

**Forest Carbon Partnership Facility (FCPF)
Carbon Fund**

ER Monitoring Report (ER-MR)

ER Program Name and Country:	
Reporting Period covered in this report:	<i>DD-MM-YYYY to DD-MM-YYYY</i>
Number of net ERs generated by the ER Program during the Reporting Period covered in this report:	
Date of Submission:	<i>DD-MM-YYYY</i>

WORLD BANK DISCLAIMER

The boundaries, colors, denominations, and other information shown on any map in ER-MR does not imply on the part of the World Bank any legal judgment on the legal status of the territory or the endorsement or acceptance of such boundaries.

The Facility Management Team and the REDD Country Participant shall make this document publicly available, in accordance with the World Bank Access to Information Policy and the FCPF Disclosure Guidance.

General information on completing the ER-MR

Purpose of the ER-MR

ER Programs that have been included in the portfolio of the FCPF Carbon Fund are expected to implement the ER Program and report on performance, in particular ERs generated. By completing and submitting the ER Monitoring Report, a REDD Country Participant or its authorized entity officially reports on its performance to the Carbon Fund.

The FCPF Carbon Fund Methodological Framework contains a glossary which defines specific terms used in the Methodological Framework. Unless otherwise defined in this ER-MR template, any capitalized term used in this ER-MR template shall have the same meaning ascribed to such term in the Methodological Framework.

Guidance on completing the ER-MR

Please complete all sections of this ER-MR. If sections of the ER-MR are not applicable, explicitly state that the section is left blank on purpose and provide an explanation why this section is not applicable. All instructions, including this section, should be deleted when submitting the ER-MR to the Facility Management Team of the FCPF.

Provide definitions of key terms that are used and use these key terms, as well as variables etc, consistently using the same abbreviations, formats, subscripts, etc. If the ER –MR contains equations, please number all equations and define all variables used in these equations, with units indicated.

The presentation of values in the ER-MR, including those used for the calculation of emission reductions, should be in international standard format e.g 1,000 representing one thousand and 1.0 representing one. Please use International System Units (SI units – refer to http://www.bipm.fr/enus/3_SI/si.html).

1. Number of ERs generated by the ER Program during the Reporting Period

1.1 Implementation status of the ER Program and changes compared to the ER-PD

Please provide a short description (2-page maximum) of the implementation of the ER Program, including:

- Progress on the actions and interventions under the ER Program (including key dates and milestones);
- Update on the strategy to mitigate and/or minimize potential Displacement.
- Effectiveness of the organizational arrangements and involvement of partner agencies
- Updates on the assumptions in the financial plan and any changes in circumstances that positively or negatively affect the financial plan and the implementation of the ER Program.

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.

Refer to **critterion 17.3 and 27** of the Methodological Framework

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1.2 Changes to major drivers and lessons learned

Please report on changes in major drivers in the ER Accounting Area including how these might affect the Displacement risks associated with the ER Program.

Refer to **indicator 17.4 and 27** of the Methodological Framework

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1.3 System for measurement, monitoring and reporting emissions and removals occurring within the monitoring period

1.3.1 Measurement, monitoring and reporting approach

Please provide a systematic and step-by-step description of the measurement and monitoring approach applied during the Reporting Period for estimating the emissions and removals from the Sources/Sinks, Carbon Pools and greenhouse gases selected in the ER-PD. Provide line diagrams showing all relevant monitoring points, parameters that are monitored and the integration of data until reporting in a schematic way. Include equations that show the calculation steps of GHG emissions and removals and that show the parameters that will be listed in Section 1.4. These equations should show all steps from the input of measured and default parameters to the aggregation into final reported values. Highlight any changes compared to the description that was provided in the ER-PD.

Refer to **critterion 5, 6, 7, 8, 9, 14 and 16** of the Methodological Framework

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1.3.2 Organizational structure for measurement, monitoring and reporting and relation with the National Forest Monitoring System

Please describe the organization of the measurement, monitoring and reporting that was used during the Reporting Period including:

- Organizational structure, responsibilities and competencies, linking these to the diagram shown in the previous section;
- Role of communities in the forest monitoring system;

- Use of and consistency with standard technical procedures in the country and the National Forest Monitoring System.

