 June 2019 and the monitoring period is from 18 June 2019 to 31 December 2020. However, FCPF ERs have been calculated along the sections of the MR and its annexes from 1 July 2019, for a period from 1 July 2019 to 31 December 2020, which does not match the period requested by ERPA (Schedule 2).		
Project Participant response		**Date:** 01/04/2023
Due to technical constraints, we agreed to only calculate from 1 July 2019, so that for the period 18 June - 30 June 2019 no emission calculations were carried out.		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
Since this is a major deviation, please present an authorization from the FCPF stating that the deviation is allowed. In the MR, please indicate this exemption in the text (1) along with a link to the authorization (2). Therefore, MCAR 17 is not closed.		
Project Participant response		**Date:** 08/03/2023
Letter authorization is provided by FCPF FMT to the Auditor		

Carlos Jiménez Barrios <jimenezbarriosc@gmail.com> Wed, Mar 8, 2023 at 8:27 AM
To: Julian Gonzalo Jimenez <jgonzalojimenez@worldbank.org>

Dear All,

Following up the process, I kindly ask when will you be able to send the response to the second round of findings. We look forward to it.

On the other hand, regarding MCAR number 17, AENOR has received an official communication from FCPF Secretariat that confirms as acceptable that East Kalimantan ER Program deviates from the schedule set on the ERPA for the first reporting period of Tranches A and B (June 18, 2019, - December 31, 2020) and use the July 1, 2019 as the start date of the Crediting Period. Please, indicate it in the MR for transparency purposes. Since we have received the direct email, there is no need for further actions regarding the last request (2) in MCAR 17.
Note, that MCAR 18 is a different request, then it still has to be addressed.

Kind regards.

VVB Assessment	**Date: 24/03/2023**
Authorization letter has been provided by FCPF FMT (request 2). However, this exemption has not been stated in the updated text, to account for the deviation from the schedule set on the ERPA (request 1) as requested in the previous assessment and in the VVB mail.	
Project Participant response	**Date: 20/04/2023**
The text for explanation of the acceptable deviation from FCPF Secretariat has been added and highlighted on page 51. The link for copy of letter from FCPF secretariat to AENOR is provided here.	
VVB Assessment	**Date: 08/06/2023**
The section has been updated by including the reference to the exemption letter from FCPF. Therefore M**CAR 17 is closed**	

NC ID: Major	**18**	**Date: 18/11/2022**
Description of NC		
Section 'Start Date of the Crediting Period' in MR Annex 4 does not include a 'justification and evidence to demonstrate compliance with the definition of the Start Date of the Crediting Period provided in the FCPF Glossary of Terms', according to the MR template request.		
Project Participant response		**Date:** 04/01/2023
Due to technical constraints, we agreed to only calculate from 1 July 2019, so that for the period 18 June - 30 June 2019 no emission calculations were carried out.		

Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023
The request of this NC is different from the one in NC 17. Please, provided 'justification and evidence to demonstrate compliance with the definition of the Start Date of the Crediting Period provided in the FCPF Glossary of Terms', as it is required by the MR template. Therefore, MCAR 18 is not closed.	
Project Participant response	**Date:** 08/03/2023
Explanation on the start date of the crediting period provided in blue in text and in Annex 4. EKal to include a paragraph outlining how that the crediting period is in line with the FCPF Methodological Framework (based off the FCPF Glossary of Terms). GoI to include in this paragraph that there are technical reasons to choosing the dates of the crediting period (already listed in revisions to the ERMR), and that it is aligned with the FCPF definitions. Regulation on mapping period can be mentioned also as a footnote. Text in the document: **Start Date of the Crediting Period** The ER Program Start Date is 1 July 2019. The rationale of date selection is to incorporate with the starting date of the production of annual land cover maps produced by Ministry of Environment and Forestry (MoEF). It is also related to the mosaics Landsat images prepared by Indonesian Space Agency (LAPAN) as primary sources of land cover interpretation that is started in July at year N-1 up to June at year N for land cover map year of N. For ER monitoring purpose, the emission is calculated using the LAPAN's land cover maps as it mentioned in ERPD. Therefore, it is essential to start the ER program following that cycle date. The date is also in line with FCPF Methodological Framework. It is not earlier than the date the first ER Program Measure(s) (including any Sub- Project(s)) begins generating ERs, i.e. first implementation. The date is also not earlier than January 1st 2016. The date of 1 July 2019 is justified with objective evidence by the MoEF as mentioned in the previous paragraph. The period date of ER monitoring report from 1 July 2019 to 31 December 2020 is independently assessed by a Validation Verification Body during Validation. The ER monitoring report is also not in fall within the Reference Period (1 July 2005 – 30 June 2016). Social and Environmental Safeguards Due Diligence is conducted to assess the extent to which the relevant safeguard measures under the ER Program are aligned with the Environmental and Social Management Framework (ESMF). Due Diligence focuses on assessing system capacity for the management of environmental and social aspects in all program activities implemented during the period 1 July 2019 to 31 December 2020. Over this period, implementation of all the program components had commenced, with a total of 47 relevant ER activities that are the subject of this due diligence. An eSurvey and in-depth interviews were conducted with 24 institutions, covering government agencies and non-government organizations. Specific aspects of due diligence focused on the presence or absence of a system for screening and assessing risks for activities carried out under the ER Program, provision of resources for monitoring/supervision, technical support, coordination, and capacity development, and the availability and operation of Feedback and Mechanisms Complaints Handling (FGRM). Overall, the results showed adequate institutional capacity for identifying and managing environmental and social risks, although some gaps and areas for strengthening remain. The assessment of system capacity identified a number of areas where environmental and social risks management could be improved. Particular attention needs to be given to the social risks associated with improving land governance conducted in areas under existing and potential conflicts and/or disputes or areas with overlapping boundaries and/or claims, between customary and common/formal laws and processes, and in areas with competing claims especially with concession areas. The full report	

can be seen at . https://mrv.kaltimprov.go.id/storage/guest/SAFEGUARDS/FCPF_EK_Retroactive_FINAL REPORT_GOI.docx.
VVB Assessment **Date:** 24/01/2023
Justification to demonstrate compliance with the definition of the Start Date of the Crediting Period in the FCPF Glossary of Terms has been provided and deemed correct. Therefore, MCAR 18 is closed.

NC ID: Major	**19**	**Date: 18/11/2022**
Description of NC		
Table 7.2 in MR Annex 4 does not indicate the inclusion of litter and deadwood as carbon pools in the case of swamp forests and mangroves, according to criterion 4 of the MF.		
Project Participant response		**Date:** 04/01/2023
It has been explained in the table		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
Litter exclusion is justified as they are not considered significant according to indicator 4.2 of the MF. However, as deadwood is significant according to indicator 4.2 of the MF, its exclusion is not justified. Also, please reference the research conducted at sites in Sumatra and Kalimantan for deadwood, and the specific section of the Indonesia's FREL where the mentioned data for litter is stated. Therefore, MCAR 19 is not closed.		
Project Participant response		**Date:** 08/03/2023
Explanation on exclusion of dead wood now included in the ERMR. Research referenced summarized in Annex 3.2 of 2016 Indonesia FREL Text in the document (*page 128)*: Based on research conducted at sites in Sumatra and Kalimantan by Manuri et al. (2011), Dharmawan et al. (2013), Khrisnawati et al. (2014) and Manuri et al. (2014) and compiled in Table Annex 3.2 of 2016 Indonesia FREL (https://redd.unfccc.int/files/frel_submission_by_indonesia_final.pdf), the dead wood or necromass pool is accounted for an average of 14.5% of total biomass emissions. In spite of being significant, the carbon pool of the dead wood is excluded due to lack of sampling data. The study of the Dead wood biomass measurement is limited and is only conducted by researcher at the universities or research institution. On the other hand, Indonesia's national forest inventory (NFI) does not include measurement of carbon pool other than above ground biomass. Therefore, in this case of ER program for East Kalimantan it does not consider the inclusion of the dead wood during the ER monitoring period up to 2024.		

VVB Assessment	Date: 24/03/2023
Table 7.2 in Annex 4 was completed to justify the exclusion of deadwood. Research and FREL relevant information reference was included. Therefore, MCAR 19 is closed.	

NC ID: Major	20	Date: 18/11/2022
Description of NC		
In MR Annex 4: 8.2 section, the following does not work: http://sni.bsn.go.id/product/detail/22270		
Project Participant response		**Date:** 04/01/2023
SNI 8033:2014 - https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/SNI_8033_2014.pdf		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
The link provided refers to the correct source, but it has not been updated in MR Annex 4: 8.2 section instead of http://sni.bsn.go.id/product/detail/22270 . Therefore, MCAR 20 is not closed.		
Project Participant response		**Date:** 08/03/2023
Revised in Annex 4: 8.2 (https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/SNI_8033_2014.pdf).		
VVB Assessment		**Date: 24/03/2023**
The link has been correctly updated on the MR Annex 4: 8.2 section. Therefore, MCAR 20 is closed.		

NC ID: Major	21	Date: 18/11/2022
Description of NC		
In MR Annex 4: 8.3 the reference to fcpf_ekjerp_ermr1_MC_24Juli2022b.xlsx in Equation 1 and 2 is not		

correct (fcpf_ekjerp_ermr1_summary_26Juli2022c was provided to VVB).	
Project Participant response	**Date:** 04/01/2023
Corrected file: fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx - https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx	
Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023
The reference has been updated and deemed correct. Therefore, MCAR 21 is closed.	

NC ID: Major	**22**	**Date: 18/11/2022**
Description of NC		
MR Annex 4: 8.3, Activity Data parameters do not follow the MR template table (Parameter and QA/QC procedures are currently missing).		
Project Participant response		**Date:** 04/01/2023
Table corrections according to the template are conducted. It can be seen on the updated ER-MR		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
The tables have been updated to comply with the template. Therefore, MCAR 22 is closed.		

NC ID: Major	**23**	**Date: 18/11/2022**
Description of NC		
In MR Annex 4: 8.3, AD parameter 'Deforestation. Area of land cover change between 2006-2009, 2009-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, and 2015-2016' the values reported do not match the ones resulted in evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx'. The uncertainty of the land cover change (deforestation) does not match neither the evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx'.		

Project Participant response	**Date:** 04/01/2023
Corrections according to the template are conducted. It can be seen on the updated ER-MR	
Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023
The values have been corrected. Therefore, MCAR 23 is closed.	

NC ID: Major	**24**	**Date: 18/11/2022**
Description of NC		
In MR Annex 4: 8.3, AD parameter 'Peat decomposition - deforestation and degradation. Area of land cover changes between 2006-2009, 2009-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, and 2017-2018', some values reported (20041-20071, 20051-2010, 20051-2014, 20071-20071) do not match the ones resulted in evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx'. On the other hand, the unit for the values is missing.		
Project Participant response		**Date:** 04/01/2023
Corrections according to the template are conducted. It can be seen on the updated ER-MR		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
The values have been corrected. Therefore, MCAR 24 is closed.		

NC ID: Major	**25**	**Date: 18/11/2022**
Description of NC		
Resolution CFM/19/2019/1, in which 'the CFPs and Program Participant agreed to remove the calculation for emissions associated with projected future deforestation in peat forest and apply the estimate of the most recent data not later than 2018 and the CFPs agreed to provide a one-time waiver to Indicator 13.1', is not provided.		
Project Participant response		**Date:** 04/01/2023

Resolution CFM/19/2019/1 https://www.forestcarbonpartnership.org/system/files/documents/Resolution%20CFM_19_1_Endorsement%20of%20Indoneisa%20ER%20Program%20FINAL.pdf
Documentation provided by the Project Participant
https://www.forestcarbonpartnership.org/system/files/documents/Resolution%20CFM_19_1_Endorsement%20of%20Indoneisa%20ER%20Program%20FINAL.pdf

VVB Assessment	**Date:** 24/01/2023
The evidence provided is deemed correct, but the reference of CFM/19/2019/1 in the updated text has been deleted. Since this information is important, please, place in the equivalent parameter (Annex 4: 8.3, Activity Data, Parameter: Peat decomposition). Please, also add the link to the text.	
Project Participant response	**Date:** 08/03/2023
Text in Annex 4 Section 8.3 in the document (page 137): Peat decomposition In peatland forest, that has been deforested, peat decomposition will continue to release emissions, leading to future inherited emissions. Following resolution CFM/19/2019/1, the CFPs and Indonesia agreed to remove the calculation for emissions associated with projected future deforestation in peat forest and apply the estimate of the most recent data not later than 2018 and the CFPs agreed to provide a one-time waiver to Indicator 13.1. The agreement has been documented and traceable through this following link https://www.forestcarbonpartnership.org/system/files/documents/Resolution%20CFM_19_1_Endorsement%20of%20Indoneisa%20ER%20Program%20FINAL.pdf	
VVB Assessment	**Date:** 24/03/2023
The statement and the link are considered correct. Therefore, MCAR 25 is deemed closed	

NC ID: Major	**26**	**Date: 18/11/2022**
Description of NC		
In MR Annex 4: 8.3, AD parameter 'Soil mangrove. Area of land cover changes between 2006-2009, 2009-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, and 2015-2016' the value 20041-20094 does not match the ones resulted in evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx'. The uncertainty of the land cover change (deforestation) does not match neither the evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx'.		
Project Participant response		**Date:** 04/01/2023
Corrections according to the template are conducted. It can be seen on the updated ER-MR		
Documentation provided by the Project Participant		

VVB Assessment	Date: 24/01/2023
The values have been corrected. Therefore, MCAR 26 is closed.	

NC ID: Major	27	Date: 18/11/2022
Description of NC		
In MR Annex 4: 8.3, AD parameter 'Forest Degradation. Area of degradation, change of primary forest into secondary forests between 2006-2009, 2009-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, and 2015-2016 that occurred in all forested land' the values reported do not match the ones resulted in evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx'.		
Project Participant response		Date: 04/01/2023
Corrections according to the template are conducted. Please see the updated ER-MR		
Documentation provided by the Project Participant		
VVB Assessment		Date: 24/01/2023
The values have been corrected. Therefore, MCAR 27 is closed.		

NC ID: Major	28	Date: 18/11/2022
Description of NC		
In MR Annex 4: 8.3, AD parameter 'Fire on stable forest. Area of secondary forest affected by fires in 2006, 2009, 2011, 2012, 2013, 2014, 2015, and 2016.' the values reported for 2016 (2002, 20041) do not match the ones resulted in evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx'.		
Project Participant response		Date: 04/01/2023
Corrections according to the template are conducted. Please see the updated ER-MR		
Documentation provided by the Project Participant		
VVB Assessment		Date: 24/01/2023
The values have been corrected. Therefore, MCAR 28 is closed.		

NC ID: Major	29	Date: 18/11/2022
Description of NC		
MR Annex 4: 8.3, Emission factor parameters do not follow the MR template table (Parameter and QA/QC procedures are currently missing).		
Project Participant response		**Date:** 04/01/2023
Corrections according to the template are conducted. Please see on the updated ER-MR		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
The tables have been updated to comply with the template. Therefore, MCAR 29 is closed.		

