



Validation Report

Version 1.1

14-June-2022

Document Prepared by AENOR INTERNACIONAL S.A.U.

AENOR
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Forest Carbon Partnership Facility (FCPF)

Carbon Fund

Validation Report (VAR)

ER Program Name and Country:	Emission Reduction Program of Costa Rica
Crediting Period	01-01-2018 to 31-12-2024
Name of the VVB:	AENOR INTERNACIONAL S.A.U.
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Date of the Validation Report:	14-06-2022
Version:	1.1
Report Approved by	Jose Luis Fuentes

1. VALIDATION STATEMENT

The review and cross-check of explanations and justifications included in the Monitoring Report Version 3.0 dated 14-05-2021 and supporting documents have provided AENOR with sufficient evidence to determine with a reasonable level of assurance the compliance of the Emission Reduction (ER) Program of Costa Rica with the applicable validation with extended scope 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 (01-01-2018 to 31-12-2024), the selected Reference Period (01-01-1998 to 31-12-2011), the accounting area (5,133,939.5 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
Enhancement of forest carbon stocks – Included
Conservation of forest carbon stocks– Excluded
Sustainable management of forests– Excluded
Carbon Pools
Above Ground Biomass (AGB) – Included
Below Ground Biomass (BGB) – Included
Dead Wood – Included
Litter – Included
Soil Organic Carbon (SOC), including peat – Excluded
GHGs
CO ₂ – Included
CH ₄ – Excluded
N ₂ O– Excluded

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

A total of 24 MCAR, 2 mCAR and 6 Observations were raised as part of the validation with extended scope process. All 24 MCAR and 2 mCAR were successfully addressed by the ER Program and closed by the VVB and no OBS remain open. These findings are described in Appendix 1 of this report.

Regarding the Reference Level, it is AENOR's opinion that ER Program of Costa Rica 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 Emission Reductions units.

Statement Issuing Date: 14-June-2022

Intended User: World Bank Group, FCPF Carbon Fund Participants



Juan Carlos Gómez
Team Leader



Jose 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 FCPF ER Program of Costa Rica 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 April 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 v2.1 August 2021.
- Guidelines contained in the ER Monitoring Report Template (v2.4, May 2022), the Validation Report Template (v1.2, September 2021) and the Verification Report Template (v1.3, May 2022);
- ISO 14064-3:2006
- ISO 14065:2013
- ISO 14066:2011

The following documents were considered as documents that provide acceptable methods for satisfying requirements set by the above criteria, as per paragraph 38 of the VVG v2.4:

- 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 v2.4:

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	Consistency of monitored estimates with RL
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 v2.4:

- The Crediting Period of 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 MF;
- The carbon pools and GHGs to be accounted for as required by the MF;
- The REDD Country Participant's NFMS as described in the ER Monitoring Report;
- The national REDD+ Program and Projects Data Management System (DMS).

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 desk review and remote audit 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
Jose Luis Fuentes	Project Manager/ Technical Reviewer				X	X
Juan Carlos Gómez	Team Leader/ Lead Auditor/ Technical Expert/ GIS-RS Expert	X		X	X	
Sergio Guzman	Auditor/ Technical Expert	X		X		
Carlos Jimenez	Auditor/ Technical Expert/ GIS-RS Expert	X		X		
Javier Cócera	Trainee Auditor	X		X		

3.2 Validation schedule

Activity	Deliverable	Date	Responsible
Kick off meeting	-	09-June-21	All parties
Start of desk review	-	14-June-21	AENOR
Draft sampling plan	Sampling plan draft	25-June-21	AENOR
Sampling plan	Sampling plan	09-July-21	AENOR
Draft Audit plan	Audit plan draft	02-July-21	AENOR
Audit plan	Audit plan	09-July-21	AENOR
Interview with MINAE (remote audit)	-	03-Aug-21	AENOR
Interview with CIAgro (remote audit)	-	04-Aug-21	AENOR
Interview with ONF (remote audit)	-	04-Aug-21	AENOR
Technical session (remote audit)	-	05-Aug-21	AENOR/ Country participant
1 st round of findings	1 st round of findings	06-Aug-21	AENOR
1 st clarification of findings meeting	-	16-Aug-21	AENOR/ Country participant
Answer to findings	Answer to findings	27-Aug-21	Country participant
Review of findings and 2 nd round of findings	2 nd round of findings	03-Sept-21	AENOR
Interview with ADI Talamanca Cabécar (remote audit)	-	09-Sept-21	AENOR

Activity	Deliverable	Date	Responsible
Interview with ADI Territorio Indígena Kekoldi (remote audit)	-	09-Sept-21	AENOR
2 nd clarification of findings meeting	-	14-Sept-21	AENOR/ Country participant
Answer to the 2 nd round of findings	Answer to findings	17-Sept-21	Country participant
Review of answers	-	20-Sept-21	AENOR
Evidence for DMS audit	DMS evidence	18-Mar-22	Country participant
Findings of DMS audit	Findings of DMS audit	25-Mar-22	AENOR
1 st clarification of DMS findings meeting	-	31-Mar-22	AENOR/ Country participant
2 nd clarification of DMS findings meeting	-	07-Apr-22	AENOR/ Country participant
Answer to DMS audit findings	Answer to findings	07-Apr-22	Country participant
Review of answers	-	13-Apr-22	AENOR
Draft report	Validation draft report	18-Apr-22	AENOR
Country participant and FMT comment draft report	Comments to draft reports (if required)	21-Apr-22	Country participant/ FMT
Revised draft report with inputs from review	Revised draft report with inputs from review	26-Apr-22	AENOR
Final validation report with statement. AENOR technical review	Final validation report	14-Jun-22	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 were 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. As result of the findings of the audit, which was concurrent with the first verification process, the FMT requested AENOR to carry out a specific audit of the REDD+ program and Projects DMS of the ER Program of Costa Rica, as per indicator 37.4 of the MF and FCPF program announcement dated August 20, 2021.

All findings, 24 MCAR, 2 mCAR and 6 OBS, issued by AENOR's audit team during the validation process have been closed. 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 download 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

Due to the exceptional situation caused by the COVID-19 crisis and the travel restrictions established by governments for safety reasons and the no-travel safety policy adopted by AENOR, it was not possible to carry out a site visit to validate the ER Program.

In accordance with FCPF Carbon Fund Facility Management Team (FMT) and the Country Participant, and provided that a reasonable level of assurance was achievable by other means, AENOR as VVB carried out a remote audit that ensured the achievement of the assurance level required by the FCPF.

The remote audit procedure was developed considering the guidelines of the IAF Informative Document on the Management of Extraordinary Events or Circumstances Affecting Abs, CABs, and Certified Organizations (IAF ID 3 – Issue 1); IAF Mandatory Document for the Use of Information and Communication Technology (ICT) for Auditing/Assessment Purposes (IAF MD 4 – Issue 2); and the ANAB Accreditation Rule 9: Certified Organizations Business Continuity and Disaster Recovery. The remote audit was based on the following auditing techniques:

- Document review and cross checks between the information provided in the ER Monitoring Report and supporting information and evidence provided by the Country Participant.
- Review, based on the selected methodologies, tools and the other applied methodological regulatory documents, of the appropriateness of formulae and accuracy of calculations.
- Meetings, via teleconference, with relevant stakeholders and personal responsible for the implementation of the ER Program and the elaboration of the ER Monitoring Report.
- Cross checks between information provided by interviewees to ensure that not relevant information was omitted.

The remote audit procedure was agreed with the Country Participant on the basis of available means and safety procedures. The teleconferences were carried using software agreed with the Country Participant, i.e., Microsoft Teams.

A technical session was carried on August 5th, 2021, with Country Participant's staff involved in the management of the ER Program and the elaboration of the ER Monitoring Report, as part of the remote audit for the validation and first verification of the ER Program of Costa Rica. The aim of the session was to cross-check and verify with the responsible staff of each area the procedures described in the ER Monitoring Report and additional documents, as well as to clarify doubts from the validation team, prior to the issuance of the first round of findings. The following table includes the list of all Country Participant's staff that participated in the technical session and the main activities and topics discussed.

Name	Organization	Role/Position
Héctor Arce Benavides	FONAFIFO	FONAFIFO, REDD+ Secretariat
José Joaquín Calvo Domingo	SINAC	SINAC, REDD+ Secretariat
Mauricio Castillo Nuñez	SINAC	SINAC, Chief of information and regularization of the territory
Mario Coto Hidalgo	SINAC	SINAC, Technical director
María Elena Herrera Ugalde	FONAFIFO	FONAFIFO, REDD+ Secretariat Coordinator
Sonia Lobo Valverde	SINAC	SINAC, Technical director
Rafael Monge Vargas	MINAE	MINAE, Director of the National Geoenvironmental Information Center
German Obando	Consultant	REDD MRV Specialist, PDB Project
Guisella Quirós Ramírez	FONAFIFO	FONAFIFO, REDD+ MRV Secretariat
Ana Rita Chacón	IMN	Head of the IMN Development Department

Activity & Topics
<p>Meeting opening:</p> <p>Introduction and scope of the Remote Audit. Review of meeting agenda.</p>
<p>Technical meeting 1 (validation):</p> <p>1. <u>Carbon pools, sources and sinks</u></p> <p>Sources and sinks associated with the REDD+ Activities. Criterion 3 MF Significant Carbon Pools and greenhouse gases. Criterion 4 MF</p> <p>2. <u>Reference level</u></p> <p>Use of the most recent Intergovernmental Panel on Climate Change (IPCC) guidance and guidelines. Criterion 5 MF Key data and methods detailed and available for reconstruction of the Reference Level. Criterion 6 MF Clearly documented Forest Reference Emission Level or Forest Reference Level for the ER Program Measures Area. Criterion 10,11, 12 and 13 MF</p> <p>3. <u>Measurement, monitoring and reporting</u></p> <p>Robust Forest Monitoring Systems. Criterion 14 MF National Forest Monitoring System. Criterion 15 MF Community participation in Monitoring and Reporting. Criterion 16 MF</p> <p>4. <u>Uncertainties of the calculation</u></p> <p>Identification and address source(s) of uncertainty (identify, minimize, quantify remaining). Criterion 7, 8, 9.1 MF</p>
<p>Technical meeting 2 (verification):</p> <p>1. <u>Implementation and operation of the ER program during the reporting period</u></p> <p>Monitoring and reporting of displacement mitigation Criterion 17.3, 17.4</p> <p>2. <u>System for measurement, monitoring and reporting emissions and removals occurring within the monitoring period</u></p> <p>Robust Forest Monitoring Systems. Criterion 14 MF</p> <p>3. <u>Data and parameters</u></p> <p>Key data and methods detailed and available for reconstruction of the reported emissions and removals. Criterion 6 MF</p> <p>4. <u>Quantification of emission reductions</u></p> <p>Calculation of Emission Reductions. Criterion 22</p> <p>5. <u>Uncertainty of the estimate of emission reductions</u></p> <p>Identification and address source(s) of uncertainty (identify, minimize, quantify remaining). Criterion 7, 8, 9.1 MF Estimation of residual uncertainty. Criterion 9.2, 9.3</p> <p>6. <u>Transfer of title to ERs</u></p> <p>REDD projects and programs DMS. Criterion 37 Double counting. Criterion 23</p> <p>7. <u>Reversals</u></p> <p>Addressing reversals Criterion 18.2</p>
<p>Meeting closing:</p> <p>Remarks, clarifications, questions, following steps.</p>

Additionally, interviews were carried out with representatives of other institutions and organizations involved in the REDD+ Program of Costa Rica, to crosscheck and verified the information provided in the ER Monitoring Report. The following table summarizes the interviews to these stakeholders.

