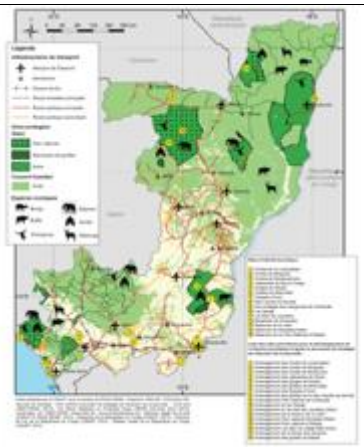
REPUBLIC OF CONGO

MINISTRY OF FOREST ECONOMY



BENEFIT SHARING PLAN FOR THE EMISSION REDUCTION PROGRAM (ER-P) FOR SANGHA LIKOUALA

VERSION 5

Brazzaville **October 2020**

Table of Contents

ABBREVIATIONS AND ACRONYMS

CACO-REDD	REDD+ Consultation Platform (*Cadre de Concertation des Organisations de la Société Civile et des Populations Autochtones sur la REDD+*)
CAFI	Central African Forest Initiative
CNIAF	National Center for the Inventory and Management of Forest and Wildlife Resources (*Centre National d'Inventaire et d'Aménagement des RessourcesForestières et Fauniques*}
CN-REDD	National REDD Coordination
CODEPA REDD	Departmental REDD Committee
COMIFAC	Central African Forests Commission
CONA-REDD	National REDD Committee
EFI	European Forest Institute
ERP	Emission Reduction Program
ERPA	Emission Reduction Payment Agreement
ERPD	Emission Reduction Program Document
FCPF	Forest Carbon Partnership Facility
FDL	Local Development Fund
FEDP	Forest and Economic Diversification Project
FREL	Forest Reference Emission Level
FIP	Forest Investment Program
FPIC	Free, prior, and informed consent
LCIP	Local Communities and Indigenous Peoples
MEF	Ministry of Forest Economy
MRV	Measurement, Reporting, and Verification
NTFP	Non-timber forest product
PES	Payments for Environmental Services
REDD+	Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks
RENAPAC	National Network of Indigenous Peoples of Congo (*Réseau National des PeuplesAutochtones du Congo*)
RIL	Reduced Impact Logging
RIM	Reduced Impact Mining
RSPO	Roundtable on Sustainable Palm Oil
SESA	Strategic Environmental and Social Assessment
$teCO_2$ou $teqCO_2$	Tons of carbon dioxide equivalent or tons of CO2 equivalent
UFA	Forest Management Unit (*Unité Forestière d'Aménagement*)
UFE	Forest Logging Unit (*Unité Forestière d'Exploitation*)
UNFCCC	United Nations Framework Convention on Climate Change
VPA-FLEGT	Voluntary Partnership Agreement for Forest Law Enforcement, Governance, and Trade

1 Introduction

1.1 Presentation of the Emission Reduction Program for Sangha and Likouala

1.1.1 REDD+ Process

The Republic of Congo has engaged in the REDD+ process since 2008. Launched officially in January 2013, the readiness phase or REDD+ Phase 1 was used to develop and validate the main REDD+ strategic and technical tools, namely, the management entities, communication plan, legal framework, forest reference emission level or FREL, the Measurement, Reporting, and Verification (MRV) system, the national REDD+ strategy, REDD+ environmental and social safeguards documents, grievance redress mechanism, benefit sharing mechanism, the various REDD+ management frameworks, the REDD+ registry, the safeguards information system (SIS),and the investment plan of the national REDD+ strategy.

The National REDD+ Strategy is one of the strategic and technical REDD+ tools. It was approved by Decree No. 2018-223 of June 5, 2018, following its validation by national stakeholders. The aim is that by 2030 the sectors targeted by REDD+ will be able to implement practices for the sustainable management of forest ecosystems, thereby significantly contributing to economic diversification and growth as well as to poverty alleviation in the Republic of Congo.

Since 2016, the Forest Carbon Partnership Facility (FCPF) has provided support to the Republic of Congo for the implementation of an Emission Reduction Program (ER-P) in the country's two most forested departments, namely, Sangha and Likouala. This ER-P will be the first national program to operationalize Phases 2 and 3 of the REDD+ process in the Republic of Congo. Considered one of the world's first REDD+ jurisdictional programs, the ER-P will combine investment financing from various sources with performance-based payments from the Carbon Fund of the FCPF in order to reduce emission levels from deforestation and forest degradation in the Sangha and Likouala departments.

The Emission Reduction Program Document (ER-PD) outlines the government's vision and lists the actions that will promote the reduction of emissions. The Sangha and Likouala Emission Reduction Program (ER-P) was accepted provisionally at the 16th meeting of the FCPF Carbon Fund in June 2017 and formally approved by the FCPF in December 2018 (cf. Resolution No. CFM/Electronic/2018/1). Following the successful implementation of its main REDD+ strategic and technical tools, the country began in January 2019 to operationalize the two final REDD+ phases, namely, Phase 2 or "Investment Phase," and Phase 3 or "Payment Phase."

The Benefit Sharing Plan of the SanghaLikouala ER-Program is the culmination of a process that began in 2015 with departmental consultations in the provincial capitals and at various locations in Sangha and Likouala. These consultations served to (i) prepare and validate the benefit sharing principles; (ii) evaluate the investment contributions and the indirect benefits provided by stakeholders; (iii) determine and validate the benefit sharing arrangements among beneficiary groups, as well as the transaction costs and expenses associated with re-investing in the Sangha LikoualaER-Program activities (ER-P in English or PRE in French); and (iv) confirm the agreement of the Local Communities and Indigenous Peoples (LCIP).

1.1.2 SanghaLikoualaER-Program Area

The departments of Sangha and Likouala will host the Emission Reduction Program (ER-P) that the Republic of Congo has committed to implement under the REDD+ framework.

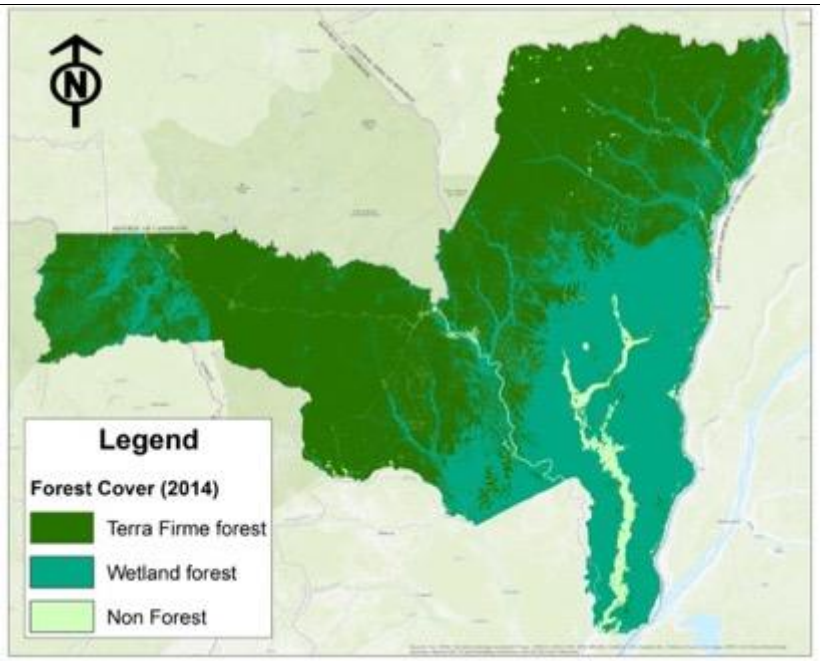
The two most forested departments of the Republic of Congo cover an area of 12,371,743 hectares, with Sangha accounting for 5,784,837 and Likouala for 6,586,906 hectares. Forests cover an area of 11,053,883 hectares, or 52 percent of the national forest cover. It is a relatively intact lowland equatorial tropical forest of the Congo Basin with a predominantly closed canopy.	

Figure 1. Forest cover map of the ER-P Sangha Likouala ER-P area

These departments are home to the following types of vegetation: Primary Forests, comprising mixed forest land; Semi-Deciduous Forests; Secondary Forests(forest regeneration, as well as young and old secondary forests along the logging corridors and fallow land close to villages; flooded forests; Humid Prairies and swamps; flooded and flood-prone savannas; and the bare land category.

1.1.3 Types of activities under the SanghaLikoualaER-Program

The intervention strategy under the SanghaLikouala Emission Reduction Program (ER-P) is based on a combination of sectoral and enabling activities.

The sectoral activities revolve around four main areas of intervention, with the involvement of the following stakeholders:

- Forest concessionaires engaging in Reduced Impact Logging (RIL) and operating in conservation concessions (set-aside areas);
- Agroindustrial palm oil producers that operate on a sustainable basis and who reduce emissions resulting from deforestation in palm oil concessions byavoiding the conversion of forests with High Conservation Value through the conclusion of contractual arrangements and the application of the certification standards of the Roundtable on Sustainable Palm Oil (RSPO), or, in short, RSPO certification;
- Mining companies, to ensure that they contribute to economic development and minimize impact on the forest stock.

- Local Communities and Indigenous Peoples (LCIP) in (i) the promotion of cocoa production by smallholders, using agroforest systems in degraded forests located in the area of the ER-Program, (ii) the introduction of sustainable subsistence agriculture (cassava, maize through agroforestry systems) to increase agricultural productivity and crop diversification, (iii) promote the mechanisms of the small producer subcontracting the 'palm oil in deforested areas within oil palm concessions, (iv) sustainable valuation of non-timber forest products "NTFP" and (v) provision of PES (Payments for Environmental Services) for individuals and communities that protect forests

The enabling activities will take into account:

- Improved governance, through, for example, capacity building for program partners and synergies through the Forest Law Enforcement, Governance, and Trade (FLEGT);
- Strengthening land use planning at the national and local levels;
- Improved livelihoods through value chain development for agricultural products, e.g. for cocoa and palm oil.

Private sector participation is a key element of the Sangha Likouala Emission Reduction Program (ER-P).

1.2 Key principles for the Benefit Sharing Plan of the Republic of Congo

The Benefit sharing plan of the Republic of Congo is equitable and legitimate, and was developed over the period 2015-2020, through a consultative, transparent, and participatory process involving all stakeholders (public and private sector representatives, local communities and indigenous peoples, representatives of the REDD+ Consultation Platform (*Cadre de Concertation des Organisations de la Société Civile et des Populations Autochtones sur la REDD+ - CAO-REDD*), Civil Society Organisations and representativesof National Network of Indigenous Peoples of Congo (*Réseau National des Peuples Autochtones du Congo*- REPANAC).It has culminated in the establishment of a general framework that lays down the guidelines for the sharing and redistribution of benefits at the national level, at the level of programs and projects, and among various stakeholders.

The benefit sharing framework is based on the following five general principles:

- **Principle 1**:The sharing of REDD+ costs and benefits is based on the principle of transparency among key stakeholders that contribute effectively to REDD+ implementation, by addressing the drivers of deforestation and forest degradation, conserving biodiversity, sustainably managing forests and working to increase forest carbon stocks, and/or by facilitating the implementation of these activities;
- **Principle 2**:REDD+ benefits/costs and benefits/advantages are shared based on the principle of equity, the arrangement whereby thebenefits/costs and benefits/advantages are distributed among stakeholders in proportion to their contribution and in recognition of their rights;
- **Principle 3**. Benefit sharing is based on the principle of effectiveness and efficiency. The allocation of costs and benefits is designed in such a way as to maximize the effectiveness and efficiency of the REDD+ process, in:
    - attaining the objectives of REDD+ as a means of achieving sustainable development;

- involving all stakeholders with land tenure and land use rights (including rights based on customary practices) and all persons directly affected by the implementation of REDD+ activities;
- rewarding stakeholders for their efforts to reduce greenhouse gas emissions (GHG);
- encouraging stakeholders to adopt practices that lead to greenhouse gas emission reductions, such as sustainable land use and forestry practices;
- helping improve the lives of Local Communities and Indigenous Peoples (LCIP);
- respecting the rights of Local Communities and Indigenous Peoples (LCIP) to enjoy natural resources, encouraging them to contribute to the reduction of greenhouse gas emissions and rational use of shared benefits.

- **Principle 4**. Benefit sharing is based on payments as a function of performance (results-based approach) and/or a non-results-based approach:
  - Performance-based approaches: The distribution of benefits is based on carbon performance as either an amount of carbon not emitted or sequestered compared tothe stakeholder's reference level, or based on indirect indicators, or proxies, such as an area (in hectares) of forest land protected by a stakeholder.
  - Approaches not based on carbon performance: Beneficiaries such as local communities and indigenous peoples and government institutions receive benefits without being evaluated on their carbon performance, but in recognition of their specific contributions in facilitating the implementation of REDD+ activities as well as on the basis of their property rights or land use rights (such as the livelihoods of the LCIP). This approach applies especially to the LCIP, in whose communities GHG emission reduction is not directly measurable or attributable to beneficiaries.
- **Principle 5**:Benefit sharing is based on the principles of transparency and participation in relation to access to information, decision-making, contracts and the obligations of program and project promoters toward local communities and indigenous populations, as well as the measurement or approximation of performance. Human rights are respected in the implementation of REDD+ activities, and the FPIC principles are applied to any contract concluded with or impacting LCIP.

1.3 Existing legal framework for benefit sharing

Legal clarification of the issue of who holds the carbon rights and obligations is an important phase in the implementation of benefit sharing. In Republic of Congo, carbon rights are defined as defined in the **National REDD+ Strategy, approved by Decree No. 2018-223 of June 5, 2018**. The right to generate carbon credits and to sell them is considered either the property of the State or owned directly by the relevant public legal entity or local authority;
Carbon rights are defined as follows:

Table 1. Carbon credit rights

Type of forest	Carbon credit rights
State and local authorities	State, local authorities and public person respectively. If a project is implemented by a private entity to reduce emissions from deforestation, this entity is co-owner of the carbon rights. LCIP are beneficiaries of carbon rights.
Community forests	Local communities and Indigenous Peoples. If a project is implemented by a private entity to reduce emissions from deforestation, this entity is co-owner of the carbon rights.

Concession of State natural forest or plantation	State
Private forest plantation related to the State forest domain	Private entity that planted the forest. If the private forest owner is not the users, the rights are shared between the the State and the private entity through contractual agreement.
Private forest plantation	Owner of the forest. If the private forest owner is not the user, the rights are shared between the owner and the user through contractual agreement.

The sell of carbon credits is subject to a tax on the forest carbon credit.

Decree No. 113/MEF of January 8, 2019 establishing the principles applicable to the REDD+ process (general principles, as well as procedures for approval, external validation, monitoring and external verification, URC delivery and transfers, and oversight of REDD+ projects and programs in the Republic of Congo. This decree makes provision for promoters of carbon credit generating projects, such as those investing in plantations, to benefit from an appreciable share of the carbon credits generated by the project. This should lead to benefit sharing between the public or private owner of the forest and the project promoter. In some instances, revenue generated from the commercialization of carbon credits will be taxed by the State.

The Republic of Congo has at its disposal an array of legal and institutional instruments that relate to the implementation of REDD+ activities as listed in Annex 1. Work is ongoing in a number of areas, including to finalize the implementing regulations for the laws applicable to the REDD+ process in the Republic of Congo (laws relating to forests, agriculture, the environment, mining, etc.).

2 Beneficiaries of the Sangha Likouala ER-Program

2.1 List of beneficiaries of the Sangha Likouala ER-Program

The ERP targets two groups of beneficiaries: (i) Direct Beneficiaries and, (ii) Indirect Beneficiaries:

(i) Direct beneficiaries include:

a. **The government and approved public sector entities** participate in this program by implementing policies, activities and providing technical assistance for sustainable land usethat contribute to emission reductions (Ministry of Forest Economy, Ministry of Environment, Ministry of Agriculture and Livestock).
b. **Private concessionaires** participate**in the logging, palm oil and mining sectors**. Program beneficiaries are stakeholders that implement less harmful or invasive methods of exploitation, through better activity planning, by minimizing damage from exploitation, through the practice of Logged to Protected Forests (LtPF), or by engaging in palm oil production activities in certain High Conservation Value (HCV) areas or High Carbon Stock (HCS) zones; and of reduced impact mining for mining companies.
c. **Local Communities and Indigenous Peoples (LCIP)** that adopt better or innovative land use practices or take advantage of opportunities to engage in alternative livelihoods in the program area.

(ii) **Indirect beneficiaries** are the institutions responsible for ERP Governance

d. **The government and approved public sector entities** participate in this program by enhancing the enabling environment for the ER-Program implementation (Ministry of Forest Economy, Ministry of Finance and Budget, National REDD Coordination (CN-REDD), National Center for Inventory and Management of Forest and Wildlife Resources and the two Departmental REDD Committees (CODEPA-REDD) of Sangha and Likouala).
e. **The management entities of the Sangha Likouala ER-Program**, namely: The Program Management Unit (PMU)[1], the National REDD Committee (CONA-REDD) and Sangha and Likouala Departmental REDD Committees (CODEPA-REDD).

2.2 Roles and responsibilities of beneficiaries of the Sangha Likouala ER-Program

(i) Direct beneficiaries

Table 2. Direct beneficiaires

Beneficiaries	Role	Entities	Responsibilities
Governement	Implementing policies, activities and providing technical assistance for sustainable land use that contribute to emission reductions	Ministry of Forest Economy	- Monitors forest concessions and ensures the application of the forest code - Drafts REDD+ regulations - Establishes protocols and contracts with the various beneficiaries - Manages of government benefits through the Forest Fund - Oversees the management and monitoring of MRV activities
		Ministry of Agriculture and Livestock	- Provides technical support for the development of agricultural activities (agroforestry) of communities at the departmental and sector level - Monitors agro-industrial concessions and facilitates the RSPO process
		Ministry of Environment	Ensures compliance with environmental requirements by the beneficiaries

[1]Pending the results of the ongoing World Bank financial assessment, the PMU will be attached to the Ministry of Forest Economy or will be an independent entity.