Highlight any changes compared to the description that was provided in the ER-PD.

Refer to **critterion 15 and 16** of the Methodological Framework

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1.4 Data and parameters

1.4.1 Data and Parameters that are fixed

Please provide an overview of all data and parameters that remain fixed throughout the Term of the ERPA. These parameters should link to the equations provided in section 1.3.1

This should include parameters that have been measured or estimated but will not be updated during the Term of the ERPA, such as:

- carbon densities or emission factors that were measured at the time of the ERPD and that will remain fixed during the term of the ERPA.
- Carbon densities or emission factors that are measured prior to this monitoring event and will remain fixed during the term of the ERPA. In this case, it must be demonstrated that these are equivalent to the ones used for the establishment of the RL as required by Indicator 14.3 of the MF.

Default values, such as Carbon Fractions, root-to-shoot ratios or other parameters that are generically sourced from the IPCC values, should be reported together with the relevant equations in Section 1.3.1.

Data and parameters monitored during the Term of the ERPA shall be included in section 1.4.2 below (Data and Parameters monitored). Use the table provided (copy table for each parameter). Where relevant, attach any spreadsheets, spatial information, maps and/or synthesized data used to derive the parameter.

Refer to **critterion 5, 6, 7, 8, 9, 14 and 16** of the Methodological Framework

Parameter:	
Description:	
Data unit:	
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	
Value applied:	
Uncertainty associated with this parameter:	
Any comment:	

1.4.2 Data and Parameters monitored

Please provide an overview of all data and parameters that are monitored during the Term of the ERPA and their values for this Reporting Period. Use the table provided (copy table for each parameter). Where relevant, attach any spreadsheets, spatial information, maps and/or synthesized data used to derive the parameter. These parameters should link to the equations that are presented in section 1.3.1.

Refer to **critterion 5, 6, 7, 8, 9, 14 and 16** of the Methodological Framework

Parameter:	
Description:	
Data unit:	
Source of data and description of measurement/calculation methods and procedures applied:	
Frequency of monitoring/recording:	
Value monitored during this Reporting Period:	
Quality Assurance/Quality Control procedures applied:	
Uncertainty for this parameter:	
Any comment:	

1.5 Quantification of emission reductions

1.5.1 ER Program Reference level for the Reporting Period covered in this report

Please provide the Reference Level for the ER Program for the Reporting Period covered in this report as provided in the most recent version of the ER Program Document.

Refer to **criteria 10, indicator 10.1** of the Methodological Framework

Year of reporting period t	Average annual historical emissions from deforestation over the Reference Period (tCO _{2-e} /yr)	If applicable, average annual historical emissions from forest degradation over the Reference Period (tCO _{2-e} /yr)	If applicable, average annual historical removals by sinks over the Reference Period (tCO _{2-e} /yr)	Adjustment, if applicable (tCO _{2-e} /yr)	Reference level (tCO _{2-e} /yr)
1					
2					
...					
Total					

1.5.2 Estimation of emissions by sources and removals by sinks included in the ER Program's scope

Quantify the emissions by sources and removals by sinks from the ER Program during the Reporting Period. Provide formulas for the calculation of emissions and removals that link to the parameters presented in Section 1.4. Provide sample calculations using the actual values from section 1.4 above with sufficient information to allow others to reproduce the calculation. Attach electronic spreadsheets, spatial information, maps and/or synthesized data as an appendix or separate file. At the end of the description, summarize the results in the table below.

Refer to **criteria 5, 6, 7, 8, 9, 14 and 16** of the Methodological Framework

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Year of reporting period t	Emissions from deforestation (tCO _{2-e} /yr)	If applicable, emissions from forest degradation (tCO _{2-e} /yr)*	If applicable, removals by sinks (tCO _{2-e} /yr)	Net emissions and removals (tCO _{2-e} /yr)
1				
2				
...				
Total				

* if integrated methods have been used to measure deforestation and forest degradation, this should be clearly indicated in the description and the combined result can be reported if it is not possible to separate

1.5.3 Calculation of emission reductions

Quantify the Emission Reductions for the Reporting Period and summarize the result using the table below. Negative values represent removals while positive values represent emissions.