Institution / Organization	Role in Program	Interviewee / Position
Ministerio de Ambiente y Energía (MINAE)	Gives political support to the process.	Mr. Franklin Paniagua Deputy Minister of Environment
Colegio de Ingenieros Agrónomos (CIAgro)	Supervises forestry professionals in charge of REDD+ Program implementation	Mrs. Xinia Robles Fiscalía del Colegio de Ingenieros Agrónomos
Oficina Nacional Forestal (ONF)	Interlocutor between government entities and the private sector	Mr. Felipe Vega Executive Director Oficina Nacional Forestal
Asociación de Desarrollo Indígena Talamanca Cabécar	Supports indigenous groups	Mr. Francisco Morales President
Asociación de Desarrollo Indígena Territorio Indígena Kekoldi	Supports indigenous groups	Mr. Eduard Stuart Jackson Secretary

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 ER Program of Costa Rica 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, 01 January 2018, 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 justified with objective evidence to AENOR.
- It is not earlier than 01 January 2016.
- It does not fall within the Reference period.
- 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 sources 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
Enhancement of forest carbon stocks – Included
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 from forest degradation are included in the Reference Level, in compliance with the requirements set by criterion 3 of the MF. Enhancement of carbon stocks are also included.

Additionally, AENOR confirms that the ER Program justified the exclusion of conservation of forest carbon stock, as not applicable due to the inclusion of the Enhancement of carbon stocks, and the exclusion of sustainable management of forests, because it is considered non-significant source of emissions according with the country estimated annual emissions. There are no plans for improving data since the total area under forest management in Costa Rica is minimal (<500 ha yr⁻¹).

4.4 Carbon pools and GHG

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

Carbon Pools
Above Ground Biomass (AGB) – Included
Below Ground Biomass (BGB) – Included
Dead Wood – Included
Litter – Included
Soil Organic Carbon (SOC), including peat – Excluded
GHGs
CO ₂ – Included
CH ₄ – Excluded
N ₂ O – Excluded

AENOR has assessed the rationale of the ER Program for select or exclude 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, except Soil Organic Carbon (SOC) due to the lack of sufficient reliable data available to estimate emission factors. This exclusion is considered by the validation team as conservative since it leads to underestimation of total emission reductions. CH₄ and N₂O from burning field residues are excluded, since the activity was banned after 1997 in Costa Rica. No overestimations are occurring due to the inclusion of non-significant carbon pools and GHG.

AENOR confirms that the ER Program has proposed plans for improving data on excluded pools. The Country Participant is committed to improve SOC data, with the support of the RECSOIL program from FAO.

4.5 Reference Period

AENOR confirms that the start and end dates of the Reference Period (01-01-1998 to 31-12-2011) 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 change from the proposed period in the ER-PD.

4.6 Forest Definition

AENOR confirms that the definition of “forest” used in the construction of the Reference Level of the ER Program of Costa Rica is consistent with the forest definition reported by Costa Rica under the Clean Development Mechanism (CDM) and is also consistent with the forest definition used in the context of the national GHG inventory, as verified by the validation team.

Costa Rica has other definitions of forests for domestic purposes, including the definition in Costa Rica’s Forestry Law 7575, and for the reports to FAO’s Forest Resources Assessment (FRA). However, the Country Participant deemed more appropriate to maintain consistency in all its GHG-related reports and therefore decided that using the definition already applied in the context of the national GHG inventory and the CDM would be more appropriate in the context of the REDD+ than using the definition applied in FAO’s FRA and the one for domestic purposes.

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:

- Costa Rica ER Program 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 since are more than 10% of total forest-related emissions in the Accounting Area, during the Reference Period and during the Crediting Period. 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. Deforestation was determined using IPCC Approach 3, and degradation was determined by land used image analysis complemented by valid indirect methods.

Assessment details are as follows per activity data grouped parameters:

Parameters	Activity Data of Deforestation (AD _D) Activity Data of Reforestation (AD _R) Forest remaining forests (AD _{F-F})
Free of Material Misstatement (Yes/No)	Yes
Reported Appropriately (Yes/No)	Yes
Assessment Details	These parameters represent, respectively:

	<p>- Deforestation: Hectares of forest that changed to non-forest land in a year summed each year (i) of the reference period.</p> <p>- Reforestation: Hectares of non-forest that changed to forest land in a year, summed for each year (i) of the reference period.</p> <p>- Forest remaining forests: Hectares of Forest remaining forests in a year, summed for each year (i) of the reference period.</p> <p>These activity data parameters are based on annual historical time series analysis of land-use change and forestry across the Accounting Area.</p> <p>Costa Rica ER Monitoring Report presented information about data sources for estimating Activity Data, methods for mapping land-use and land-use change (including selection of images, pre-processing and geometric validation, radiometric normalization, random forest classification, post processing and Activity Data calculation), QA/QC procedures applied, values applied, and uncertainty associated with these parameters.</p> <p>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.</p> <p>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.</p>
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Parameters	Activity Data of Degradation (AD _{Deg}) Activity Data of Permanent Forest Regeneration (AD _E)
Free of Material Misstatement (Yes/No)	Yes
Reported Appropriately (Yes/No)	Yes
Assessment Details	<p>These parameters represent, respectively:</p> <p>- Degradation: Hectares of forest with a reduction of canopy cover during the reference period.</p> <p>- Forest Enhancement: Hectares of forest with an increase of canopy cover during the reference period</p> <p>Costa Rica ER Monitoring Report presented information about data sources for estimating Activity Data (including type of sampling, number of sampling units, classification scheme, imagery sources, interpretation key, data</p>

	<p>collection and analysis), values applied, QA/QC procedures applied, and uncertainty associated with these parameters.</p> <p>The validation team conducted independent analysis of the information provided 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.</p> <p>The validation team conducted independent data checks for each step necessary for the quantification of these parameters. 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.</p>
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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 Costa Rica's first National Forest Inventory, and models or average values of direct measurements reported in literature and following IPCC Guidance and Guidelines.

AENOR confirms that emission factors of the ER Program of Costa Rica 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:

Emission factors	<ul style="list-style-type: none"> - C_{AGB}: Carbon density of aboveground tree or woody biomass - C_{BGB}: Carbon density of belowground biomass - C_{DWB}: Carbon density of dead wood biomass - C_L: Carbon density of litter
Free of Material Misstatement (Yes/No)	Yes
Reported Appropriately (Yes/No)	Yes
Assessment Details	<p>Costa Rica ER Monitoring Report presented the following information about emission factors: source of data of above and below ground biomass for primary and secondary forest, source of data of litter and deadwood in primary and secondary forest, source of data of carbon stocks of non-forest land uses; methods for estimating C stocks in each emission factor; values applied in reference period; QA/QC procedures applied; and uncertainty associated with each emission factor.</p> <p>The validation team conducted independent analysis of the information provided to confirm that the source data was reliable and appropriate.</p>

	<p>Additionally, the validation team judged that the methods to estimate these parameters were reasonable and appropriate.</p> <p>The validation team performed an independent check of the IPCC Guidance and Guidelines to ensure the parameters ensuring correctness.</p> <p>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.</p> <p>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.</p> <p>The validation team reviewed the ER Monitoring Report and associated links to ensure that all data related to this parameter are made public.</p>
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Parameters	Ratio AGB: Percent of canopy cover per forest type (R _c)
Free of Material Misstatement (Yes/No)	Yes
Reported Appropriately (Yes/No)	Yes
Assessment Details	<p>This parameter represents the canopy cover and biomass relationship. Costa Rica updated the forest reference level by recalculating the forest degradation emissions. Additional temporal sampling plots were measured following the methodology used in the NFI to determine aboveground biomass. Thus, for each forest type, a ratio was estimated of aboveground biomass (in tCO_{2e}) to percent canopy cover based on direct measurements in 100 permanent forest plots. These ratios were used to estimate degradation and forest regeneration in forests remaining forests.</p> <p>The ER Monitoring Report presented the following information about this parameter: source of data (sampling unit, selection of sampling units, number of sampling units, data collection, and data analysis), values applied in reference period; QA/QC procedures applied; and uncertainty associated with the parameter.</p> <p>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 this parameter per type of forest were reasonable and appropriate.</p> <p>The validation team performed an independent check of the IPCC Guidance and Guidelines to ensure the parameters ensuring correctness.</p> <p>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.</p> <p>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 the estimations were free of error.</p>

	The validation team reviewed the ER MONITORING REPORT and associated links to ensure that all data related to this parameter are made public.
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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.

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

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 and corrected an error in the canopy cover change database during the identification of very degraded forests. Paragraph 3 positive list of the Guideline on the application of Methodological Framework Number 2 includes these technical corrections. The methodology to estimate total uncertainty was updated as the previous approach of estimating the final confidence interval of the final distribution of Monte Carlo simulations was deemed to have led to unrealistically low values.

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

Costa Rica proposed downward adjustment to the average annual historical emissions over the Reference Period (from an average 4,133,087 tCO_{2e}/yr in ER PD to 2,585,717 tCO_{2e}/yr in current ER Monitoring Report). AENOR confirms that the justifications and explanations for this adjustment 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 adjustment to the average annual historical emissions over the Reference Period, and confirms that the methods, equations, data, and parameters used are correct.

4.10 Estimated Reference Level

Costa Rica presented an overview of the methods used to obtain the average annual emissions and removals for the FCPF Reference Level (1998-2011) used for the first monitoring period 2018-2019, compared with those used to calculate the FREL/FRL submitted to the UNFCCC (2016), and the AFOLU emissions of Costa Rica's National GHG Inventory in the latest Biennial Update Report (2015).

AENOR confirms the relation, and its consistency, between the Reference Level, the development of the FREL/FRL submitted to the UNFCCC (2016) and the country's existing greenhouse gas inventory, and that the ER Monitoring Report explains how the first is informed by the second.

AENOR assessed the adjusted Reference Level for the ER Program for the Crediting Period and confirms that the Reference Level is materially accurate.