Private Sector	Private sector operators working in the forest and agroindustrial sectors will implement activities to reduce emissions from deforestation and forest degradation.	CongolaiseIndustrielledesBois (CIB), Industrie Forestière de Ouesso (IFO), Société d'Exploitation Forestière Yuan Dong (SEFYD), Société Industrielle et Forestière du Congo (SIFCO), Bois et Placages de Lopola (BPL), Société Thanry Congo (STC), Mokabi s. a., Likouala Timber and national privatecompanies.	Forest industry operators will work to reduce emissions from deforestation and forest degradation, by implementing Reduced Impact Logging (RIL) practices on and/or setting aside for conservation (LtFP) all or part of the area dedicated to timber production.
		Atama Plantation, Eco-oil and national private companies.	Agroindustrialists, particularly those in the palm oil sector, will work to reduce emissions from deforestation and forest degradation by setting aside for conservation forest areas included in their concession zones, and by moving their plantations to savannas. In so doing, they will help preserve High Conservation Value (HCV) forests and High Carbon Stock (HCS) forests.
		Mining companies	Mining companies are the onces with concessions that will be implementing reduced impact mining.
Local Communities and Indigenous Peoples (LCIP)	Local communities and Indigeous Peoplesliving in the Sangha Likouala ER-Program area and who demonstrate a commitment to the program will implement		The communities will carry out the following activities - Agroforestry and sustainable management of forest areas assigned to local development - Sustainable management of Non-Wood Forest

	environmentally-friendly activities in general and forest-friendly activities in particular.		Products (NTFPs) in peatland areas and other wetlands; - Conservation of forests and biodiversity of village lands; - Management of forest fires, peatlands and other wetlands.

(ii) Indirect beneficiaries

Table 3. Indirect beneficiairies

Beneficiaries	Role	Entities	Responsibilities
Government	Enhancing the enabling environment for ERP implementation	Ministry of Finance and Budget	- Signs the ERPA contract - Facilitates the process of transferring funds to the fiduciary agency - Monitors of disbursements - Coordinates the financial evaluation of the ERP
		National Center for Inventory and Management of Forest and Wildlife Resources	- Supports in MRV activities based on forest inventory
		CN-REDD	- Supports the PMU in program MRV and safeguards (SIS) - Supports the organization of ordinary and extra-ordinary sessions of CONA-REDD. - Ensures interministerial coordination for the implementation of the ERP.
ER-P Management Entities	Operational and financial management of ERP and oversight.	Project Management Unit	- Responsible for the overall management, procurement and monitoring of community projects and private sector ER initiatives - Responsible for MRV functions and ER

			Monitoring Reports, including monitoring and reporting of performance in ER Program area; - Hires and supervises the service provider for community project development and capacity of the local communities - Ensures safeguards compliance and supervision of safeguards policies in ER Program area, including Feedback and Grievance Redress Mechanism (FGRM). - Revises private sector and service provider technical and financial reports on the use of ER payments
		Sangha and Likouala Departmental REDD Committees (CODEPA-REDD)[2]	- Supports the PMU at the departmental level - Manages the grievance mechanism at departemental level.
		National REDD+ Committee[3](CONA-REDD)	- High level multi-stakeholder responsible for the oversight of the ER Program.

2.3 Eligibility criteria for Sangha Likouala ER-Program beneficiaries

Three types of beneficiaries are eligible for benefit sharing under the ER Program:

- public bodies and administrations whose main mission at national or regional level, is to reduce deforestation and forest degradation, through sustainable forest management, conservation and regeneration;
- private sector entities engaged in activities that directly or indirectly contribute to the reduction of GHG emissions from deforestation or forest degradation, including agroforestry, natural regeneration and reforestation in the ERP area;

[2]Entity in charge of the design and implementation of REDD+ policies and strategy, as well as of decision-making, at the departmental level. Representatives from the department, the departmental divisions of central ministries, and local and Indigenous peoples.

[3]Members are representatives from the Ministries of Forest Economy, Sustainable Development and Environment, Planning, Agriculture and Livestock, Environment and Tourism, Mines and Geology, Land Use Planning and Infrastructure, Land tenure, Finance, Scientific Research, Energy and Hydrocarbons, Health; Civil Society, Indigenous Peoples, Private Sector.

- members of communities whose livelihoods depend on one of the forests located in the ERP area.

Private entities and communities need to comply with eligibility criteria and follow a registration process to participate in the ERP.

2.3.1 Elibility criteria for the private sector

2.3.1.1 Eligibility criteria for private companies

- **For forestry companies:**
  - The legal existence of the company;
  - Adherence to the principles of the ER-P, through a letter of commitment addressed to the Minister of Forest Economy;
  - Compliance with the regulations in force on forests, the environment[4] and safeguards;
  - Preparation and implementation of the forest management plan;
  - Implementation of the RIL regulations and decree, duly notified in the RIL chart;
  - Compliance with the forest management Principles, Criteria, Indicators and Verifiers (PCIV), duly notified in the VPA-FLEGT.

- **For agribusiness companies**
  - The legal existence of the company;
  - Adherence to the principles of the ER-P, through a letter of commitment addressed to the Minister of Forest Economy;
  - Compliance with the regulations in force on forests, the environment and safeguards;
  - Implementation of the 7 RSPO Principles[5]

- **For mining companies**
  - The legal existence of the company;
  - Adherence to the principles of the ER-P, through a letter of commitment addressed to the Minister of Forest Economy;
  - Compliance with the regulations in force on forests, the environment and safeguards;
  - Implementation of the reduced impact mining

Private sector companies involved in the ER-P Sangha Likouala, will sign protocols / commitments with the Ministry of Forest Economy, for their participation in the emissions reduction program, following the participation request process:

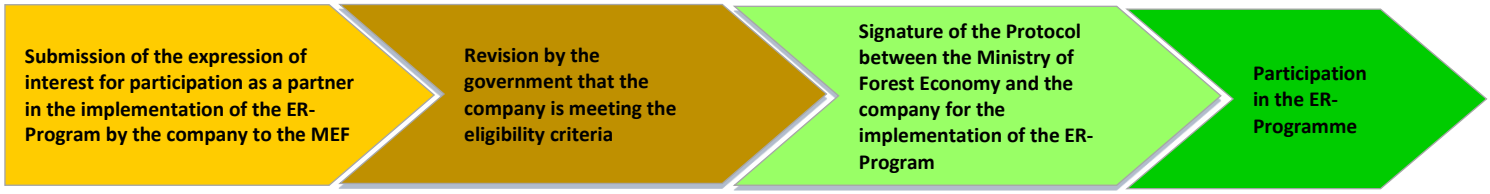


Figure 2. Participation process for companies

[4]Refer to Annex 1 for full list of legislation.

[5]The Republic of Congo follows the 7 Principles while awaiting for the country specific criteria and indicators.

2.3.1.2 Participation process for forestry companies

Application procedure

Companies must submit an expression of interest to the Ministry of Forest Economy. Some forestry companies have already submitted this expression of interest, see Annex 3 of the ER-PD. Expressions of interest can be submitted at any time during the term of the ERPA. However, since the annual monitoring (MRV) is done on the basis of the Annual Allowable Cuts (AAC) companies are obliged to submit their applications with their annual plans of operation by September 30 of each year.

The MEF will verify compliance:

1. eligibility for the ER-Program
2. the regulatory provisions (MEF decrees mentioned in Annex 1 and the RIL Chart in Annex 2)

Verification may involve a visit to the company's site. On the basis of the verification, the MEF will officially confirm the grouping of the company in one of the 3 levels of the RIL Chart:

i. Non-compliance with level 0: the company is not eligible to benefit from the ERP
ii. Compliance with level 0: eligible for technical support to progress to level 1 of the RIL grid
iii. Compliance with level 1: eligible to receive technical support and participate in the "performance-based payment system" (Level 2 and 3).

The conditions for participation are set out in a Protocol. This Protocol will be concluded between the Ministy of Forest Economy and the company. The duration of the contract is equal to the duration of the whole four years of the ERPA. The rights and duties of the Ministry of Forest Economy and the companies will be defined in the contract to be agreed upon by part.

The RIL Chart lays the basis for the participation of logging companies. This chart is divided into four levels:

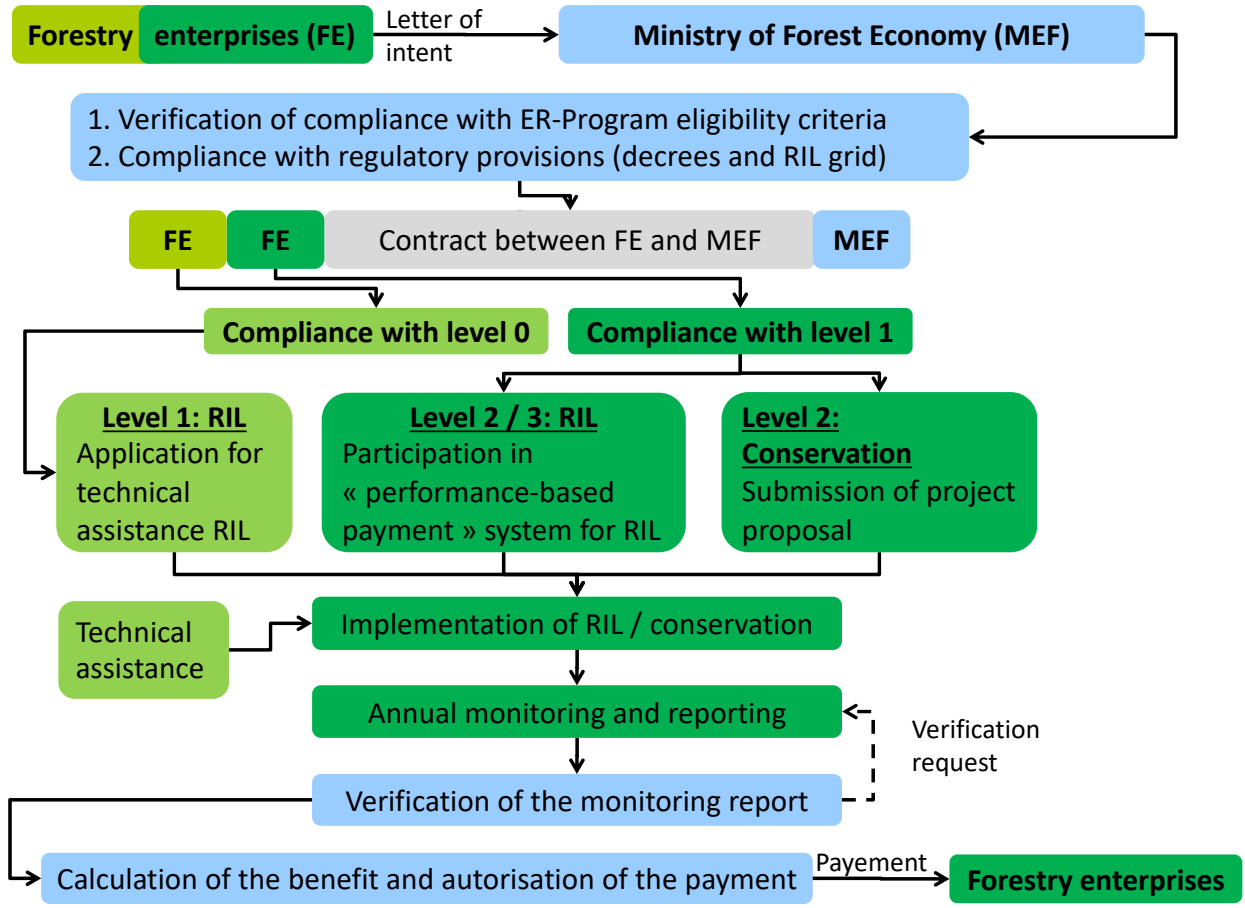
- **Level 0:** Compliance with the law and the VPA-FLEGT
- **Level 1:** Compliance with the safeguards policies of the World Bank, forest management best practices as specified by the RIL chart and recently passed forest legislation,
- **Level 2:** Eligibility for performance-based payments as a result of compliance with/implementation of RIL activities that relate directly to emission reductions.
- **Level 3:** Eligibility for performance-based payments as a result of the implementation of bonus[6] activities (see RII Grid) that are: (i) not directly related to emission reductions; or (ii) related to improvements of more advanced practices in other areas.

The figure below is a general schematic presentation of the process by which logging companies participate in the ER-Program and the ways in which benefits are obtained.

- Once compliant with level 0, companies can receive technical assistance as a benefit to implement the measures required to move to level 1 *(light green track)*
- For companies already compliant with level 1, they can directly implement measures (RIL and/or conservation) to move to level 2/3 and receive performance-based payment *(dark green track)*

[6] A detailed list of bonus activities is available in Annex 3

Figure 3: General Process for the Participation of Logging Companies



Implementation of RIL and setting aside of areas for conservation

As a first step, the logging company should identify the RIL-related activities that directly contribute to emission reductions.
RIL covers a large range of activities, only a fraction of which may result in the measurable and verifiable reduction of emissions, which, for the ER-P, is the most important consideration. Annex 4 provides a summary, non-exhaustive overview of RIL activities that may be implemented, and which should generate measurable emission reductions.

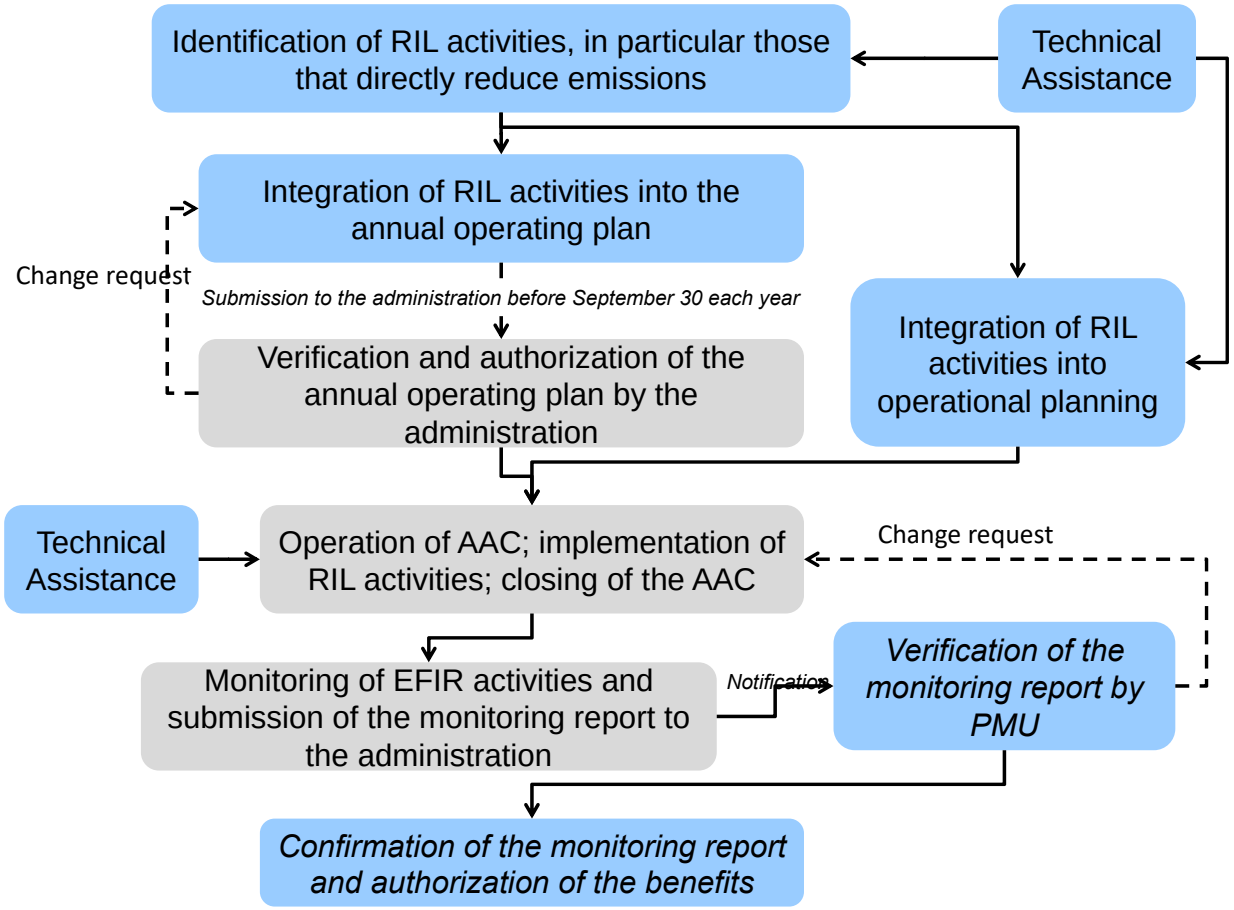
When the annual harvesting plan has been approved, the company may proceed with AAC harvesting, as planned. Companies may receive technical assistance in implementing RIL actions, where applicable. Any divergence from projected RIL activities must be justified in the monitoring report. AAC harvesting should be concluded before the monitoring report is submitted.
The logging company should submit its monitoring report following the cutoff period for the AAC. The report should include documented details of RIL activities implemented, in accordance with the following parameters:

1. Harvested volume (gross)
2. Commercialized volume (net)
3. Harvested area
4. Width and length of roads
5. Area of log yards

6. Length of skid trails

Figure 4 shows how RIL activities are implemented.

Figure 4: Schematic Diagram of the Process for Implementing RIL Activities



Setting aside of conservation areas in the AAC area

As a first step, the conservation areas must be located within the production zones and must exceed the legal requirements. For example, small buffer zones along watercourses will not be accepted, as required by law. However, larger buffer zones, or buffer zones close to national parks, wetland where felling is difficult, and less densely wooded zones may be eligible.