NC ID: Major	30	Date: 18/11/2022
Description of NC		
In MR Annex 4: 8.3, EF parameter 'Emission Factor for deforestation and forest degradation…' the values reported for Secondary swamp forest (237.3 Ton C/ha) and Secondary mangrove forest (118.1 Ton C/ha) do not match the ones resulted in evidence 'fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx' in tabs AD_ER_DEF_XXXX and AD_ER_DEG_XXXX.		
Project Participant response		**Date:** 04/01/2023
Corrections according to the template are conducted. Please see the updated ER-MR		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
The values indicated in Parameter 'Carbon stock used for the estimation of emission from deforestation and degradation' in section 3.3.1 and Annex 4 have been indicated for AGB. Please, provide <u>also</u> the values for living biomass (AGB+BGB, t/ha) which is the unit of the parameter. Therefore, MCAR 29 is not closed.		
Project Participant response		**Date:** 08/03/2023
Section 3.1.1 and Annex 4 for living biomass (ABG+ABG (t/ha) have been revised		

Forest lands

Land cover	Code	AGB (t/ha)	AGB+BGB (t/ha)
Primary Dryland Forest	2001	287.08	355.98
Secondary dryland forest	2002	209.44	259.70
Swamp primary forest	2005	538.56	731.60
Swamp secondary forest	20051	365.30	496.24
Mangrove primary forest	2004	263.38	357.78
Mangrove secondary forest	20041	181.83	247.01

Non-forest lands

Land cover	Code	AGB (t /ha)	AGB+BGB (t/ha)
Plantation forest	2006	133.11	175.71
Dry shrub	2007	41.36	61.21
Wet shrub	20071	46.53	68.86
Savanna and Grasses	3000	5.96	15.37
Pure dry agriculture	20091	15.96	41.17
Mixed dry agriculture	20092	47.89	70.88
Estate crop	2010	105.75	139.59
Paddy field	20093	9.36	24.15
Transmigration areas	20122	21.28	31.49
Bare ground	2014	5.32	13.72
Settlement	2012	8.51	21.96
Port and harbor	20121	0.00	0.00
Open water	5001	0.00	0.00
Open swamps	50011	0.00	0.00
Mining areas	20141	0.00	0.00
Fish pond/aquaculture	20094	0.00	0.00

After the AGB successfully calculated, the BGB was estimated by multiplying the AGB with the Root:Shoot Ratio, then multiplying the result with the carbon fraction to estimate the carbon content (C /Ha).

VVB Assessment	**Date:** 24/03/2023

The values for living biomass (AGB+BGB, t/ha) have been included in the parameter box (Carbon stock used for the estimation of emission from deforestation and degradation).

Therefore, MCAR 30 is closed.

NC ID: Major	31	Date: 18/11/2022

Description of NC

In MR Annex 4: 8.3, EF parameter 'Emission factors from fire in secondary forest. Emission Factor for biomass fire' the source of GWP is not provided.

Project Participant response	Date: 04/01/2023

Corrections according to the template are conducted. Please see the updated ER-MR

Documentation provided by the Project Participant

VVB Assessment	Date: 24/01/2023

The source of GWP is still not provided.

Therefore, MCAR 31 is not closed.

Project Participant response	Date: 08/03/2023

Text in the Document:

See chapter 2.2.2.

Spatial level: regional (province) with data provided nationally by MoEF.

Global Warming Potential (GWP) values can be accessed through this following link : https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/1_Global-Warming-Potential-Values_(Feb_16 2016)_1.pdf

Global warming potential (GWP) values relative to CO_2

Industrial designation or common name	Chemical formula	GWP values for 100-year time horizon		
		Second Assessment Report (SAR)	Fourth Assessment Report (AR4)	Fifth Assessment Report (AR5)
Carbon dioxide	CO_2	1	1	1
Methane	CH_4	21	25	28
Nitrous oxide	N_2O	310	298	265

VVB Assessment	Date: 24/03/2023

A reference has been included with the values. However, the source provided is not the original (IPCC) and the values selected are not clearly stated (Second Assessment Report (SAR), Fourth Assessment Report (AR4) or Fifth Assessment Report (AR5)).

Please, 1) provide the IPCC source, 2) clarify the values used (Assessment Report number) and, 3) if values selected are different from the recommended (AR5) ones, justify it.

Therefore, MCAR 31 is not closed.

Project Participant response	Date: 20/04/2023

The text in the document revised see page 153 – 155 in the ERMR document:

Combustion factor value = 0.36 is derived from 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4 (Agriculture, Forestry and Other Land Use), Chapter 2: Generic Methodologies Applicable to Multiple Land-Use Categories, Table 2.6 (sees page 2.48 on the document: 'Mean' for 'All primary tropical forests').

For the following Gas emission factors, CO_2 = 1,580 g/kg d.m. burnt, CH_4 = 6.8 g/kg d.m. burnt, and N_2O = 0,2 g/kg d.m. burnt, is derive from from 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4 (Agriculture, Forestry and Other Land Use), Chapter 2: Generic Methodologies Applicable to Multiple Land-Use Categories, Table 2.5 (sees page 2.47on the document: Table 2.5 under the category of 'Tropical forest'). The link for the document is provided as follows:

https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_02_Ch2_Generic.pdf

In addition, the link to refer the Global Warming Potential values that used for developing Indonesia's 2nd FRL submitted in January 2022 as well as for calculating emission from fire in East Kalimantan emission reduction program (ERP) by FCPF-CF is as follows:

https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/greenhouse-gas-data-unfccc/global-warming-potentials

Instead of using the latest Fifth Assessment Report (AR5) for GWP values, the calculation of East Kalimantan emission used Second Assessment Report (SAR). It aims to make consistent with the GWP values that was used previously for calculating Indonesia Forest Reference Level (FRL) submitted to UNFCC in early 2022. In Indonesia's 2nd FRL document (https://redd.unfccc.int/files/2nd_frl_indonesia_final_submit.pdf), SAR GWP values for 100 years' time horizon are listed in Table 8 (see on page 20), exactly on column table 6 and 7 for CH_4 and N_2O respectively.

According to Trottier (2015), 100-year GWPs being the most widely adopted in GHG inventories. In addition, Trottier (2015) also mentioned that applying the AR5 GWP values with feedback will cause only a small increase in stated emissions for most organizations. Therefore, for Indonesia's FRL and East Kalimantan ERP, GWP values from SAR is still relevant to be used. The link to download Trottier (2015) document is as follows:

https://ecometrica.com/assets/Understanding-the-Changes-to-GWPs.pdf

VVB Assessment	**Date: 08/06/2023**
The response providing and justifying the source and origin of the parameters used is considered correct. Therefore, MCAR 31 is closed	

NC ID: Major	**32**	**Date: 18/11/2022**
Description of NC		
In MR Annex 4: 8.3, EF parameter 'Emission Factors from soil', when it is stated that 'The third step is calculating total annual emissions by multiplying the transition matrix of both areas and associated emission factors' it seems that a footnote is missing. On the other hand, the complete references of the sources used are not provided (such as Maswar and Agus, 2015; Hooijer et al, 2012; Ritung et al. 2011). Finally, the reference for the EF and its uncertainty is not complete ('These emission factors are		

reported in 2013 Supplement Guideline to 2006 IPCC Guidelines for National GHG Inventory: Wetlands. Most of the data reported in this guideline come from Indonesian sites').

Project Participant response	**Date:** 04/01/2023
Corrections according to the template are carried out. Can be seen on the updated ER-MR *The footnote is linking to the table of emission factor for peat decomposition mentioned in the document.* *References for EF are included into the documents. (*Maswar and Agus, 2015; Hooijer et al, 2012; Ritung et al. 2011)	
Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023
The text is updated with reference to Figure 4 and deemed correct. Maswar and Agus, 2015 and Hooijer et al, 2012 are correctly referenced in footnotes 124 and 125, respectively. However, Ritung et al. 2011 is not correctly referenced in footnote 126, which links to a different document. The mentioned part of the text ('*These emission factors are reported in 2013 Supplement Guideline to 2006 IPCC Guidelines for National GHG Inventory: Wetlands. Most of the data reported in this guideline come from Indonesian sites'*) and its references has been deleted from the updated MR. Please correct and add references. Therefore, MCAR 32 is not closed.	

Project Participant response	**Date:** 08/03/2023
We were updated the link for Ritung et al (2011) as [1]https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/2_Ritung_2011_Indonesian_Peat_Land_Map_Scale_1_250000.pdf - This reference is published in a book format instead of journal or paper. Add text: *Ritung et al (2011) in MoEF (2016)* -- MoEF, 2016, National Forest Reference Emission Level for Deforestation and Forest Degradation. *https://redd.unfccc.int/files/frel_submission_by_indonesia_final.pdf (page 29)*	
VVB Assessment	**Date:** 24/03/2023
The references have been updated and deemed correct. Therefore, MCAR 32 is closed.	

NC ID: Major	**33**	**Date: 18/11/2022**
Description of NC		
In section MR Annex 4: 8.4 1- Please, provide intermediate table por sources/land use type [deforestation (living biomass,		

mangrove soil, and fires on peat), peat decomposition of the deforested, degradation (living biomass, fires in stable forest), peat decomposition in degraded areas, etc.].

2- According to the text "The reference level is calculated using: [average of deforestation (living biomass, mangrove soil, and fires on peat) in the reference year (2006-2016) added with peat decomposition of the deforested area in 2017-2018[, then added with [average of forest degradation (living biomass, fires in stable forest) in the reference year (2006-2016) added to peat decomposition in degraded areas in 2017-2018+". However, this description does not match results in the table 'Calculation of the average annual historical emissions over the Reference Period', since the results of this table do not consider peat decomposition.

3- The values in table 'Calculation of the average annual historical emissions over the Reference Period' (either the current 27,649,973.72 or the 26,493,920.60 tCO2e/yr according to the definition) do not match the RL reported in table 'ER Program Reference level' or the evidence in 'fcpf_ekjerp_ermr1_MC_26Juli2022c', were an average 27,469,856.40 tCO2e/yr is stated.

Project Participant response	**Date:** 04/01/2023

1. Add intermediate table

	Emission (tCO_2e/year)		Emission (tCO_2e/year)
Deforestation	23.949.437,32	Living biomass	23.058.668,41
		Soil Mangrove	729.648,69
		Peat Decomposition	55.852,41
		Peat fire	105.267,80
Forest Degratation	3.520.419,08	Living biomass	2.391.882,73
		Peat Decomposition	987.517,06
		Fire in stable forest	141.019,29
Total	27.469.856,40		27.469.856,40

2. Changes made to the table
3. Changes made to the table. Corrected number is 27.469.856,40 tCO_2e

Documentation provided by the Project Participant

VVB Assessment	**Date:** 24/01/2023

1. Information provided and deemed correct.

2. Changes in the table deemed correct.

3. Please, do not eliminate the following table, but correct it to make it match with the one included in the point 1 above. In other words, please, provide a table with the historical emissions that matches the average for the period.

Period	Deforestation	Forest Degradation	Total
2006-2007	22,265,406.41	2,203,162.16	24,468,568.63
2007-2008	22,265,406.41	2,203,162.16	24,468,568.63
2008-2009	22,265,406.41	2,203,162.16	24,468,568.63
2009-2010	11,283,098.47	735,459.61	12,018,558.04
2010-2011	11,283,098.47	735,459.61	12,018,558.04
2011-2012	34,372,668.98	461,002.08	34,833,671.06
2012-2013	29,557,250.31	426,479.08	29,983,729.39
2013-2014	9,655,366.26	1,438,282.73	11,093,648.99
2014-2015	26,845,754.93	11,156,226.95	38,001,981.88
2015-2016	40,793,227.35	2,356,430.72	43,149,658.07
Average (2006-2016)	24,967,538.96	2,682,434.76	27,649,973.72
Peat decomposition (2017-2018)	55,852.41	987,517.06	1,043,369.48
Reference Level	24,967,538.96	2,682,434.76	27,649,973.72

Therefore, MCAR 33 is not closed.

Project Participant response	**Date:** 08/03/2023

New Table in the Document (Annex 4 Section 8.4) – page 159:

More detailed on the historical emission (reference level) is shown in the following table:

Period	Emission (tCO2)							
	Deforestation (living biomass)	Forest Degradation (living biomass)	Soil mangrove	Peat Fire (Deforestation)	Peat decomposition (Deforestation)	Peat decomposition (Forest degradation)	Fire in stable forest	Total
2006-2007	22,265,406.47	2,203,162.16	472,518.94	-			258,230.51	25,199,318.08
2007-2008	22,265,406.47	2,203,162.16	472,518.94	-			22,580.16	24,963,667.73
2008-2009	22,265,406.47	2,203,162.16	472,518.94	-			153,586.02	25,094,673.59
2009-2010	11,283,098.43	735,459.61	45,603.44	-			43,954.96	12,108,116.44
2010-2011	11,283,098.43	735,459.61	45,603.44	-			95,157.52	12,159,319.00
2011-2012	34,372,668.98	461,002.08	697,213.18	-			214,555.41	35,745,439.65
2012-2013	29,557,250.31	426,479.08	1,179,540.14	-			116,656.23	31,279,925.76
2013-2014	9,655,366.26	1,438,282.73	-	244,106.47			263,971.09	11,601,726.56
2014-2015	26,845,754.93	11,156,226.95	2,867,704.54	298,756.14			8.07	41,168,450.63
2015-2016	40,793,227.35	2,356,430.72	1,043,265.40	509,815.35			241,492.96	44,944,231.78
2017-2018					55,852.41	987,517.06		1,043,369.48
Average	**23,058,668.41**	**2,391,882.73**	**729,648.69**	**105,267.80**	**55,852.41**	**987,517.06**	**141,019.29**	**27,469,856.40**

VVB Assessment	**Date:** 24/03/2023

A correct and clarifying table with the historical emissions that matches the average for the period has been added.

Therefore, MCAR 33 is closed.

NC ID: Major	**34**	**Date: 18/11/2022**

Description of NC

In section MR Annex 4: 8.5

1- It is stated that "As Indonesia does not meet the qualifications for an upward adjustment as outlined in the Methodological Framework, and the Methodological Framework does not otherwise consider the uniqueness of peat forests, the CFPs agreed to provide a one-time waiver to Indicator 13.1 of the Methodological Framework *…+. The implications of this decision for the final Reference Emission Level is that the estimated emissions from peat degradation will increase from 975.631 tCO2e/yr (the average over the reference period) to 1,036,236 tCO2e in 2017 and 1,043,684 tCO2e in 2018, staying constant for years after 2018". It is not clear the quantification of the adjustment (column Adjustment, if applicable (tCO2-e/yr) is now empty). Please provide it in a table with the change per year regarding the

previous RL.

2- Although it seems that finally an upward adjustment was done (as a CFP exemption), apparently the adjustment was from 27,469,856.40 tCO2e/yr (MR Annex 4: section 8.4) to 27,448,712.07 tCO2e/yr (MR Annex 4: section 8.5), that means a downward. Please, clarify the final RL used, since in section MR 4.1 the RL reported and used as final for the FCPF ER calculation is 'pre-adjustment' (the one reported in MR Annex 4: 8.4).

3- Section MR Annex 4: 8.5 lacks a clear 'executive summary of assumptions, methods and results of any underlying studies that have been used to determine the adjustment' (according to MR template), particularly a comprehensive explanation of the quantification methods and final results ('complete calculation for the quantification of the proposed upward or downward adjustment to the average annual historical emissions over the Reference Period. Provide a step-by-step estimation of the expected emissions that would result from documented changes in ER Program circumstances. Attach any documents or spreadsheets used in the calculation'). In case the current values in MR Annex 4: 8.4 are the adjusted ones, please provide the same information but regarding the ones provided currently in MR Annex 5: 8.5 (if this ones are the pre-adjusted).

Project Participant response	**Date:** 04/01/2023

1. Based on Resolution CFM/19/2019/1 (https://www.forestcarbonpartnership.org/system/files/documents/Resolution%20CFM_19_1_Endorsement%20of%20Indoneisa%20ER%20Program%20FINAL.pdf), in which 'the CFPs and Program Participant agreed to remove the calculation for emissions associated with projected future deforestation in peat forest and apply the estimate of the most recent data not later than 2018
2. Corrections were made in Annex 4, 8.4. The figures used are 27,469,856.40 tCO2e/yr
3. Calculations are in the excel file https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx

Documentation provided by the Project Participant

VVB Assessment	**Date:** 24/01/2023

1. Please, provide in the table in Annex 4: 8.4 and 8.5 the previous value of reference level and the adjustment -column 'Adjustment, if applicable (tCO2-e/yr)'- in a way that Previous RL + adjustment = RL employed (27,469,856.40).