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

Crediting Period year t	Average annual historical emissions from deforestation over the Reference Period (tCO _{2e} /yr)	If applicable, average annual historical emissions from forest degradation over the Reference Period (tCO _{2e} /yr)	If applicable, average annual historical removals by sinks over the Reference Period (tCO _{2e} /yr)	Adjustment, if applicable (tCO _{2e} /yr)	Reference level (tCO _{2e} /yr)
2018	5,985,795	1,383,974	-4,784,051	-	2,585,717
2019	5,985,795	1,383,974	-4,784,051	-	2,585,717
2020	5,985,795	1,383,974	-4,784,051	-	2,585,717

2021	5,985,795	1,383,974	-4,784,051	-	2,585,717
2022	5,985,795	1,383,974	-4,784,051	-	2,585,717
2023	5,985,795	1,383,974	-4,784,051	-	2,585,717
2024	5,985,795	1,383,974	-4,784,051	-	2,585,717

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

The ER Monitoring Report states that there are some inconsistencies or differences yet for the complete alignment of the GHG Inventory with the current FREL submission to the UNFCCC and Reference Level to the FCPF Carbon Fund and the consistency with REDD+ FREL submitted to the UNFCCC.

However, the Country Participant has made important efforts to harmonize GHG reporting under the UNFCCC, including National GHG inventories and REDD+, as described in Annex 4 - section 8.6 of the ER Monitoring Report. This description was 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 through a stepwise approach, the sources of uncertainty of the Reference Level in Activity Data (measurement, representativeness, sampling), 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 4.11.1 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.

The carbon stocks used to estimate emission factors for deforestation were by far the largest source of uncertainty. When this uncertainty source was removed, total uncertainty decreased by over 54%. The mapping error of new forests during the reference period, the error of the ratio of aboveground biomass to percent canopy cover, and changes in canopy cover in forests remaining forests during the monitoring period also had sizable impacts on uncertainty. When the uncertainty for each of these was removed, uncertainty decreased by 6.9%, 6.8%, and 6.2% respectively.

For certain sources of uncertainty, when selectively removed, the overall uncertainty of the emissions estimates increased, albeit minimally. This can be explained by the fact that, when Monte Carlo simulations of multiple error sources are combined, depending on the spread and distributions of the different sources of error, the final distribution may end up being narrower than when there are fewer sources combined.

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 4.11.1) 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. Specifically, 2 rounds were required to close all MCAR. Additionally, the Country Participant requested 2 meetings with the validation team to clarify doubts related to the findings.

As result of the findings of the audit, which was concurrent with the first verification process, the FMT requested AENOR to carry out a specific audit of the REDD+ program and Projects DMS of the ER Program of Costa Rica, as per indicator 37.4 of the MF and FCPF program announcement dated August 20, 2021. The Country Participant requested 2 additional meetings for clarifications related to the findings of the DMS audit.

All findings, 24 MCAR, 2 mCAR and 6 OBS, issued by AENOR's audit team during the validation process have been closed. There are no non-compliances pending for the subsequent crediting period. 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

Major Corrective actions (MCARs)

MCAR ID	MCAR 01	Date: 06/08/2021
Description		
<p>ER-MR template: Guidance text within the ER Monitoring template shall be considered as requirements and shall be met by the ER Program.</p> <p>In the front cover of the ER-MR, the dates of the reporting period and of submission do not follow the format of the template.</p>		
Country participant response		Date: 25/08/2021
Date format has been changed following the format of the template		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
The country participant has modified the format of the reporting period dates to match the format required by the ER-MR template. However, the format of the date of submission has not been modified.		
Country participant response		Date: 17/09/2021
The format of the submission date has been changed following the format of the template.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 20/09/2021
The country participant has modified the dates of the front cover to match the format required by the ER-MR template.		
MCAR closed.		

MCAR ID	MCAR 02	Date: 06/08/2021
Description		
<p>ER-MR template: Guidance text within the ER Monitoring template shall be considered as requirements and shall be met by the ER Program.</p> <p>As required by the ER-MR template, section 1.1 shall not be more than 2 pages.</p>		
Country participant response		Date: 25/08/2021
Section 1.1 is now two-page long.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has edited section 1.1 of the ER-MR to be not more than 2 pages, as required by the ER-MR template.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 03	Date: 06/08/2021
Description		
<p>ER-MR template: Guidance text within the ER Monitoring template shall be considered as requirements and shall be met by the ER Program.</p> <p>For section 1.1 of the ER-MR the template requests to "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.". However, the changes done are not pointed out.</p>		
Country participant response		Date: 25/08/2021
There are no changes or deviations in the ER Program's design and key assumptions compared to the description of the ER Program in the ER-PD. This situation has been indicated at the beginning of section 1.1.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has added in section 1.1 of the ER-MR that there are no changes or deviations in the ER Program's design and key assumptions compared to the description of the ER Program in the ER-PD, providing the information requested by the template.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 04	Date: 06/08/2021
Description		
<p>VVG para. 42: Any errors in reporting of factual information in the ER Monitoring Report as required by the FCPF Methodological Framework are material discrepancies.</p> <p>In Table 1, section 1.2 of the ER-MR, it is mentioned that the monitoring period is 2019.2019.</p>		
Country participant response		Date: 25/08/2021
The monitoring period has been corrected in Table 1 title.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has rectified the title of Table 1 of ER-MR with the correct monitoring period.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 05	Date: 06/08/2021
Description		
<p>MF Criterion 6: Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online. In cases where the country's or ER Program's policies exempt sources of information from being publicly disclosed or shared, the information shall be made available to the third party validation and verification body and a rationale is provided for not making these data publicly available. In these cases, reasonable efforts shall be made to make summary data publicly available to enable reconstruction.</p> <p>In section 1.2 of the ER-MR, links for references in footnotes 2, 4, 5 and 6 are not provided.</p>		
Country participant response		Date: 25/08/2021
Link for references in footnotes have been included. 2 (now 3), 4 (now 5), 5 (now 6) and 6 (now 7).		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has provided working links to the reference documents cited in footnotes 3, 5, 6 and 7 (previously footnotes 2, 4, 5 and 6, respectively).</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 06	Date: 06/08/2021
Description		
<p>MF Criterion 6: Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online. In cases where the country's or ER Program's policies exempt sources of information from being publicly disclosed or shared, the information shall be made available to the third party validation and verification body and a rationale is provided for not making these data publicly available. In these cases, reasonable efforts shall be made to make summary data publicly available to enable reconstruction.</p> <p>In section 2.1 of the ER-MR:</p> <ul style="list-style-type: none"> - Link in footnote 10 fails to open. - Reference in footnote 11 is incorrect. 		
Country participant response		Date: 25/08/2021
The link in footnote 10 has been updated. Reference in footnote 11 has been deleted.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has provided a working link for reference in footnote 11 (previously footnote 10). Previous footnote 11 has been deleted.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 07	Date: 06/08/2021
Description		
<p>VVG para. 42: Any errors in reporting of factual information in the ER Monitoring Report as required by the FCPF Methodological Framework are material discrepancies.</p> <p>Section 2.1.1 of the ER-ME mentions Costa Rica's National Forest Monitoring System (NFMS), which generates information for the REDD+ MRV, and has already been created. However section 1.1 (Section Effectiveness of the organizational arrangements and involvement of partner agencies) states "The Government has not officialized the SIMOCUTE initiative yet. However, REDD+ Secretariat is implementing the National Forest Monitoring System for REDD+ [...]".</p> <p>Clarify in the ER MR the difference between SIMOCUTE and NFMS. Clarify in section 1.1 if SIMOCUTE is already operational and approved by the government.</p>		
Country participant response		Date: 25/08/2021
<p>Section 2.1.1 has been edited to clarify the difference between SIMOCUTE and NFMS. Section 1.1 has been clarified the government already approves SIMOCUTE.</p> <p>The NFMS is part of the SIMOCUTE platform (National Monitoring System for Land Use, Land Use Cover, and Ecosystems, see Figure 1). SIMOCUTE is the official platform for coordination, linkage, and institutional and sectoral integration of the Costa Rican State management and distribution of knowledge and information on land-use change and ecosystem monitoring (see Figure 2). SIMOCUTE provides technical guidance for the monitoring, reporting, and verification (MRV) of land-use change in the AFOLU sector (agriculture, forests, and other land use). SIMOCUTE is now a fully operational platform that will integrate the MRV systems of GHG emissions from the AFOLU sector, including the national REDD+ program, the NAMAs, the national carbon trading system, and the progress of NDC implementation.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has clarified in section 2.11 the difference amongst SIMOCUTE and NFMS, and that SIMOCUTE is already operational and approved by the government, in section 1.1.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 08	Date: 06/08/2021
Description		
<p>MF Criterion 6: Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online. In cases where the country's or ER Program's policies exempt sources of information from being publicly disclosed or shared, the information shall be made available to the third party validation and verification body and a rationale is provided for not making these data publicly available. In these cases, reasonable efforts shall be made to make summary data publicly available to enable reconstruction.</p> <p>Section 2.2.2.1.2 of the ER-MR does not provide the equations in detailed for the calculation of emissions and removals in the monitoring period.</p>		
Country participant response		Date: 25/08/2021
<p>Section 2.2.2.1.1 has been updated. Equations 2.6 and 2.7 for estimation of deforestation and degradation emissions have been included. Equations 2.4 and 2.5 were edited. The line diagram with the step-by-step measurement and monitoring approaches was also updated (now figure 3). Equations in Section 8.3 of Annex 4 also were edited.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has updated section 2.2.2.1.1 and section 8.3 of Annex 4 of the ER-MR with more detailed equations for the calculation of emissions and removals of the reference level. However, section 2.2.2.1.2 still does not provide detailed equations for the calculation of deforestation and degradation emissions and removals in the monitoring period.</p>		
Country participant response		Date: 17/09/2021
<p>Section 2.2.2.1.2 has been updated. Equations 5 was edited. Equations 5.1, 5.2, 5.3, 5.4, 5.5, 5.6 and 5.7 were included. Equations numbers in section 3.2 have also been updated.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 20/09/2021
<p>The country participant has provided in section 2.2.2.1.2 detailed equations for the calculation of deforestation and degradation emissions and removals in the monitoring period.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 09	Date: 06/08/2021
Description		
<p>MF Criterion 6: Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online. In cases where the country's or ER Program's policies exempt sources of information from being publicly disclosed or shared, the information shall be made available to the third party validation and verification body and a rationale is provided for not making these data publicly available. In these cases, reasonable efforts shall be made to make summary data publicly available to enable reconstruction.</p> <p>In section 2.2.2.1.2 ER-MR is referred equation 3 that does not exist in the document.</p>		
Country participant response		Date: 25/08/2021
Equation numbering has been updated. Equation 3 is correctly referred to in section 2.2.2.1.2		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has corrected the numbering of the equations.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 10	Date: 06/08/2021
Description		
<p>MF Indicator 9.2: Uncertainty of the estimate of Emission Reductions is quantified using Monte Carlo methods. Underlying sources of error in data and methods for integrated measurements of deforestation, forest degradation and enhancements (e.g., as in a national forest inventory) are combined into a single combined uncertainty estimate and are reported at the two-tailed 90% confidence level.</p> <p>Provide source of uncertainty figures of tables 2, 6, and 13.</p> <p>Additionally, in table 6 the uncertainty is not stated for the monitoring period.</p>		
Country participant response		Date: 25/08/2021
<p>Tables 2 and 13: Uncertainty figures were not correct. Now figures are the same used in spreadsheet "AD_ERROR" of Monte Carlo Analysis Excel FREL _ MRV TOOL CR v Sept2018 info2014-2015-2016-2017-2018-2019 uncertainty v3 actualizado mayo 2021 AM.xlsx. The uncertainty values are in cells F56-F59 of spreadsheet "2.4E Datos Actividad 2001-2011 in excel file CDI_CostaRicaREL_AnalisisExactitud_MCS2000-2001 vs MCS2010-2011).</p> <p>Table 6: Uncertainty figures were not correct. Now figures are the same used in spreadsheet "AD_ERROR" of Monte Carlo Analysis Excel FREL _ MRV TOOL CR v Sept2018 info2014-2015-2016-2017-2018-2019 uncertainty v3 actualizado mayo 2021 AM.xlsx. The activity data's uncertainty is the bias between the adjusted (reference data in cells H10-H14 in spreadsheet "SepalMC19v2" of ReferenceData2018-2019Rev12Feb2021.xlsx) and estimated areas (land use maps in cells G10-G14 in spreadsheet "SepalMC19v2" of ReferenceData2018-2019Rev12Feb2021.xlsx).</p> <p>The uncertainty figures included at the end of Table 6 are for the monitoring period 2018-2019.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has corrected Tables 2, 6, and 13 in ER MR and now the uncertainty data correspond with the sources provided.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 11	Date: 06/08/2021
Description		
<p>VVG para. 42: Any errors in reporting of factual information in the ER Monitoring Report as required by the FCPF Methodological Framework are material discrepancies.</p> <p>In section 3.1 of the ER-MR, table 3, a monitoring period from 2012 to 2016 is indicated twice.</p> <p>MCAR 11. Clarification on 16/08/2021: In section 3.1 of the ER-MR, in table 3 (section 3.1/ Fixed data and parameters) and table 14 (section 8.3 of Annex IV/ Activity data and emission factors), a monitoring period from 2012 to 2016 is indicated (twice in each table). However, the monitoring period is 2018-2019.</p>		
Country participant response		Date: 25/08/2021
<p>The reference "monitoring period 2021-2016" has been replaced by "period 2012-2016" in tables 3 and 14.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has corrected the phrasing for period 2012-2016 in tables 3 and 14 of the ER-MR.</p> <p>However, incorrect reference to a monitoring period 2016-2018 in table 7 has been found.</p>		
Country participant response		Date: 17/09/2021
<p>The reference "monitoring period 2021-2016" has been replaced by "period 2012-2016" in tables 7.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 20/09/2021
<p>The country participant has corrected the phrasing for period 2012-2016 in tables 7 of the ER-MR.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 12	Date: 06/08/2021
Description		
<p>ER-MR template: Guidance text within the ER Monitoring template shall be considered as requirements and shall be met by the ER Program.</p> <p>Section 6.2. of the ER-MR does not describes the design and operation by the ER Program and discusses the design and provides evidence of the implementation and operation of a Program and Projects Data Management System in accordance with the requirements of the Methodological Framework (Criterion 37), as required by the ER-MR template.</p>		
Country participant response		Date: 25/08/2021
<p>Section 6.1 and 6.2 have been updated. Section 6.2 now discusses and describes the implementation and operation of the Program and Projects Data Management System following the MF C37. Also, this section includes a clear statement on the “decision whether to maintain its own comprehensive national REDD+ Program and Projects Data Management System or instead to use a centralized REDD+ Programs and Projects Data Management System managed by a third party on its behalf” (MF 37.1).</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has updated section 6.2</p> <p>However, it still not mentions 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) as required per 37.3 MF.</p>		
Country participant response		Date: 17/09/2021
<p>Section 6.2 has been updated. The following paragraph has been added:</p> <p>“The REDD+ Secretariat, with the support of the World Bank, is building a repository system for Costa Rica REDD+ information. This repository will be hosted in the servers of FONAFIFO and will include the publication of the Database of the Project Data Management System. In this way, the REDD+ Programs and Projects Data Management System will be available to the public via the internet in the Spanish language.”</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 20/09/2021
<p>The country participant has provided in section 6.2 of the ER-MR information on how the national REDD+ Programs and Projects Data Management System will be available to the public.</p> <p>Specific audit of DMS carried out by request of FMT. MCAR closed.</p>		