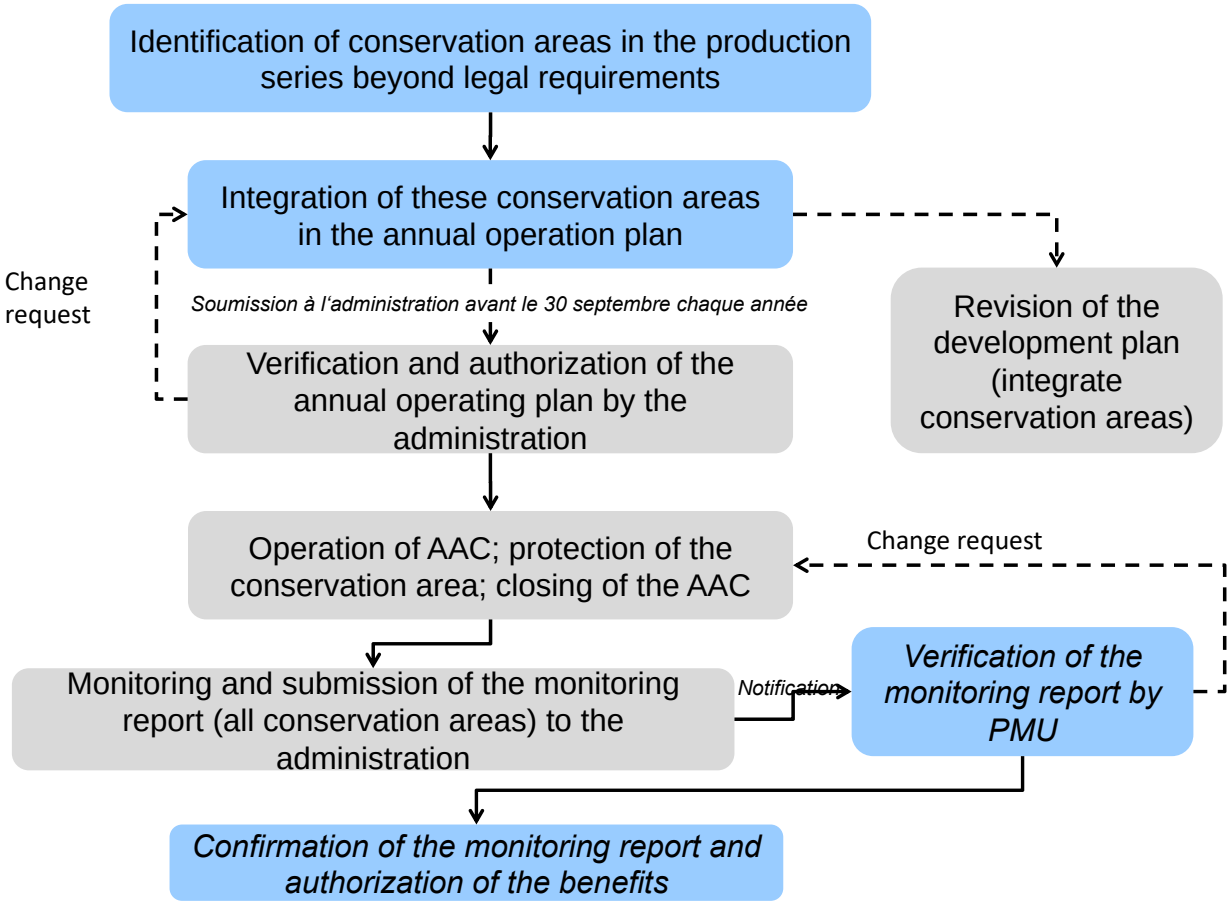
The new conservation areas must be incorporated into the annual harvesting plan, which must be submitted to the authorities by September 30 of the year preceding the felling year. The annual plan must include a GIS project with the newly designated conservation areas.
As part of the validation process, the administration will verify that the conservation areas exceed legal requirements. If they do not, a change request will be made.

After the annual plan has been validated, the company will proceed to log the AAC area as planned. Conservation areas must be protected from logging, which means that roads, log yards, skid trails, and felling must not encroach on the conservation areas. Furthermore, the conservation areas must be protected from external threats, such as illegal logging and slash-and-burn agriculture. Any violation will result in the complete exclusion of the conservation area. The AAC area must be closed officially before the monitoring report is submitted.

After the AAC area has been closed, the company must submit its monitoring report. The monitoring report must include a GIS project with the actual roads, log yards and skid trails and the trees felled. It must also confirm that the conservation zones have not been harvested.

The monitoring report is submitted to the PMU for verification, a process that may include site visits. If the PMU finds any discrepancies in the report, it will request changes. If the monitoring report is successfully verified, the PMU will confirm the monitoring findings and authorize the benefit. Figure 5 outlines the process for setting aside conservation zones.

Figure 5: Schematic Diagram of the Process for Setting Aside Conservation Areas in the AAC Area



2.3.1.3 Participation process for agroindustrial companies

Emission reduction performances on agroindustrial palm oil concessions will be evaluated on the basis of:

- the area deforested to set up living quarters and palm oil plantations;
- the Criteria, Indicators and Verifiers validated by the Republic of Congo under the Roundtable on Sustainable Palm Oil (RSPO) supply chain certification standards that uphold objectives relating to the planet, people, and profit.

Agribusiness, specifically oil palm plantation concessions, can benefit from conservation, which is similar to the approach implemented with forestry companies.

Oil palm concessionaires can establish conservation zones within their concessions. These conservation areas should go beyond legal requirements (e.g. buffer zones along rivers) and reduce the total area available for oil palm planting. Conservation zones will be determined and their area fixed in the Protocol with the Ministry of Forest Economy as part of the annual planning of planting activities to be carried out. To ensure that the areas under conservation contribute to emission reductions, the government will ensure that the proposed areas are in line with the commitments made by the government in setting the deforestation ceiling are respected on one hand, and, on the other hand, the conservation efforts are significant and the monetary benefits exceed tracking costs – see section 4.2.3. Prior to the issuance of the final payment under the ERPA, agro-industry enterprises have to present a revised and approved concession lease contract which specifically includes the conservation zones and where the planting area has been reduced accordingly.

2.3.2 Eligibility criteria for Local Communities and Indigenous Peoples (LCIP)

To participate in the ER-Program, the communities should demonstrate:

- The legal documents attesting to their legal representation as a village;
- Adherence to ER-P principles through a letter of commitment addressed to the Minister of Forest Economy;
- Participation in the implementation of the following activities:
  - Climate-smart agroforestry and sustainable management of forest areas assigned to local development
  - Climate-smart sustainable management of Non-Wood Forest Products (NTFPs) in peatland areas and other wetlands;
  - Conservation of forests and biodiversity of community lands;
  - Management of forest fires, peatlands and other wetlands.

The Departmental Councils[7], will sign, on behalf of their communities, protocols/commitments with the Ministry of Forest Economy, for their participation in the emission reduction program, following the following participation request process:

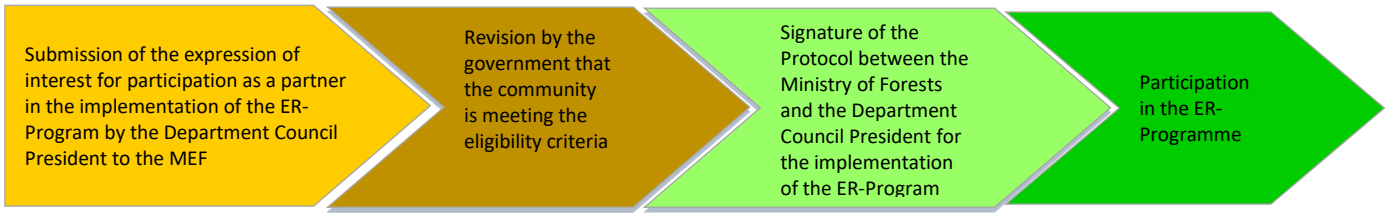


Figure 6. Participation process for local communities and indigenous peoples

2.4 Contracting arrangements

The Protocols will establish the conditions and responsibilities of the participation of the beneficiairies in the ERP. For the transfer of carbon benefits, contractual commitments between the Ministry of Forest Economy and the beneficiaries will be estbalished. The contracts will attribute the emission reduction rights, when the stakeholders are the main right holders (forest right holders) under the new 2020 Forest Code. Failing that, the contracts will recognize the government's right to transfer the emission reduction rights arising from REDD+ efforts of the stakeholder concerned and will impose strict exclusivity to prevent double counting. The contract templates are under development by the Ministry of Forest Economy and will be added as annex to the advanced BSP.

[7] Departemental Council are locally elected councils in charge of local development in the Department jurisdiction.

3 Objectives and Types of Benefits of the Sangha Likouala ER-Program

3.1 Objectives of the Sangha Likouala ER-Program

The benefits of the ER-Program Sangha Likouala will aim to:

- Increase the income of beneficiaries;
- Build the capacities of the program partners;
- Improve the livelihoods and value chain of agricultural, timber and non-timber forest products of local communities and indigenous populations.

3.2 Types of benefits of the Sangha Likouala ER-Program

The carbon benefit sharing plan of the Sangha Likouala ER-Program is based on two types of benefits, namely:

- **Monetary benefits**. The beneficiaries will receive a share of the income as a reward for their performance and participation in the implementation of ERP activities. The distribution of benefits will be based on the carbon results corresponding either to a quantity of carbon not emitted or sequestered in relation to the reference level of emissions, or according to indirect indicators ("proxies"), such as for example the area (in hectare) of protected forest land.
- **Non-monetary benefits**. Beneficiaries will receive non-monetary benefits in the form of technical, financial and political support in order to encourage their participation in ERP activities. These non-monetary benefits may come from the ERP but also which will help within the framework of synergies to set up the financing of the activities of the beneficiaries of the program and will come from additional financing, excluding financing from the sale of carbon credits.

Table 4. *Types of benefits to Direct Beneficiaries*

Beneficiaries	Monetary benefits	Non-monetary benefits
Local communities and indigenous peoples (LCIP)	ERPA carbon benefits for RE to be re-invested in community projects for agricultural and agroforestry models, climate-smart, resilient, cocoa cultivation in degraded areas, community management and conservation of natural resources	Technical support for the implementation of agroforestry, conservation and reforestation. Capacity building for governance and project development.
Private sector - Forest companies	ERPA payments for RE generated by the	Technical assistance for the preparation of RIL activities.

	implementation of RIL and conservation areas	
Private sector - Agro-industrial companies	ERPA payments for RE generated by the implementation of conservation areas	Technical assistance for the preparation of RSPO activities.
Private sector – Mining companies		Technical assistance for the preparation of reduced impact mining activities.
Ministry of Forest Economy	ER payment to cover operating costs of monitoring forest concessions and ensuring forest code implementation	
Ministry of Agriculture and Livestock	ER payment to cover operating costs of technical support for the development of agricultural activities (agroforestry) and monitoring of agro-industrial concessions and facilitates the RSPO process	
Minister of the Environment	ER payment to cover operating costs to ensure compliance with environmental requirements by the beneficiaries	

Beneficiaries will benefit indirectly from their participation in ERP activities and the adoption of better land use practices. These non-carbon benefits relate to livelihood opportunities, increased profitability of land use, improved governance, market premiums or other social, environmental and economic benefits, etc. The non-carbon benefits identified for the ERP are presented in table 5 below.

Table 5. *Non-Carbon Benefits in the Sangha Likouala ER-P*

Areas	Types of Indirect Benefits
Economic	Contribution of the forest sector to national GDP as a result of improved sustainable forest management
	Improved forest governance
	Generation of direct and indirect employment in rural areas
	Strengthening of basic infrastructure (schools, hospitals, markets, roads, etc.)
	Timber production, including sawing timber, logs, construction, etc.
	Lumber production (including wood for poles, sticks) and wood objects: tools, household products, handicraft and other small items made of wood
Environmental	Maintenance and expansion of the national forest cover
	Maintenance and strengthening of national forest ecosystems

	Protection and purification of the hydrographic network
	Protection of watershed areas
	Maintenance and conservation of biodiversity (fauna and flora)
	Reduced pressure on forest ecosystems
	Climate regulation, improved air quality
	Microclimate regulation
	Improved land use
	Soil conservation
	Reduction of CO2 emissions
	Protection and fertilization of soil
	Reduced risks of erosion and landslides
	Soil fertility
	Shaded fields
	Water regulation
	Strengthening the resilience of forest ecosystems
	Strengthening adaptation to the effects of climate change
Social	Improved management of land tenure security at the departmental level
	Income diversification for local communities (agriculture, livestock, fish farming, beekeeping,and other activities)
	Improved living conditions for local communities and indigenous peoples in the medium to long terms (access to drinking water, healthcare and education, opening up of the hinterland, etc.)
	Diversification of activities at the local level (agroforestry, development and promotion of Non-Timber Forest Products “NTFP,” etc.)
	Support for adaptation of local communities to climate change
	Capacity strengthening for local communities and indigenous peoples in different sectors (agroforestry, development and promotion of NTFPs, etc.)
	Support to local communities and indigenous populations in relation to the right of access to land and the management of natural resources
	Strengthening of participatory management of forest ecosystems
	Contribution to community development
	Exploitation of forest genetic resources and traditional knowledge of LCIP (medicinalplants, etc.)
	Productionof non-timber forest products for food and commercial activities (drinks and food produced from plants, fruits, nuts, grain, roots, bark, animals, insects, mushrooms, marantaceae, gnetum species, larvae, aromatic plants, dyes, tannins, honey)
	Production of fruits from shrubs in savanna ecosystems
	Production of animal fodder
	Harvesting of energy wood
	Water supply
	Exploitation of soil fertility in subsistence farming

4 Distribution of Benefits

4.1 Emission reductions generated by the Sangha Likouala ER-Program

The potential emission reductions from the Sangha Likouala Emission Reduction Program (ER-P), based on the intervention strategy and the level of financing, has been estimated at 13,455,726 tCO2e (total gross emissions) over a four-year period.

Table 6. *Estimated Emission Reductions under the Sangha Likouala ER-P.*

Emission Reductions (tCO2e)							
Years	Reduced Impact Logging (55% of RIL potential)	Logged to Protected Forest (30% of LtPF potential)	Conversion of Forest from Industrial Palm (HCVPalm)	Smallholders' Program	Gross emission reductions (tCO2e/yr)	Set-aside of ERs for risks and uncertainty	Net emission reductions (tCO2e/yr)
2021	1 558 989	59 701	184 965	829 484	**2 633 138**	816 273	**1 816 865**
2022	2 385 673	59 701	184 965	829 484	**3 459 823**	1 072 545	**2 387 278**
2023	2 606 734	59 701	184 965	829 484	**3 680 883**	1 141 074	**2 539 809**
2024	2 607 733	59 701	184 965	829 484	**3 681 883**	1 141 384	**2 540 499**
Total	**9 159 129**	**238 802**	**739 860**	**3 317 935**	**13 455 726**	**4 171 275**	**9 284 451**

The potential Emission Reductions (ERs) considered under the Sangha Likouala ER-P are exposed to Uncertainty and Reversal Risks. To help manage these risks, the Carbon Fund provides for a Carbon Fund Buffer Reserve under the ER-P to be managed by the Buffer Reserve Manager. Based on the unit price of US$5, the revenue expected from the net volume of 9,284,451 tCO2e stands at approximately US$46,422,255.

4.2 Gross and net ER payments

Gross payments are the entire volume of ER payments paid to the Republic of Congo in a given reporting period. The benefits of the ER Program that will be shared between the beneficiaries are net ER payments, as defined below.

For the ER Program and the benefits sharing system to be viable, all implementation costs should be properly covered throughout the implementation of the ER Program. In order to do so, gross payments will be used to: (i) cover operational costs; and (ii) ensure a performance buffer.

Once operational costs and performance buffer are deducted, net payments will be distributed among eligible beneficiaries as per the equation below:

Gross payments – (operational costs + set aside performance buffer) = ***Net payments***

4.3 Operational costs and buffer

Operational costs

The fixed costs associated with the management of the ER-Program will cover operating costs of overall coordination of the Program through the PMU: (i) ERP coordinator (ii) technical assistance officer (iii) three MRV specialists, (iv) safeguards specialist (environment and social), (v) communication and M&E specialists; (vi) financial and administrative specialists (vii) operating costs relating to coordination of ER credits generation by the program, verification of carbon and non-carbon monitoring reports, monitoring and reporting of ERs to the Carbon Fund, diligence of environmental and social safeguards, oversignt of service provider and meetings of platforms. Table 7 below shows costs related to project management.

Table 7. *Operational costs of ERP including PMU*

Category	Cost (USD/yr)
Coordination and technical assistance	110,000
Monitoring, Reporting and Verification	87,000
Safeguards and FRGM	44,000
Monitoring & Evaluation and communication	44,000
Financial and administrative management	76,000
Project management operational costs (equipment, support to implementation and field monitoring)	139,000
TOTAL	**500,000**

***Estimate: 1USD =550CFA**

Buffer

A performance buffer reserve – a mechanism by which the ER-Program will automatically set aside 5 percent of gross ER-Program payments to respond to potential ER-Program non-performance over a specific reporting period. This amount will be set aside and used to compensate potential beneficiaries that may have actually reduced or avoided deforestation in their area, despite the overall non-performance of the ER-program zone.

In the event of non-performance of the ER program for a specific year, the performance buffer will be triggered. The Performance Buffer will be eligible to the local communities and indigenous people and the government according to a percentage split that will be annually defined by CONA-REDD. A cap of 20% of the buffer will be allocated to the government and LCIP will be receiving allocations according to monitored performance and in a way that best values local communities' efforts. This set-aside money will be used in the following year to incentivize the districts that did reduce deforestation in their area but whose performance was to some extent offset by the increased carbon emissions of other areas: despite their own individual reduction of deforestation, the ER Program as whole did not reduce deforestation in a given year. After the last verification, any potential remaining funds will be distributed as per this BSP.

4.4 Benefit sharing among beneficiaries

4.4.1 Benefit sharing between beneficiaries

Net payments are the volume of ER Payments that can be distributed to the beneficiaries once operational costs and performance buffer set-aside volume are covered.