2. Clarification has been addressed.

3. The information requested is not provided in the MR (only the Excel spreadsheet).

Therefore, MCAR 34 is not closed.

Project Participant response	**Date:** 08/03/2023

Table in Annex 4: 8.4 has been revised. – See Page 158 in the Document

Tables in the Annex 4 section 8.4:

	Emission (tCO_2e/year)		**Emission (tCO_2e/year)**
Deforestation	23.949.437,32	Average Living biomass	23.058.668,41
		Average Soil Mangrove	729.648,69
		Peat Decomposition 2017-2018	55.852,42

		Average Peat fire	105.267,80
Forest Degradation	3.520.419,08	Average Living biomass	2.391.882,73
		Peat Decomposition 2017-2018	987.517,06
		Average Fire in stable forest	141.019,29
Total	27.469.856,40		27.469.856,40

More detailed on the historical emission (reference level) is shown in the following table:

Period	Emission (tCO2)							
	Deforestation (living biomass)	Forest Degradation (living biomass)	Soil mangrove	Peat Fire (Deforestation)	Peat decomposition (Deforestation)	Peat decomposition (Forest degradation)	Fire in stable forest	Total
2006-2007	22,265,406.47	2,203,162.16	472,518.94	-			258,230.51	25,199,318.08
2007-2008	22,265,406.47	2,203,162.16	472,518.94	-			22,580.16	24,963,667.73
2008-2009	22,265,406.47	2,203,162.16	472,518.94	-			153,586.02	25,094,673.59
2009-2010	11,283,098.43	735,459.61	45,603.44	-			43,954.96	12,108,116.44
2010-2011	11,283,098.43	735,459.61	45,603.44	-			95,157.52	12,159,319.00
2011-2012	34,372,668.98	461,002.08	697,213.18	-			214,555.41	35,745,439.65
2012-2013	29,557,250.31	426,479.08	1,179,540.14	-			116,656.23	31,279,925.76
2013-2014	9,655,366.26	1,438,282.73	-	244,106.47			263,971.09	11,601,726.56
2014-2015	26,845,754.93	11,156,226.95	2,867,704.54	298,756.14			8.07	41,168,450.63
2015-2016	40,793,227.35	2,356,430.72	1,043,265.40	509,815.35			241,492.96	44,944,231.78
2017-2018					55,852.41	987,517.06		1,043,369.48
Average	**23,058,668.41**	**2,391,882.73**	**729,648.69**	**105,267.80**	**55,852.41**	**987,517.06**	**141,019.29**	**27,469,856.40**

Section 8.5:

As Indonesia does not meet the qualifications for an upward adjustment as outlined in the Methodological Framework, and the Methodological Framework does not otherwise consider the uniqueness of peat forests, the CFPs agreed to provide a one-time waiver to Indicator 13.1 of the Methodological Framework. In other words, Indonesia uses emission level of peat decomposition year 2018 as baseline historical emission and stays constant for years after 2018 (Figure 5.1). The Carbon Fund Participants and Indonesia note that this decision is specific to this ER-Program, and does not imply precedent for any other program under the Carbon Fund or in Indonesia[3].

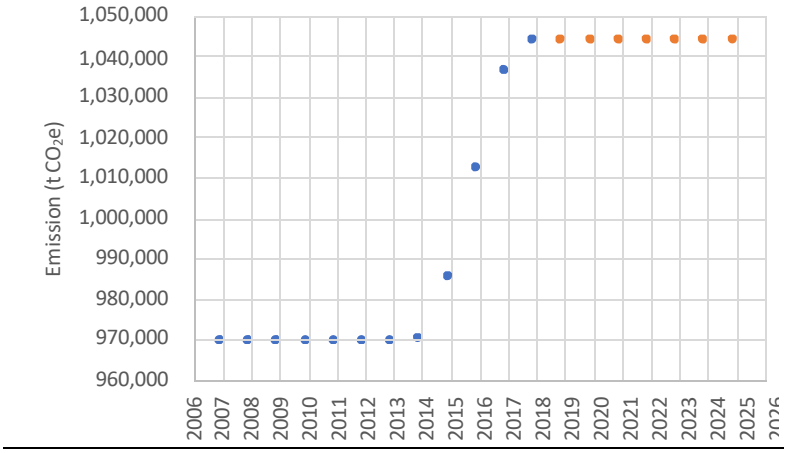

Figure 5.1 Projected emission from peat decomposition to 2025 taking into account the inherited emission

VVB Assessment	**Date:** 24/03/2023

[3]Resolution CFM_19_1_Endorsement of Indoneisa ER Program FINAL.pdf (forestcarbonpartnership.org)

It has been clarified that an upward adjustment itself has not been applied, but the CFPs agreed to provide a one-time waiver to Indicator 13.1 of the MF to use emission level of peat decomposition year 2018 as baseline historical emission and keep it constant for years after 2018. Documented evidence was provided. Thus, the pending requests 1) and 3) are not longer required. Therefore, MCAR 34 is closed.

NC ID: minor	**35**	**Date: 18/11/2022**
Description of NC		
In MR Annex 4: 9.2 section is mentioned "For MMR of peat and forest fire, as seen in Figure 9.1". The reference is not correct.		
Project Participant response		**Date:** 04/01/2023
We appreciate your concern. The sentence should mention the reference to Figure 9.1 (Method for estimating burnt area from hotspot data (MoEF, 2021) at page 155.		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
The text has not been updated in the MR. The figure has been eliminated. Therefore, mCAR 35 is not closed.		
Project Participant response		**Date:** 08/03/2023
We were updated and corrected as mention from figure 9.1 to figure 8.1. (MMR of peat and forest fire) was inserted in the Annex 4: Section 8.3		
VVB Assessment		**Date: 24/03/2023**
The text and the figure have been correctly updated in the MR. Therefore, mCAR 35 is closed.		

NC ID: Major	**36**	**Date: 18/11/2022**
Description of NC		
In section MR 4.1: 1- The values in table 4-1 do not correspond to the assumed values in the table in MR Annex 4: 8.4 'Final Estimated Reference Emission Level for East Kalimantan', but rather to the 'ER Program Reference level' values (assumed which are pre adjustment). 2- The introduction paragraph does not indicate the complete figures in the required format (000,000,000.00; such as 23.9M and 3.5M, for example). This is repeated in the case of sections MR 4.2		

and MR 4.3.

3- The reference "See Annex 4 Table 8.22" is not correct, there is no such table.

4- Table 4-1 does not indicate that the values are annual.

5- An explanation (or a reference to the section) is not included for the difference in values between the ER Program Document and the Technical Corrections, as requested by the template ("If there are differences, explain these differences and whether Technical Corrections have been applied").

6- The title of table 4-2 is not correct (regarding the interpretation of the values).

7- The source (or link) of the RL values in Table 4-2 is not indicated.

8- A table with the prorated values for the Reporting Period has not been included.

Project Participant response	**Date:** 04/01/2023

1. *Corrections have been made in Annex 4, 8.4.*
2. *Done*
3. *Deleted "*See Annex 4 Table 8.22"
4. *Table 4.1 is annual number*
5. *See summary of technical correction and table 4.1*
6. *Corrected, due to rounding off calculation numbers.*
7. *See sheet 'Sum All' on file for emission calculation – https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx*
8. *Added on Table 4.2*

Documentation provided by the Project Participant

VVB Assessment	**Date:** 24/01/2023

1. The values have been corrected.
2. Some figures in section 4.1 have been updated, but others remain in the incorrect form (23.9M and 3.5M). Sections 4.2 and 4.3 have been correctly updated.
3. The section has been updated and deemed correct.
4. It is not stated on the table description. Please update accordingly.
5. The summary or the reference to the section in which the summary is included is not addressed.
6. The table title is still incorrect regarding the dates.
7. The source has been updated and deemed correct.
8. The table has been updated and deemed correct.

Therefore, MCAR 36 is not closed.

Project Participant response	**Date:** 08/03/2023

Table 4.A-1 amended to show annual emission calculation and explanation added on difference between emissions in ERPD and technical correction (indicating that ERPD most likely overestimated). Table 4-2 also amended.

Text in the document:

Under the corrected Reference Level (see Annex 4), the average annual historical emissions from deforestation reached 23,949,437.32 tCO_2e per year, whereas from forest degradation reached

3,520,419.08 tCO_2e per year. 'Deforestation' includes all emissions associated with change from forest to non-forest cover, including living biomass, peat decomposition, peat fires in deforested areas, and mangrove soil in deforested areas. 'Degradation' includes all emissions associated with change from high biomass forest to lower biomass forest and includes living biomass, and peat decomposition and fires in secondary forest. Based on that, the reference level for this reporting period is 27,469,856.40 tCO_2e per year.

Table 5.A - 1. Comparison of Reference Level between 2019 ERPD and Technical Correction

	ER Program Document		Technical Correction	
	Deforestation (ton CO_2e/yr)	Forest degradation (ton CO_2e/yr)	Deforestation (ton CO_2e/yr)	Forest degradation (ton CO_2e/yr)
Living biomass	49,735,619.29	14,701,507.87	23,058,668.41	2,391,882.73
Peat decomposition	109,330.85	929,875.96	55,852.42	987,517.06
Fire	33,555.69	1,804,726.13	105,267.80	141,019.29
Mangrove soil	1,091,581.22	0.00	729,648.69	0.00
Total	**50,970,087.05**	**17,436,109.96**	**23,949,437.32**	**3,520,419.08**
	68,406,197.00		**27,469,856.40**	

From Table 4A-1 above, the emission calculation in 2019 ERPD is most likely overestimated. There is significant different in term of adjusted total deforestation area in reference period 2006-2016 from the previous calculation in ERPD (2019) and technical correction. The deviation is 422,796 hectares as shown in Table A4.1. Adjusted forest degradation is also reduced quite significant from ERPD and technical correction, from 276,780 hectares to 140,974 hectares. On the other hand, emission factor (EF) in technical correction is recalculated using NFI samples rather than PSP FCPF samples, and the EF value for 6 forest classes is higher that EF using in ERPD. As consequences, once deforestation happened in this forest classes, the emission will systematically increase. Therefore, the size of deforestation area is the major contributor of different emission calculation between ERPD (2019) and technical correction.

Table 4-2. The emission of deforestation and forest degradation during monitoring and reporting period based on emission reference Level from technical correction 2006 - 2016

Year of Monitoring/ Reporting period *t*	Average annual historical emissions from deforestation over the Reference Period (tCO_{2-e}/yr)	If applicable, average annual historical emissions from forest degradation over the Reference Period (tCO_{2-e}/yr)	If applicable, average annual historical removals by sinks over the Reference Period (tCO_{2-e}/yr)	Adjustment, if applicable (tCO_{2-e}/yr)	Reference level (tCO_{2-e}/yr)
MONITORING PERIOD					
1 July 2019 – 30 June 2020	23,949,437.32	3,520,419.08			27,469,856.40
1 July 2020 – 30	23,949,437.32	3,520,419.08			27,469,856.40

June 2021					
Total	47,898,874.64	7,040,838.17			54,939,712.80
REPORTING PERIOD					
1 July 2019 – 30 June 2020	23,949,437.32	3,520,419.08			27,469,856.40
1 July 2020 – 31 December 2020	11,974,718.66	1,760,209.54			13,734,928.20
Total	35,924,155.98	5,280,628.62			41,204,784.60

See sheet 'Sum All' on file for emission calculation –

https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx

VVB Assessment	**Date: 24/03/2023**

2. The figures have been corrected.

4. The table values description has been updated and deemed correct.

5. The explanation is included and deemed correct.

6. The table description has been updated and it is clear now.

Therefore, MCAR 36 is closed.

NC ID: minor	**37**	**Date: 18/11/2022**

Description of NC

In section MR 4.2:

1- "So, total net emissions for period July 2019-June 2020 is 2.1M tCO2e per year and July 2020-June 2021 is 7.2M tCO2e per year". Mentioning "per year" is confusing when at the same time the annual period is indicated.

2- Please include a table with the breakdown of emissions by pool and source (same as Table 4-1).

Project Participant response	**Date:** 04/01/2023

1. *Done*
2. *Not mention in template*

Documentation provided by the Project Participant

VVB Assessment	**Date:** 24/01/2023

1. The section has been updated and deemed correct.
2. The template indeed does not requires it.

Therefore, mCAR 37 is closed.

NC ID: Major	38	Date: 18/11/2022
Description of NC		
In section MR 4.3: 1- The approach used for the adjustment between the Monitoring Period and the Reporting Period has been to pro-rate the number of days between both periods (that is, considering 549 [366+183] days out of 730). However, table 4-4 (MR 4.2) shows for the period 2020-2021 the emissions of 0.5 years, in line with the explanation in MR 4.3 "The Emission Reduction calculation is then done by subtracting the 1.5 amount of carbon of RL (annual) with the sum of emissions for 2019-2020 + half of (RL minus emissions for 2020-2021)". The approach used is correct, but the second explanation (weighting 1.5 of the period) is not exactly equivalent (0.75 years is not exactly equivalent to 549/730 days). Please adapt the explanation, although the calculations are correct in Table 4-4 (MR 4.3) and adapt Table 4-4 (MR 4.2). 2- Section states "Emission Reduction Calculation during the reporting period presented in table 4-4 covers the period of 548 days". According to calculations it is 549. 3- "East Kalimantan has produced emission reductions of 25.77M tCO2e". This is not correct. 4- The template requests to "Set aside a number of ERs *…+ in a buffer reserve. This amount reflects the level of uncertainty associated with the estimation of ERs generated during the Crediting Period". Indicate the reasons in the text if this buffer is not applicable.		
Project Participant response		**Date:** 04/01/2023
1. *Done* 2. *Done* 3. *Done* 4. *Not in template*		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
1. The section has been updated and deemed correct. 2. The section has been updated and deemed correct. 3. The section has been updated and deemed correct. 4. The information is included in section 5.1 and 8 of the MR. Therefore, MCAR 38 is closed.		

NC ID: Major	39	Date: 18/11/2022
Description of NC		

In section MR 5.1, the table column Analysis of contribution to overall uncertainty does not include a detailed explanation of (according to MR template request): 1) the rationale to conclude whether its contribution to total uncertainty of Emission Reductions is high or low, 2) measures that have been implemented to address these sources of uncertainty as part of the Monitoring Cycle (including specific references to QA/QC procedures, training, measures, etc.). Update also table in section MR 12.1.

Project Participant response	**Date:** 04/01/2023

1. *Done*
2. *already available in the table*

Documentation provided by the Project Participant

VVB Assessment	**Date:** 24/01/2023

No significant changes have been done to the previous report in this regard. The detailed explanation addressing these points for each source of uncertainty is still incomplete.

Therefore, MCAR 39 is not closed.

Project Participant response	**Date:** 08/03/2023

Paragraph of explanation included for each source of uncertainty.