MCAR ID	MCAR 13	Date: 06/08/2021
Description		
<p>MF Indicator 18.2: The ER Program demonstrates how effective ER Program design and implementation will mitigate significant risks of Reversals identified in the assessment to the extent possible, and will address the sustainability of ERs, both during the Crediting Period, and beyond the Crediting Period.</p> <p>In section 7.3 of the ER-MR, for the risk factor “Lack of broad and sustained stakeholder support” it is stated:</p> <p style="padding-left: 40px;">‘Costa Rica is undertaking REDD + readiness activities targeting governance issues, such as the land tenure and carbon rights conflict that affect the forest land owned by indigenous people in the country. These activities entail adopting improved governance structures and processes that aim to eliminate the conflict and abate the risk it poses, thereby enhancing the long-term effectiveness of the REDD + program. In addition, the mechanism to resolve carbon right disputes is defined in the REDD + Decree No. 40464, which states the mechanisms of carbon trading and REDD + Strategy financing.’¹</p> <p>A low risk is indicated for this risk factor. However, section 6.2 mentions the existence of conflicts in relation to land tenure. The justification for the low risk classification is not sufficiently evidenced.</p> <p>MCAR 13. Clarification of 08/16/2021: The wording of the MCAR was not concise enough: the requirement came from the apparent non-alignment between what the ER MR mentions in 7.3¹ as a low-risk justification and the statement in section 6.2².</p> <p>The consideration regarding section 6.2 (and the exclusion of non-transferable land / ER titles) had been taken into account by AENOR, but it was considered that point 7.3 was not explanatory by itself. Thus, AENOR suggests completing the explanation in section 7.3 with the clarification that you mentioned during the call in order to clearly justify the low risk and avoid misunderstandings.</p> <p>¹ ‘Costa Rica is undertaking REDD + readiness activities targeting governance issues, such as the land tenure and carbon rights conflict that affect the forest land owned by indigenous people in the country. These activities entail adopting improved governance structures and processes that aim to eliminate the conflict and abate the risk it poses, thereby enhancing the long-term effectiveness of the REDD + program. In addition, the mechanism to resolve carbon right disputes is defined in the REDD + Decree No. 40464, which states the mechanisms of carbon trading and REDD + Strategy financing.’</p> <p>² ‘There is an overlay issue between indigenous territories and Protected Areas. REDD+ Secretariat has addressed this issue with the Minister of the Environment and the director of SINAC. It is expected to reach a forthcoming agreement for the corresponding claim of emission reductions. Regarding State Natural Heritage, SINAC is working on completing the information indicated in the table. Still, the documented percentage of forest lands in the State Natural Heritage is deficient.’</p>		
Country participant response		Date: 25/08/2021
<p>Section 6.2 and 7.3 have been edited to clarify how is managed the overlay issue between Indigenous Territories and Protected Areas. Section 7.3 has been explained that REDD+ Secretary is taking action to minimize the probability of a reversal due to overlay issues. The selection process of CREF beneficiaries’ applications is based on an overlay analysis of a global geodatabase of ER’s owners. CREF mechanism will include only non-overlapped forest land.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		

VVB Assessment	Date: 03/09/2021
<p>The country participant has completed sections 6.2 and 7.3 to clarify how the overlay issue between Indigenous Territories and Protected Areas is managed, and justifies a low risk consideration at this regard.</p> <p>MCAR closed.</p>	

MCAR ID	MCAR 14	Date: 06/08/2021
Description		
<p>ER-MR template: Guidance text within the ER Monitoring template shall be considered as requirements and shall be met by the ER Program.</p> <p>In section 8 of the ER-MR, references to sections in the table are incorrect.</p>		
Country participant response		Date: 25/08/2021
Reference in section 8 table of ER-MR has been edited.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment	Date: 03/09/2021	
<p>The country participant has corrected the reference in the table of section 8 of the ER-MR in accordance with the template.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 15	Date: 06/08/2021
Description		
<p>MF Criterion 6: Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online. In cases where the country's or ER Program's policies exempt sources of information from being publicly disclosed or shared, the information shall be made available to the third party validation and verification body and a rationale is provided for not making these data publicly available. In these cases, reasonable efforts shall be made to make summary data publicly available to enable reconstruction.</p> <p>In Annex 4: 7.1 of the ER-MR, for Above Ground Biomass (AGB), Below Ground Biomass (BGB) and Dead Wood and Litter, data from the National Forest Inventory are used. However, there has not been provided evidence of this data from original sources (links, NFI reports, etc.).</p>		
Country participant response		Date: 25/08/2021
<p>In Annex 4, section 7.2, a link has been included to access Aboveground biomass data from the National Forest Inventory used to estimate deforestation.</p>		
Documentation provided by Country participant		
<p>Updated ER Monitoring Report (ER-MR) and Aboveground biomass data from the National Forest Inventory used to estimate deforestation.</p>		
VVB Assessment		Date: 03/09/2021
<p>The country participant has added a link with the source to Above Ground Biomass (AGB) in IFN, but do not mentions that it is also the source of Below Ground Biomass (BGB) and Dead Wood and Litter.</p>		
Country participant response		Date: 17/09/2021
<p>Please see the description of the methods for developing the emission factor for deforestation in tables 4 and 15. Only AGB carbon density was obtained from NFI. BGB is directly derived from AGB with Cairns et al. 1997 formula. DW and Litter values were obtained from the literature. In table 4, there is a footnote with a link to access the literature review database: https://drive.google.com/file/d/1d6QqYQci7_Qo7DJhS5eOKgCqLFDX-rFX/view?usp=sharing.</p>		
Documentation provided by Country participant		
<p>Updated ER Monitoring Report (ER-MR).</p>		
VVB Assessment		Date: 20/09/2021
<p>The country participant has clarified the sources for Below Ground Biomass (BGB), Dead Wood and Litter, and a link publicly available is provided in the ER MR.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 16	Date: 06/08/2021
Description		
<p>VVG para. 42: Any errors in reporting of factual information in the ER Monitoring Report as required by the FCPF Methodological Framework are material discrepancies.</p> <p>In Annex 4: 8.4 of the ER-MR, it is mentioned “average emissions of its reference period (i.e., 2,585,217 tCO₂e yr-1)”, which is not correct.</p>		
Country participant response		Date: 25/08/2021
Average emission of the reference period is correct (2,585,217 tCO ₂ e yr-1). The figure indicated in section 8.4 corresponds to the updated estimate. Therefore, the adjustment data has been deleted from the table.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
The adjustment data was right, no need to delete it. However, ‘2,585,217 tCO ₂ e yr-1’ (in the last paragraph) is not correct since it is 2,585,717 tCO ₂ e yr-1 according to table above in the section and the calculations.		
Country participant response		Date: 17/09/2021
The adjustment data has been undeleted from the table. Figure ‘2,585,217 tCO ₂ e yr-1’ (in the last paragraph) is now correct.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 20/09/2021
The country participant has corrected the error in figure transcription.		
MCAR closed.		