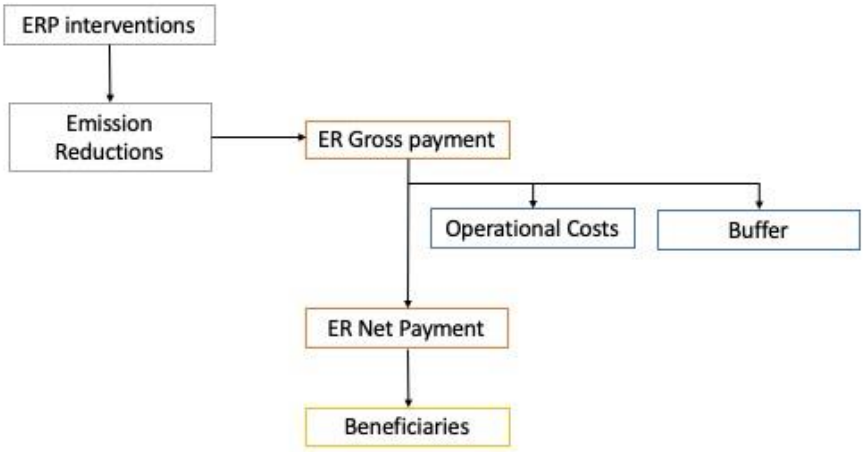


Figure 7. ER net payments to beneficiaries

Private sector

For the private sector, monitoring of emissions reductions for the purpose of benefit-sharing is limited to a very small area.

- For forestry concessions, this area corresponds to the annual harvesting blocks that are harvested during the term of the ERPA, where forestry enterprises are implementing reduced impact logging and may also set-aside additional conservation zones.
- For the agro-industry, only the newly established conservation zones are relevant for monitoring and allocation of benefits.

Considering that the private sector has to make substantial upfront investments to implement RIL, protect conservation areas and carry out monitoring, it may receive carbon benefits that corresponds to their share of net Emission Reductions based on performance i.e. ER at an equivalent price of (Gross ERPA value – Operating Costs)*95%/(Total ER Volume).

Government and LCIP

The remaining ER-Program area, i.e. the total area minus the areas where the private sector is active during the term of the ERPA, is the area where the performance of the communities and the government will be measured. This includes forestry and agro-industry concession areas that were harvested prior to the ERPA term or that will be harvested after the ERPA term. It also includes the community development zones, protection and conservation zones inside of concessions as well as all land outside of private sector concessions.

Estimation of emission reductions for this area are based on the ER-Program monitoring system (see the section 6 on Monitoring and evaluation).

Government : Of these emission reductions, a fixed percentage of carbon benefits equivalent to 15% of the ER volume will be allocated to the government, i.e. at an equivalent price of (Gross ERPA value – Operating Costs)*95%/(Total ER Volume).

- **Local Communities and Indigenous People**: the remaining emission reductions from this area is allocated to communities based on performance. With the exception of Lake Télé Reserve and Ifondo area, performance of communities is estimated at the concession level (excluding the private sector areas). Performance is measured based on the change maps (pixel counting) provided by the ER-Program monitoring system. Based on the change maps, performance for each community development zone is calculated as a percentage of total emission reductions. These percentages are then multiplied with the remaining carbon benefits available (non-private sector emission reductions minus government share) as specified by the ER-Program monitoring system.

In case of no or low performance, a community zone (as defined above) will not receive any benefits based on performance. In order to justify transaction costs, a community zone must at least reach an ER-value of USD 50,000 to attain benefits (see table 8 below).

Table 8. *Performance for community zones*

Performance level	Description	Benefit allocation
No or insignificant performance	Emissions higher, equal or slightly lower* compared to the reference period *ER value is less than USD 50,000	No benefits
Performance	Emissions are notably reduced compared to reference period, i.e. ER value >= than USD 50,000	Benefits

Should there be low or no performance at the community level as shown in Scenario 2 and 3 in section 4.4.2, a minimum of 15% here will be allocated to communities from the private sector share of ERs.

4.4.2 Benefit sharing against performance scenarios

Scenario 1 – Full performance of beneficiaries

In case all stakeholders perform, the performance of private sector, government and communities is sufficient to allow sharing of benefits between beneficiaries as follows. The present example below uses an 1,000,000 ER scenario.

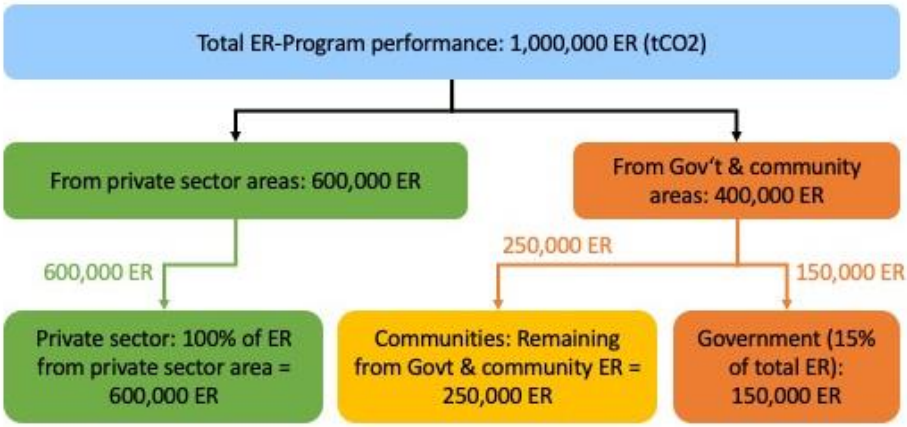


Figure 8. Scenario of full performance from all stakeholders

The current Term Sheet has a Sweep Clause which means that any additional ERs generated during a Reporting Period beyond the minimum RP volumes set out, those additional ERs will have to be transferred as Contract ERs to meet the Contract Volume.

Scenario 2 – Performance from private sector and low performance from government and LCIP

In case emission reductions outside the private sector are insufficient to pay the 15% share of net ER to the government and a minimum of 15% of net ER for communities, the following rules apply:

- Up to 15% of the ERs generated by the Private Sector will be allocated to the government to attain the 15% share of carbon benefits to government
- Up to 15% of the ERs generated by the Private Sector will be allocated to communities to ensure carbon benefits for communities

The present example below uses an 1,000,000 ER scenario to show the benefit sharing arrangements.

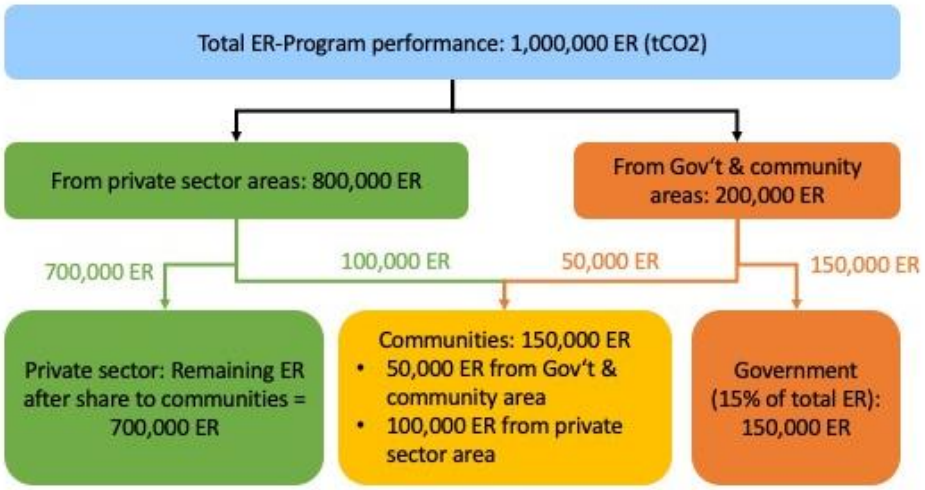


Figure 9. Scenario of low performance from LCIP and government

In addition to the levy to attain the 15% share of net ER to the government and a minimum of 15% of net ER for communities, the buffer will be triggered.

Scenario 3 – No performance from non-private sector areas

In case emission reductions outside the private sector are null while the private sector performs, to pay the 15% share to the government and a minimum of 15% of ER for communities, the following rules apply:

- 15% of the ERs genertared by the Private Sector will be allocated to the government to attain the 15% share of carbon benefits to government
- 15% of the ERs generated by the Private Sector will be allocated to ensure carbon benefits for communities

The present example below uses an 1,000,000 ER scenario to show the benefit sharing arrangements.

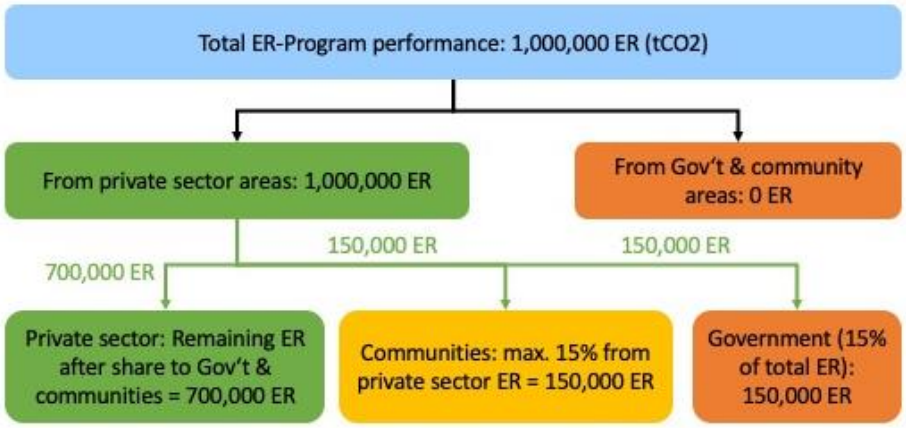


Figure 10. Scenario of no performance from non- private sector areas

In addition to the levy to attain the 15% share of net ER to the government and a minimum of 15% of net ER for communities, the buffer will be triggered.

Scenario 4 : No performance from the private sector but performance in non-private sector areas

In case there are no emission reductions outside the private sector while non-private sector areas perform, private sector will not get any benefits but will still be eligible for capacity building.

The present example below uses an 1,000,000 ER scenario to show the benefit sharing arrangements.

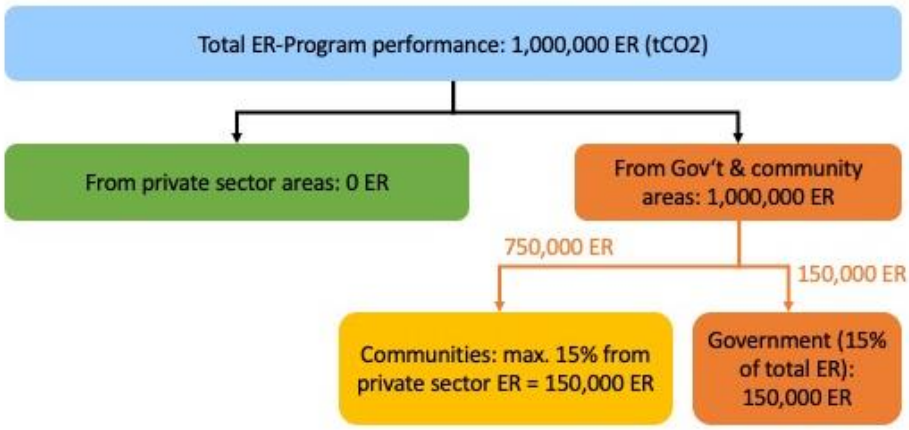


Figure 11. Scenario with non-performance from the private sector

4.5 Performance allocations for beneficiaries of the Sangha Likouala ER-Program

4.5.1 Government

The sharing of ER payment between government beneficiaries, both direct and indirect, will be defined by a Inter-Ministerial Decree prior to the signature of the ERPA.

The carbon benefits will be directed :

(i) Direct beneficiaries carrying out law enforcement to oversee the activities described in table 2. Proxy indicators of their performance are the level of compliance of forestry enterprises with the RIL-Grid and of agro-industry enterprises with RSPO criteria and indicators. Further, the extent to which conservation zones inside of concessions have been sucessfully protected.

(ii) A capacity building fund, to which company can apply for:
   a. forestry companies that have not attained level 1 of the RIL Grid may apply (see figure 3)
   b. Mining companies that are preparing to implementing reduced impact mining
   c. Agri-business companies that are preparing for RSPO certification

(iii) Indirect beneficiaries who are involved in the governance and are supporting the implementation of the ERP according the activities described in table 2. Their performance will be assessed on annual reports of activities that will be assessed by CONA-REDD.

4.5.2 For logging companies

4.5.2.1 Monitoring, reporting, and verification

The procedure and obligations for monitoring, reporting and verification are described in the main section of the benefit-sharing plan dedicated to MRV.

The monitoring report is submitted to the Ministry of Forest Economy for verification, a process that may include site visits. If the Ministry of Forest Economy finds any discrepancies in the report, it will request that the corresponding adjustments be made.

If the monitoring report has been successfully verified, the Ministry of Forest Economy will confirm its monitoring findings and authorize the granting of the benefit, which is calculated using the method described in section below.

4.5.2.2 Calculating benefits and payment

In principle, the benefits are estimated on the basis of unit efficiency performance, here in tonnes of CO2 per cubic meter exploited. For the calculation of emission intensity factors, see Annex 6.

Calculating RIL benefits

The emission reduction benefit from Reduced Impact Logging (RIL) is calculated as follows:

$$B_{RIL} = ((V_{rep\_period} * EIF_{benchmark}) - (V_{rep\_period} * EIF_{rep\_period})) * Price_{ER}$$

Where:

B_{RIL}	Is the benefit from implementing RIL, in US$/reporting period
V_{rep_period}	Is the volume of extracted timber during the reporting period, in m³
$EIF_{benchmark}$	Is the benchmark emission intensity factor, in tCO2/m³
EIF_{rep_period}	Is the emission factor during the reporting period, in tCO2/m³
$Price_{ER}$	Is the price per emission reduction paid by the ER-Program, in USD/tCO2[8]

Calculating the benefits for setting aside conservation areas

The benefit from setting aside conservation zones is calculated as follows:

$$aB_{conservation} = \frac{pV_{conservation} * LIF * EIF_{benchmark} * Price_{ER}}{tr_{rotation}}$$

Where:

$aB_{conservation}$	Is the annual benefit for setting aside conservation areas, in USD/year
$pV_{conservation}$	Is the provisional volume according to the management /inventory plan for the conservation area, in m³
LIF	Is the logging intensity factor, in %
$EIF_{benchmark}$	Is the benchmark emission intensity factor, in tCO2/m³
$Price_{ER}$	Is the price per emission reduction paid by the ER-Program, in USD/tCO2
$tr_{contract}$	Is the time remaining in the concession contract, in years

Payments

The monitoring report for RIL activities and conservation areas submitted by the company will be verified by the the Ministry of Forest Economy against the actual emission reduction achieved. Once the emission reduction are confirmed, CONA-REDD on recommendation from the Ministry of Forest Economy will authorize the payment.

[8] Equivalent price of (Gross ERPA value – Operating Costs)*95%/(Total ER Volume)

Eligible expenses for use of ER payment

Eligible expenses
Mechanization equipment, tools, machines; measures of plantations and natural regeneration; salaries for forest management, RIL and certification; storage and processing infrastructure, nursery components / infrastructure, patent filing and fees, certifications, community development investments.

Non-eligible expenses
Land acquisition; major civil engineering works such as the construction of new buildings which are not productive assets; retroactive payments for expenses prior to the date of signature of the ERPA agreement; financial participation in the capital of a company. Interest or debts owed to a party, items already funded by another program or company / institution and salaries of government employees.

4.5.3 For agroindustrial companies

4.5.3.1 Calculating benefits and payment

Calculating the benefits for setting aside conservation areas

The benefits for conservation zones are calculated as follows:

$$aB_{Conservation} = \frac{A_{conservation} * EF_{def} * Price_{ER}}{tr_{contract}}$$

Where :

$aB_{Conservation}$	Is the annual benefit for setting aside conservation areas, in USD/year
$A_{conservation}$	Is the size of the conservation area, in ha
EF_{def}	Is the emission factor for deforestation, in tCO2/ha
$Price_{ER}$	Is the price per emission reduction paid by the ER-Program, in USD/tCO2
$tr_{contract}$	Is the time remaining in the concession contract, in years

Payments

The monitoring report for conservation areas submitted by the company will be verified by the CONA-REDD against the actual emission reduction achieved. Once the emission reduction are confirmed, CONA-REDD on recommendation from the Ministry of Forest Economywill authorize the payment.

Eligible expenses for use of ER payment

Eligible expenses
Mechanization equipment, tools, machines; measures of plantations and natural regeneration; salaries for conservation activities and certification; storage and processing infrastructure, nursery

components / infrastructure, patent filing and fees, certifications, community development investments.

Non-eligible expenses
Land acquisition; major civil engineering works such as the construction of new buildings which are not productive assets; retroactive payments for expenses prior to the date of signature of the ERPA agreement; financial participation in the capital of a company. Interest or debts owed to a party, items already funded by another program or company / institution and salaries of government employees.

4.5.4 For Local Communities and Indigenous Peoples

Local communities and indigenous peoples are key actors in reducing deforestation and must acquire the capacities to change their behavior and implement appropriate land use practices to reduce deforestation and achieve targeted emission reductions.

Performance allocation
Only communities in areas that have reduced deforestation will receive financial compensation. Areas for assessment of community performance are defined at the following scale: forestry concessions (excluding areas where the private sector is active during the ERPA), Lake Télé Reserve and Ifondo area. Payments will be proportional to the emission reductions achieved at this scale and will be available to the communities from those areas (see section on allocation between beneficiaries). The objective is thus to encourage communities to engage in more sustainable forest use.

In the event of non-performance of the ER-P, the buffer will be activated in order to direct emission reduction payments to communities in districts where deforestation is below the historical average in order to continue to promote good practices.