Table 5.A in the Document:

Sources of uncertainty	**Analysis of contribution to overall uncertainty**	**Co t u (H**
Activity Data		
Measurement	Annual land cover map produced by MOEF is the primary sources of activity data in this ER program. The map accuracy relies on the interpreter which varies in term of experience when the manual interpretation took place. This situation may lead to inconsistency during delineation of Landsat image to land cover class. As deforestation and forest degradation are identified using this map, therefore the accuracy of land cover map is pivotal and contribute significantly to overall ER uncertainty. In order to maintain consistency of the delineation process, the Landsat interpreter must have equal capacity and basic understanding about the interpretation process. Through training program, the capacity of interpreter will be upgraded and refreshed. MOEF as institution that responsible to produce the map, provides Standard Operating Procedures (SOPs) and manuals to guide the interpreters to do the satellite image interpretation. Another unit in MOEF running the QC/QA process is to quantify the land cover map accuracy and to fix any inappropriate data. All this measure action will ensure that the land cover map is accurate and suitable for further analysis including deforestation and forest degradation calculation.	*Hi (rc*
Representative	As much as 150 points samplings were distributed for each land cover change (LCC) categories. There are 6 possible categories as a result of analysing two land	*Lo*

ness	cover maps (T_0 and T_1) that is area of deforestation, forest degradation, forest gain, stable primary forest, stable secondary forest and stable non forest. If all land cover change categories applicable, therefore there will be 900 sample points. Each sample point will be representing an area of 6.25 hectare, so that in total there will be 5,625 hectares of sampling area for assessing the accuracy of East Kalimantan land cover change. In relation to East Kalimantan jurisdictional area, the sampling intensity for all East Kalimantan area is about 0.04% but for deforestation alone, the sampling intensity is 0.15%. Using this guideline, the representatives is well addressed therefore the contribution to overall uncertainty is low.			
Sampling	150 sample points is distributed using stratified simple random sampling for evaluating each land cover change. This is called as probability sampling. This approach ensures that ER program follows a robust sampling design in term of activity data preparation. Robust sampling design will increase the confidentiality of land cover change estimation. Probability sampling is expected to reduce uncertainty and therefore the contribution of sampling is essential.	*Hi h (ra ndom / bia s)*		*YES*
Extrapolation	There is no extrapolation conducted to prepare activity data for this ER program. Deforestation is estimated per forest class, based on reference data. Therefore, this source of uncertainty is not applicable to our approach.	*In entionally lef blank*		*Intenti left bla*
Approach 3	The source of uncertainty of Approach 3 in East Kalimantan ER program may come from massive cloud cover that persist in Landsat images as sources for land cover interpretation. However, as mentioned in the interpretation guideline (https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/petunjuk-teknis-penafsiran-citra-satelit-resolusi-sedang.pdf) , on the area where cloud exists, the interpreter may use additional imageries such as mosaics of Landsat image from previous year or high resolution image (SPOT 6/7 if available) or download additional Landsat scene from here http://landsat-catalog.lapan.go.id/	*Low (bias)*		*YES*
Emission Factor				
DBH measurement	DBH is variable of tree measured directly during field survey. DBH is proxy data to estimate biomass and carbon using allometric equation. Another variable is tree height. Compare to DBH, tree height is difficult to measure. Both variables are then very important and are contributor for any uncertainty in emission estimation. Plot delineation is also important to ensure only tree inside sample plot that is measured. Technically, during sample plot establishment in the ground, the plot line boundary or delineation is open clear at least 1 meter wide. Flagging tape often puts along the plot line. The process to measure DBH, height and establishing plot delineation follow manual or guideline that already provide by IPSDH MOEF (https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/Petunjuk Teknis Enumerasi TSP dan PSP.pdf). Field surveyor is expected one person who has forestry background. The survey team is preferable led by researcher or universities -forestry staff. Training is mandatory prior survey.	*High (bias)* *Low (ra ndom)*		*YES*
H measurement		*Low (ra ndom)*		*YES*
Plot delineation		*Low (ra ndom)*		*YES*
Wood density estimation	The complexity of forests structure and tree species composition in East Kalimantan make wood density important variable for estimating biomass. The inclusion of wood-density classes improves the performance of allometric equation for lowland tropical forests. Furthermore, diameter and wood density are essential variables in estimating AGB in highly diverse tropical ecosystems (Manuri et al., 2017). The source error of wood density is possibly due to limited	*Low (ra ndom)*		*YES*

	data availability and variation among samples from the same species. Therefore, it is necessary to encourage more research to add wood density database of tropical forests in East Kalimantan.			
Biomass allometric model	Biomass allometric equation directly affects emission factor for each land cover classes. In this ER program, EF uncertainty is expected to get lower and lower. At this point, uncertainty of EF of primary and secondary dryland forest are 9.27% and 5.24%, respectively. This uncertainty is low. It is expected that other land cover classes will have EF uncertainty less than 10% as well. However, the sample tree data used to construct biomass allometric models is still relatively limited to trees of a certain size. Since biomass is calculated using allometric model of one or two measured variables, therefore the contribution of error is quite high to emission prediction. In order to control the error source from allometric equation, it is recommended to add more available field data to update the existing allometric model.	*Hi h (ra ndom)*		*YES*
Sampling	Sampling error is the statistics representing error due to collecting data using sample (part of population) rather than all population element. Emission factor is generated from sample plots therefore sampling is also contributor of overall uncertainty of EF. This source of error is random and is considered to be high if sample do not represent all variation of population. By adding more sample plots and the plot is distributed following probability sampling, then the error is expected low.	*Hi h (ra ndom)*		*YES*
Carbon Fraction	Carbon fraction uses the values listed in Table 4.3 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4: Agriculture, Forestry and Other Land Use https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_04_Ch4_Forest_Land.pdf Carbon fraction default values is expressed as 0.47. In tropical and subtropical forest, the lowest value of carbon fraction is 0.43 while the highest one is 0.49. Deviation is quite small, therefore carbon fraction contribution to overall EF uncertainty is low.	*Low (bias / random)*		*YES*
Root to-shoot ratio)	Root shoot ratio using the IPCC GPG LULUCF Table 3A.1.8 - https://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/Chp3/Anx_3A_1_Data_Tables.pdf Root to shoot ratio (R:S ratio) varies depending on the land cover type. From 23 land cover classes in Indonesia, the lowest R:S ratio is 0.24 while the highest one is 1.58 (savanna & grasses, pure dry agriculture, bare ground and Settlement). The deviation of lowest and highest value of R:S ratio is quite significantly different, therefore R:S ratio most likely have high contribute to overall uncertainty. Similar to carbon fraction, ER program managemeny is encouraged to support any research on this topics at local scale.	*Hi h (bias / random)*		*YES*
Representativeness	From regional point of view, 23 classes of land cover are suitable enough to accommodate all physical variation on the ground. Emission factor has been set to all these land cover class (forest and nonforest classes). It is expected emission uncertainty from deforestation and forest degradation would be lower. The potential error sources regarding to representativeness is the sample plot is not randomly distributed. With lack of access to reach all forest area, sample plot may distributed purposively following road or stream network. In this case, the error would be increased. Representativeness should be accommodated through robust sampling design using stratified random sampling.	*Hi h (bias)*		*YES*

Integration			
Model	The combination of AD & EF does not necessarily need to result in additional uncertainty. Usually, sources of both random and systematic error are the calculations conducted in spreadsheets. Common error is incomplete equation script during data processing. The MRV team of East Kalimantan has implemented an automated script to calculated emissions and uncertainty in spreadsheet as well as in GIS web-based platform. This efforts should greatly reduce the possibility of mistakes in the calculations. The outputs of the activity data and emissions spreadsheets were double checked by MRV team member through MRV working group meeting.	*Low (bias)*	*YES*
Integration	This source of error is linked to the lack of comparability between the transition classes of the Activity Data and those of the Emission Factors. Using Landsat image (spatial resolution 30 m), some of land cover classes may looks similar and therefore it is difficult to differentiate. On the other hand, there is physical feature that really unique as seen on Landsat (such as karst) but there is no class for this landscape. Meanwhile, we almost agree that forest structure and composition in karst area is unique and quite different compare to primary or secondary dryland forest.	*Low (bias)*	*YES*

VVB Assessment	**Date:** 24/03/2023
Table 5 have been updated and the analysis of contribution to overall uncertainty is deemed correct. Therefore, MCAR 39 is closed.	

NC ID: Major	**40**	**Date: 18/11/2022**
Description of NC		
Table 14 in section 5.2 is not complete, some fields not complete in 'Error sources quantified in the model (e.g. measurement error, model error, etc.)', 'Probability distribution function', 'Assumptions'. Update also table in section MR 12.2.		
Project Participant response		**Date:** 04/01/2023
Link for parameter values works well.		
Documentation provided by the Project Participant		
See sheet 'EF_EKJERP' excel file https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx		
VVB Assessment		**Date:** 24/01/2023

No significant changes have been done to the previous report in this regard.

Project Participant response	**Date:** 08/03/2023

Table amended and additional paragraph of explanation included.

Table 5.B. in the document (Page 57):

Parameter included in the model	Parameter values	Error sources quantified in the model (e.g. measurement error, model error, etc.)	Probability distribution function	Assumptions
Project Area	12,734,692 ha	Intentionally left blank	Intentionally left blank	ER program document
Length of reference period	10 years	Intentionally left blank	Intentionally left blank	ER program document
Carbon Fraction	0.47	Measurement error	Triangular (lower bound = 0.44, upper bound = 0.49, mode = 0.47)	IPCC 2006
Ratio of molecular weights of CO_2 and C	44/12	Intentionally left blank	Intentionally left blank	Default
Root to shoot ratio (R:S ratio)	0.24 0.32 0.36 0.48 1.58	Measurement error	Intentionally left blank	2006 IPCC GPG LULUCF Table 3A.1.8. See sheet 'EF_EKJERP' excel file https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx
AGB stock	See sheet 'EF_EKJERP' excel file https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx	Sampling error Measurement error	Normal distribution	Intentionally left blank
Activity data	See sheet 'UncertaintyAD' excel file https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx	Measurement error	Non-parametric bootstrapping	Intentionally left blank

VVB Assessment	**Date:** 24/03/2023

The table has updated as per requirements and it is deemed corrected. It is assumed that, althought appearing in the table, fixed parameters (Project Area, Length of Reference period, Ratio of C:CO2, R:S) do not participated in the MC simulation.

Therefore, MCAR 40 is closed

NC ID: minor	**41**	**Date: 18/11/2022**

Description of NC

1- Reference sources of Table 5 in MR 5.2 and Table 6 in MR 5.3.

2- Formula in Table 5 (MR 5.2) 'D: Half Width Confidence Interval at 90% (B – C/2)' is not correct (although the result is).

Project Participant response	**Date:** 04/01/2023

1. Done.

2. Wrong formula on template. Correct formula and used are = (B – C)/2

Documentation provided by the Project Participant

VVB Assessment	**Date:** 24/01/2023

1. Sources are not referenced.
2. Please, change the formula to (B – C)/2

Therefore, mCAR 41 is not closed.

Project Participant response	**Date:** 08/03/2023

Table 7 (previously 5.C) and text in the document (page 58):

		Total Emission Reductions*
A	**Median**	35,404,709.61
B	**Upper bound 90% CI** (Percentile 0.95)	31,595,294.53
C	**Lower bound 90% CI** (Percentile 0.05)	39,343,003.80
D	**Half Width Confidence Interval at 90% ((B – C)/2)**	3,873,854.63
E	**Relative margin (D/A)**	11%
F	**Uncertainty discount**	0

In the table above, emission sources are not presented in order to simplify the table. In this ER program there are six sources of emission that is deforestation and forest degradation of living biomass, mangrove soil, peat decomposition, peat fire and fire in stable forest. All the emission sources have been calculated as well as the uncertainty that evaluated using Monte Carlo. Complete information on emission reduction calculation using Monte Carlo for each emission sources is available through https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx .

VVB Assessment	**Date: 24/03/2023**

The table has been updated and clarification about the sources was provided.

Therefore, mCAR 41 is closed.

NC ID: Major	**42**	**Date: 18/11/2022**

Description of NC

Table in 12.1 is not aligned with the information requested by MR in this section. See also non-conformity regarding section MR 5.1 section.

Project Participant response	**Date:** 04/01/2023
Done. Change of template	
Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023
The tables still not comply with the information required: please indicate clearly how systematic and random errors have been addressed in accordance with the guidelines. See also non-conformity regarding section MR 5.1 section.	
Project Participant response	**Date:** 08/03/2023

Table 13 in Section 12.1 of the Document – page 181:

urces of certainty tivity Data	Analysis of contribution to overall uncertainty
easurement	Annual land cover map produced by MOEF is the primary sources of activity data in this ER pro relies on the interpreter which vary in term of experience when the manual interpretation may lead to inconsistency during delineation of Landsat image to land cover class. As degradation are identified using this map, therefore the accuracy of land cover map is significantly to overall ER uncertainty In order to maintain consistency of the delineation process, the Landsat interpreter must basic understanding about the interpretation process. Through training program, the capac upgraded and refreshed. MOEF as institution that responsible to produce the map, prov Procedures (SOPs) and manuals to guide the interpreters to do the satellite image interp r MOEF run the QC/QA process, to quantify the land cover map accuracy and fixed any ina measure action will ensure the land cover map is accurate and suitable for further analysis inc forest degradation calculation.
presentative ness	As much as 150 points sampling were distributed for each land cover change (LCC) categor categories as a result of analysing two land cover maps (T_0 and T_1) that is area of deforesta forest gain, stable primary forest, stable secondary forest and stable non forest. If all land applicable, therefore there will be 900 sample points. Each sample point will be representing so that in total there will be 5,625 hectares of sampling area for assessing the accuracy of Ea change. In relation to East Kalimantan jurisdictional area, the sampling intensity for all East 0.04% but for deforestation alone, the sampling intensity is 0.15%. Using this guideline, th addressed therefore the contribution to overall uncertainty is low.
mpling	150 sample points is distributed using stratified simple random sampling for evaluating each is called probability sampling. This approach ensures that ER program follow robust sampling data preparation. Robust sampling design will increase the confidentiality of land cover chang sampling is expected to reduce uncertainty and therefore the contribution of sampling is ess
trapolation	There is no extrapolation conducted to prepare activity data for this ER program. Deforestatio class, based on reference data. Therefore, this source of uncertainty is not applicable to our
proach 3	The source of uncertainty of Approach 3 in East Kalimantan ER program may come from mas persist in Landsat images as sources for land cover interpretation. However, as mentioned in guideline (https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/petunjuk-teknis-pe resolusi-sedang.pdf) , on the area where cloud exists, the interpreter may use additional ima of Landsat image from previous year or high resolution image (SPOT 6/7 if available) or dow Landsat scene from http://landsat-catalog.lapan.go.id/
nission Factor	
H measurement *easurement*	DBH is variable of tree measured directly during field survey. DBH is proxy data for estima using allometric equation. Another variable is tree height. Compare to DBH, tree height is c variables are the very important and are contributor for any uncertainty in emission estim also important to ensure only tree inside sample plot that is measured. Technically, during sa
ot delineation	in the ground, the plot line boundary or delineation is open clear at least 1 meter wide. Flagg the plot line. The process to measure DBH, height and establishing plot delineation follow already provide by IPSDH MOEF (https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Gu Enumerasi TSP dan PSP.pdf). Field surveyor is expected one who has forestry background. The survey team is preferab universities -forestry staff. Training is mandatory prior survey.
ood density timation	The complexity of forests structure and tree species composition in East Kalimantan make variable for estimating biomass. The inclusion of wood-density classes improved the pe

VVB Assessment	**Date:** 24/03/2023
Section has been updated properly. Therefore, MCAR 42 is closed.	