MCAR ID	MCAR 17	Date: 06/08/2021
Description		
<p>MF Criterion 6: Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online. In cases where the country's or ER Program's policies exempt sources of information from being publicly disclosed or shared, the information shall be made available to the third party validation and verification body and a rationale is provided for not making these data publicly available. In these cases, reasonable efforts shall be made to make summary data publicly available to enable reconstruction.</p> <p>In Annex 4: 8.6 of the ER-MR, reference to Table 5 is mistaken in the number.</p>		
Country participant response		Date: 25/08/2021
Reference has been updated in Annex 4, section 8.6.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 27/08/2021
<p>The country participant has corrected the refence of the table.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 18	Date: 06/08/2021
Description		
<p>ER-MR template: Guidance text within the ER Monitoring template shall be considered as requirements and shall be met by the ER Program.</p> <p>In Annex 4: 9 of the ER-MR.</p> <ul style="list-style-type: none"> - Page 118, first paragraph, mention to Figure 2 is mistaken. - Content of Section 9.4, which does not exist in the template, corresponds to section 9.2 Role of communities in the forest monitoring system. - In PARAMETERS TO BE MONITORED the same format is not used and some sections are missing (such as "Value applied"). 		
Country participant response		Date: 25/08/2021
<p>The figure number is correct. Section 9.4 has been moved to section 9.2. Tables in PARAMETERS TO BE MONITORED now have the same format of the fcpf_emission_reductions_monitoring_report_2021_ver02.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has made the corrections requested.</p> <p>However, in section 9.3 refers to section 8.6. which is more related to reference level and any intended submission of a Forest Reference Emission Level or Forest Reference Level to the UNFCCC.</p> <p>According to the ER Monitoring template Section 9.3 should discuss if the approach for measurement, monitoring and reporting is consistent with standard technical procedures in the country and how the approach fits into the existing or emerging National Forest Monitoring System. If applicable, provide a rationale for alternative technical design. Refer to criterion 15 of the Methodological Framework</p>		
Country participant response		Date: 17/09/2021
<p>Section 9.3 now provides a discussion on the approach for measurement, monitoring and reporting is consistent with standard technical procedures in the country and how the approach fits into the existing or emerging National Forest Monitoring System.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 20/09/2021
<p>The country participant has updated the information related to section 9.3 describing the approach for measurement, monitoring and reporting, stating that this procedures are consistent with standard technical procedures in the country. QA/QC procedures used are also described.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 19	Date: 06/08/2021
Description		
<p>ER-MR template: Guidance text within the ER Monitoring template shall be considered as requirements and shall be met by the ER Program.</p> <p>As per required by the MR template; if sections of the ER-MR are not applicable, explicitly state that the section is “Intentionally left blank”.</p>		
Country participant response		Date: 25/08/2021
<p>Section 7.2 and Annexes 1, 2, and 3 in ER-MR have been updated; now text explicitly states that the section is “Intentionally left blank.”</p>		
Documentation provided by Country participant		
<p>Updated ER Monitoring Report (ER-MR).</p>		
VVB Assessment		Date: 03/09/2021
<p>The country participant has stated in the ER-MR the sections intentionally left blank, as required by the template.</p> <p>MCAR closed.</p>		

MCAR ID	MCAR 20	Date: 26/04/2022
Description		
<p>MF Indicator 13.2: The Reference Level may be adjusted upward above average annual historical emissions if the ER Program can demonstrate to the satisfaction of the Carbon Fund that the following eligibility requirements are met:</p> <ul style="list-style-type: none"> i. Long-term historical deforestation has been minimal across the entirety of the country, and the country has high forest cover; ii. National circumstances have changed such that rates of deforestation and forest degradation during the historical Reference Period likely underestimate future rates of deforestation and forest degradation during the Crediting Period. <p>Tables of section 4.1 and Annex 4-8.4 of the ER-MR report a negative adjustment to reference level. However, the ER Program does not comply with eligibility requirements set by indicator 13.2 and the adjustment shall be upward.</p>		
Country participant response		Date: 04/05/2022
<p>No adjustment was made to the average annual historical emissions over the reference period (see section 8.5 in Annex 4). Negative adjustment to reference level has been removed in section 4.1 and Annex 4-8-4.</p>		

Documentation provided by Country participant	
Updated ER-MR report in track changes version	
Updated ER-MR report clean version	
VVB Assessment	Date: 05/05/2022
The Country Participant has made the adequate corrections.	
MCAR closed	

MCAR ID	DMS MCAR 01	Date: 25/03/2022
Description		
<p>There are errors in the identification of overlaps in the database GIS <i>UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF.shp</i> and errors and omissions in the report of overlaps in the Excel database <i>Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 20220301.xlsx</i>. Specifically, the following have been identified:</p> <p>a) Overlaps not reported between Territorios Indígenas (<i>TERRITORIOS_INDIGENAS_2022.shp</i>) and 10. FONAFIFO, 26. PNE SIN INSCRIBIR EN OTRAS ASP, 43. Zona Fronteriza Sur (ZFS), 40. RESTO PN, RB, o MONUMENTO, etc. (<i>UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF.shp</i>) (ordered from greater to lesser magnitude).</p> <p>b) Overlaps not reported between PNE Inscritos con plano (<i>PNE_Inscritos_con_plano.shp</i>) and 40. RESTO PN, RB, o MONUMENTO, 46. Zona Protectora RIO BANANO, 47. Otras Areas Silvestres protegidas (ASP) PRIVADAS and 48. Resto otras ASP (GIS <i>UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF.shp</i>).</p> <p>c) Overlaps not reported between PNE-JAPDEVA (<i>PNE_JAPDEVA.shp</i>) and 26. PNE SIN INSCRIBIR EN OTRAS ASP, 34. PNE-JAPDEVA EN ZMT, 40. RESTO PN, RB, o MONUMENTO and 48. Resto otras ASP (<i>UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF.shp</i>).</p> <p>d) Overlaps not reported between PNE sin inscribir entre PN y RB (<i>PNE_sin_inscribir_en_PN_y_RB.shp</i>) and 40. RESTO PN, RB, o MONUMENTO (<i>UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF.shp</i>).</p>		
Country participant response		Date: 06/04/2022
<p>The overlapping geodatabase was reviewed to address the identified findings. The analyzed area remains at 1,623,574.8 ha and claimed area increases to 1,231,978.7 ha due to the reclassification of mangroves and Indigenous Territories areas. The field A_RECLAMAR is added to the geodatabase to identify the polygons that make up the claim area presented in March 2022 (RECLAMO MARZO 2022) and which polygons with forest cover are in the process of analysis to be included as a beneficiary of the Emissions Reduction Program (PENDIENTE, EN ANALISIS). Also, in this field, the PES contracts and the CREF private request within the updated area are indicated. Finally, the Overlay Analysis Secondary Level categories are reassigned to polygons with mangrove cover; now, this forest cover type is separately identified. This update implies that the entire mangrove area is added to the substantial volume to be claimed. The changes of this reassignment are as follows:</p>		

Initial category (Mangrove in):	Area (ha)	Final category
01. PRIVADO	17.5	41 PNE MANGLARES
23. Patrimonio Natural de El Estado (PNE) INSCRITO CON PLANO	17.1	41A MANGLAR EN PNE INSCRITO
24. PNE INSCRITO EN ZMT	8.7	41 PNE MANGLARES
26. PNE SIN INSCRIBIR EN OTRAS ASP	1351.1	41 PNE MANGLARES
28. PNE SIN INSCRIBIR EN OTRAS ASP Y EN ZMT	187.3	41 PNE MANGLARES
30. PNE SIN INSCRIBIR PN y RB	970.0	41B MANGLAR EN PN Y RB
32. PNE SIN INSCRIBIR PN y RB en ZMT	214.0	41B MANGLAR EN PN Y RB
40. RESTO PN, RB, o MONUMENTO	1915.9	41B MANGLAR EN PN Y RB
42. ISLAS	1225.9	41C MANGLAR EN ISLAS
44. Zona Marítimo Terrestre (ZMT)	5501.7	41 PNE MANGLARES
47. Otras Áreas Silvestres protegidas (ASP) PRIVADAS	307.8	41D MANGLAR EN ASP PRIVADAS
48. Resto otras ASP	15777.5	41 PNE MANGLARES

Comments on non-conformities

- a. For category 10. FONAFIFO, the polygons located within the indigenous territories correspond to Payments for Environmental Services (PES) contracts, in which the indigenous peoples assign the right to reduce emissions to FONAFIFO. There are also other contracts of non-indigenous people located within the territories that have been authorized to sign a PES contract. Within 10. FONAFIFO two categories were added:
- 10A. PSA en Territorio Indígena (PES in Indigenous Territories are further classified into various sub-categories.)
 - 10B. PSA no indígena en Territorio Indígena (Non-Indigenous PES in Indigenous Territories are further classified into various sub-categories.)

For the rest of the categories mentioned, categories 04. PUEBLOS INDIGENAS are reclassified to 04A. PUEBLOS INDIGENAS according to their location with areas of the Natural Heritage of the State. The indigenous peoples are maintained as beneficiaries according to the opinion of the Attorney General of the Republic of Costa Rica (PGR Spanish acronym) PGR-C-253-2021 of 09/06/2021, sent to SINAC, where it is indicated that the right of the indigenous people prevails in the case of overlapping with Wild Protected Areas.