There are two structures of governance that are relavant for communities:

- In managed forestry concessions, local communities are organized in Local Development Series (SDC). Companies provide the resources for the establishment of a Local Development Fund (FDL) to support the social development projects[9] implemented by the communities in the cocnessions. Decrees issued in respect of each Forest Management Unit then outline the organization and functions of the FDL for the SDC located in the targeted forest concessions with an approved management plan in place.
- For communities located outside forestry concessions, the local governance is established through Community Development Management Council (CDMC) that are local management entities that serve to promote grassroots community participation in local development. The role of the CDMC is to organize the preparation and implementation of the Single Management Plan. This plan includes projects in the pubic interest, such as those dealing with basic infrastructure or any other socioeconomic activity that seeks to improve the sustainable livelihoods of local communities.

[9]The community development projects are not necessarily sustainable forest management projects but can be social processes. The process for project selection and implementation is defined by a decree that defines the functioning of the FDL. Each FDL is reglemented by a corresponding decree.

These governance structures are key for communities' development but their governance, planning, operational and financial capacities are limited. While they will not manage directly the benefits, they will be involved in decision-making and their capacities will be strengthened so that they can lead communities project in the medium-term.

Benefits management

The Project Management Unit will build the capacity of local communities and indigenous populations and ensure benefit sharing for communities in the ER area with the support of a service provider. The service provider will be an NGO recruited through a transparent and competitive process with proven capacities to facilitate, promote and support the implementation of community-based natural resource management initiatives, based on standardized principles of inclusion and community participation. The service provider will ensure the monitoring and evaluation of community projects. The PMU and the service provider will sign a memorandum of understanding.

Community capacity building

Communities also need support to strengthen their governance (transparency, inclusion of vulnerable groups, rotation management, accounting and financial management, voting, etc.) and the development of projects. To this end, 10% of the community share will be allocated to community capacity building and the remaining 90% will be intended for the implementation of community initiatives approved by the CODEPA-REDD.

The SDCs and CDMCs will also benefit from capacity building sessions, in order to eventually support communities in the development of community projects. The service provider will have developed a specific methodology to strengthen the capacities of rural communities. The service provider will select, train and engage other organizations (NGOs, CSOs, universities) based in the departments of Sangha and Likouala if necessary, to build the capacities of the communities according to a common methodology. This process will focus on community governance (inclusion, transparency, benefit sharing, gender) and project development. Support will also be given to the creation of community organizations, with particular attention to the participation of women and young people. The service provider will monitor the performance of projects during the capacity building process and draw lessons to improve the methodology.

Eligibility of communities projects

Benefits will be invested in community-led projects that will aim to improve livelihoods and help reduce deforestation. They will be developed and implemented by the governance structures and will contribute to the following objectives: -

- Promote community management and conservation of natural resources
- Promote agricultural and agroforestry models that are climate-smart, resilient and allow better empowerment of LCIP in taking charge of their lifestyle and living conditions
- Support the cultivation of cocoa in degraded areas

After receiving payment for emission reductions, the provider will submit an expression of interest in the development of projects in both departments.

The expression of interest will be linked by the service provider through the capacity building sessions, the Departmental Councils through their representatives in the CDMC and SDCs, the local NGOs that the service provider may have engaged and the PMU. Organized groups (Groupements

d'Intérêt Economique et Communautaires)[10] of communities will thus be eligible to submit project proposals. A standard form will be completed by the communities to define the proposed project (objectives, management, organization and viability of the projects). Project applications will be guided and their development by the communities supported by the service provider on the basis of the selection criteria. Guidelines for the submission of proposals, selection and approval processes for community projects, including financial management procedures and relevant templates.

The CODEPA-REDD which is composed of representatives of the government, the department, private sector and representatives of local communities and indigenous people will assess the feasibility and sustainability of project proposals submitted as well as the viability of community practices in conservation, agricultural expansion, fire management and governance. The CODEPA-REDD will pay particular attention to ensuring:

i. balance in the respective funding of the projects of local communities and indigenous communities
ii. a rotation of projects funded each year so that all communities can benefit
iii. a balance of beneficiaries according to gender and age (percentage of women and young people (15-35 years))

The carbon benefits will not be direct cash transfers to communities. Payments for emission reductions will finance community initiatives selected by the CODEPA-REDD, set up by decision of the Departmental Council as part of the selection process mentioned above which will be implemented with the support of the service provider.

Timing of payments

Subject to ERPA negotiations, the Carbon Fund will pay up to $ 46,422,255 million for the actual delivery of 9,284,451 million tCO2e, duly reported and verified over a period of four years (2021-2024) in accordance with the Methodological Framework of the FCPF Carbon Fund. The table below shows the ROE interim payment schedule.

Table 10*. Schedule of payment for ERPA*

Payment period	**Operations**	**Reporting period**	ER Volume (tCO2e)	Montant total (USD)
	ERPA signature (Dec. 2020)			
2021				
	Verification 1	ERPa signature date until 31 December 2021	784,451	3,922,255
2022	1st payment ERPA			
	Verification 2	1 Jan 2022-31 Dec 2022	1,500,000	7,500,000
2023	2nd payment ERPA			
	Verification 3	1 Jan 2023-31 Dec 2024	7,000,000	35,000,000
2024	3rd payment ERPA			
		TOTAL	9,284,451	46,422,255

[10] Buidling on the experience of the World Bank project *Projet d'appui au Dévéloppement de l'Agriculture Commerciale,* communities organized groups (Groupements d'intérêt économique et communautaires) will submit project proposals.

5 Institutional Arrangements for Managing the Net Payments from the Sangha Likouala ER-Program

5.1 Institutional arrangements

The institutional arrangement to manage funds from direct payments is as follows:

Table 11. *Roles and Responsibilities of the Institutions*

Institution	Role and Responsibilities
CONA-REDD	CONA-REDD[11] will provide the overall management of the REDD+ Benefit Sharing Mechanism (BSM) in the Republic of Congo. Decisions will be made by consensus. CONA-REDD will be: - defining and validating the strategic guidelines for the ERP (funds and others); - examining and validating the budgetary framework and the program financing priorities submitted by the Fiduciary Agency for the Program; - ensuring that ERP financing is properly managed; - examining financing proposals for approval and authorization of disbursements; - ensuring compliance with the strategic guidelines set out in the national strategy and the investment plans for REDD+; - examining and validating the allocation of funds to financing project proposals; - examining and approving annual reports and financial statements prior to publication during the implementation of the ERP; - referring complaints to the grievance redress mechanism of the ERP; - examining and monitoring execution of the relevant recommendations made by auditors; - authorizing the Fiduciary Agent to disburse funds to the beneficiaries.
Ministry of Finance	Working in consultation with the Ministry of Forest Economy, the Ministry of Finance has direct responsibility for managing ERP financing. Its main tasks are: - assuming full programming and financial responsibility on behalf of the government for the activities implemented by the beneficiaries; - submitting the proposals approved by the CONA-REDD to the Fiduciary Agency for implementation by the national beneficiaries, in accordance with national regulations, and by international organizations, in accordance with their own rules and procedures; - ensuring that the transfers of funds to beneficiaries by the Fiduciary Agency are made as approved by CONA-REDD;
Commercial Bank	Entity designated by the Minister of Finance to receive the transferred funds and make them available to the ER-Program Fiduciary Agency

[11]Members include Ministries of Forest Economy, Sustainable Development and Environment, Planning, Agriculture and Livestock, Environment and Tourism, Mines and Geology, Land Use Planning and Infrastructure, Land tenure, Finance, Scientific Research, Energy and Hydrocarbons, Health; Civil Society, Indigenous Peoples, Private Sector.

Fiduciary Agency designated by the Ministry of Finance to manage the funds	The Fiduciary Agency will perform the tasks of the administrative agent for the designated account and will support the PMU. For this purpose, its tasks will be: - receiving financial contributions and managing them in compliance with the designated account rules and procedures, including provisions relating to closure of the designated account and related matters; - disbursing the funds to the beneficiaries, in accordance with the CONA-REDD's written instructions forwarded by the Chair, subject to the availability of the funds; - providing day-to-day management of the designated account; - working with the PMU to consolidate the statements and reports from each beneficiary and forwarding them to the CONA-REDD through its Chair; - drafting the annual designated account management reports andforwarding them to the CONA-REDD through its Chair. External audits may be commissioned from an approved external provider. *It is recommended that the Projet Foret et Diversification Economique (PFDE) of the World Bank acts as fiduciary agency. The operational modalities will be defined in the project manual.*
Program Management Unit	Revises private sector and service provider technical and financial reports to authorize and on the use of ER payments
Service provider (NGO)	The Service provider will administer the funds allocated to LCIP as compensation for emission reductions achieved by the communities. It will support the development of community projects and will disburse the funds for community projects according to the decision of the local committees that will validate the communities'proposals.
Forestry Fund	The Forestry Fund will administer the funds allocated to the government as compensation for emission reduction (direct beneficiaries) and for enabling environment (indirect beneficiaries).

5.2 Financial flows

The World Bank will transfer the amounts appropriated for net payments from the Carbon Fund to the commercial bank designated by the Ministry of Finance. The designated commercial bank will receive the funds and notify the Minister of Finance and Budget, who will call a meeting of the CONA-REDD to validate the amounts to be allocated to the beneficiaries.

The Fiduciary Agency will implement CONA-REDD's decisions by sending checks to the beneficiaries. These checks will be payable to:

- Forestry Fund[12]for the funds allocated to the government as compensation for emission reduction (direct beneficiaries) and for enabling environment (indirect beneficiaries).

[12]The Forestry Fund was created in 2000 (law 16-2000) and operationzalized by decree 2002-434 to ensure the financing of activities to protect, manage and develop the forest and fauna resources in the Republic of Congo. All activities of the Ministry of Forest Economy are funded through this fund which is managed by a Management Committtee.

- Banks of each private company (forest and agroindustrial companies) that have achieved the required emission reductions;
- Bank of the service provider will administer the funds allocated to LCIP as compensation for emission reductions achieved by the communities. Payment will be made onto a separate account that will be dedicated to ER payments.

The financial management system will be the one applicable for projects that are co-financed by the World Bank. This will ensure transparency, accountability, efficiency, and confidence.

The financial flows is shown in figure below:

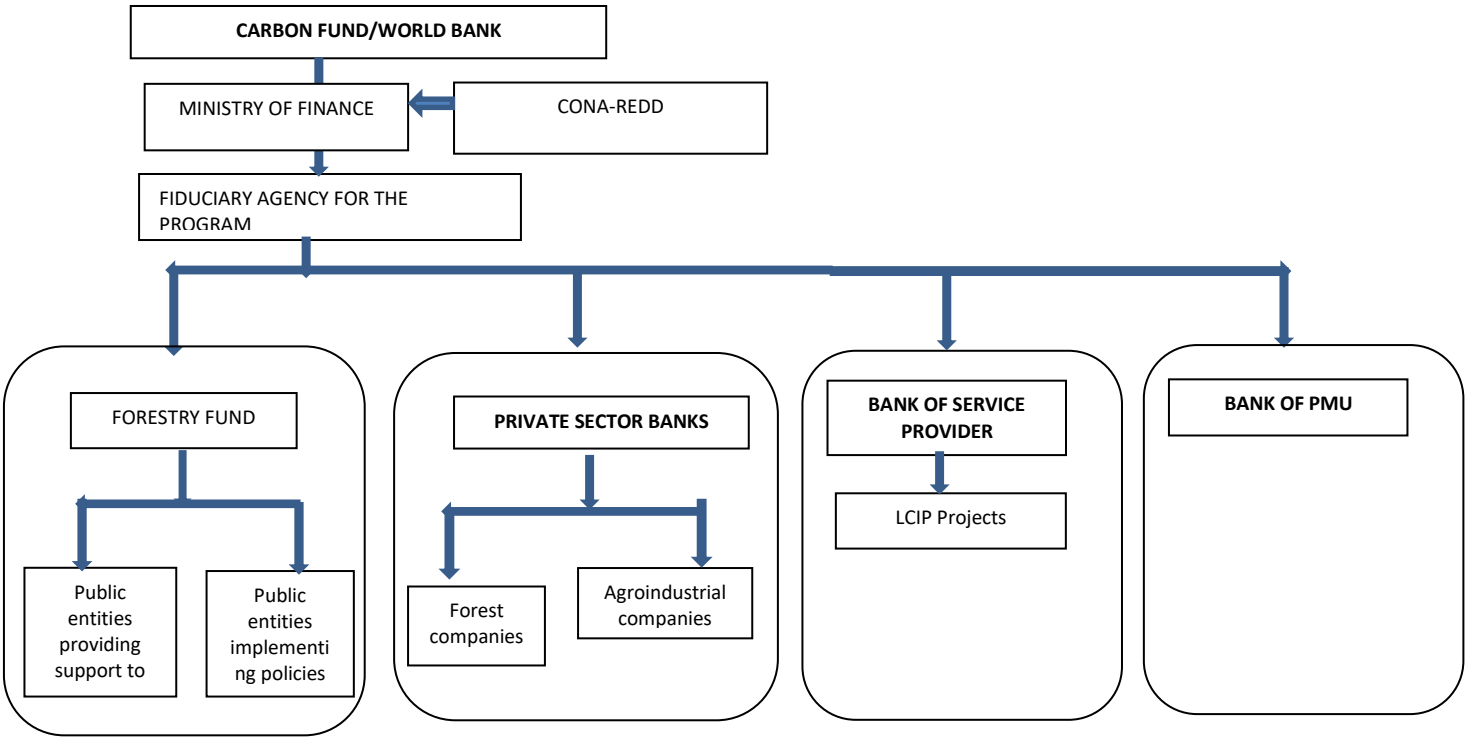


Figure 12. Financial flows for the Benefit Sharing Plan

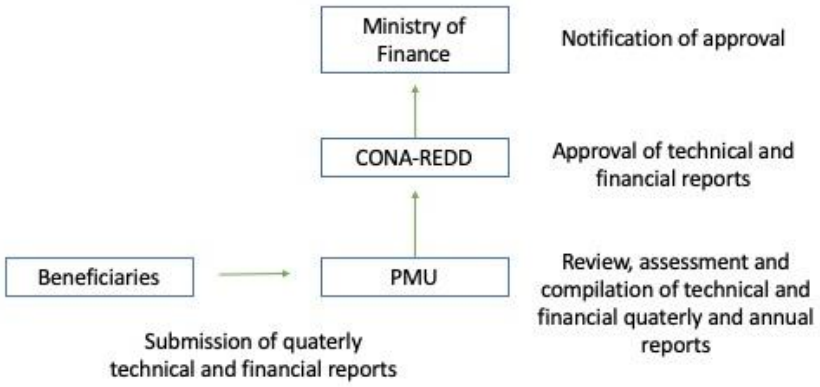


Figure 13. Reporting arrangements

6 Monitoring and Evaluation Systems

6.1 Methodology and data used for monitoring emissions

Emission monitoring will be based on the MRV System: Monitoring (M), Reporting (R) and Verification (V) covering all of the strategic and technical tools implemented under the laws, regulations, PCIV-APV FLEGT, RIL-REDD+ and other REDD+ environmental and social safeguards.

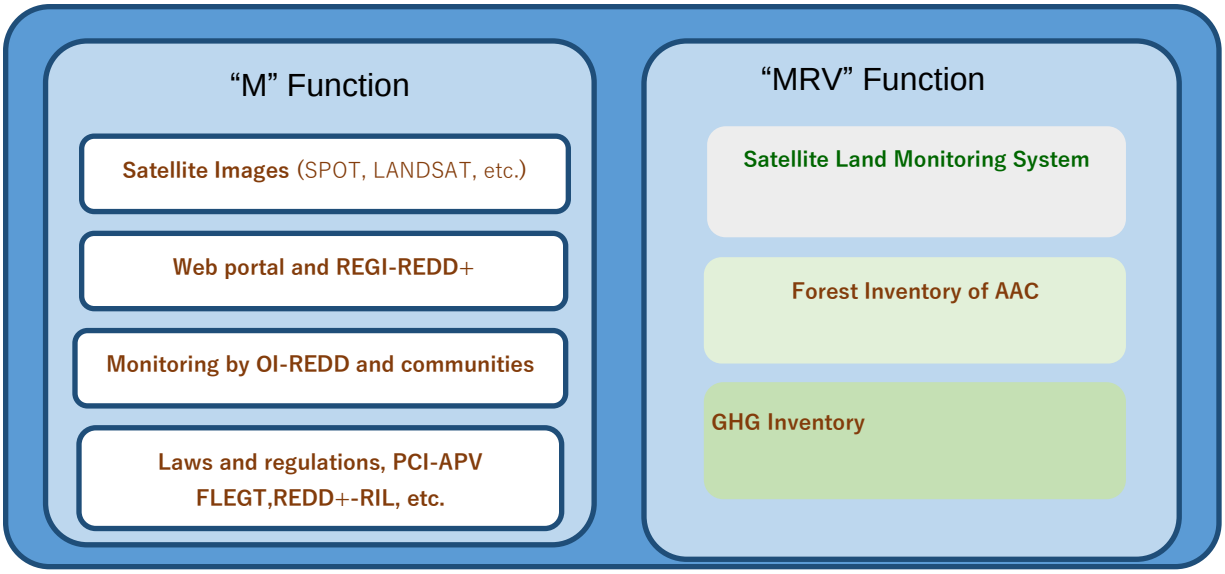


Figure 14. Structure of the MRV System for the Sangha Likouala ER-P

The **Monitoring Function** will facilitate the legal management of forests through (a) the customary rights of LCIP; (b) legal logging based on legal authorizations (annual harvesting permits and authorizations). Monitoring is based on:

- Laws, decrees, orders and directives relating to sustainable forest management;
- Forest management instruments (instruments for forest management zones, instruments for protected area management and other instruments);
- REDD+ Principles, Criteria and Indicators, adapted to national circumstances;
- Satellite imagery;
- Databases (Web Portal);

The **MRV Function** will:

- Estimate (i) GHG emissions from human activity and (ii) carbon sequestration;
- Measure (i) changes in forest zones and (ii) changes in carbon stocks stemming from REDD+ activities;
- Report on GHG mitigation performances to the UNFCCC;
- Store data and make them available for potential verifications.