NC ID: Major	**43**	**Date: 18/11/2022**
Description of NC		
1- Table in 12.2 is not aligned with the information requested by MR in this section. 2- Indicate why the uncertainty has been carried out for deforestation and degradation separately (while in section MR 5.3 is calculated jointly. Explain how also how the Uncertainty discount is taken into account (to differentiate it from the Uncertainty discount indicated in 5.2). 3- Reference sources in section 12.2 and 12.3.		
Project Participant response		**Date:** 04/01/2023
1. *Done. Change of template* 2. *MR 5.3 calculate separately, see excel file* fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx 3. *Done. No section 12.3.*		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
1. Certain fields of the table are still empty. See also non-conformity regarding section MR 5.1 section. 2. Please clarify the reason requested in the MR text. 3. The section is updated and deemed correct.		
Project Participant response		**Date:** 08/03/2023
Revised Table in the Document Section 12.2:		

Parameter included in the model	Parameter values	Range or standard deviations		Error sources quantified in the model (e.g. measurement error, model error, etc.)	Probability distribution function	Source of assumptions made
		Lower	Upper			
Project Area	12,734,692 ha	Intentionally left blank	Intentionally left blank	Intentionally left blank	Intentionally left blank	ER program document
Length of reference period	10 years	Intentionally left blank	Intentionally left blank	Intentionally left blank	Intentionally left blank	ER program document
Carbon Fraction	0.47	0.43	0.49	Measurement error	Triangular (lower bound = 0.44, upper bound = 0.49, mode = 0.47)	IPCC 2006 - https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_04_Ch4_Forest_Land.pdf
Ratio of molecular weights of CO_2 and C	44/12	44/12	45/12	Intentionally left blank	Intentionally left blank	The weight of carbon isotopes contains in molecules found in the atmosphere (i.e. CO_2), mainly 12C and 13C
Root shoot ratio	0.24 0.32 0.36 0.48 1.58	0.22 0.27 0.31 0.33 1.09	0.26 0.37 0.41 0.63 2.07	Measurement error	Intentionally left blank	2006 IPCC GPG LULUCF Table 3A.1.8 https://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/Chp3/Anx_3A_1_Data_Tables.pdf See sheet 'EF_EKJERP' excel file fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx
AGB sample	See sheet 'EF_EKJERP' excel file fcpf_ekjerp_e	Intentionally left blank	Intentionally left blank	Measurement error	Non-parametric bootstrapping	Intentionally left blank

VVB Assessment	**Date:** 24/03/2023

1. The table has been completed as per requirements.
2. Point 2) above has not been clarified yet.

Therefore, MCAR 43 is not closed.

Project Participants Response	**Date: 24/03/2023**

For the calculation of all emissions, we use different uncertainty numbers for each calculation parameter as described in 5.2, and the overall calculation is carried out at the end, as shown in section

5.3. Please see excel fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx, sheet "Sum All" For static number, see excel file fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx, sheet "All". This calculation has also followed the guidance provided.	
VVB Assessment	**Date: 08/06/2023**
The explanation provided is deemed correct. Therefore, MCAR 43 is closed	

NC ID: Major	**44**	**Date: 18/11/2022**
Description of NC		
Regarding MR 7.3 section: 1- The Reversal Risk evaluation has not established indicators for the Risk Factors that allow discerning the threshold for considering a risk as low, medium or high, and its consequent assignment of a Reversal Risk Set-Aside Percentage for each type of risk. 2- In addition to the Risk Factors listed in the Buffer Guidelines, other Reversal Risk factors with an impact on large-scale deforestation/degradation have not been evaluated, such as economic (international palm oil price/demand), or political (transfer of the national capital to EK Kalimantan) factors. 3- It is not indicated how the ER Program' design and implementation mitigates significant risks of Reversals identified in the assessment to the extent possible, and addresses the sustainability of ERs, both during the Crediting Period, and beyond the Crediting Period, according to MF Indicator 18.2.		
Project Participant response		**Date:** 04/01/2023
We recommend that you read the ER-PD document, regarding program components and risk mitigation efforts. Components, programs and activities are actions that are simultaneously carried out to reduce reversals, as well as being contained in the ESMF and other safeguards documents.		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
There are no changes in the MR 7.3 section that attends the three requests of this finding. Although a reference to the ER-PD is done: 1. The ER-PD does not provide indicators for the Risk Factors that allow discerning the threshold for considering a risk as low, medium or high, and its consequent assignment of a Reversal Risk Set-Aside Percentage for each type of risk. This is a particular request for the current MR. Indeed; the ER-PD assigns a medium risk per each factor, while in the MR the same factors are classified as low. 2. Other factors with an impact on large-scale deforestation/degradation that may have come up since 2019 have not been evaluated, like the ones commented above. 3. While the ER-PD indicates the mitigation measures, at least a summary is not included in the MR. On the other hand, there is no mention regarding the sustainability of ERs, both during the Crediting Period, and beyond the Crediting Period, according to MF Indicator 18.2. Therefore, MCAR 44 is not closed.		
Project Participant response		**Date:** 08/03/2023
Clarification on risk factor is explained in MR Section 7.3		

VVB Assessment	Date: 24/03/2023
1. Clarification has not been provided. Points 2) and 3) not yet address in full. Therefore, MCAR 44 is not closed.	
Project Participants Response	**Date: 10/05/2023**
2. Adding a paragraph to Risk Factor C: Related to the existence of a new capital city of Indonesia (IKN), we have already carried out emission calculations in that area, if a forest area clear cut is carried out. In 2018, there were 6,049 hectares of forested areas and had the potential to release emissions of 1.6 million tons of CO_2e, if a clear-cut was carried out. However, the IKN Plan has stated that a "Forest City" will be built (https://en.antaranews.com/news/259041/ikn-development-with-forest-city-concept-to-mitigate-climate-change) and protecting forested areas in the IKN area, including reforesting non-development areas. "*The Forest City concept requires at least 65% forest cover, which can be achieved by forest and land rehabilitation efforts in the 58,570 ha of IKN area*" (- https://ikn.go.id/en/stay-connected#faq). Regarding the situation of the world's oil palm commodity, the condition of oil palm plantations in East Kalimantan, based on estate crops statistical data, the total area of oil palm plantations in East Kalimantan in 2019, it was 1.23 million hectares with production of 18.34 million tons, and in 2021 it was 1.37 million hectares with production of 17.72 million tons. There was no significant increase in the area of oil palm plantations (0.14 million hectares in 2 years). So that changes in the world have no effect on the situation in East Kalimantan. 3. There is no significant risk of reversal based on the results of the analysis, however, program and activity designs, including precautionary measures in safeguards, have been planned and carried out in the reporting period, and are planned and will be carried out in activities until the end of the program period.	
VVB Assessment	**Date: 28/06/2023**
Not closed. The information provided to justify the downgrade of the reversal risk with respect to the PD is not sufficient. Note that the two scenarios are: 1. It is sufficiently justified for each type of risk which were the actions that justify the reduction of the risk with respect to the PD. Please review the comments in the attached verification report. In this case, please provide the updated MR with the justification that relates the actions to risk reduction. 2. In line with the guidance text of the ER-MR template Section 7 and with the general principle of conservativeness, if there is not enough evidence for the downgrade, the same reversal risk assessed in the PD should be used. In that case, please, provide the updated MR (section 7) and related Annexes (e.g. section 8 Excel).	
Project Participant response	**Date: 31/08/2023**
In response to the comments in the verification report, the Government of East Kalimantan has made efforts to maintain the low-risk reversal since 2018 through designation of areas for High Conservation Values (HCV) inside oil palm concessions for seven districts in East Kalimantan. The indicative maps for High Conservation Values for each district have been completed. The total areas for HCV in seven districts are **456,827ha**. It means these designated areas for HCV are not allowed to be cleared for forest convertion. In order to ensure those areas are protected from clear cutting, then each district has published district regulation regarding to the protection of HCV area. The scope of protection areas designated as High Conservation Areas include as follows: a. Wildlife protection and its habitat inside the oil palm concession (species with status of critical endangered such as orangutan) b. Reservation of intact forest landscape within the management unit that is connected to the wider expanse of forest (for concession with the core licensed area more than 20k ha)	

c. Reservation of areas that can provide clean water for the people who are downstream of the management unit (such as riparian areas)
d. Protection of areas within management units that are important and have cultural values for communities around the forest.

The seven district regulations are compiled into this document that consists of sustainable estate crops management including the HCV policy for each district.

The compiled document consists of as follows:

1. Provincial Regulation No.7 Year 2018 about sustainable of estate crops management[1]
2. Governor Regulation No.12 year 2021 about Criteria of High Conservation Value[2]
3. Governor Regulation No.43 Year 2021 about HCV Management in Estate Crops[3]
4. Governor's Decree No.525/K.244/2022 about Designated Areas for HCV inside Oil Plam Concessions in East Kalimantan[4]
5. Head of Berau District Decree No.287 Year 2020 about indicative maps for HCV in Berau District[5]
6. Head of Kutai Barat District Decree No.800.05.521.12/K.1489/2021 about indicative maps for HCV in Kubar District[6]
7. Head of Kutai Kartanegara District Decree No.475/SK-BUP/HK/2021 about indicative maps for HCV in Kukar District[7]
8. Head of Mahakam Ulu District Decree No.520/K.205/2021 about indicative maps for HCV in Mahulu District[8]
9. Head of Penajam Paser Utara District Decree No .525/83/2022 about indicative maps for HCV in Penajam Paser Utara District[9]
10. Head of Paser District Decree No525/KEP-73/2022 about indicative maps for HCV in Paser District[10]
11. Head of Kutai Timur District Decree No.525//K.498/2022 about indicative maps for HCV[11] in Kutai Timur.

2. Based on the first ER monitoring period (July 2019 – December 2020) that include evaluation of large-scale deforestation/degradation, unlicensed land clearing became the main driver of deforestation following up with the oil palm. The deforestation rate has sharply decreased compared to the baseline period (2006 – 2016). The announcement and commitments through district regulations from seven districts/regencies to provide areas for HCV protections (remaining natural forest inside concessions) contributed to the slowing down of land clearing in oil palm sector.

3. The implementation of those provincial and district regulations is conducted and monitored in order to ensure the sustainability of ERs during the Crediting Period and beyond the Crediting Period.

VVB Assessment	**Date: 07/09/2023**
Country Participant completed the Risk Factor A of the Reversals and provided the Exhibits confirming the reported information, however: - Regarding Risk Factor A, a comparison has not been presented to justify the quantification of the percentage reduction. In other words, if the Reversal Risk Set-Aside % in this Risk factor (A) went from 5% to 0%, what is the quantitative justification supported by the comparison between what is reported in the PD and the MR.	

[1] Page 7 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[2] Page 50 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[3] Page 61 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[4] Page 108 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[5] Page 126 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[6] Page 133 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[7] Page 139 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[8] Page 145 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[9] Page 151 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[10] Page 157 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[11] Page 163 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)

- The Risk Factor B, C, D have not had any improvement, neither with respect to the provision of evidence nor with respect to the comparative justification of the reduction. In addition, there has also been no improved information regarding factors with an impact on large-scale deforestation/degradation, such as the transfer of the national capital to EK Kalimantan or deeper analysis on the effect of the El Niño phenomenon.
Therefore, the information provided to justify the downgrade of the reversal risk with respect to the PD is not sufficient. The two scenarios are:
1. It is sufficiently justified for each type of risk which were the actions that justify the reduction of the risk with respect to the PD, this means addressing the explanation, providing the evidence and comparative justification of the downgrade. If this is the route, please provide the updated MR with the justification that relates the actions to risk reduction.
2. In line with the guidance text of the ER-MR template Section 7 and with the general principle of conservativeness, if there is not enough evidence for the downgrade, the same reversal risk assessed in the PD should be used. In that case, please, provide the updated MR (section 7) and related Annexes (e.g. section 8 Excel).

Project Participant response	**Date: 05/10/2023**

Risk Factor A: Lack of comprehensive and sustained support of the relevant stakeholders
The successful implementation and sustainability of emission reductions is dependent on active contributions from the various levels of government, from the private sector, and from local communities. It is confirmed that much of the ER Program's sustainability depends on the continued political will of the national, provincial, and district governments to implement the policies that the ER Program is supporting. These policies include the policy on sustainable estate crops, the HCV and RIL policies, social forestry, and other key policies linked to land governance.

Current support for these policies is strong at the national and provincial levels, and many of the policies are integrated into the medium-term development plan. Up to 2020, policies to support ER implementation have been formulated and issued such as continuation of moratorium licenses on coal mining, application of one service for all licenses policy, issuance of regulation on sustainable estate crops (No.7/2018[12]), East Kalimantan Governor Regulation on Criteria of High Conservation Area (HCVA)[13], and Berau District's decree on HCVA (No.287/2020[14]). This HCVA decree from Berau District is one of important efforts to avoid negative impacts on local development of oil palm expansion to natural forests. The indicative maps for High Conservation Values for each district have been completed and are used as references for district regulation to the HCV policies. Later on, the other districts have followed to produce districts' decrees on High Conservation Area. By end 2022, all seven disticts have issued the HCV policies that effectively being implemented in the fields.

The total areas for HCV in seven districts are 456,827ha. It means these designated areas for HCV are not allowed to be cleared for forest conversion. In order to ensure those areas are protected from clear cutting, then each district has published district regulation regarding to the protection of HCV area.

The scope of protection areas designated as High Conservation Areas include as follows:

a. Wildlife protection and its habitat inside the oil palm concession (species with status of critical endangered such as orangutan)
b. Reservation of intact forest landscape within the management unit that is connected to the wider expanse of forest (for concession with the core licensed area more than 20k ha)
c. Reservation of areas that can provide clean water for the people who are downstream of the management unit (such as riparian areas)
d. Protection of areas within management units that are important and have cultural values for communities around the forest.

The seven district regulations are compiled into this document that consists of sustainable estate crops

[12] https://peraturan.bpk.go.id/Home/Details/185205/perda-prov-kalimantan-timur-no-7-tahun-2018
[13] https://jdih.kaltimprov.go.id/produk_hukum/detail/75185be6-ac76
[14] hhttps://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Decree_of_the_Head_of_Berau_District_No_287_2020_regarding_indicative_map_of_HCVA_for_plantations.pdf

management including the HCV policy for each district.
The compiled document consists of as follows:

1. Provincial Regulation No.7 Year 2018 about sustainable of estate crops management[15]
2. Governor Regulation No.12 year 2021 about Criteria of High Conservation Value[16]
3. Governor Regulation No.43 Year 2021 about HCV Management in Estate Crops[17]
4. Governor's Decree No.525/K.244/2022 about Designated Areas for HCV inside Oil Plam Concessions in East Kalimantan[18]
5. Head of Berau District Decree No.287 Year 2020 about indicative maps for HCV in Berau District[19]
6. Head of Kutai Barat District Decree No.800.05.521.12/K.1489/2021 about indicative maps for HCV in Kubar District[20]
7. Head of Kutai Kartanegara District Decree No.475/SK-BUP/HK/2021 about indicative maps for HCV in Kukar District[21]
8. Head of Mahakam Ulu District Decree No.520/K.205/2021 about indicative maps for HCV in Mahulu District[22]
9. Head of Penajam Paser Utara District Decree No .525/83/2022 about indicative maps for HCV in Penajam Paser Utara District[23]
10. Head of Paser District Decree No525/KEP-73/2022 about indicative maps for HCV in Paser District[24]
11. Head of Kutai Timur District Decree No.525//K.498/2022 about indicative maps for HCV[25] in Kutai Timur.

In order to ensure the sustainability of ERs during the Crediting Period and beyond the Crediting Period, the provincial estate crops regularly every year conduct evaluation on the implementation of those provincial and district regulations/decrees.

There is some risk from issues related to benefit sharing. However, in order to give clear understanding the mechanism of benefit sharing for ER payments, consultations with related stakeholders including beneficiaries have been conducted since 2015. In East Kalimantan, benefit sharing working group has been formed. Inputs and feedbacks from beneficiaries through FPIC process in 2019 and 2020 were adopted to benefit sharing document. Based on these consultations, benefit sharing regulation through governor regulation is being formulated and ready to be issued this year.

To support coordination and supports from relevant stakeholders, the other working groups namely MMR working group, Safeguard working group, and Planning and Budgetary working group also have been formed. Each group has exclusively task to invite relevant development partners and government services to discuss and address certain topics of ER program.

Based on the above progress, the risk of reversal due to a lack of comprehensive and sustained support of the relevant stakeholders is categorized as **low**. The risk would be set as medium if the government entity representation of the ER program (both MOEF and East Kalimantan government) do not issue any supporting policies relating to ER program including transparency policy to community through FPIC. The worst case is if one of the two government entities (both MOEF and East Kalimantan government) is issued a contra policy to the ER policy such as policy to convert national park to production forest. In this situation, the risk is high.