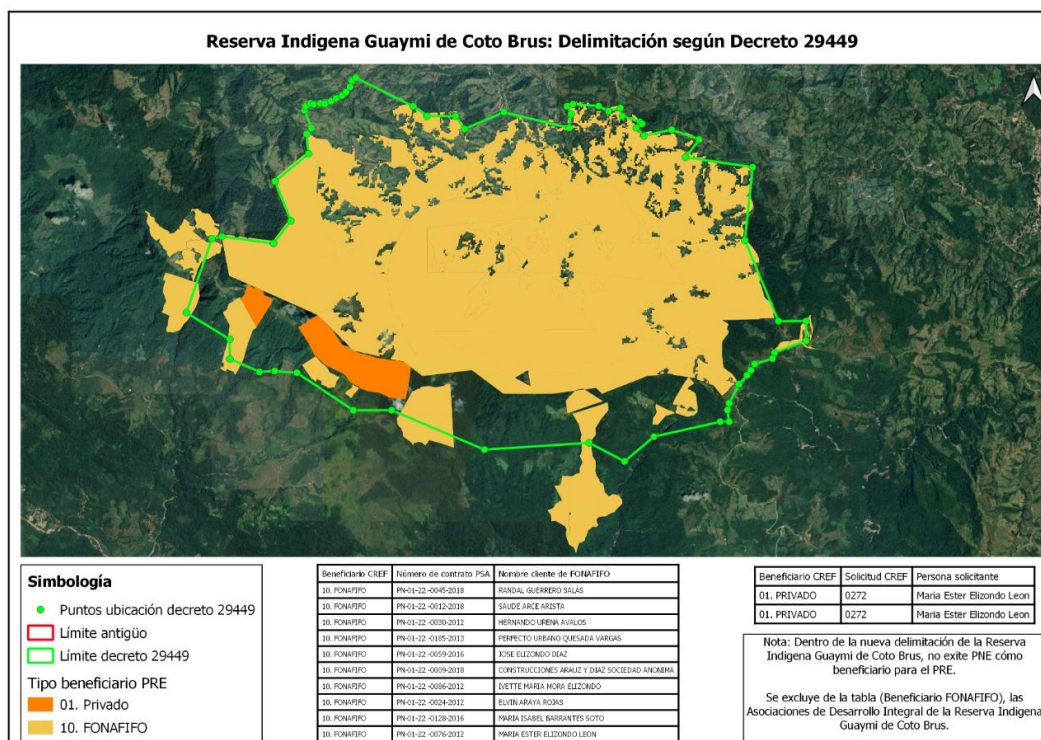
- b. The overlaps under categories 34, 40, 46, 47, and 48 were not included in the claim and are now assigned to the category PENDING, UNDER ANALYSIS (PENDIENTE, EN ANALISIS).
- c. The area administered by JAPDEVA is not included in the claiming area and assigned the category PENDING, UNDER ANALYSIS. Categories 26 and 40 are included as part of the claiming area.

There is a State Natural Heritage (PNE) without registering in National Parks, Biological Reserves, and National Monuments, but these last categories prevail over the PNE without registering.

Documentation provided by Country participant	
<p>Updated Geodatabase</p> <p>Excel file with updated substantial volume</p> <p>Text of the opinion of the Attorney General's Office on the overlap between Indigenous Territories and Protected Areas</p> <p>Updated Indigenous Territories layer</p>	
VVB Assessment	Date: 13/04/2022
<p>The Country Participant has clarified that not all categories within the DMS correspond to areas for which ER Titles will be claimed for this monitoring period and thus, overlaps are still under study. Corrections have been made in the databases to clearly identify overlaps between Indigenous Territories and the other categories which correspond to areas for which ER Titles will be claimed.</p> <p>MCAR closed.</p>	

MCAR ID	DMS MCAR 02	Date: 25/03/2022
Description		
<p>There are discrepancies between the polygon defined in <i>TERRITORIOS_INDIGENAS_2022.shp</i> for the Indigenous Territory Guaymi de Coto Brus and the polygon defined by the coordinates contained in <i>Decreto Ejecutivo 29449 del 22/03/2001 Reforma Reserva Indígena Guaymí de Coto Brus</i> to define the limits of the Territory</p>		
Country participant response		Date: 06/04/2022
<p>The polygons of other categories that overlapped with the area of Executive Decree 29449 were identified, and the polygon of the GUAYMI DE COTO BRUS Indigenous Territory was updated in the Indigenous Territories layer. These polygons are categorized as:</p> <ol style="list-style-type: none"> a. 01A. SOBREP PRIVADO EN TI GUAYMI DE COTO BRUS (Overlapping of private land with Indigenous Territory GUAYMI DE COTO BRUS 2 polygons) b. 10C. Sobrep FONAFIFO en TI GUAYMI DE COTO BRUS (Overlapping of FONAFIFO's contract with Indigenous Territory GUAYMI DE COTO BRUS 11 polygons) <p>The beneficiary category 7 is added for areas with overlaps that require a deeper analysis, also categorized as PENDING, UNDER ANALYSIS. The following figure shows the situation of the PES</p>		

polygons and CREF requests and the original and updated versions of GUAYMI DE COTO Indigenous Territory.



Documentation provided by Country participant

- Updated Geodatabase
- Excel file with updated substantial volume
- Text of the opinion of the Attorney General's Office on the overlap between Indigenous Territories and Protected Areas
- Updated Indigenous Territories layer

VVB Assessment	Date: 13/04/2022
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The Country Participant has corrected the polygon of the Indigenous Territory Guaymi de Coto Brus in the GIS database in accordance with the *Decreto Ejecutivo 29449 del 22/03/2001 Reforma Reserva Indígena Guaymí de Coto Brus* and has properly identify existing overlaps.

MCAR closed.

MCAR ID	DMS MCAR 03	Date: 25/03/2022
Description		
There are overlaps of the Maritime Terrestrial Zone (ZMT) with other areas in the Osa Peninsula that have not been delimited in <i>UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF.shp</i> nor reported in <i>Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 20220301.xlsx</i> .		
Country participant response		Date: 06/04/2022
A buffer of 200 meters inland was calculated to determine the area of the Maritime-Terrestrial Zone (ZMT), according to the information layer of "Coastline 1:5 thousand" provided by the National Geographic Institute (IGN) published in the WFS service: https://geos.snitcr.go.cr/be/IGN_5/wfs? . This layer does not contain a continuous coastline, so information gaps are generated.		
Documentation provided by Country participant		
National Geographic Institute (IGN) published in the WFS service: https://geos.snitcr.go.cr/be/IGN_5/wfs?		
VVB Assessment		Date: 13/04/2022
The Country Participant has provided justification and evidence on why there are no overlaps in the GIS database for the region identified by the audit team. MCAR closed.		

MCAR ID	DMS MCAR 04	Date: 26/04/2022
Description		
MF Indicator 36.3: The ER Program Entity demonstrates its ability to transfer Title to ERs prior to ERPA signature, or at the latest, at the time of transfer of ERs. If this ability to transfer Title to ERs is still unclear or contested at the time of transfer of ERs, an amount of ERs proportional to the Accounting Area where title is unclear or contested shall not be sold or transferred		
The GIS database <i>UNION TOTAL CAPAS MC19 v4 SOLO AREAS CREF .shp</i> and the Excel database <i>Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 202200405b.xlsx</i> evidence that titles of ERs in part of the accounting area of the ER Program are unclear or contested. However, the table of section 8 of the ER-MR reports 0 for <i>Number of ERs for which the ability to transfer Title to ERs is still unclear or contested at the time of transfer of ERs</i> .		
Additionally, information in section 6.1 of the ER-MR is not up to date.		
Country participant response		Date: 04/05/2022
The ER-MR cover page, table 11 and Section 8, has been updated. The number of ERs for which the ability to transfer Title to ERs is still unclear or contested at the time of transfer of ERs has been included in section 8. Also, uncertainty and reversal buffers have been recalculated.		

Documentation provided by Country participant	
Updated ER-MR report in track changes version Updated ER-MR report clean version Substantial Volume of ERs	
VVB Assessment	Date: 05/05/2022
The Country Participant has made the adequate corrections. MCAR closed	

Minor Corrective actions (mCARs)

mCAR ID	mCAR 01	Date: 06/08/2021
Description		
Throughout the ER-MR document, Program of Payment for Environmental Services (PPES), Payment for Environmental Services (PES) and PSA (Pago por Servicios Ambientales) are mentioned, and it is not clear whether they refer to the same concept.		
Country participant response		Date: 25/08/2021
The PSA is the Spanish acronym for PES. PES has replaced PSA in the document.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
The country participant has harmonized all acronyms to PES in the ER-MR. mCAR closed.		

mCAR ID	mCAR 02	Date: 06/08/2021
Description		
<p>In section 5.1 of the ER-MR, table 10, Biomass allometric model, it is mentioned "The propagation of error through MC simulation did not include this source of uncertainty due to the complexity of calculation, the lack of bias (given errors from allometric equations are not systematic), and the agreement of experts in the fields and of standards (cf. ART) that it is reasonable to exclude this form of error." However no reference for 'agreement of experts' is provided.</p>		
Country participant response		Date: 25/08/2021
<p>The following reference has been included in table 10 for biomass allometric model analysis of the contribution to overall uncertainty: (Winrock International, personal communication, 2021).</p>		
Documentation provided by Country participant		
<p>Updated ER Monitoring Report (ER-MR).</p>		
VVB Assessment		Date: 03/09/2021
<p>The country participant has included the refence on the table. However, there is not a hyperlink to access the document, note, or agreement (public access)</p>		
Country participant response		Date: 17/09/2021
<p>Winrock International has confirmed the personal communication included in table 10.</p>		
Documentation provided by Country participant		
<p>A copy of the email sent by Blanca Bernal, Senior Specialist, Ecosystem Services of Winrock International, can be accessed.</p>		
VVB Assessment		Date: 20/09/2021
<p>The country participant has provided evidence of the participation of Winrock's experts. As there is no document to be made public, the validation team considers that the mCAR is closed.</p> <p>mCAR closed.</p>		

Observations (Obs)

Obs ID	Obs 01	Date: 06/08/2021
Description		
From page 50 onwards, pages in ER-MR are not correctly numbered.		
Country participant response		Date: 25/08/2021
Page numbering has been updated.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
Page numbering of the ER-MR still incorrect from page 48 onwards.		
Country participant response		Date: 17/09/2021
Page numbering has been updated.		
Documentation provided by Country participant		
VVB Assessment		Date: 20/09/2021
The country participant has corrected the numbering of pages of the ER-MR. Obs closed.		

Obs ID	Obs 02	Date: 06/08/2021
Description		
Section 2.1.1 and 9.1 refers to figure 3, which does not exist.		
Country participant response		Date: 25/08/2021
Figure 3 reference has been deleted.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
The country participant has corrected reference to figure 3 in the ER-MR. Obs closed.		

Obs ID	Obs 03	Date: 06/08/2021
Description		
In section 2.1.1 of the ER-MR, Colegio de Ingenieros Agrónomos is misspelled.		
Country participant response		Date: 25/08/2021
In section 2.1.1, the name of Colegio de Ingenieros Agrónomos has been edited.		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
The country participant has corrected the misspelling in section 2.1.1 of the ER-MR. Obs closed.		