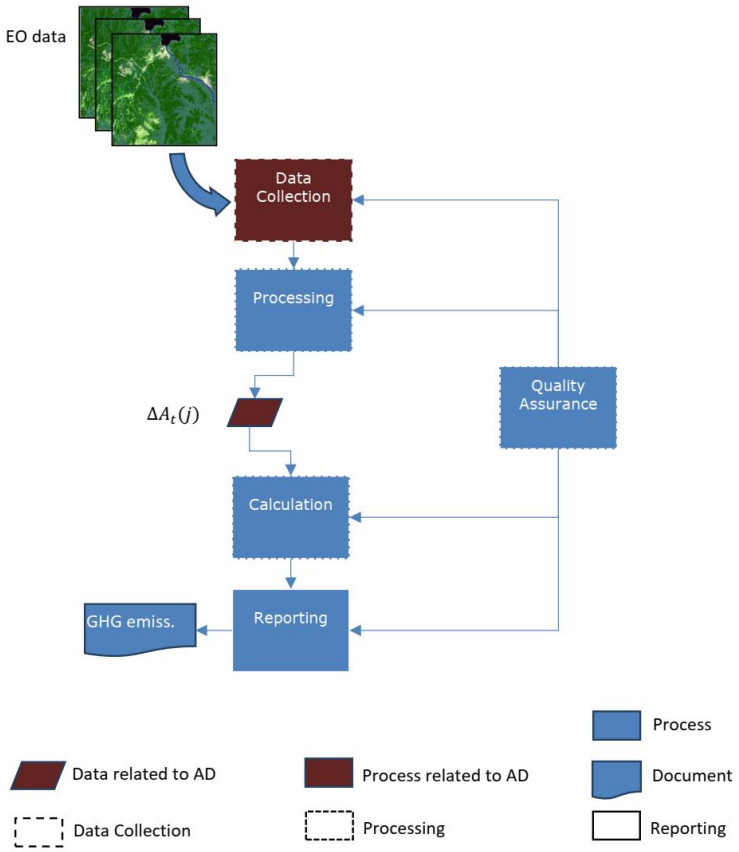
The geographical area concerned by REDD+ activities, carbon and GHG pools will be the same as that covered by the Reference Level. The data on activities causing emissions or removals will be

measured and monitored using the same methods as those used to determine the Reference Level. The emission factors and default values used for estimating GHG emissions by source and removals by sink will be the same as those used for determining the Reference Level. The GHG accounting will use the same equations, calculation procedures and quality assurance/control procedures as those used to determine the Reference Level.

6.1.1 Monitoring of activity data and quantification of emissions from deforestation and forest degradation

With the exception of forest management , monitoring of activity data at the ER-Program level is based on change maps to provide a biased estimate of the activity data (area of deforestation and forest degradation) for each monitoring period. Sampling of the change maps is then used to calculate unbiased estimators for deforestation and forest degradation. Here, monitoring uses the same methods for estimating activity data as for the reference emission level as described in section 8.3 of the ER-PD (p131-144 in the English version of the ER-PD).

Figure 15. Workflow for producing activity data and reporting emissions



The ER-Program is currently reviewing the option of revising its reference emission level, specifically for emissions from forest management. In the revised approach, emissions from forest management would be estimated using a forest sector emission model, very similar to the

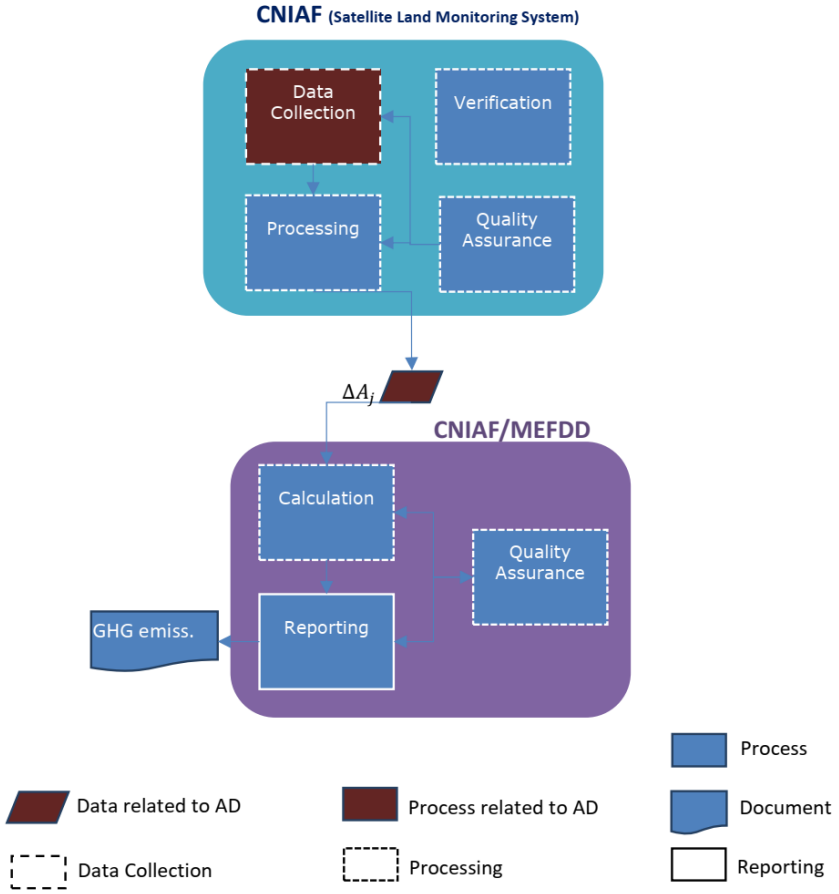
model used for estimating emissions from forest management in the national REL submitted to the UNFCCC.

In order to avoid double counting as well as under- or overestimation of activity data, the following procedures will be applied:

- Areas of active forest management (subject to timber harvesting) during the monitoring period will be excluded from the change map estimates and also from sampling. To this end, all forest enterprises will submit their annual or biennial harvesting zones to CNIAF.
- Spatial activity data provided by the forest enterprises (e.g. digital road datasets) will be verified by CNIAF (quality control).

The activity data is then multiplied with the emission factors provided in table 37 of the ER-PD (English version). For a better illustration, see Figure 16 below (from ER-PD).

Figure 16. Data flow and responsibilites in the monitoring system



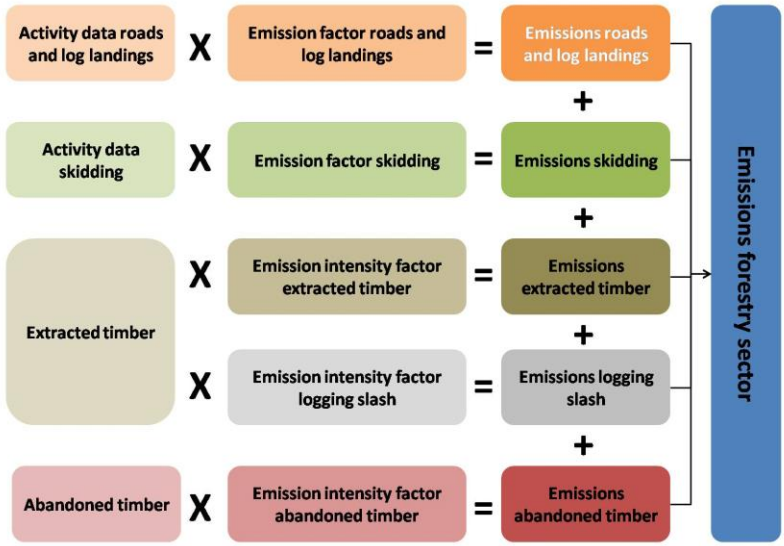
6.1.2 Monitoring of emissions from forest management

Monitoring of emissions from forest management uses the same methods described in Annex 5. The quantification of emissions from forest management for each monitoring period is restricted to the areas of active forest management (forest exploitation) during each monitoring period.

Emissions from the following forestry activities are estimated:

1. Emissions from roads and log landings
2. Emissions from skidding
3. Emissions from extracted timber
4. Emissions from harvesting slash
5. Emissions from abandoned timber

Figure 17. Emissions from forest management by category



The reference emission intensity factor is set at sector level, but for the ERPA term the emission intensity factor is calculated at enterprise level. Emissions for forest management are calculated using a "forest sector emission model", which consists of a set of equations that calculate emissions for each forestry activity shown in figure above.
The parameters of the model consist of:

- Activity data (e.g. road data), which is subject to change and thus must be subject to monitoring
- Volume data (e.g. extracted timber), which is subject to change and thus must be subject to monitoring
- Parameters related to the emission intensity factors (e.g. amount of abandoned timber), which are subject to change and must thus be monitored
- Emission factors (e.g. for roads), which are constant and must thus not be monitored
- Constants (e.g. carbon fraction, wood density), which are constant and must thus not be monitored

Parameters subject to monitoring are measured and reported by each forestry enterprise on an annual basis (for each annual harvesting area). This includes measurements using satellite

imagery (digitalization of roads) and measurements on the ground (e.g. road width). The monitoring reports are verified by CNIAF, which may entail on-site visits. A list of the monitoring parameters is shown in table 12 :

Table 12. *Monitoring parameters*

Paramètres	Unité	Description	Principalesource de données
$tL_{PR,i}$	m	Total length of principal roads for concession i	Digitization of road data based on Landsat / Sentinel imagery
$mW_{PR,i}$	m	Mean width of principal roads for concession i	Field data collection
$tL_{SR,i}$	m	Total length of secondary roads for concession i	Digitization of road data based on Landsat / Sentinel imagery
$mW_{SR,i}$	m	Mean width of secondary roads for concession i	Field data collection
$tA_{LogL,i}$	ha	Total area of log landings for concession i	Field data collection
$tL_{skidding,i}$	m	Total length of skid trails for concession i	Field data collection
$V_{ext\ timber,i}$	m^3	The volume of extracted timber for concession i	Field data collection
$F_{abandoned\ timber}$	%	The fraction of abandoned timber (percentage of extracted timber)	Field data collection
F_{Vcom}	%	The fraction of commercialized timber (percentage of extracted timber)	Field data collection

6.1.3 Estimation of emissions at the concession level

Forest management emissions are calculated through a bottom-up approach (adding up emissions from each concession), as such it is directly possible to produce emission estimates for single concessions for the purpose of estimating performance. Forestry concessions will produce annual monitoring reports which are verified by CNIAF (see section 6.1.2).

For the oil palm concessions, an estimation of emissions at the concession level for the purpose of benefit-sharing is not required. Enterprises have been issued with the permit to clear a specific amount of land for the purpose of planting oil palms and it is assumed that this land will eventually be cleared. However, enterprises may receive benefits for setting aside conservation areas inside their concessions. Consequently, the monitoring variable of interest is the conservation zone. Just as forestry enterprises, Agroindustry enterprises that establish conservation zones inside their concession, must submit a geodata file showing the boundaries of the conservation zone. In addition, they must submit a monitoring report for each monitoring period, providing evidence that the conservation zone was not impacted by roads, tree felling or

wood removal. CNIAF will verify these monitoring reports using the change maps produced for each monitoring period (see section 6.1.1). In addition, high resolution imagery available through Planet (NicFI), Google Earth, Bing Maps or other means as well as site visits are used to verify the monitoring reports. In order to ensure that no leakage occurs (through additional planting elsewhere in the concession), enterprises must adapt their management plan to reduce the area officially available for planting by the area put under conservation. The revised and approved management plan must be provided prior to the final payment under the ERPA.

6.2 Monitoring and evaluation of the Benefit Sharing Plan

The CONA-REDD will be responsible for the supervision and overall monitoring of the activities implemented with the ER-Program payments. In addition, the CONA-REDD will monitor implementation of the REDD+ activities by the private sector and community projects.

The monitoring and evaluation expert from the Program Management Unit will carry out the internal tasks devolved to monitoring and evaluation of program activities in addition to the monitoring and evaluations carried out by the external auditors.

The first report will be submitted six months after the first payment under the Emission Reduction Payment Agreement (ER-PA) in accordance with the ER monitoring report format. The mid-term and final reports on the implementation of the Benefit Sharing Plan and the distribution of the funds to the stakeholders will be prepared and submitted to the administrator – the World Bank.

Financial audits of the fiduciary agency will be carried out each year by an auditing firm, which will be recruited on the basis of calls for tenders, following World Bank procedures, in order to guarantee the compliance and legality of the financial process. project. Annual monitoring and audits will be carried out internally by this Audit Firm. Within 2 years, an independent external audit can be considered if necessary.

6.3 Safeguard monitoring procedures

6.3.1- Safeguards & Safeguards information System

Various safeguard instruments have been prepared for the implementation of the ER- Program actions that will generate emission reductions:

- The intervention strategy has been developed in accordance with the National REDD+ Strategy and the Strategic Environmental and Social Evaluation (SESS).
- The Environmental and Social Management Framework (ESMF) and five other frameworks (Pesticide Management Framework, Cultural Heritage Management Framework, Indigenous Peoples Planning Framework, Process Framework, and Resettlement Policy Framework) were validated in January 2017.
- The Principles, Criteria, Indicators, and Verifiers relating to the social and environmental aspects of REDD+ (PCIV-REDD+) comply with the Cancun Safeguards and the World Bank's

Operational Policies. The ER-P will apply safeguard instruments developed at the national level (Environmental and Social Management Framework and sub-frameworks) and will comply with national standards (PCI REDD+).

- The Principles, Criteria, Indicators, and Verifiers (PCIV) of the VPA-FLEGT.

In accordance with the institutional mechanisms for the ER-P, the PMU will be responsible for issuing directives and ensuring compliance with the safeguard requirements. The PMU will have an environmental and social safeguard team within it. This team will be responsible for providing assistance to implementers, such as concession holders, NGOs, and communities in conducting environmental and social impact assessments and developing specific safeguard plans when necessary.

The implementation partners will collect the data relating to the implementation of safeguards. The PMU will be responsible for compiling and analyzing the data and preparing the annual monitoring of the safeguards to be evaluated and reviewed by the CONA-REDD, and conducting field missions for verification purposes jointly with the LCIP and civil society representatives. The information contained in the reports will be published and disseminated via the Safeguard Information System (SIS). In compliance with the REDD+ implementation principles, under the UNFCCC, a safeguards information system has been designed at the national level and validated in October. It will also be used to report on the progress of the ER-Program. The SIS will provide information about the way the safeguards are handled and complied with throughout the implementation of the ER-Program.

6.3.2- Feedback and Grievance Redress Mechanism

A FGRM was prepared under the FCPF Readiness and validated at the national level in October 2018 to address potential complaints that might arise from the use of natural resources including from the sharing of benefits resulting from ERPA payments. Potential grievances (presumed damage, facts or grounds for grievances) may lead to complaints being filed by beneficiaries include disagreements: (i) Conflicts related to the ownership and transfer of carbon credits; (ii)Failure to comply with contracts signed between program participants and the program; (iii) Conflicts related to the sharing of benefits arising from the program.

The GRM operating mode includes five stages: (i) reception and recording of the complaint; (ii) acknowledgment and assessment; (iii)developing a response; (iv) communicating the proposed response to the plaintiff and reaching an agreement; (v) closure or referral of the complaint to another body. There are three levels of conflict resolution bodies who receive and address the complaints in line with the seven stages above: (i) PMU; (ii) CODEPA-REDD; (iii) CONA-REDD. The details of the mechanism are presented in the Feedback and Grievance Redress Mechanism of October 2018.

7 Methodological Approach and Main Results of Stakeholder Consultations

7.1 Methodological approach to stakeholder consultation

The Benefit Sharing Plan for the Sangha Likouala Emission Reduction Program was developed in line with the guidelines[13] set forth in the FCFP's Carbon Fund and is in line with the requirements stipulated by the Republic of Congo in the national documents.[14] The methodological approach to stakeholder consultation was strengthened in order to ensure that the concerns of the key stakeholders in the Sangha Likouala ER-P (government, forest companies, agricultural companies, local communities and indigenous peoples, civil societies) are appropriately taken into account in the Benefit Sharing Plan. Consultations and workshops were organized during three main periods:

- The 2015-2016 period, with financial support for the UN-REDD program through the European Union's REDD Facility (EFI);
- The 2017-2018 period, with financial support from the FCPF;
- The 2019-2020 period, with financial support from the government.

The consultations held during the 2015-2016 and 2017-2018 periods were conducted in a transparent and participatory manner in some 20 localities in Sangha and Likouala. These locations were selected on a sampling basis. More than 1,300 persons were asked about relevant concerns such as the types of activities implemented by the LCIP; the relevant mechanisms in place in the mining and forestry sectors and for protected areas; the FDL as a tool for potential benefit sharing transactions and community development; LCIP representation for the implementation of the Benefit Sharing Plan, institutional arrangements for benefit sharing, non-carbon benefits, e.g., for the LCIP.

The consultation process continued in 2019 and in January 2020. This entire process, which was underpinned by a committed, methodical approach, is summarized in the following three steps:

a)- Step 1: Consultations with stakeholders in Brazzaville and the Sangha and Likouala departments

This step paved the way for finalizing the first draft of the Benefit Sharing Plan for the Sangha Likouala ER-P, and involved the following activities:

- An in-depth document review;
- Clarification of the key concepts of the REDD+ Benefit Sharing Plan;
- Analysis of the level of organization of the communities and local administration;
- Clarification of the level of involvement of the national entities that will be participating in benefit sharing;

[13] https://www.forestcarbonpartnership.org/sites/fcp/files/2019/Sep/FCPF%20Guidance%20Note%20on%20Benefit%20Sharing%20for%20ER%20Programs_2019_FR.pdf

[14] National REDD+ strategy, national sustainable development strategy, etc.