In case of the national policy to move Indonesia capital city to East Kalimantan, it is known from the spatial planning that the new capital project is located in plantation forest in which in this ER design is labelled as

[15] Page 7 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[16] Page 50 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[17] Page 61 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[18] Page 108 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[19] Page 126 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[20] Page 133 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[21] Page 139 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[22] Page 145 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[23] Page 151 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[24] Page 157 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)
[25] Page 163 (https://drive.google.com/open?id=1Dyd4nEnOiwp04a0hEAT-VoJY4bhMr5JT&usp=drive_fs)

non-forested area. Therefore, risk for deforestation is under control or **low**. At the other hand, GoI is committed to restore the remain forest near the project location and adopt a green and modern development project.

Risk Factor B: Lack of institutional capacities and/or ineffective vertical/inter-sectoral coordination

Poor coordination across sectors could hamper progress in improving land governance, which is an important part of the ER Program's sustainability strategy. Policy coordination, especially for the land-based sectors, is a challenge in Indonesia. Separate ministries are responsible for mining, agriculture, and forestry, and conflicts in the legal frameworks and overlapping mandates of each sector are a barrier to land governance. This is particularly the case for land administration which distinguishes between forest and non-forest land, each with separate regulatory frameworks and institutional arrangements.

In order to empower coordination across sectors, institutional arrangements for the ER program has been developed and implemented. At national level, there will be vertical coordination between the levels of government will be important for the program's implementation and its sustainability. As noted under Risk Factor A, the district governments play an important role in implementing reforms related to estate crops. Continued district support for policy implementation will in part depend on the coordination of districts with the province. For issues related to land registration, efforts of multiple agencies in particular of the MoEF and the national land agency (BPN) will need to be coordinated.

Lack of institutional capacities has been identified as an underlying driver of deforestation and is being addressed through the activities in Component 1.

Based on development and implementation of HCV policies within East Kalimantan, it has shown strong coordination between provincial and district government estate crops services. It shows HCV policies to protect 456,827ha (four hundred fiftysix thousand and eight hundred twenty seven hectare) have been developed and implemented in seven districts.

Another good example for coordination within central government and province and district government agencies is the regular meetings related to the reporting formats for finance and activities from field sites to central government (BPDLH and MoEF). The latest regular meeting was done on 7th July 2023 in Samarinda.

Based on the above assessment, the risk of reversal due to a lack of institutional capacities and/or ineffective vertical/inter-sectoral coordination is categorized as **low**. The risk is medium when communication between provincial government with district government or between MOEF and provincial government of East Kalimantan is no longer intensive through formal meeting or informal discussion (e.g. coordination using email). Furthermore, the risk becomes high if one of the government entity withdrawals from this ER program.

Risk Factor C: Lack of long-term effectiveness in addressing the underlying causes

The expected long-term effectiveness in addressing the underlying causes of deforestation depends on the complexity of the driver and whether further support will be needed to address the driver after the program has ended. As discussed in the table, some drivers will require continued political will, while others require sustainable solutions to be in place.

In case of oil palm plantation, the government of East Kalimantan has issued several key policies to ensure the deforestation from the expansion of oil palm plantation is reduced. One of the policy is allocation of HCV area in non-designated forest area for each district in East Kalimantan. This policy is clear evidence that East Kalimantan government tried to address the underlying driver of emission in the province. By end 2022, all seven districts have completed the issuance of protection HCV areas through district decrees/regulations. The protection of HCV areas has being implemented in seven districts.

Related to the existence of a new capital city of Indonesia (IKN), we have already carried out emission calculations in that area with the assumption of forest clearance (deforestation). Based on our calculation in 2018, the potential to release emissions of 1.6 million tons of CO2e might happen if the 6,049 hectares of forested areas was clear-cut (deforested). However, the IKN Plan has stated that a "Forest City" will be built

and protecting forested areas in the IKN area, including reforesting non-development areas[26]. "The Forest City concept requires at least 65% forest cover, which can be achieved by forest and land rehabilitation efforts in the 58,570 ha of IKN area" (- https://ikn.go.id/en/stay-connected#faq). With the vision of IKN as smart, green, beautiful, and sustainable city, the outside of IKN's core area (256,000ha) will be kept 70 – 75% as forested area[27].

Regarding the situation of the world's oil palm commodity including the condition of oil palm plantations in East Kalimantan (based on estate crops statistical data), the total area of oil palm plantations in East Kalimantan in 2019 was 1.23 million hectares with production of 18.34 million tons, and in 2021 it was 1.37 million hectares with production of 17.72 million tons. There was no significant increase in the area of oil palm plantations (0.14 million hectares in 2 years). So, such changes in the world do not have any impacts to the situation in East Kalimantan.

Based on the assessment provided in the table below, the overall risk of reversal due to a lack of long-term effectiveness in addressing the underlying causes is categorized as **low**. The risk may be high if the political direction is opposite to the ER policies. On the other hand, the risk is medium if no political will to continue ER program.

Table 1. Underlying Causes

Underlying Driver	Long-term effectiveness in addressing driver
Poor land governance	Improvements are expected to be long-term, but may not be fully in place by the end of the ER Program.
Ineffective forest supervision and administration	Long-term effectiveness in addressing this driver depends on continued political will (see Risk Factor A), and on the ability of FMUs to generate sufficient revenue or to receive budgetary or external funding.
Weak policies for forest protection	Improvements in policies are expected to be long-term, but effectiveness depends also on enforcement (political will and forest supervision).
Lack of incentives for sustainable management practices	The Program is expected to contribute to an improved incentives framework, but direct support will stop when the program ends.
Limited alternative livelihood opportunities for local communities	Long-term effectiveness will depend partly on the level of benefits that the alternative livelihood opportunities can provide.
Lack of fire management capacity and lack of alternatives for land clearing	Long-term effectiveness will depend on continued support and the long-term attractiveness of alternative livelihood options.
Climate factors	Cannot be directly addressed. See discussion under Risk Factor D.

Risk Factor D: Exposure and vulnerability to natural phenomena

Extreme fire events in East Kalimantan are linked to prolonged periods of drought, which in turn are closely

[26] https://en.antaranews.com/news/259041/ikn-development-with-forest-city-concept-to-mitigate-climate-change

[27] IKN press release

linked to El Nino Southern Oscillation events. These occur on average every 3-7 years with the last event occurring in 2016, so there is a high likelihood of an ENSO event occurring during the program period, and the accounting area will of course continue to be affected after the program ends. While the ER Program has no influence on the occurrence of ENSO events, the program includes a number of activities that should lead to a reduction in the scale of fires and their impact on forests. As noted in the table above, the long-term effectiveness of these measures will depend on continued support and on the long-term attractiveness of alternative livelihood options. The risk of future extreme fire impacting remaining forests contributes to the anticipated risk of reversal.

National, Provincial and district government all together with police are fully aware to halt and stop forest fire disaster as it happened in 2015. Forest management unit (KPH)'s has been prepared to face such catastrophic event by spending a significant budget for fire prevention program including purchasing equipment and established community-based fire prevention. The risk is getting high if there is no policy related to prevention of natural disaster especially fire prevention from government, while medium risk is given if there is no budget allocated to natural disaster prevention. Based on the above assessment, the risk of reversal due to exposure and vulnerability to natural phenomena is categorized as **low**.

Table 18. Reversal Risk Assessment

Risk Factor	Risk indicators	Default Reversal Risk Set- Aside Percentage	Discount	Resulting reversal risk set-aside percentage
Default risk	*N/A*	**10%**	*N/A*	*10%*
Lack of broad and sustained stakeholder support	*Low* FPIC with villages and communities has been carried out, and minutes of approval from the community are available.	**10%**	*8%*	*2%*
Lack of institutional capacities and/or ineffective vertical/cross sectorial coordination	*Low* Capacity building for stakeholders (government, community, private sector, non-governmental organizations) has been carried out in program implementation, implementation of social and environmental safeguards, and management of reversals and leakage risks.	**10%**	*7%*	*3%*
Lack of long term effectiveness in addressing underlying drivers	*Low* The program has been integrated into government development plans and strategic plans of government agencies, as well as development partners.	**5%**	*3%*	*2%*
Exposure and vulnerability to natural disturbances	*Low* National, provincial and district governments already have disaster management plans, including forest and land fires, and have	**5%**	*2%*	*3%*

	coordinated disaster management systems. At the site level, FMU has been prepared to handle any possible disaster especially fire by spending a significant budget for fire prevention program including purchasing equipment and established community-based fire prevention.			
		Total reversal risk set-aside percentage		*20%*
		Total reversal risk set-aside percentage from ER-PD or previous monitoring report (whichever is more recent)		*26%*

Overall reversal risk in East Kalimantan ER program is low. Since the risk is low, sustainability of ER in East Kalimantan jurisdictional area is quite promising. As long as there is a clear commitment from government entity (national, provincial and districts government), any risk related to the ER program would be seriously handled using possible sources which is policies and budget. In case of East Kalimantan, there is strong bond between government and non government entities especially donor and project through various project and collaboration. It brings positive impact on the ER program implementation. Government not a single player on this ER program but many institutions also involves in active way. All relevant stakeholder have one vision to bring East Kalimantan as an pioneer province in Indonesia that succeed with result-based payment project to reduce emission from deforestation and forest degradation.

VVB Assessment	**Date: 10/10/2023**

Not closed.

Country Participant completed the section 7.3 Reversal risk assessment in the ER-MR and updated ERs calculations accordingly, however, regarding the analysis:

Risk factor	**ER-PD**		**ER-MR v. 05-10-2023**		**VVB Finding**
	Category	**Rate**	**Category**	**Rate**	
A	Medium	5	Low	2	This finding is closed. Country Participant provided enough evidence related to stakeholder support to justify the downgrade in this risk factor.
B	Medium	5	Low	3	This finding is closed. Country Participant provided enough evidence related to capacitites and coordination to justify the downgrade in this risk factor.
C	Medium	3	Low	2	This finding is not closed. A threshold has been included for risk classification related to the effectiveness in addressing the underlying causes. On the other hand, although the description of the risks has been expanded, an analysis has not been included regarding the possible revision of **EK's RTRW**[28] that would allow to conclude

[28] Spatial Plan for East Kalimantan

					that a categorization as “low” (2%) is in accordance with the **magnitude of the potential impact on the ERs to be issued** (regardless of alignment with policy, a factor on which the threshold is established).
D	Medium	3	Low	3	This finding is not closed. A threshold has been included for the classification of risk related to exposure and vulnerability to natural phenomena. However, a deeper analysis of the **El Niño phenomenon** has not been included that would allow to conclude that a categorization as “low” (3%) is in accordance with the **magnitude of the potential impact on the ERs to be issued** (regardless of the existence of policies or budget, factors on which the threshold is established).
Total (+10% default)	-	26%	-	20%	

Therefore, the information provided to justify the reversal risk assigned to Risk factors C and D is not sufficient. The two scenarios are:

1. It is sufficiently justified for Risks C and D the category and risk rate assigned, which means that the category and % is aligned with the magnitud of the potential impact on the ERs issued (low, medium and high risk scenarios), supported on solid evidence described in the ER-MR. If this is the route, please provide the updated MR with the justification requested.

2. In line with the guidance text of the ER-MR template Section 7 and with the general principle of conservativeness, if there is not enough evidence to justify the rate, a conservative approach should be used, which means a determination of high risk. In that case, please, provide the updated MR (section 7) and related Annexes (e.g. section 8 Excel).

Project Participant response	**Date: 06/11/2023**

Additional text for Risk C

The East Kalimantan RTRWP for 2023-2042 has been ratified as Provincial Regulation No. 1 of 2023 on April 8 2023 [https://jdih.kaltimprov.go.id/produk_hukum/detail/a39cb986-0f25] . The review of the RTRWP is based on adjustments to provincial boundaries and policies for the development of a new National Capital City in East Kalimantan. However, the RTRWP regulation does not change the function of forest areas because it needs further steps and approvals from National Government. It means the forest conversion cannot be conducted until approval from the National Government obtained. The procedure to change the function of forest areas has to follow Job Creation Law No. 6 of 2023 (paragraph 4 of article 35, which amends article 19 of Law No. 41 of 1999 concerning Forestry) and Government Regulation No. 23 of 2021, which requires experts’ opinions from the integrated research team estabiished by MoEF in order to make changes to the designation or function of forest areas as part of Strategic Environmental Assessment (KLHS). The changes of the forest areas need to be determined and approved by the National Government (President). The integrated research team has been established. The decision from National Government has to refer and consider the result of the research from the integrated team. The several consultations between East Kalimantan (Province and district government) and MoEF regarding proposed changes for the function of the forest areas have been conducted.

In order to ensure the accountability, transparency and representation during the revision of the RTRWP, the decision from MoEF has to consider the result of research from the Integrated team. The intergrated

research team consists of diverse government agencies from central and province level. Based on Ministry Decree No. 349/Menlhk/Setjen/PLA.0/4/2023, the main job description of the team are as follows:

- To develop an integrated research methodology based on biophysical aspects; social, economic and cultural as well as legal and institutional aspect;
- To carry out processing, analysis and discussion of changes in regulations, changes in the function of forest areas, and/or designation of non-forest areas as forest areas;
- To carry out consistency tests on the research results from the team towards change of designation and functions of the areas, for forest Area and/or not forest area; and
- To report the results of the research from the integrated team to the Minister with a copy to the Director General.

The institutions involved as members of the integrated team are as follows:

- Directorate General of Forest Planning and Environment, MoEF
- Directorate of Forest Area Planning and Use, MoEF
- Univesity of Bengkulu
- University of Mulawarman (East Kalimantan)
- IPB University
- Research and Innovation National Agency (BRIN)
- Agency of Standard and Instruiment, MoEF
- Directorate of Environmental Management from Forestry, Coordinating Ministry for Invesment and Marine
- Directorate of Development Division, National Planning Agency (Bappenas)
- Directorate of Foster Regional Development, Ministry of Home Affairs (MoHA)
- Directorate of Spatial Planning and Land Affairs, Coordinating Ministry of Economic Affairs
- Directorate General of Spatial Planning, Ministry of Agrarian Affairs and Spatial Planning
- Legal Bureau, MoEF
- Directorate of Conservation Awareness Planning, MoEF
- Directorate of Watershed Management Planning and Supervision, MoEF
- Directorate of Forest Utilization Plan, MoEF
- Directorate of Forest Area Confirmation and Management, MoEF
- Directorate of Environmental Impact Prevention, MoEF
- East Kalimantan Conservation Area Agency, MoEF
- Provincial Forestry Service, East Kalimantan Government
- Public Works, Spatial Planning, and Public Housing Service, East Kalimantan Government

In addition, once decision from National Government come out, the RTRWP regulation need to be reviewed. The review of RTRWP can only be conducted one time in every 5 years. The review can be conducted more than one time (within 5 year period) if there is a change in the strategic environment in the form of (article 17 of Law No. 6 of 2023 regarding amendments to article 23 of Law No. 26 of 2007 concerning Spatial Planning):

- o natural disasters as determined by statutory regulations,
- o changes in state/national territorial boundaries as determined by law,

- o changes to regional boundaries as determined by law; and
- o strategic national policy changes.

So, the review/change of the East Kalimantan RTRWP is likely to take place in 2028.

Furthermore, EK Government has a strong commitment to mitigating and adapting to climate change as stated in Provincial Regulation No. 7 of 2019 [https://jdih.kaltimprov.go.id/produk_hukum/detail/57aeff30-3e58], which contains targets and indicators for climate change mitigation in the forestry and land sectors.

The estate crop sector has also committed to achieve sustainable estate crops through Provincial Regulation No. 7 of 2018 [https://jdih.kaltimprov.go.id/produk_hukum/detail/b1097eff-d81e], in which these commitments are being implemented within the province. In addition, the number of district policies related to protection of HCV values have been issued and implemented (see Risk A above).

The current media reports regarding changes in the function of forest areas in East Kalimantan, as explained above, have not been implemented and are not included in the changes to the Provincial RTRW this year.

However, as a precautionary principle, we assess this risk as medium.