Refer to **critterion 22** of the Methodological Framework

Total Reference Level emissions during the Reporting Period (tCO _{2-e})	
Net emissions and removals under the ER Program during the Reporting Period (tCO _{2-e})	
Emission Reductions during the Reporting Period (tCO _{2-e})	

1.6 Uncertainty of the estimate of Emission Reductions

1.6.1 Initial identification and assessment of sources of uncertainty

Identify the main sources of uncertainty that were identified prior to conducting monitoring based on the experience from the establishment of the RL and assess their impact in terms of uncertainty of monitored estimates and emission reductions. Report these sources using the table below and add/remove rows and parameters as needed based on the parameters listed in section 1.4. For each parameter indicate if these are high or low sources of uncertainty based on quantitative data.

Refer to **critterion 7** of the Methodological Framework

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Sources of uncertainty*	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)
Activity Data		
Measurement error		
Representativeness		
Sampling error		
.....		
Emission factor		

* At minimum, the sources listed in the table should be analyzed, others can be added as identified by the ER Program

DBH measurement error		
H measurement error		
Plot delineation		
Wood density measurement error		
Root-to-shoot ratio measurement		
Biomass allometric equation (Model error)		
Height-DBH equation (Model error)		
Sampling error		
Representativeness error		
....		
Calculations		
Model error		
...		

1.6.2 Selection of methods and development of Standard Operating Procedures and Quality Assurance/Quality Control procedures

Explain how the main errors identified above have been considered in the selection of methods (e.g. sampling method) and the development of Standard Operating Procedures (SOPs) and Quality Assurance / Quality Control (QA/QC) procedures.

Refer to **critterion 7** of the Methodological Framework

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1.6.3 Residual uncertainty of Activity Data and Emission Factors

Quantify separately the residual uncertainty for Activity Data (AD) and Emission Factors (EF) propagating the main sources of uncertainty. For example, propagate the main sources of error for the estimation of EF and quantify the resulting uncertainty.

Refer to **critterion 7 and indicator 9.1** of the Methodological Framework

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1.6.4 Uncertainty of the estimate of Emission Reductions

Parameters and assumptions used in the Monte Carlo method

Please indicate the parameters and assumptions used in the Monte Carlo method using the table below.

Refer to **critterion 7 and indicators 9.2 and 9.3** of the Methodological Framework

Parameter included in the model	Parameter values	Range or standard deviations		Error sources quantified in the model (e.g. measurement)	Probability distribution function	Source of assumptions made
		Lower	Upper			

				error, model error, etc.)		

Quantification of the uncertainty of the estimate of Emission Reductions

Please quantify the uncertainty of the estimate of Emission Reductions at the two-tailed 90% confidence level using Monte Carlo methods. Summarize the results using the table below. Add columns as needed.

Report the uncertainty of Emissions Reductions associated with deforestation, forest degradation and enhancements separately if these are measured through separate (i.e., non-integrated) approaches and when degradation is estimated using proxy data.

Refer to **critterion 7, indicators 9.2 and 9.3, and criterion 22** of the Methodological Framework

		Source x	Source y	...	Total
A	Median				
B	Upper bound 90% CI (Percentile 0.95)				
C	Lower bound 90% CI (Percentile 0.05)				
D	Half Width Confidence Interval at 90% (B – C / 2)				
E	Relative margin (D / A)	%	%		
F	Uncertainty discount	%	%		

1.6.5 Sensitivity analysis and identification of areas of improvement of MRV system

Based on the analysis above, conduct a sensitivity analysis and identify the main sources of uncertainty that contribute to the overall uncertainty. Based on the results, identify the areas for improvement of the MRV system for the next reporting period.

Refer to **critterion 7 and indicators 9.2 and 9.3** of the Methodological Framework

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2. Transfer of Title to ERs

2.1 Ability to transfer title

If not already done in the ER-PD, demonstrate the ability of the ER Program Entity to transfer to the Carbon Fund Title to ERs, while respecting the land and resource tenure rights of the potential rights-holders, including Indigenous People in the Accounting Area.