Obs ID	Obs 04	Date: 06/08/2021
Description		
<p>In section 2.1.2, the ER-MR states “Costa Rica’s intention is to start in 2020 (or later, depending on the global covid-19 pandemic situation) the measurement 441 sampling points over a 5-year period to estimate biomass transitions”. This information is obsolete due to the current date of submission (14-05-2021).</p>		
Country participant response		Date: 25/08/2021
<p>The statement in Sections 2.1.2 and 9.1 has been replaced by the following: Costa Rica intends to start as soon as possible with the measurement of 441 sampling points over a 5-year period to estimate biomass transitions.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has updated the information related to sampling points measurements of section 2.1.2 and 9.1 of the ER-MR in accordance with the date of submission.</p> <p>Obs closed.</p>		

Obs ID	Obs 05	Date: 06/08/2021
Description		
<p>In section 2.1.2 of the ER-MR, the subsection "Role of communities in the forest monitoring system" is not numbered in accordance with the other subsections.</p>		
Country participant response		Date: 25/08/2021
<p>"Role of communities in the forest monitoring system" has been numbered as section 2.1.3.</p>		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR).		
VVB Assessment		Date: 03/09/2021
<p>The country participant has numbered the subsection “Role of communities in the forest monitoring system” in accordance with the rest of subsections of section 2.1 of the ER-MR.</p> <p>Obs closed.</p>		

Obs ID	Obs 06	Date: 06/08/2021
Description		
In the Tool 'Herramienta de degradacion marzo 2021 sin simulaciones v3', Tab Resumen_de_puntos, cell AO5 and AO8, it should be year "2019".		
Country participant response		Date: 25/08/2021
The degradation tool's Cells AO5-AO8 has been updated. Now the year is 2019		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR) with link to edited degradation tool.		
VVB Assessment		Date: 03/09/2021
The country participant has corrected cell AO8, however cell AO5 not.		
Country participant response		Date: 17/09/2021
The degradation tool's Cells AO5 has been updated. Now the year is 2019		
Documentation provided by Country participant		
Updated ER Monitoring Report (ER-MR) with link to edited degradation tool.		
VVB Assessment		Date: 20/09/2021
The country participant has corrected cell AO5. Obs closed.		

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

Title	File	Date received/retrieved
Forest Carbon Partnership Facility (FCPF) Carbon Fund ER Monitoring Report (ER-MR)	Costa Rica_FCPF ER Monitoring Report_1st RP_Jun2_2021 submission.docx	04/06/2021
Forest Carbon Partnership Facility (FCPF) Carbon Fund ER Monitoring Report (ER-MR)	20210611_Costa Rica_FCPF ER Monitoring Report_1st RP_Jun2_2021 submission_FMT	11/06/2021
III INFORME CONSULTORIA: Evaluación Visual Multitemporal para la determinación de la degradación forestal para los periodos 2014-2015-2017-2019 y determinación de datos de referencia para periodo 2017-2019	03 informe DEGRADACION 20201117 .pdf	11/06/2021
Forest reference emission level/forest reference level COSTA RICA SUBMISSION TO THE UNFCCC SECRETARIAT FOR TECHNICAL REVIEW ACCORDING TO DECISION 13/CP.19	2016_submission_frel_costa_rica .pdf	11/06/2021
Sistema Nacional de Monitoreo Forestal de Costa Rica: Diseño de Monitoreo para la Estrategia Nacional REDD+	4863_2_sistema_nacional_monitoreo_forestal_costa_rica .pdf	11/06/2021
Aboveground biomass and ecosystem carbon pools in tropical secondary forests growing ins six life zones of Costa Rica	Cifuentes (2008) - Aboveground Biomass and Ecosystem Carbon Pools in Tropical Secondary Forest .pdf	11/06/2021
CONSULTORÍA “APOYO AL INSTITUTO METEOROLÓGICO NACIONAL (IMN) EN EL DESARROLLO DEL MAPA DE COBERTURAS 2017 SEGÚN METODOLOGÍA DE LA SERIE HISTÓRICA DE COSTA RICA PARA REDD+”	Copia de FINAL_INFORME_MC17_08_06_2020_a_c onvertido .pdf	11/06/2021
Emission reduction program to the FCPF carbon fund	Costa Rica ERPD EN_Oct24-2018_clean .pdf	11/06/2021
Volumen 1 Cartografía Base para el inventario forestal Nacional de Costa Rica 2013-2014	Documento-cartografia-Imprenta .pdf	11/06/2021
Ejercicio: estimación de emisiones por actividades en bosques que permanecen como tal	Ejercicio BB - estimacion de emisiones en areas de bosque .pdf	11/06/2021
CONSULTORÍA “APOYO AL SISTEMA NACIONAL DE USO DE LA TIERRA Y	INFORME FINAL_MC15_29_9_2019 .pdf	11/06/2021

Title	File	Date received/ retrieved
ECOSISTEMAS" (SIMOCUTE) FIDEICOMISO 544-FONAFIFO – BNCR - PROYECTO REDD		
Informe final de consultoría Estudio de parcelas temporales para estimar el stock de carbono en bosques intactos, degradados y altamente degradados en zona B (Contrato N° 01-2018-REDD)	Informe Final-Parcelas temporales para estimar carbono en bosques en zona B_11Nov2018 (2) .pdf	11/06/2021
CONSULTORÍA “APOYO AL INSTITUTO METEOROLÓGICO NACIONAL (IMN) EN EL DESARROLLO DEL MAPA DE COBERTURAS 2019 SEGÚN METODOLOGÍA DE LA SERIE HISTÓRICA DE COSTA RICA PARA REDD+” FIDEICOMISO 544-FONAFIFO – BNCR - PROYECTO REDD	INFORME_FINAL_MC19_PDF .pdf	11/06/2021
MEMORIA FINAL Borrador febrero de 2015 GENERATING A CONSISTENT HISTORICAL TIME SERIES OF ACTIVITY DATA FROM LAND USE CHANGE FOR THE DEVELOPMENT OF COSTA RICA'S REDD PLUS REFERENCE LEVEL	Informe_tecnico_feb_2015 .pdf	11/06/2021
Evaluación Visual Multitemporal (EVM) del Cambio en el Uso de la Tierra y Cobertura en Costa Rica zonas A y B.	InformeTarea2_abril_2018 .pdf	11/06/2021
Sustainable forest management reference level for Costa Rica	Nivel de Referencia Manejo Forestal en Costa Rica .pdf	11/06/2021
Informe final de consultoría. Estudio de parcelas temporales para estimar el stock de carbono en bosques intactos , degradados y altamente degradados en zona A (contrato n° 020-2018-REDD)	Producto 3. Informe Final-Parcelas temporales para estimar carbono en bosques en zona A-111218 .pdf	11/06/2021
Horizontal Positional Accuracy of Google Earth’s High- Resolution Imagery Archive	sensors-08-07973 .pdf	11/06/2021
Technical annex of the republic of Costa Rica in accordance with the provisions of decision 14/cp.19	Technical Annex Costa Rica 2019 .pdf	11/06/2021
COORDINACIÓN GENERAL DE IMPLEMENTACIÓN DEL PLAN DE MEJORA DEL NIVEL DE REFERENCIA Tercer Informe de Consultoría N° 016-2018-REDD	TercerInformeConsultoria0162018 .pdf	11/06/2021
Marco conceptual y metodológico para la	Volumen4-MarcoC-Imprenta .pdf	11/06/2021

Title	File	Date received/retrieved
Fase I (Premuestreo) y la Fase II (Muestreo) Inventario forestal nacional de Costa Rica		
BaseDeDatos_v5 (28.12.2015) .xlsx	BaseDeDatos_v5 (28.12.2015) .xlsx	11/06/2021
Calculo FE Nov 041220 .xlsx	Calculo FE Nov 041220 .xlsx	11/06/2021
Calculos de reducciones de emisiones marzo 2021 v3 .xlsx	Calculos de reducciones de emisiones marzo 2021 v3 .xlsx	11/06/2021
CDI_CostaRicaREL_AnalisisExactitud_MCS 2000-2001 vs MCS2010-2011 .xlsx	CDI_CostaRicaREL_AnalisisExactitud_MCS 2000-2001 vs MCS2010-2011 .xlsx	11/06/2021
FREL & MRV TOOL CR version Sept2018 info2014-2015-2016-2017-2018-2019 v4 .xlsx	FREL & MRV TOOL CR version Sept2018 info2014-2015-2016-2017-2018-2019 v4 .xlsx	11/06/2021
Herramienta de degradacion marzo 2021 sin simulaciones v3 .xlsx	Herramienta de degradacion marzo 2021 sin simulaciones v3 .xlsx	11/06/2021
Incertidumbre de las reducciones de emisiones mayo 2021 .xlsx	Incertidumbre de las reducciones de emisiones mayo 2021 .xlsx	11/06/2021
ReferenceData2018-2019Rev12Feb2021 .xlsx	ReferenceData2018-2019Rev12Feb2021 .xlsx	11/06/2021
Ministry of environment and energy. Benefit sharing plan. National Redd+ strategy	Benefit sharing Plan National REDD+ Strategy .pdf	11/06/2021
5_SpatialDataSubmission20122016 .gdb	5_SpatialDataSubmission20122016 .gdb	11/06/2021
MC17 .tif	MC17 .tif	11/06/2021
MC19 .tif	MC19 .tif	11/06/2021
Forest Carbon Partnership Facility (FCPF) Carbon Fund ER Monitoring Report (ER-MR)	20210806_Costa Rica_FCPF ER Monitoring Report_1st RP_2021 submission_FMT_Clean.docx	27/08/2021
MARCO DE GESTIÓN AMBIENTAL Y SOCIAL (MGAS) PARA EL PLAN DE IMPLEMENTACIÓN DE LA ESTRATEGIA NACIONAL REDD+ DE COSTA RICA	Microsoft Word - MGAS CR Final Enero18 .pdf	27/08/2021
Vías 1:5000 (Costa Rica) .mapa digital	Vías 1:5000 (Costa Rica) .mapa digital	27/08/2021
New formula and conversion factor to compute basic wood density of tree species using a global wood technology database	ajb2.1175 .pdf	27/08/2021