- Assessment of conformity of REDD+ benefit sharing with national legislation, measures and policies established under REDD+ and the environmental and social safeguards implemented under REDD+;
- Clarification of the links between carbon rights, land and forest tenure, and derived rights and their assignment to the various stakeholders;
- Analysis of the lessons learned from past and current interventions on benefit sharing under REDD+ and emission reductions payments;
- Analysis and proposal of the types of payments/compensation suitable for local beneficiaries that contribute to emission reductions;
- Analysis and proposal of the benefits sharing formula;
- Definition of the guidelines relating to the need to take carbon rights and non-carbon benefits into account;
- Implementation of the carbon benefit redistribution plan;
- Definition of the procedure for incorporating local communities and indigenous peoples into the carbon distribution process;
- Analysis and proposal of the various potential sharing systems/agreements for emission reduction payments;
- Proposal of scenarios that use calculations to show incentives for beneficiaries to be supported;
- Proposal of complementary approaches to improve results-based payments, especially payments for environmental services (need strongly expressed by the country);
- Testing and highlighting of benefit sharing scenarios on the ground;
- Definition of a monitoring and evaluation approach based on specific indicators for monitoring and evaluating REDD+ benefit sharing;
- Analysis of the risks of the Program being appropriated by elites at the local and other levels;
- Proposal of the method of governance for carbon benefit sharing for the Sangha Likouala ER-P;
- Analysis of the conflict risks arising from carbon benefit sharing;
- Analysis of the experience of the Local Development Fund (FDL) and other experiences with benefit sharing in Congo and in other REDD+ countries;
- Analysis of expected investments under the Sangha Likouala ER-P in conjunction with its benefit sharing plan;
- A cost-benefit analysis of the Sangha Likouala ER-P in conjunction with its benefit sharing plan;
- Proposal of institutional structures at the local level to support the successful implementation of the carbon benefit sharing plan and identification of potential risks, followed by the drafting of recommendations to manage these risks.
- Proposal of conflict resolution structures;
- Organization and staging of consultation workshops for stakeholders at the department and national levels to gather feedback and improve the analyses and content of the first draft of the Benefit Sharing Plan for the Sangha Likouala ER-Program.

b)- Step 2: Consolidation of the advanced draft of the Benefit Sharing Plan for the Sangha Likouala ER-P

The second draft of the Benefit Sharing Plan of the Sangha Likouala ER-P was finalized during this step and involved the following activities:

- Consolidate the first draft of the Benefit Sharing Plan;
- Organization and staging of consultation workshops for stakeholders at the department and national levels to gather feedback and improve the analyses and content of the second draft of the Benefit Sharing Plan for the Sangha Likouala ER-P. Workshops were held with (i) key ministries involved in the Benefit Sharing Plan for the ER-P, namely, the Ministry of Finance, the Ministry of Planning, the Ministry of Forests, and the Ministry of Agriculture; (ii) private sector entities involved in the forest industry and in agroindustry, located in Bétou for Likouala-Timber, Mokabi for Mokabi s. a., Lopola for BPL, Lola for STC, Pokola for CIB, Ngombé for IFO, Tala-Tala for SIFCO, Cabosse for SEYFID, Mokéko for ECO-OIL, Makoua for ECO-OIL; and (iii) departmental REDD+ committees (CODEPA-REDD) in Sangha and Likouala (Ouesso and Impfondo).

Box No. 1

MAIN CONCLUSIONS OF STAKEHOLDER CONSULTATIONS TO CONSOLIDATE THE BENEFIT SHARING PLAN FOR THE SANGHA LIKOUALA ER-P

-=-=-=-=-

These consultations revealed the urgent need to implement a fair and equitable benefit sharing plan for the Sangha Likouala ER-P. This would require the following:

- Securing of stakeholder contributions to the project or program;
- Shared understanding of the risks, costs, expectations, and opportunities associated with the project or program;
- Joint decision-makingmechanisms;
- Ongoing information sharing;
- The implementation of a work plan that clearly sets out all the rights, responsibilities, and rewards of each stakeholder involved in the project or program;
- The implementation of systems to facilitate the involvement and participation of all stakeholders in the project or program (public entities, private sector, local communities and indigenous peoples, civil society);
- Conflict and dispute management procedures;
- Clearly defined third party roles;
- Consideration of the standard of living and the income of the actors that depend directly on forests, particularly local communities and indigenous peoples.

c)- Step 3: Validation of the Benefit Sharing Plan for the Sangha Likouala ER-P

The third and fourth drafts of the Benefit Sharing Plan for the Sangha Likouala ER-P were finalized during this step and involved the following activities:

- Consolidation of the second draft and then the third draft of the Benefit Sharing Plan;
- Organization of the intersectoral workshop and then the national workshop to validate the Benefit Sharing Plan for the Sangha Likouala ER-P. The national workshop brought

together the representatives of the stakeholders (public sector, private sector, CACO-REDD, CODEPA-REDD Sangha, and CODEPA-REDD Likouala).

Box No. 2

MAIN CONCLUSIONS
DRAWN FROM DISCUSSIONS ON THE PRICE PER TON OF CO2 EQUIVALENT FOR THE SANGHA LIKOUALA ER-P
-=-=-=-=-

National stakeholders had asserted throughout the consultations that the price per ton of CO2 equivalent proposed by the World Bank, which administers the Carbon Fund, was too low. They raised a number of arguments relating to:

- The price of US$10 per ton of CO2 equivalent in the contract concluded between the Republic of Gabon and Norway;
- The decision made at the 2016 One Planet Summit held in France to secure a higher carbon price;
- The very low level of planned investments in the Sangha Likouala ER-P. Of the US$122 million announced during the Project Document Development (PDD) phase, less than 1/3 is available (see table 6 on the level of investment in the Sangha Likouala ER-P area);
- The high cost of implementing the ER activities (implementation of activities for RIL, sustainable agriculture, moving agroindustrial plantations to savannas, etc).

Given that for the first time in its history the Republic of Congo will be entering the voluntary carbon market (only market open to developing countries), the Congolese government opted for a unit price of US$ XX. To that end, a Council of Ministers decree …… - Decree No. …….. establishing the price per ton of carbon dioxide equivalent for the Sangha Likouala ER-P (discussions ongoing)

The Republic of Congo, which accords high priority to the conservation and sustainable management of the ecosystems in its territory, intends to make the Emission Reduction Program for Sangha Likouala a promising initiative to promote a “new low-carbon model for society” that offers ample opportunities for strong economic growth and a very clear reduction in poverty, using innovative technologies, new modes of production and consumption, and sustainable behaviors.

7.2 Main Results of the Stakeholder Consultations

The table below presents the workshops held in Brazzaville and in the Sangha and Likouala departments to consolidate and validate the Benefit Sharing Plan for the Sangha Likouala ER-P.

Table 13. Consultations on the Benefit Sharing Plan for the Sangha Likouala ER-P

Workshops/consultations	Dates	Gender			Stakeholders				
		Men	Women	TOTAL	Public sector	Civil society		Public sector	TOTAL
						CSO	Indigenous		
Workshop to consult stakeholders on the aspects of benefit sharing for implementation of the Benefit Sharing Plan for the ER-P in the Sangha department	09/21 to 10/03/2015	145	82	**227**	50	93	74	10	**227**
Workshop to consult stakeholders on the aspects of benefit sharing for implementation of the Benefit Sharing Plan for the ER-P in Likouala department	10/04 to 10/12/2015	269	100	**369**	30	191	140	8	**369**
High-level session to consolidate the ER-PD for the Sangha Likouala departments with officials from the ministries of agriculture, environment, mining, energy, and land affairs (in Brazzaville)	02/24/2016	57	12	**69**	69	0	0	0	**69**
High-level session to consolidate the ER-PD for the Sangha and Likouala departments with officials from the ministries responsible for integration, major works, and finance (in Brazzaville)	02/26/2016	65	6	**71**	71	0	0	0	**71**
High-level session to consolidate the ER-PD for the Sangha and Likouala departments with officials from the Ministry of Forests (in Brazzaville)	02/26/2016	42	8	**50**	37	8	5	0	**50**
Workshop on the consultations with stakeholders in the Sangha department to facilitate the implementation of a benefit sharing plan for the Sangha Likouala ER-P (in Ouesso)	02/27/2016	43	4	**47**	33	7	7	0	**47**
Workshop on the consultations with stakeholders in the Likouala department to facilitate the implementation of a benefit sharing plan for the Sangha Likouala ER-P (in Impfondo)	03/02 to 03/03/2016	48	12	**60**	20	23	17	0	**60**
Consultations with stakeholders in the Sangha and Likouala departments on the feedback and grievance redress mechanism for the Sangha Likouala ER-P (in Bomassa, Kabo, Pokola, Souanké, Sembé, Mokéko, Ngombé, Ouesso, Péké, Impfondo, Dongou, Enyellé, Betou, and Epena)	03/12 to 03/27/2017	378	41	**419**	419				**419**

Technical workshop on the consolidation of the PCIV-REDD+ for the Sangha Likouala ER-P (in Ouesso)	08/09 to 08/13/2017	30	12	**42**	24	12	3	3	**42**
Organization of the second REDD+ University of the Republic of Congo (in Ouesso, Sangha)	08/24 to 08/28/2017	128	30	**158**	85	59	8	6	**158**
Workshop to validate the FGRM for Sangha Likouala (in Brazzaville)	12/27 to 12/28/2017	30	5	**35**	23	6	4	2	**35**
Workshop to provide a progress report to high-level officials from the Office of the President on the REDD+ and the Sangha Likouala ER-P (advisers, central-level directors in the Office of the President) under the distinguished patronage of the Minister of State, Chief of Staff, Office of the Head of State.	02/07/ 2018	42	8	**50**	50				**50**
Workshop to validate the REDD+ FGRM in the Republic of Congo	11/29 to 11/30/2018	48	7	**55**	32	10	6	7	**55**
Discussion workshop on the REDD+ Cost-Benefits and the Benefit Sharing Plan for the Sangha Likouala ER-P	05/07 to 05/09/2019	43	9	**52**	30	12	4	6	**52**
Consultation workshop for experts from forest companies on the REDD+ cost-benefit and the benefit distribution formula the Sangha ER-P, organized for MEF experts.	01/25 to 01/31/2019	12	0	**12**	0			12	**12**
Workshop on the conclusions of the consultation of experts from forest companies on the REDD+ cost-benefit and the benefit distribution formula for the Sangha ER-P, organized for MEF experts.	08/06/2019	18	4	**22**	22				**22**
Workshop on the conclusions of the consultation of experts from forest companies on the REDD+ cost-benefit and the benefit distribution formula for the Sangha Likouala ER-P, organized for REDD+ focal points and the other stakeholders	08/07/2019	23	3	**26**	16	2	2	6	**26**
Workshop on ownership of the ER-PA (emission reduction purchase agreement) for the Sangha Likouala ER-P, organized for REDD+ focal points and other stakeholders	06/20 to 06/21/2019	56	11	**67**	37	26	2	2	**67**
Workshop on ownership of REDD+ benefit sharing mechanisms by MEF officials	08/23/2019	27	3	**30**	30				**30**
Consultation of CACO-REDD members on the first draft of the Benefit Sharing Plan	12/22/2019 to 01/05/2020	52	8	**60**		48	12		**60**
Workshop for validation by CACO-REDD members of the second draft of the Benefit Sharing Plan	01/25/2020	48	7	**55**		45	10		**55**

Sector workshops for validation by the private sector of the second draft of the Benefit Sharing Plan (CIB, IFO, SEYFID, MK, STC).	01/28/2020 to 03/17/2020	97	3	**100**				100	**100**
Intersectoral workshop to consolidate the third draft of the Benefit Sharing Plan for the Sangha Likouala ER-P (in Brazzaville)	04 to 08/05/2020	42	6	**48**	38	4	2	4	**48**
National workshop to validate the fourth version of the Benefit Sharing Plan for the Sangha Likouala ER-P (in Brazzaville)	09/15/2020	(*)							
TOTAL				**2124**					**2124**

N.B : (*)= projecte

Annex 1. Legislation related to the implementation of REDD+ activities

The Congolese Constitution of October 25, 2015 reaffirms, in its preamble, the country's permanent right of inalienable sovereignty over all our national wealth and natural resources as fundamental elements of our development. It emphasizes the following paramount considerations:

- Land is, by default, owned by the State;
- The land tenure rights of the indigenous populations and benefit sharing are recognized.

Law No. 16-2000 of November 20, 2000 on the forest code and the new forest code of 2020[15] provides that "In protected forests, local populations, whether Congolese or foreign nationals, enjoy, subject to the regulations set forth in this article, land tenure rights that allow them to:

- Collect large sticks, branches, and other wood products needed for the construction and maintenance of their homes, furniture, household utensils and tools, as well as deadwood and plants for cultural, medicinal, or food uses;
- Hunt, fish, and harvest crops, within the limits set by law;
- Establish crops and beehives or graze their livestock or collect fodder.

The exercise of these rights is subject to the regulations put in place by the ministry responsible for water and forests. The ministry may choose to limit awareness of these rights or prescribe the location, time, quantities and methods applicable to the enjoyment of these rights. This is the legislative framework that outlines the land occupancy and use rights within the Accounting Area of the Sangha Likouala ER-Program.

The new forest code enshrined the principle of concerted and participatory management of forest resources, involving local communities, indigenous populations, civil society organizations and other stakeholders according to the principles of free, prior and informed consent (FPIC). By clarifying the legal status of carbon assets, the new Forest Code will facilitate the processing of transactions in response to requests from either government or private actors.

Article 168 of Decree No. 2002-437 of December 31, 2002 establishes the conditions for managing and using forests. It states, inter alia, that a company applying to manage a concession should, in addition to the taxes and fees to be paid, provide for and specify: (i) the works to be carried out for the water and forest authority; and (ii) the actions it proposes to take to promote local socioeconomic development.

In the case of managed forest concessions, the establishment of a local development fund is a statutory requirement. The establishment of local development funds are provided for in the land use plans of the forest management unit. The funds are to be used to finance community-based microprojects within the areas designated for community development. The use of local

[15] Law 33-2020 of July 8, 2020 on the Forest Code.

development funds as a benefit sharing mechanism in the forest sector is an original concept. This is a pathway that can be put to good use in the context of REDD+.

Law No. 5-2011 of February 25, 2011 on the promotion and protection of the rights of indigenous populations and its implementing regulations. Article 41 of this law stipulates that "indigenous populations are entitled to any benefits that flow from the commercial use and exploitation of their land and natural resources." This law and the provisions in this area as a whole represent useful tools for the consolidation of the REDD+ process going forward.

The free, prior and informed consent of Local Communities and Indigenous Peoples (LCIP) is required for all actions involving indigenous populations and/or the use of their land.

Laws on land reform, namely:

- **Law 9-2004 of March 26, 2004 on the State Property Code; and (ii) Law 10-2004 of March 26, 2004 establishing the general principles applicable to the State Property and Land Tenure System,** which stipulates that customary rights are guaranteed and that two percent of the Account Area is reserved for agroindustrial concessions.
- **Law No. 21-2018 of June 13, 2018 establishing the rules for the occupancy and acquisition of rural, urban, and periurban land and lots,** which provides for the recognition of customary land rights. It seeks to regulate the very sensitive property sector and to address the uncontrolled occupancy of land.

Framework Law No. 43-2014 on Land Planning and Development of October 10, 2014, which stipulates that all new plans, concessions, urban planning arrangements, and infrastructure projects must be developed in accordance with this law. This law will serve as the basis for the National Land Use Plan (PNAT) and will facilitate the implementation of the REDD + program. Its implementation is facilitated by the publication of 4 Decrees (Decree n°2017-226 of July 7, 2017 setting the composition, organization and functioning of the National Council for spatial planning and development, Decree n°2017-227 of July 7, 2017 setting the composition, organization and functioning of the Interministerial Committee for regional planning and development, Decree n°2017-228 of July 7, 2017 setting the composition, organization and functioning of the Departmental Commission land use planning, Decree n°2017-229 of July 7, 2017 setting the composition, organization and functioning of the Municipal Land Use Planning Commission.

Decree No. 2013-280 of June 25, 2013 on the creation, organization and functioning of the Community Management and Development Committee (CGDC), placed under the authority of the decentralized authority. This committee is responsible in particular for: implementing and monitoring development action projects of public interest, mobilizing the population for the development of a village action plan, creating all the conditions necessary for management , the maintenance and enhancement of basic social infrastructure and natural resources, contribute to the preparation and implementation of development plans and programs, contribute to the mobilization of human and financial resources for the implementation of actions selected in the village action plan, contribute to the establishment of mechanisms allowing the broadest participation of all layers of the population in local development, contribute to raising the level

of citizen awareness of the populations and mobilize them around socio-economic actions of the village.

Decree No. 2015-260 of February 27, 2015 on the establishment, organization, responsibilities, and functioning of the entities responsible for managing REDD+ implementation, which facilitates REDD+ implementation in the Republic of Congo.

The numerous decrees regulating the organization and functions of the local development funds earmarked for the community development zones set forth in the land use plans of Kabo, Pokola, Loundoungou-Toukoulaka, Ngombé, Missa, Bétou, Mokabi-Dzanga, Lopola, Ipendja, and Jua-Ikié. These decrees provide for a benefit sharing mechanism in the forest sector.

Decree No. 9450 / MAEP / MAFDPRP of October 12, 2018, providing guidance for agro-industrial plantations in savanna areas. Taking into account the international commitments made by the Republic of Congo in relation to the fight against climate change, large-scale agro-industrial farms with an area greater than 5 hectares are oriented towards savannah zones. The provisions of this decree do not cover land previously used for agricultural activities or the attributions made to beneficiaries before the date of their entry into force.

Decree n°6515 / MEF of June 8, 2020, defining the standards for reduced impact logging (RIL), in the Republic of Congo. These reduced impact logging standards constitute the national framework for the development of management plans for production series and annual logging concession operating plans, with a view to guaranteeing the sustainable management of forestry resources. RIL is defined as a set of logging operations planned and continuously monitored, in order to reduce the impact on the forest population and the environment.

Private sector beneficiaries (forestry companies) must comply with the legislation relating to REDD + activities mentioned in the as well as the legislation relating to:

a. land rights and rights of use of LCIP
b. the concession license (convention)
c. planning and sustainable management of annual felling areas (AAC)
d. Operating taxes and fees
e. Trade and transport of products
f. Environmental requirements
g. The health and safety of people
h. The rights of third parties, including customary rights, benefits and rights of indigenous peoples, “free, prior and informed consent”
i. ecosystem services
j. due diligence / risk identification and mitigation procedures

A detailed list of currently applicable laws is available in Annex 1 of the document here.