If the ability to transfer Title to ERs is unclear or contested during the Reporting Period:

- identify the Contesting Party;
- describe the nature of the challenge;
- detail the size of the area for which the ability to transfer Title to ERs is contested during the Reporting Period, and
- describe how and to which extent the Program Entity resolved such inability or Title Contest during the Reporting Period.

Refer to **critterion 28, indicator 28.3 and criterion 36, indicator 36.2 and indicator 36.3** of the Methodological Framework

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2.2 Implementation and operation of Program and Projects Data Management System

Please describe the design and operation by the ER Program and/or the host country of an appropriate arrangement to avoid having multiple claims to an ER Title. Discuss the design and provide evidence of the implementation and operation of a Program and Projects Data Management System in accordance with the requirements of the Methodological Framework. If applicable, highlight any changes compared to what was anticipated in the ER-PD and explain why these changes were made.

*Refer to **critterion 37** of the Methodological Framework*

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2.3 Implementation and operation of ER transaction registry

Please describe the design and implementation by the host country of an appropriate arrangement to ensure that any ERs from REDD+ activities under the ER Program are not generated more than once; and that any ERs from REDD+ activities under the ER Program sold and transferred to the Carbon Fund are not used again by any entity for sale, public relations, compliance or any other purpose. Discuss the design and provide evidence of the implementation and operation of an ER transaction registry in accordance with the requirements of the Methodological Framework. If applicable, highlight any changes compared to what was anticipated in the ER-PD and explain why these changes were made.

*Refer to **critterion 38** of the Methodological Framework*

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2.4 ERs transferred to other entities or other schemes

Please identify the quantity and use of any ERs from the ER Program sold, assigned or otherwise used by any other entity for sale, public relations, compliance or any other purpose including ERs that have been set-aside to meet Reversal management requirements under other GHG accounting schemes.

*Refer to **Criterion 23** and **Criterion 38** of the Methodological Framework*

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3. Reversals[†]

3.1 Occurrence of major events or changes in ER Program circumstances that might have led to the Reversals during the Reporting Period compared to the previous Reporting Period(s)

Please identify the major events or changes in ER Program circumstances during the Reporting Period that might have led to a Reversal or impact the risk of Reversals. Indicate if these events have previously been reported to the

^{††} This section should only be completed starting from the second Reporting Period

Trustee. Highlight any non-human induced Force Majeure event, impacting at least 25% of the ER Program Accounting Area.

Please confirm if any Reversals from ERs that have been previously transferred to the Carbon Fund have occurred during the Reporting Period.

Refer to **indicator 21.1** of the Methodological Framework

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3.2 Quantification of Reversals during the Reporting Period

Using the table below, please confirm and quantify any Reversals of ERs that have been previously transferred to the Carbon Fund, that might have occurred during the Reporting Period.

Refer to **indicator 19.1** of the Methodological Framework and the FCPF ER Program Buffer Guidelines

A.	ER Program Reference level for this Reporting Period (tCO₂-e)	<i>from section 1.5.1</i>		
B.	ER Program Reference level for all previous Reporting Periods in the ERPA (tCO₂-e).	<i>from previous ER Monitoring Reports</i>		+
C.	Cumulative Reference Level Emissions for all Reporting Periods [A + B]			
D.	Estimation of emissions by sources and removals by sinks for this Reporting Period (tCO₂-e)	<i>from section 1.5.2</i>		
E.	Estimation of emissions by sources and removals by sinks for all previous Reporting Periods in the ERPA (tCO₂-e)	<i>from previous ER Monitoring Reports</i>		
F.	Cumulative emissions by sources and removals by sinks including the current reporting period (as an aggregate accumulated since beginning of the ERPA) [D + E]			-
G.	Cumulative quantity of Total ERs estimated including the current reporting period (as an aggregate of ERs accumulated since beginning of the ERPA) [C – F]			
H.	Cumulative quantity of Total ERs estimated for prior reporting periods (as an aggregate of ERs accumulated since beginning of the ERPA)	<i>from previous ER Monitoring Reports</i>		-

I.	[G – H], negative number indicates Reversals	
If I. above is negative and reversals have occurred complete the following:		
J.	Amount of ERs that have been previously transferred to the Carbon Fund, as Contract ERs and Additional ERs	
H.	Quantity of Buffer ERs to be canceled from the Reversal Buffer account $[J / H \times (H - G)]$	

3.3 Confirmation of selected Reversal management mechanism

Please confirm the selection of one of the options identified in the Methodological Framework to account for Reversals from ERs that have been transferred to the Carbon Fund during the Term of the ERPA. If this selection is different from the one selected in the ER-PD, please explain what led to this change.