Additional Text to Risk D

El-Nino is predicted to take place in 2023 from the middle to the end of the year. Since 2018 , the Estate Crops Agency (Dinas Perkebunan), Forestry Service (Dinas Kehutanan) and Forest Management Unit (FMU) have strengthened and increased the capacity of the Fire Brigade Farmers-based (KTPA/plantation sector) and Fire Brigade Community-based (MPA/forestry sector). The Government of East Kalimantan has also strengthened the capacity and facilities of forest and land fire brigades of each FMU as well as strengthening coordination for hydrometeorological disaster prevention, which is coordinated by the Provincial Disaster Management Agency. Districts/Cities in East Kalimantan have also prepared Disaster Risk Studies and Regional Disaster Management Plans, including hydrometeorological disasters Plan. The Government of East Kalimantan and also support from private sector have increased the capacity and facilities and infrastructure (such as reservoirs at field levels) of KTPA and MPA for dealing with forest and land fires.

The table below shows that the the size of areas (ha) affected by forest and fires from 2019 to 2022 decreased sharply from 68.525 ha to 373 ha in 2022. However, due to the El-Nino in 2023, the affected area increases up to 14.406 ha. By effective monitoring and enough numbers and participations from stakeholders to combat forest and land fires, the size of affected area in 2023 is much better than fires in 2019.

Year	Forest and land fire Area (ha)
2018	27.892,00
2019	68.525,00
2020	5.221,00
2021	3.029,00
2022	373,00
2023 (~Sep)	14.406,34

Source: https://sipongi.menlhk.go.id/

Herewith the number of community forest fires prevention group (MPA) that has been estabslihed and supported by Government of East Kalimantan.

No	Agency/FMUs	# of Community Forest Fire Prevention Group (MPA)	# of members
1	EK FORESTRY AGENCY	3	33

2	FMU MERATUS	16	240
3	FMU BERAU BARAT	11	146
4	FMU BERAU PANTAI	8	120
5	FMU BERAU TENGAH	15	225
6	FMU BERAU UTARA	11	165
7	FMU SANTAN	12	180
8	FMU KENDILO	8	140
9	FMU BENGALON	11	251
10	FMU BONGAN	19	570
11	FMU SUB DAS BELAYAN	19	570
12	FMU TAHURA BUKIT SOEHARTO	14	176
13	FMU DELTA MAHAKAM	7	210
14	FMU TELAKE	24	357
15	FMU KELINJAU	9	135
16	FMU DAMAI	37	810
17	FMU MOOK MANOOR BULATN	9	135
18	FMU BATU AYAU	15	158
19	FMU MANUBAR	5	75
20	FMU BALIKPAPAN	5	111
21	FMU BATU ROOK	13	251
	Total MPA	**271**	**5.058**

Herewith also the number of Farmers Groups on Forest Fire Preventation (KTPA)

No	District-City	# of Farmers Groups on Forest Fire Prevention (KTPA)	# of members
1	BALIKPAPAN	5	75
2	BONTANG		
3	SAMARINDA	5	75
4	BERAU	34	510
5	EAST KUTAI	31	465
6	KUTAI KARTANEGARA	37	555
7	WEST KUTAI	13	195
8	MAHAKAM ULU		
9	PENAJAM PASER UTARA	8	120
10	PASER	13	195
	EAST KALIMANTAN PROVINCE	**146**	**2.190**

However, as a precautionary principle, we assess this risk as **medium.**

Risk factor	ER-PD		ER-MR v. 05-10-2023		VVB Finding
	Category	Rate	Category	Rate	
A	Medium	5	Low	2	This finding is closed. Country Participant provided enough evidence related to stakeholder support to justify the downgrade in this risk factor.
B	Medium	5	Low	3	This finding is closed. Country Participant provided enough evidence related to capacitites and coordination to justify the downgrade in this risk factor.
C	Medium	3	Medium	2	See Explanation Text above (addition text for Risk C)
D	Medium	3	Medium	3	See Explanation Text above (addition text for Risk D)
Total (+10% default)	-	26%	-	20%	

VVB Assessment	Date: 22/11/2023

Not closed.

Country Participant completed the section 7.3 Reversal risk assessment in the ER-MR and updated ERs calculations accordingly, however, regarding the analysis:

- Risk factor C. The finding is not closed. An analysis regarding the possible revision of **EK's RTRW** has been included, however, although conservatively it has been upgraded as “medium risk” it does not correspond to the 2% selected. Additionally, it is not in accordance with the **magnitude of the potential impact on the ERs to be issued** (regardless of alignment with policy, a factor on which the threshold is established).
- Risk factor C. The finding is not closed. A deeper analysis of the **El Niño phenomenon** has been included. However, although conservatively it has been upgraded as “medium risk” and the risk is rated as 3%, AENOR finds that there is no enough evidence to prove that the % assigned is in accordance with the **magnitude of the potential impact on the ERs to be issued** (regardless of the existence of policies or budget, factors on which the threshold is established).

Therefore, the information provided to justify the reversal risk assigned to Risk factors C and D is not sufficient. The two scenarios are:

1. **It is sufficiently justified for Risks C and D the category and risk rate assigned, which means that the category and % is aligned with the magnitud of the potential impact on the ERs issued** (low, medium and high risk scenarios), supported on solid evidence described in the ER-MR. If this is the route, please provide the updated MR with the justification requested.

2. In line with the guidance text of the ER-MR template Section 7 and with the general principle of conservativeness, **if there is not enough evidence to justify the rate, a conservative approach should be used, which means a determination of high risk or at least the risk rate determined in the ER-PD (26%)**. In that case, please, provide the updated MR (section 7) and related Annexes (e.g. section 8 Excel).

VVB Assessment	Date: 22/11/2023

Agree with the second scenario offered, in the form of **at least the risk rate determined in the ER-PD (26%). Section 7 and 8 have been updated.**

Section 7:

Table 2. Reversal Risk Assessment

Risk Factor	Risk indicators	Default Reversal Risk Set-Aside Percentage	Discount	Resulting reversal risk set-aside percentage
Default risk	*N/A*	**10%**	*N/A*	*10%*
Lack of broad and sustained stakeholder support	*Medium* ER Program Document recommend The ER Program to support the development and finalization of a number of other decrees, including the following: • Policy development for improving transparency and access to information related to licensing • Governor regulations by the Governor to settle disputes. • Legal recognition of adat rights through district regulations and decrees • Inclusion of ER activities in the Provincial Kalimantan Medium Term Development Plan 2018-2023 • Integration of REDD+ programs in regional and district development planning at provincial, district/city and village levels. What is recommended and has been implemented is: • FPIC with villages and communities has been carried out, and minutes of approval from the community are available. • SOP for conflict resolution on Forestry agency and Estate Crops Agency , and also capacity building for government staff and non-government. • Preparing District teams (Paser, West Kutai) for identification and recognize Adat Communitty • Inclusion and integrating Program and Activities under ER-Program Document to RPJMD East Kalimantan province and districts 2019-2023 and 2024-2026 • HCVA on estate crops area has identified and designated	**10%**	*5%*	*5%*
Lack of institutional capacities and/or ineffective vertical/cross sectorial coordination	*Medium* Capacity building for stakeholders (government, community, private sector, non-governmental organizations) has been carried out in program implementation, implementation of social and environmental safeguards, and management of reversals and leakage risks.	**10%**	*5%*	*5%*

Lack of long term effectiveness in addressing underlying drivers	*Medium* The program has been integrated into government development plans and strategic plans of government agencies, as well as development partners.	**5%**	*2%*	*3%*
Exposure and vulnerability to natural disturbances	*Medium* National, provincial and district governments already have disaster management plans, including forest and land fires, and have coordinated disaster management systems. At the site level, FMU has been prepared to handle any possible disaster especially fire by spending a significant budget for fire prevention program including purchasing equipment and established community-based fire prevention. Several activities that lead to a reduction in the scale of fires and their impact on forests. These includes activities that directly address fire management, and activities that improve forest governance and forest management. Activities that directly address fire monitoring and control are found within Components 1 to 3.	**5%**	*2%*	*3%*
		Total reversal risk set-aside percentage		*26%*
		Total reversal risk set-aside percentage from ER-PD or previous monitoring report (whichever is more recent)		*26%*

VVB Assessment	**Date: 21/10/2025**
The Country participant has updated the risk assessment to a 26%, as it has been validated in the PD, with a total of 7,448,824 ERs allocated to the Reversal buffer. The supporting documentation justifiying the risk factors is deemed correct. Therefore, NCR 44 is closed.	

NC ID: Major	**45**	**Date: 18/11/2022**
Description of NC		
In MR 8 section, 'J. Quantity of ERs to allocated to the Reversal Buffer (F-H)*(I-5%)', 'K. Quantity of ERs to be allocated to the Pooled Reversal Buffer (F-H)*5%' and 'L. Number of FCPF ERs (F- H – J – K)' are not properly calculated, according to instructions and the tool provided by FCPF (example_section_8_monitoring_report_template_v2.0.xlsx).		
Project Participant response		**Date:** 04/01/2023
Done. The Section 8 has been revised based on the new MR template v2.0.		

Documentation provided by the Project Participant	
See the ERMR1 document	
VVB Assessment	**Date:** 24/01/2023
The figures have been corrected. Therefore, MCAR 45 is closed.	

NC ID: Major	46	Date: 18/11/2022
Description of NC		
Section MR 6.2: 1- It is mentioned that "based on Criterion 37, the ER Program host country should decide whether to maintain its own comprehensive national REDD+ Program and Projects Data Management System", it is not clear about the option taken, whether the system is national, jurisdictional or third party centralized. 2- The measures implemented "to avoid having multiple claims to an ER Title" are not clearly pointed out. 3- To “provide evidence of the implementation and operation of a Program and Projects Data Management System” is requested. However, it is not specified in this section, only “data and information from the field are managed and stored” and “format reports for ER activities have been designed and put onto both web-based and excel-based” are mentioned. 4- Please, highlight any changes compared to what was anticipated in the ER-PD and explain why these changes were made, or if not applicable. 5- According to indicator 37.2, it is not indicated how the national REDD+ Program and Projects DMS provides the attributes of ER Programs (including: i. The entity that has Title to ERs produced; ii. Geographical boundaries of the ER Program or project iii. Scope of REDD+ activities and Carbon Pools; and iv. The Reference Level used) and how to report the activities and estimated ERs in a manner that conforms to the relevant FCPF Methodological Framework C&Is. 6- According to MF Indicator 37.3, it is not clarified how “the information contained in a national or centralized REDD+ Programs and Projects Data Management System is available to the public via the internet in the national official language of the host country (other means may be considered as required)". 7- According to MF Indicator 37.4, “administrative procedures are defined for the operations of a national or centralized REDD+ Programs and Projects Data Management System”. However, it is only mentioned “Several standard operational procedures (SOPs), such as reporting, data entry, data validation, and data and information exchange are being developed for data management”.		
Project Participant response		**Date:** 04/01/2023
1. *The system will be centralized and put into the MoEF’s web database (srn.mnlhk.or.id). The East Kalimantan Web Portal (mrv.kaltimprov.go.id) is using the same template as MoEF’s web database.* 2. *Section 6 or ER title revised* 3. *Program dan data are put into both web-based and excel-based* 4. *Paragraph revised. The additional policy on Perpres NEK No.98/2022 and MoEF Decree No.21/2022 are added.* 5. *This has been put into MoU between National and Provincial Government of East Kalimantan.* 6. *Please see MoEF website: srn.mlhk.or.id*		

7. *Done*

Documentation provided by the Project Participant	
VVB Assessment	**Date:** 24/01/2023

1. The previous statement has been moved from 6.1 to section 6.2. However, no changes have been done.
2. There are no changes in section 6.2 to address the request.
3. There are no changes in section 6.2 to address the request.
4. There are no changes in section 6.2 to address the request.
5. There are no changes in section 6.2 to address the request.
6. There are no changes in section 6.2 to address the request.
7. There are no changes in section 6.2 to address the request.

Therefore, MCAR 46 is not closed.

Please, note that any clarification has to be done in the applicable section 6, not only responding in this finding box. Note that the findings above are regarding section 6.2 (not 6.1 or section 6.3), then please address the clarifications specifically as requested and in the corresponding section.

Project Participant response	**Date:** 08/03/2023

Split the section more clearly into 6.1, 6.2, and 6.3. Added additional information in 6.2 and in 6.4. Now complete according to ER template.

VVB Assessment	**Date: 24/01/2023**

There are still points above not addressed at all or just mentioned but incomplete. Please, address the requests above point by point, in a clear manner, stating exactly what is requested.

Therefore, MCAR 46 is not closed.

Project Participant response	**Date:** 10/05/2023

Page 60 and 61 in ERMR document:

1. Page 61- #1 paragraph:….The National REDD+ program and Projects Data Management system are hosted by Ministry of Environment and Forestry (MoEF). However, in order to fulfil the data into the MoEF's database, then sub-national level (province) submits their data and information to the national level. Since the Government of Indonesia has appointed the Ministry of Environment and Forestry (MoEF) as a National Focal Point for climate change mitigation and adaptation, such national REDD+ Program and Projects Data Management System are managed by MoEF. So, the data management system is a national centralized.
2. Page 61 - #2 paragraph:……Up to now, there is no claims of ER title from any carbon initiative projects from East Kalimantan. It is shown that there is no voluntary REDD+ initiatives such as VERRA Projects implemented in East Kalimantan (see the list of REDD+ project registered under VERRA[4]) and no also Plan VIVO project in East Kalimantan[5].

[4] allprojects Verra in Indonesia.xlsx (live.com)

[5] All Plan Vivo Project in Indonesia.xlsx (live.com)

3. Page 61 - #2 paragraph:…… On the other hand, in order to back up data and information that have been submitted to national system (srn.menlhk.go.id), sub-national level develops Portal Measurement Monitoring Report/MMR (https://mrv.kaltimprov.go.id/).The data and information are sourced from ER activities at Provincial level that have formatted and put onto both web-based and excel-based. The evidence of the implementation of ER activities were recorded in the web ((https://mrv.kaltimprov.go.id/).
4. Page 60 - #2 paragraph: …. Based on President Regulation No.98/2021 (Article 1 Point 22), carbon right is regulated and managed by the Central Government. In this regard, the MoEF is by law considered as Program Entity as having ability to transfer the title of ERs resulting from the REDD+ program, that is conceptualized as "a national approach with sub-national implementation". The Minister of Environment and Forestry has also an exclusive right to authorize the transfer of carbon right to overseas (MoEF's Decree No.21/2022, article 21 point 2d)[6].
5. Page 60 - #4 paragraph:…. In order to ensure the implementation of the ER program at sub-national level, a Memorandum of Understanding (MoU) between the national (through MoEF) and sub-national level was signed (No.PKS.3/SETJEN/ROKLN/KLN.0/3/2020 and No.197/2439/B.Humas-III)[7]. The sub-national level hereafter represented by Provincial Government of East Kalimantan, which also represent beneficiaries from province, district, village including indigenous people for the ER implementation in East Kalimantan. The MoU covers a) strategy and program for REDD+ activity in the province, b) working plan of REDD+, c) benefit sharing mechanism between national and sub-national level, d) safeguards implementation, e) carbon rights managed by Central Government, f) data and information exchange on forest and land cover change. It is clear in the MoU that Central Government manages and regulates the rights of carbon. The commitments to implement the ER program from village and indigenous people were also stated in the FPIC Process[8]. The FPIC is a process to get approval from the village and indigenous people to participate the ER Program. The commitment for participation in ER Program of the village and indigenous people is then put into the village approval statement (see FPIC Report[9]).
6. Please visit http://srn.menlhk.go.id/).
7. Page 62 - #4 paragraph: ….Standard operational procedures (SOPs) for project data management, such as administrative procedure, project registry, reporting, data entry, data validation, and data and information exchange have been developed (and available in https://mrv.kaltimprov.go.id/).