Title	File	Date received/ retrieved
Automatic radiometric normalization of multitemporal satellite imagery with the iteratively re-weighted MAD transformation	Automatic radiometric normalization of multitemporal satellite imagery with the iteratively re-weighted MAD transformation .pdf	27/08/2021
Random Forests	Breiman2001_Article_RandomForests .pdf	27/08/2021
Tree allometry and improved estimation of carbon stocks and balance in tropical forests	Chave_et_al-Oecologia2005 .pdf	27/08/2021
Resolution CFM/14/2016/2 Selection of Emission Reductions Program Document of Costa Rica into the Portfolio of the Carbon Fund of the FCPF	FCPF CF14_Resolution_CFM_14_2016_2_Selection of CR's ERPD_FINAL .pdf	27/08/2021
Forest reference emission level/forest reference level COSTA RICA SUBMISSION TO THE UNFCCC SECRETARIAT FOR TECHNICAL REVIEW ACCORDING TO DECISION 13/CP.19	Forest reference emission level/forest reference level .pdf	27/08/2021
FP144: Costa Rica REDD-plus Results-Based Payments for 2014 and 2015 Costa Rica United Nations Development Programme (UNDP) Decision B.27/01	fp144-undp-costa-rica .pdf	27/08/2021
Good practices for estimating area and assessing accuracy of land change	Good practices for estimating area and assessing accuracy of land change .pdf	27/08/2021
LIFE ZONE ECOLOGY	holdridge_1966_-_life_zone_ecology .pdf	27/08/2021
Servicio de no consultoría: Apoyo técnico para el análisis de datos de la Secretaría REDD+ Documento I Apoyo técnico para el registro de datos de cambio de uso del suelo mediante el método de Evaluación Visual Multitemporal (EVM) para el periodo 2018-2019	InformeEvaluación2018_2019_Dic18 .pdf	27/08/2021
Manual de la Herramienta Excel AAAA.MM.DD – FREL&MRV TOOL CR.xlsx	Manual de la Herramienta FREL & MRV Tool - UNFCCC .pdf	27/08/2021
Plan de implementación de la Estrategia Nacional REDD+ Costa Rica SECRETARÍA EJECUTIVA REDD+ COSTA RICA	Microsoft Word - Plan de Implementación ENREDD+CR V2 .pdf	27/08/2021
Nota de concepto para informar los términos de referencia: "Design and testing of a cross-sectorial Measurement, Reporting, Verification and Registry	nota_concepto_sinamecc_v4-6 .pdf	27/08/2021

Title	File	Date received/retrieved
framework for Costa Rica's National Climate Change Metrics System"		
Fenología y crecimiento de <i>Raphia taedigera</i> (Arecaceae) en humedales del noreste de Costa Rica	Redalyc.Fenología y crecimiento de <i>Raphia taedigera</i> (Arecaceae) en humedales del noreste de Costa Rica .pdf	27/08/2021
Root biomass allocation in the world's upland forests	Root biomass allocation in the world's upland forests .pdf	27/08/2021
Tre allometry and improved estimation of carbon stocks and balance in tropical forests	Tre allometry and improved estimation of carbon stocks and balance in tropical forests .pdf	27/08/2021
val_cambios_2001_2011 .shp	val_cambios_2001_2011 .shp	27/08/2021
MC17_REDD .tif	MC17_REDD .tif	27/08/2021
2016.07.10 - FREL & MRV TOOL CR MapaIMN15v3 .xlsx	2016.07.10 - FREL & MRV TOOL CR MapaIMN15v3 .xlsx	27/08/2021
BaseDeDatos_v5 .xlsx	BaseDeDatos_v5 .xlsx	27/08/2021
BD_EstimacionIFNCostaRica_CoordXY .xlsx	BD_EstimacionIFNCostaRica_CoordXY .xlsx	27/08/2021
FREL _ MRV TOOL CR v Sept2018 info2014-2015-2016-2...-2019 uncertainty v3 actualizado mayo 2021 AM .xlsx	FREL _ MRV TOOL CR v Sept2018 info2014-2015-2016-2...-2019 uncertainty v3 actualizado mayo 2021 AM .xlsx	27/08/2021
https://simocute.go.cr/acerca/ Página web	https://simocute.go.cr/acerca/ Página web	27/08/2021
REDD+ Costa Rica Report for the Readiness Fund of the FCPF	Decreto Ejecutivo N° 42886-MINAE-MAG-JP .pdf	27/08/2021
Diseño de un sistema de información país sobre las salvaguardas de REDD: normativa, institucionalidad, información e indicadores	propuesta_sis-redd_informe_final_-_fonafifo.pdf	27/08/2021
MEMORIA FINAL. GENERATING A CONSISTENT HISTORICAL TIMESERIES OF ACTIVITY DATA FROM LAND USECHANGE FOR THE DEVELOPMENT OF COSTA RICA'S REDD PLUS REFERENCELEVEL	Informe_tecnico_feb_2015.pdf	27/08/2021
Good Practice Guidance for Land Use, Land-Use Change and Forestry	GPG_LULUCF_FULL	27/08/2021
Mercado de la madera y derivados en Costa Rica Oferta y demanda Barreras Plan de aumento del uso 2015	mercado-de-la-madera-y-derivados-en-cr-final.pdf	27/08/2021

Title	File	Date received/ retrieved
Sistema Nacional de Monitoreo Forestal de Costa Rica: Diseño de Monitoreo para la Estrategia Nacional REDD+	4863_2_sistema_nacional_monitoreo_for_estal_costa_rica.pdf	27/08/2021
Coordinación general de implementación del plan de mejora del nivel de referencia. Tercer informe de consultoría N° 016-2018-REDD	TercerInformeConsultoria0162018 (1).pdf	27/08/2021
Estudio de parcelas temporales para estimar el stock de carbono en bosques intactos, degradados y altamente degradados en zona B. (contrato N1019-2018-REDD)	Informe Final-Parcelas temporales para estimar carbono en bosques en zona B_11Nov2018 (2).pdf	27/08/2021
CONSULTORIA: Evaluación Visual Multitemporal para la determinación de la degradación forestal para los periodos 2014-2015-2017-2019 y determinación de datos de referencia para periodo 2017-2019	03 informe DEGRADACION 20201117 (1)	27/08/2021
MANUAL DE MEDICIÓN, REPORTE Y VERIFICACIÓN (MRV) DE REDD+ VERSIÓN 2.0 PROGRAMA DE CARBONO FORESTAL, MERCADOS Y COMUNIDADES (FCMC)	manual-MRV-REDD-version-j.pdf	27/08/2021
Forest Carbon Partnership Facility (FCPF) Carbon Fund ER Monitoring Report (ER-MR)	20210917_Costa Rica_FCPF ER Monitoring Report_2sd RP_2021 submission_FMT_Clean.docx	17/09/2021
LA JUNTA DIRECTIVA DEL FONDO NACIONAL DE FINANCIAMIENTO FORESTAL, EN SESIÓN N°, EMITE EL SIGUIENTE: MANUAL DE NORMAS Y PROCEDIMIENTOS PROGRAMA DE PAGO DE REDUCCION DE EMISIONES	MANUAL DE CREF AGOSTO 12 DEL 2021.docx	17/09/2021
Estrategia REDD_revisado 19521.xls	Estrategia REDD_revisado 19521.xls	17/09/2021
Oficio SINAC - Remisión de información sobre superficies y categorías de Patrimonio Natural del Estado, para su contabilización en el Plan de distribución de beneficios (PDB).	749.pdf	12/12/21

Title	File	Date received/retrieved
Contratos PSA vigentes al 31 diciembre 2019	Contratos PSA vigentes al 31 diciembre 2019_fonafifo.xlsx	12/12/21
CONTRATO DE CESIÓN DE SERVICIOS AMBIENTALES POR MANTENIMIENTO DE LA COBERTURA FORESTAL EN LA ACTIVIDAD DE PROTECCIÓN DE BOSQUE.	Machote Proteccion (1).docx	12/12/21
Decretos de creación de Áreas Protegidas	Decretos_ASP	12/12/21
PNE_Inscritos_con_plano	PNE_Inscritos_con_plano.shp	12/12/21
PNE_JAPDEVA	PNE_JAPDEVA.shp	12/12/21
PNE_sin_inscribir__en_PN_y_RB	PNE_sin_inscribir__en_PN_y_RB.shp	12/12/21
PNE_SIN_INSCRIBIR_en_otras_modalidades_de_ASP	PNE_SIN_INSCRIBIR_en_otras_modalidades_de_ASP.shp	12/12/21
TERRITORIOS_INDIGENAS_2022	TERRITORIOS_INDIGENAS_2022.shp	12/12/21
UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF	UNION TOTAL CAPAS MC19 v2 SOLO AREAS CREF .shp	02/03/22
Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 20220301	Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 20220301.xlsx	02/03/22
Resumen beneficiaries TI ZMT ZKS	resumen benefic_TI_ZMT_ZKS.xlsx	
Solicitudes CREF	Solicitud CREF_0182.xlsx	22/03/22
Contrato de compensación por protección de la biodiversidad y otros servicios ecosistémicos	COF_20181122_000001.pdf	22/03/22
Fondo de Biodiversidad Sostenible, Programa de Conservación de Biodiversidad, Informe de Valoración	IV_20180726_000001.pdf	22/03/22
Contratos PSA digitalizados	Contratos PSA digitalizados	22/03/22
Patrimonio Nacional del Estado	PNE inscrito y sin Inscribir .docx	22/03/22
Aclaración sobre la consulta de la agencia Verificadora para la propuesta de Costa Rica sobre el Plan de Distribución de Beneficios REDD+	SINAC-IRT-035-2022.pdf	22/03/22
Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 202200405b	Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 202200405b.xlsx	07/04/22

Title	File	Date received/retrieved
Dictamen: 253 del 06/09/2021	Texto Dictamen 253.pdf	07/04/22
TERRITORIOS_INDIGENAS_2022_act_TI_G uaymi_CB_REV_topol	TERRITORIOS_INDIGENAS_2022_act_TI_G uaymi_CB_REV_topol.shp	07/04/22
UNION TOTAL CAPAS MC19 v4 SOLO AREAS CREF	UNION TOTAL CAPAS MC19 v4 SOLO AREAS CREF .shp	07/04/22
Volumen Sustancial de Reducción de Emisiones PRE-Costa Rica 202200405b	Volumen Sustancial de Reduccion de Emisiones PRE-Costa Rica 202200405b.xlsx	05/05/22
Forest Carbon Partnership Facility (FCPF) Carbon Fund ER Monitoring Report (ER-MR)	20220504_Costa Rica_FCPF ER Monitoring Report_2sd RP_2021 submission_FMT_Clean.docx	05/05/22
Forest Carbon Partnership Facility (FCPF) Carbon Fund ER Monitoring Report (ER-MR)	MR_CostaRica1stReporclean.docx	07/06/22

Document information

Version	Date	Description
Draft_1	24 September 2021	Initial draft version of validation report.
Draft_2	20 December 2021	Reviewed draft version of validation report.
Draft_3	18 April 2022	Final draft version of validation report.
Draft_4	26 April 2022	Response to FMT's comments on the previous draft version
1.0	10 May 2022	Report version after Internal Technical Review
1.1	14 June 2022	Final report version after ER-MR template update