Refer to **critterion 19** of the Methodological Framework

Reversal management mechanism	Selected (Yes/No)
Option 1: The ER Program has in place a Reversal management mechanism that is substantially equivalent to the Reversal risk mitigation assurance provided by the ER Program CF Buffer approach	
Option 2: ERs from the ER Program are deposited in an ER Program -specific buffer, managed by the Carbon Fund (ER Program CF Buffer), based on a Reversal risk assessment.	

3.3.1 Operation of the Reversal management mechanism under option 1

If option 1 has been selected above, please describe the Reversal management mechanism that has been put in place and how it has been operating during the Reporting Period. Explain how the Reversal management mechanism:

- Is substantially equivalent to the Reversal risk mitigation assurance provided by the ER Program CF Buffer approach; and
- Is appropriate for the ER Program’s assessed level of risk.

If applicable, describe how the mechanism has been used during the Reporting Period to cover Reversals

Refer to **critterion 19** of the Methodological Framework

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3.3.2 Reversal risk assessment under option 2

Please provide the Reversal risk assessment for this Reporting Period based on the ER Program Buffer Guidelines. Please report using the table shown below and compare with the previous risk assessment.

Risk Factor	Risk indicators	Default Reversal Risk Set- Aside Percentage	Discount	Resulting reversal risk set-aside percentage
Default risk	N/A	10%	N/A	10%
Lack of broad and sustained stakeholder support		10%		
Lack of institutional capacities and/or ineffective vertical/cross sectorial coordination		10%		
Lack of long term effectiveness in addressing underlying drivers		5%		
Exposure and vulnerability to natural disturbances		5%		
			Total reversal risk set-aside percentage	
			Total reversal risk set-aside percentage from ER-PD or previous monitoring report (whichever is more recent)	

4. Emission Reductions available for transfer to the Carbon Fund

Quantify the emission reductions available for transfer to the Carbon Fund by completing the white cells in the table below.

A.	Emission Reductions during the monitoring period (tCO ₂ -e)	from section 1.5.3		
B.	If applicable, number of Emission Reductions from reducing forest degradation that have been estimated using proxy-based estimation approaches (use zero if not applicable)			
C.	Number of Emission Reductions estimated using measurement approaches (A-B)			
D.	Conservativeness Factor to reflect the level of uncertainty from non-proxy based approaches associated with the estimation of ERs during the Term of the ERPA	from section 1.6.4		
E.	Calculate $(0.15 * B) + (C * D)$			
F.	Emission Reductions after uncertainty set-aside (A – E)			
G.	Number of ERs for which the ability to transfer Title to ERs is still unclear or contested at the time of transfer of ERs	from section 2.1		
H.	ERs sold, assigned or otherwise used by any other entity for sale, public relations, compliance or any other purpose including ERs that have been set-aside to meet Reversal management requirements under other GHG accounting schemes	From section 2.4		
I.	Potential ERs that can be transferred to the Carbon Fund (F – G – H))			
J.	Actual number of ERs that the ER Program Entity wants to transfer to the Carbon Fund during this Reporting Period			
K.	If applicable, total reversal risk set-aside percentage applied to the program (use zero if ER Program does not use the FCPF Carbon Fund Buffer)	From section 3.3.2		
L.	If applicable, quantity of ERs to allocated to the Reversal Buffer and the Pooled Reversal Buffer (multiply J and K)			
M.	ERs remaining (I – L). This should be equal or greater than zero			

Annex 1: Information on the implementation of the Safeguards.

Annex 2: Information on the implementation of the Benefit-Sharing Plan

Annex 3: Information of the generation and/or enhancement of priority Non-Carbon Benefits