VVB Assessment	**Date: 08/06/2023**
The country participant have answered properly to the missing sections. Therefore, the MCAR 46 is considered closed	

[6] https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/permen-lhk-no.-21-tahun-2022-1.pdf

[7] MoU REDD+ di Kaltim_Materai Sekjen KLHK.pdf (kaltimprov.go.id)

[8] PADIATAPA IMPLEMENTATION REPORT_ENG.pdf (kaltimprov.go.id)

[9] PADIATAPA IMPLEMENTATION REPORT_ENG.pdf (kaltimprov.go.id)

NC ID: Major	47	Date: 18/11/2022
Description of NC		
Section MR 6.4: 1- ERs figure is not updated. 2- Please, give more details on the current situation of this point (excess of ERs and agreement with the WB).		
Project Participant response		**Date:** 04/01/2023
1. *Done* 2. *Done*		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 24/01/2023
1. The figure remains the same. Also, Section 6.2 (Implementation and operation of Program and Projects Data Management System) has not been properly updated as it is included in section 6.1. Please update to comply with the template. 2. This information has not been updated. Therefore MCAR 47 is not closed.		
Project Participant response		**Date:** 08/03/2023
Text in the Document MR Section 6.4 (on excess of ERs and agreement with the WB): The estimated ERs produced during the first reporting period was 31.9 $MtCO_2e$ (subject to validation and verification). The Program Entity proposes to offer 22 million Contract ERs to the FCPF Carbon Fund. In addition, the Program Entity will offer 9.9 million Additional ERs for purchase under the Call Option with the price to be negotiated in accordance with the ERPA. No ERs in East Kalimantan are transferred to other entities or other schemes during the reporting period. The negotiation of this excess ER between GoI (MoEF), East Kalimantan government and FCPF will be started soon after ERMR1 verification is accomplished. East Kalimantan government and MoEF also need to carefully discuss about the excess ER based on ERPA and existing regulation. Initial discussion about this issue has been carried out during several WB trips to East Kalimantan. More intensive discussion will be set on first week of March 2023		
VVB Assessment		**Date: 24/03/2023**
1. The figures have been updated and deemed correct. 2. This information has been updated and deemed correct. Therefore MCAR 47 is closed.		

NC ID: Major	48	Date: 18/11/2022
Description of NC		

Form requirements requested by the MR template not met:

1- In the front page, the template has specific format for the date (DD-MM-YYYY). However, the MR does not meet this requirement.

2- The template has specific font style requirements (body text shall be Calibri 10 black font). However, the font of the whole document does not match the template requirement, including footnotes and tables.

3- Template has specific requirements for numbers reporting (international standard format) according if they are thousands, or decimals ('e.g 1,000 representing one thousand and 1.0 representing one'). However, this requirement is not met (e.g. 193k instead of 193,000 ha) along the MR.

4- According to MR, 'All instructions *…+ should be deleted when submitting the ER-MR to the Facility Management Team of the FCPF'. However, the Annexes contain instructions boxes.

5- Along the MR, the alignment of the text is changing the limits on the left and the right, as well as the size of the page.

6- Throughout the document there is double spacing.

7- Throughout the MR there are numerous spelling errors and in general a final revision of the text is lacking to avoid confusing wording.

8- There are two broken internal references ('Error! Reference source not found')

9- There are tables that do not have titles and others that have titles with different numbering criteria.

10- There are references to tables and figures in the texts that are not correct.

Project Participant response	**Date:** 04/01/2023

1. *Revised*
2. *Revised*
3. *Revised*
4. *Revised*
5. *Revised*
6. *No direction for double spacing the template*
7. *Revised*
8. *Revised*
9. *Revised*

Documentation provided by the Project Participant

VVB Assessment	**Date:** 24/01/2023

1. Date of Submission on the front page still does not follow the correct format.
2. A thorough revision of the document is required, as several fonts and sizes still appear on the document not following the template.
3. A thorough revision of the document is required, as several numbers still appear on the document not following the template (e.g. 23.9M, 3.5M, 30.8, etc).
4. Annexes have been updated and deemed correct.
5. A thorough revision of the document is required, as several sections still not comply with this (e.g. 4.2).
6. It is still considered a typo, and therefore subject to correction.
7. A thorough revision of the document is required, as several typos remain.

8. Internal references have been updated and deemed correct. 9. It has been updated and deemed correct. 10. It has been updated and deemed correct. 11. Please, update the table of contents in the clean version. Therefore, MCAR 48 is not closed.
Project Participant response | **Date:** 08/03/2023
Edits made across the ERMR as recommended (stylistic).
VVB Assessment | **Date: 24/03/2023**
The ERMR has been updated. Therefore, MCAR 48 is closed.

Observations (OBSs)

OBS ID	**01**	**Date: 28/12/2022**
Description of OBS		
Link in MR 3.1.1, parameter 'Carbon stock used for the estimation of emission from deforestation and degradation' does not work (although the evidence was already provided to the VVB): https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Carbon Accounting/TC_AGB lokal_Uncertainty_23Jul2022.xlsx		
Country participant response		**Date:** 04/01/2023
https://mrv.kaltimprov.go.id/storage/guest/ERMR1/CarbonAccounting/TC_AGB lokal_Uncertainty_23Jul2022.xlsx *It works well.*		
Documentation provided by the Country Participant		
VVB assessment		**Date:** 24/01/2023
The link has been updated and deemed correct. Therefore, OBS 01 is closed.		

OBS ID	**02**	**Date: 21/10/2025**
Description of OBS		
Almost every link in the updated MR, v. 11-12-2023, does not work (although the evidence was already provided to the VVB). The following is a non-exhaustive list to providing some examples of non-fuctioning links, as the issue affects links throughout the whole document: https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Decree_of_the_Head_of_Berau_District_No_287_2020_regarding_indicative_map_of_HCVA_for_plantations.pdf		

https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Regulation/Decree_of_MoEF__No.851_of_2020_concerning_Indicative_Maps_and_termination_of_the_issuance_of_new_permits_for_Primary_Natural_Forest_and_P%20eatlands.pdf

https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Guidance/Petunjuk%20Teknis%20Enumerasi%20TSP%20dan%20%20PSP.pdf

https://mrv.kaltimprov.go.id/storage/guest/ERMR1/Carbon Accounting/TC_AGB lokal_Uncertainty_23Jul2022.xlsx

The Program is requested to revise each link and replace it with an accessible version of each referenced document, with special attention to the calculation spreadsheets.

Country participant response	**Date:** DD/MM/YYYY
Documentation provided by the Country Participant	
VVB assessment	**Date:** DD/MM/YYYY

APPENDIX 2: EVIDENCE PROVIDED BY COUNTRY PARTICIPANT AND REVIEWED BY AENOR

Title	File
MR	Clean_Indonesia ERMR 1 - EKJERP - 29July2022_complete_clean_FMT_August 2022.docx East Kalimantan JERP FCPF CF Guide to Dataset Name and Description v02_VER CARB ACC Y GEOSP.pdf Clean_version_Indonesia ERMR 1 - EKJERP _4Jan2023_rev.docx Cleared_Version_24012023_FCPF EK JER_2nd rnd findings_16_March_2023.docx Clear_version_Indonesia ERMR 1 - EKJERP _16_June_2023_FINAL Clean_Indonesia ERMR 1 - EKJERP_fin_sept 2025
Carbon Accounting	AccuracyAssessmentEK_LandCover2020_2021_v02U.xlsx fcpf_ekjerp_ermr1_MC_26Juli2022c.xlsx fcpf_ekjerp_ermr1_summary_26Juli2022c.xlsx TC_AGB lokal_Uncertainty_23Jul2022.xlsx
FPIC	ek_fcpf_2021_laporan padiatapa_2021June09.pdf ek_fcpf_padiatapa_lampiran.pdf PADIATAPA IMPLEMENTATION REPORT_ENG.pdf
GeospatialData	DaratanKaltimRTRW2016_v20121219.rar Landsat2019_2020CompressedIndex.rar Landsat2020_2021CompressedIndex.rar PL2006_2021_Karhutla_Gambut_Kaltim_v02U.rar QCSample2006_2016.rar QCSample2019_2020.rar QCSampleBuffer2020_2021.rar

Guidance	Aboveground Carbon Stock.pdf ASB-LN-4A-Hairiah-et-al-2001-Carbon-stocks-tropical-land-use.pdf Cadangan_Karbon_di_Kalimantan_Timur_EBOOK.pdf Carbon Sequestration and Trace Gas Emissions.pdf fcpf_guidance_on_monte_carlo_analysis_2021_002.pdf Manuri etal_2014_allometric for tropical PSF.pdf manuri etal_2016_improved allometric equations for dipterocarp forest kalimantan.pdf Manuri etal_2017_allometric trop lowland.pdf MN17335.PDF Pedoman_Alometrik_pedugaan_biomassa.pdf Perdirjen P. 11 Pedoman Teknis Penaksiran Luas Karhutla (2).pdf PERDIRJEN Planologi Kehutanan No P.1-VII-IPSDH-2015 Tentang Pedoman Pemantauan Penutupan Lahan.pdf" Petunjuk Teknis Enumerasi TSP dan PSP.pdf petunjuk-teknis-penafsiran-citra-satelit-resolusi-sedang.pdf SNI 8033 2014.pdf SOP AKURASI_ISI_EBOOK.pdf
MHA_IP	perda pengakuan kubar benuaq telimuk.pdf PERDA.1.2015.pdf SK HA HEMAQ BENIUNG.pdf SK HUTAN ADAT BENUAQ MADJAUN DAN HUTAN ADAT GUNUNG MENALIQ(1).pdf SK HUTAN ADAT BENUAQ TELIMUK DAN HUTAN ADAT TELUYEN JARIKNG LESTARI(1).pdf SK MHA PARING SUMPIT(1).pdf sk_ha_mului.pdf
MoU and Decree	komitmen kesepakatan bersama.pdf MoU REDD+ di Kaltim_Materai Gub Kaltim.pdf MoU REDD+ di Kaltim_Materai Sekjen KLHK.pdf Nota Kesepakatan KLHK Kaltim FCPF 2022_2 (1).pdf SK Tim Kordinasi pengelolaan pengaduan dan petugas administrator.pdf

Other	1_FCPF_ERretro_Daftar Kegiatan OPD dan UPT.xlsx 50_KTPA__Bermitra_Dengan_Perusahaan_Perkebunan.pdf DISBUN_KEGIATAN_KARLABUN_KTPA.pdf Dishut_Kaltim_32_ribu_hektare_perhutanan_sosial_ANTARA_News_Kalimantan_Timur.pdf Empat_kelompok_tani_Kaltim_ANTARA_News_Kalimantan_Timur.pdf Jauhar_Sambut_Baik_Kebijakan_Perhutanan_Sosial.pdf Laporan Perkembangan Perhutanan Sosial Provinsi Kaltim.pdf RESUM KEGIATAN MMR DI DINAS LINGKUNGAN HIDUP PROV KALTIM.docx Surat_Menteri_KLHK_Alokasi_Nilai_Responsibility_Cost_Pada_BSM_FCPF.pdf
Other ERP in Indonesia	All Plan Vivo Project in Indonesia.xlsx allprojects Verra in Indonesia.xlsx
Regulation	2021pmlhk007_menlhk.pdf PERDA ADAPTASI dan MITIGASI.pdf PERDA Kaltim.7.2018.pdf Perda Paser 4 thn 2019 MHA Paser.pdf perda pengakuan kubar benuaq telimuk.pdf Perdirut Nomor 07 Th 2020 Tentang Penyaluran Dana REDD+.pdf Pergub Mekanisme Pembagian Manfaat.pdf PERGUB.12.2021-Kriteria ANKT.pdf PERGUB_69_2019-aspirasi etam.pdf Perpres Nomor 98 Tahun 2021.pdf SK Bupati Berau 287 2020 ttg Peta Indikatif ANKT.pdf SK Gub 522 Pembentukan Tim Pengelola Emisi Gas Rumah Kaca dalam Kerangka FCPF.pdf SK Tim Kordinasi pengelolaan pengaduan dan petugas administrator.pdf sk_ha_mului.pdf
Safeguards	1_Strategic-Environmental-and-Social-Assessment.pdf 2_Environmental-and-Social-Management-Framework.pdf 3_Feedback-and-Grievance-Redress-Mechanism.pdf 4_Indigenous-Peoples-Planning-Framework.pdf 5_Resettlement-Planning-Framework-and-Process-Framework(1).pdf fcpf_ek_Draft esmp_2020Dec23_SA_ok.docx

PD and Annexes	ERPD_Indonesia FINAL VERSION_MAY_2019.pdf Annex 4.1. Results Chain East Kalimantan.pdf Annex 4.2. Summary of ER Activities and sub-activities.pdf Annex 4.2a. Timeline ER Activities and sub-activities.pdf Annex 4.3. Regulations and Policies related REDD+ implementation.pdf Annex 4.4. Indigenous People.pdf Annex 5.1 Stakeholder consultation on Sustainable Oil Palm within Province and Districts.pdf Annex 5.2. Summaries related to the consultation process.pdf Annex 8.1. Adjusted Activity Data.pdf Annex 8.2. References for Technical Assessment Related to Carbon Accounting.pdf Annex 8.3. Carbon Stocks Non-Forest References.pdf Annex 9.1. Technical guidelines of field observation.pdf Annex 9.2. Ground check procedure for land cover accuracy assessment.pdf Annex 9.3. Activity data Landcover improvement.pdf Annex 12.1. Accuracy assesment of Area Change.pdf Annex 14.1. Bibliography SESA REDD+.pdf
-	2_Ritung_2011_Indonesian_Peat_Land_Map_Scale_1_250000.pdf
-	Crediting Period start date of the FCPF East Kalimantan ER Program.eml
-	example_section_8_monitoring_report_template_v2.0_CJB.xlsx Section 8 East Kalimantan New Revised.xlsx
Evidences to close Non conformity #2 (NC #2)	Decree of MoEF_No.10199_of_2019_concerning_Indicative Map_of_Production_Forest_Utilization_Directions_for_2020.pdf Decree_MoEF__No.2111_of_2020_concerning_Indicative_Maps_and_Social_Forestry_Areas.pdf DECREE~1.PDF
NC #3	Forestry_Confict_Resolution_SOP_2020.pdf
NC #4	Decree_of_the_Head_of_Berau_District_No_287_2020_regarding_indicative_map_of_HCVA_for_plantations.pdf
NC #6	Report_groundcheck_East-North_Kalimantan_2017.pdf
NC #8, 20	SNI 8033 2014.pdf SOP AKURASI_ISI_EBOOK.pdf
NC #13	Olofsson_et_al_2014_Good_practices_estimating_area_assessing_accuracy_land_change.pdf Olofsson_Indonesia_AD_Estimation_2019.pdf"
NC #14	Anx_3A_1_Data_Tables
NC# 15	Perdirjen_P._11_Pedoman_Teknis_Penaksiran_Luas_Karhutla.docx Perdirjen_P._11_Pedoman_Teknis_Penaksiran_Luas_Karhutla_Bahasa.docx

NC #25	Resolution CFM_19_1_Endorsement of Indoneisa ER Program FINAL.pdf
NC #44	Potential Emission from Spatial Plan Changes East Kalimantan.docx Potensi_Penunjukan_KH_Intersect.shp Potensi_Perubahan_Fungsi_KH_Intersect.shp Potensi_Perubahan_Peruntukan.shp Potensi - Penunjukan Kawasan Hutan - 17 Juni 2025.xlsx Potensi - Perubahan Fungsi - 17 Juni 2025.xlsx Potensi - Perubahan Peruntukan - 17 Juni 2025.xlsx

Document information

Version	Date	Description
1.2	24-October-2025	Final version including comments from Country Participant and FMT.
1.1	06-July-2023	Version including comments from Country Participant and FMT.
1	22-June-2023	Initial draft version of validation report.