The beneficiaries of the private sector (agro-industrial companies) must respect the legislation relating to REDD + activities mentioned and the legislation relating to:

a. land rights and rights of use of LCIP

b. Planning and management of operations
c. Operating taxes and fees
d. Trade and transport
e. Environmental requirements and protected species and site
f. Personal health and safety
g. Rights of third parties, including customary rights, benefits and rights of indigenous peoples, “free, prior and informed consent”
h. ecosystem services
i. due diligence / risk identification and mitigation procedures

Annex 2: Criteria, Indicators, and Verifiers for the RIL Chart of the SanghaLikouala ER-P

Level 0 RIL Chart

Criteria	Indicators	Verifiers
C.1 Treating waste according to its nature	I.1: A functional arrangement is used to treat or remove waste according to its nature (Storage Station, Recovery, Treatment, etc.)	V.1: Verify that waste treatment procedures comply with legal requirements
C.2: Felling compliant with regulations	I.2: The trees felled comply with the directions in the Management Plan, the Annual Harvesting Plan or the Annual Allowable Cuts. After a tree has been felled the stump and the butt are labeled with the company's mark and a number in an uninterrupted series.	V.2: Verify that the species felled, the diameters felled and the volumes felled comply with legal requirements for labeling stumps, butts, trunks, and logs
C.3: Yield maximization	I.3: Commercial grade wood should be recovered. Commercial grade is considered any log over 2 meters long with a diameter equal to or greater than the MED – 10 cm. Wood with these characteristics must be recovered.	V.3: Verify that processing ensures maximum recovery of commercial grade wood from the trees felled.
C.4: The company has a system for handling complaints	I.4: A system for recording (register) complaints, procedures for handling and proof of settlement of conflicts with workers and social partners from the prior year is in place.	V.4: Verify that the company has a system for recording and settling complaints in place.
C.5: Monitoring workplace health	I.5: A registry of safety, medical check-ups and work accident and occupational disease follow-up is available for consultation.	V.5: Verify if there is a system for following-up work accidents
C.6: Workplace safety	I.6: Risk analysis exists to define appropriate IPE for each job.	V.6: Verify that there is a risk analysis report that indicates measures for a safe workplace at the company
	I.7: Workers have equipment that is appropriate for their job after an assessment of the risks related to their job	V.7: Verify that there are worker interview records and risk analysis records for each job at the company
	I.8: Machinery is equipped with safety devices that comply with applicable laws and regulations: guards, protector panels, etc. Classified facilities have functional dust extraction systems as stipulated in the ESIS	V.8: Verify that there are measures to ensure a safe workplace at the company
	I.9: A fire risk assessment has identified the fire-fighting needs (extinguisher class, etc.)	V.9: Verify that there is a fire-fighting system established by the fire risk assessment and evaluate the procedures for dealing with fire risks
	I.10: The various departments are equipped with appropriate fire extinguishers and other fire-fighting equipment in accordance with the fire risk assessment.	V.10: Verify that there is a fire-fighting system
	I.11: The fire extinguisher guarantee and maintenance dates are respected. The pressure in extinguishers with a pressure gauge is checked regularly in accordance with procedures.	V.11: Verify that the guarantee dates of the extinguishers are respected.
	I.12: Employees have complete first aid kits that are checked regularly. These checks are part of a procedure.	V.12: Verify that there is a first aid system

C.7: Implementation of the action set forth in the Management Plan	I.13: Action reports are included in the specifications or implementation of the Management Plan.	V.13: Verify that there is an action schedule in the specifications for the Management Plan (or the attribution decree) and proof of completion (completion report) from the previous year.
	I.14: The company undertakes to build living quarters with decent housing, access to safe drinking water and basic medical care, electricity and schooling for children	V.14: Verify that there is an action schedule in the specifications for the Management Plan (or the attribution decree) and proof of completion (completion report) from the previous year.
C.8: Payment of taxes to replenish the Local Development Fund	I.15: There is proof of payment into the Local Development Fund from the previous year.	V.15: Verify that there is a list of the checks paid the previous year (financial statements, photocopies of checks, accounting records) and review them
C.9: Protection of watercourses	I.16: Industrial workshops are located at least 50 meters away from any watercourse	V.16: Verify the distances of industrial workshops and garages from watercourses
C.10: Appropriate recovery of waste water	I.17: The garage and other workshops using liquids are equipped with devices to recover and treat waste water (separator = sludge/oil removal)	V.17: Verify that there is a system for sludge settlement and treatment.
C.11: Protection of watercourses	I.18:Hydrocarbon products are stored at least 50 meters away from any watercourse	V.18: Verify the distances of production sites from watercourses
	I.19: Hydrocarbon products are stored at least 100 meters away from any housing	V.19: Verify the distance of stored hydrocarbon products from watercourses
	I.20: Tanks are located in impermeable bund walls that can contain at least the same volume as the tanks. In addition, there is a leak containment system for every tank of liquid or lubricant.	V.20: Verify that there are sumps
C.12: The location of classified sites respects the environment	I.21: Fueling stations are tiled and connected to the sludge settlement system for waste water.	V.21: Verify that there is a system for waste water collection and/or channeling hydrocarbons to compliant zones in the industrial site
C.13: Preventing fuel spills in the forest	I.22: Empty spill trays are placed under tanks to prevent spills on the ground and sawdust trays are used to contain sudden leaks.	V.22: Verify that there is appropriate equipment for fueling machinery
C.14: Respect for the environment by workers	I.23: The company has procedures for collecting and sorting garbage in the forest and applies them	V.23: Verify that there is a system for collecting garbage in the forest
C.15: Cooperation with the Forest Economy General Directorate to establish the Surveillance and Anti-Poaching Unit (USLAB)	I.24: The company has signed a Memorandum of Understanding with the government, or, failing that, the company has taken all steps to sign an MOU with the Ministry of Forest Economy.	V.24: Verify that the company has cooperated on setting up a Surveillance and Anti-Poaching Unit. If there is no MOU, the company must be able to prove that it has taken every step to sign a cooperation agreement and set up a Surveillance and Anti-Poaching Unit.
C.16: The company has cooperated with the Forest Economy Directorate General on setting up a Surveillance and Anti-Poaching Unit	I.25: The activities of the Surveillance and Anti-Poaching Unit comply with the MOU	V.25: Verify that there is a Surveillance and Anti-Poaching Unit in the Forest Management Unit. If there is no MOU, the company must be able to prove that it has taken every step to sign a cooperation agreement and set up a Surveillance and Anti-Poaching Unit.

C.17: The company has a strategy to fight poaching	I.26: The company rules of procedure include articles on the prevention and punishment of illegal hunting. The Human Resources staff follows up on penalties that the company imposes for illegal hunting.	V.26: Verify that there are measures to ban illegal hunting within the company and review the procedures, the company rules of procedure and reports detailing penalties.
C.18: Permanent closing off of access to the forest after logging	I.27: Logging roads in old AAC areas that serve no public purpose are closed	V.27: Verify by means of on-site inspections and geo-referenced photos supplied by the company that the company permanently closes off disused logging roads.
C.19: Roads are laid out as planned	I.28: The actual road layout sometimes differs from the planned layout because of constraints presented by the terrain. In an AAC area, the discrepancy is small (<10%) unless the terrain presents a major constraint. In such a case, the decision was made in accordance with the company's procedures.	V.28: Verify whether the company cuts the roads according to the planned layout, while adapting to the constraints presented by the actual terrain. If the actual layout differs from the planned layout, verify that the decision was made in accordance with procedures (Data maps comparing the planned road network and the actual road network)
C.20: Worksite documentation	I.29: Worksite and wood transport documents are filled in and updated regularly.	V.29: Verify whether worksite documents (worksite logbook, waybills) recording logging operations (felling, crosscutting, hauling) comply with legal requirements.
C.21: Abandoned wood	I.30: Logs that were felled more than six months ago and found in the forest or logs stored outside of the cutting area for more than six months are recorded in the worksite logbook.	V.30: Verify the logbook to see if wood abandoned because of defects is accounted for and complies with the regulatory time limits

Level 1 RIL Chart:

Criteria	**Indicators**	**Verifiers**
C.1: The company has a system of RIL procedures (work planning)	I.1: There are RIL procedures applicable to all of the aspects covered in the list of verifiers	V.1: Written procedures validated by management, worker interviews
C.2: Planning	I.2: The management plan must provide for buffer zones and define their depth for sensitive zones. When planning operations, all measures are taken to prevent felling in these zones or any damage to the protected zones. Failing that, or if there are no specific provisions in the management plans, the following measures apply: In the North Forestry Sector, the protection measures to be applied to sensitive zones are: ✓ Baïs (clearings with streams) (major baï: 300 meters and minor baï: 150 meters ✓ Eyangas (marshy clearings): 50 meters ✓ Brooks (width < 3 meters): 30 meters ✓ Rivers (width > 3 meters): 50 meters ✓ Cultural/religious sites: 50 meters	V.2: Written management plan, procedures, felling maps, verify by on-site sampling

	Logging roads must stop no more than 1 km from the outer boundary of the clearing buffer zone.	
	I.3: The company does not fell more than 2.5 trees per hectare in each 50-hectare logging lot (125 trees per lot) to avoid having a major impact in the forest. This logging threshold is applied by means of regular and frequent monitoring of logging. The team of verifiers can consult the reports.	V.3: Written procedures, logging maps, verify the data using the Sentinel 2 data.
C.3: River and wetland crossings	I.4: The crossing structures (culverts, log bridge, steel bridge, dikes) are determined by the width of the river or brook. The flow of water must not be blocked in any case. NB: using a "three-log drain" instead of a culvert is prohibited.	V.4: Written procedures, worker interviews
C.4: Consideration of the water network	I.5: Analysis of the road layout using the GIS to superpose the "road layout," "forest resources," "forest stratification," "altimetry," and "social mapping" layers.	V.5: Management/Road building maps
C.5: Consideration of forest resources and the water network (in the layout of skid trails)	I.6: Analysis of the layout of skid trails using the GIS to superpose the "trail layout", "forest resources" and "water network" layers.	V.6: Management/Trail building maps
C.6: Consideration of the specific characteristics of the logging when planning skid trails	I.7: Skid trail planning using the GIS provides for a network with no acute bends to mitigate damage to the residual stand.	V.7: Management/Trail building maps, written procedures
	I.8: The trail network planned using the GIS provides for skid trails to join the roads at an angle of approximately 45° to prevent damage to the residual stand (not applicable when trails end at a log yard).	V.8: Management/Trail building maps, written procedures
C.7: Consideration of the water network	I.9: Log yards are located more than 50 meters away from watercourses	V.9: Management maps, written procedures, worker interviews
C.8: Consideration of the road network	I.10: Log yards are located at the side or at the end of the road.	V.10: Management maps, written procedures, worker interviews
C.9: Training for felling crews	I.11 The company has a training system for felling crews to upgrade their skills and improve their practices. Training reports are written and available for consultation.	V.11: Training report with attendance list
C.10: Training for crosscutting crews at log yards	I.12: The company has a training system for workers responsible for marking (markers, scalers, etc.) to upgrade skills and practices. Training reports are written and available for consultation.	V.12: Training report with attendance list
C.11: Workplace safety training	I.13: The company has a workplace safety and evacuation procedures training system for all workers. The attendance lists are available for consultation.	V.13: Training report with attendance list
C.12: Workplace safety training	I.14: First aid training is provided to all workers. The attendance lists are available for consultation.	V.14: Training report with attendance list

C.13: Use of chemicals and other products complies with regulations	I.15: Employees using chemical and/or oil products have been trained	V.15: Training report with attendance list
C.14: Classification of logging road network	I.16: There are procedures for building roads, specifying the type of road (main, secondary, etc.) and their characteristics (carriageway width, clearing and sun exposure width)	V.16: GIS: Attribute "Type" in the "road layout" layer of the GIS written procedures
C.15: Optimizing commercial value when crosscutting	I.17: Processing criteria (preparation of commercial logs) are part of the company's sales policy and defined in the marking procedure.	V.17: Written procedures, worker interviews
C.16: Sign posting on skid trails to protect forest resources	I.18: Marking on site and/or on maps of protected trees (future crop trees, heritage trees, sacred trees, seed trees, etc.),	V.18: Verification on site
C.17: Signposting on skid trails to guide machinery to felled trees	I.19: All of the trees to be felled have a skid trail route	V.19: Verification on site
C.18: Cutting and blazing of the main skid trail by a trail-blazing crew	I.20: The trail is blazed with machete marks and/or paint so that it is clearly visible for machinery and to prevent machinery stoppages. If vines are likely to drag down several trees when the skid trail is cut, they are cut at ground level and at eye level, or avoided if possible.	V.20: Written procedures, worker interviews
C.19: Opening up of log yards	I.21: Log yards in use are numbered and geo-referenced.	V.21: Signposts in the forest, Management maps, GIS project
C.20: Effective drainage network	I.22: The main/secondary roads have a working storm drain network in accordance with internal procedures (ditches, outfalls, settling ponds, box drains, culverts, etc.	V.22: Verification on site
C.21: River and wetland crossings	I.23: Indicators for inspection of crossing structures ✓ No bank erosion ✓ Free flow of water ✓ No earth or branches falling into the bed of the watercourse ✓ Stabilized embankments	V.23: Written procedures, verification on site
	I.24: Indicators for inspection of crossing structures ✓ Properly installed culverts ✓ Crossing structure is adapted to the river bed ✓ No earth or branches falling into the watercourse ✓ The crossing structure preserves the initial state of the stand.	V.24: Written procedures, verification on site
C.22: Main road maintenance	I.25: The main road is in good condition and/or there are plans to repair it (refer to the road manager) during logging.	V.25: Verification on site
C.23: Controlled felling	I.26: Controlled felling techniques are used: ✓ Trees without buttresses are cut as close to the ground as possible to maximize their commercial value,	V.26: Verification on site

	✓ There are notches, hinges, faces, felling cuts and the back cuts, ✓ The safety of felling crews is ensured by establishing escape trails	
C.24: Yield maximization	I.27: Operators are trained to minimize damage during crosscutting	V.27: Verification on site
	I.28: Topping and bucking maximize the wood produced from the forest. In practice, these cuts are made near the scaffold branch in the crown (double core) and near the start of the buttresses on the butt.	V.28: Verification on site
C.25: Building the skid trail	I.29: The GIS layers of "actual trails" and "skid trails" are consistent with each other (meaning the same structure of the trail network)	V.29: Comparison of the Management Map and Extraction Map with the actual skid trails (GPS)
C.26: Workplace safety	I.30: A vehicle is present at all times on the worksite for an emergency evacuation. Emergency evacuations to health centers outside of the Forest Management Unit must use a vehicle that is appropriate for evacuations with a crew trained in first aid.	V.30: Written procedures, worker interviews
C.27: The company has a system for settling disputes with local communities	I.31: There is a system for preventing and settling conflicts with indigenous peoples and local communities and it has been implemented. A record of past conflicts and settlements is available.	V.31: Written procedures, record of conflicts, interviews with indigenous peoples and local communities
C.28: Environmentally sound locations	I.32: Machinery is washed on site at the washing station of the industrial site. Washing for the purpose of repairs may be possible in the forest	V.32: Verification on site Interviews with workers
C.29: Oil recovery	I.33: A recovery system is in place: Oil recovery trays, sawdust trays, tanks, tarpaulins.	V.33: Verification on site Interviews with workers
C.30: Distances from watercourses	I.34: Machinery maintenance should be done in the garage. If that is not possible, repairs must take place at least 50 meters away from watercourses, except in the case of breakdowns that immobilize machinery close to a watercourse. In such cases, every precaution is taken to prevent contamination of the water.	V.34: Verification on site Interviews with workers
C.31: Preventing fuel leaks	I.35: The fueling station is designed to prevent leaks	V.35: Verification on site Interviews with workers
C.32: Storage complies with regulations	I.36: The main storage site for chemical and oil products is secure and locked, and the products are properly identified and do not come into direct contact with the soil.	V.36: Verification on site
C.33: Use complies with regulations	I.37: Employees using chemical and/or oil products wear IPE that is appropriate for their job and defined in the risk assessment. Chemical products have appropriate documentation	V.37: Verification on site
C.34: Post-harvest monitoring	I.38: The company has a monitoring team on site to report on logging operations and propose remedial actions.	V.38: The surveillance team is in place and operational, with offices, computers, equipment, vehicles, etc.); payroll records, monitoring reports

C.35: Vehicle access control to the AAC area	I.39: There are gates on the access roads to the AAC areas.	V.39: Verification on site Interviews with workers
C.36: Monitoring the road-building crew	I.40: The company has a team on site to oversee road building. The team ensures that procedures are applied and that remedial measures are applied if necessary. The site notes on the roads present the actual width of the roads. This width is less than or equal to the limit set for the type of road in question. Sampling of several roads at regular intervals set in advance.	V.40: The surveillance team is in place and operational, with offices, computers, equipment, vehicles, etc.); Monitoring reports.
C.37: Monitoring the felling crew	I.41: The company has a team on site to monitor logging operations. This team evaluates the application of procedures by the felling crews (harvesting criteria, controlled felling, respect for sensitive areas) and proposes remedial actions if necessary. Reports are written and available for consultation.	V.41: The surveillance team is in place and operational, with offices, computers, equipment, vehicles, etc.); Monitoring reports.
C38: Monitoring operations to improve performance	I.42: An annual review evaluates the sales figures by species and, when necessary, identifies the sources of losses and potential remedial measures.	V.42: Monitoring report Worksite reports
C.39: Post-harvest monitoring of skidding	I.43: The company has a team on site to monitor logging operations. The team evaluates the crews' application of procedures and proposes remedial actions if necessary. Reports are written and available for consultation.	V.43: The surveillance team is in place and operational, with offices, computers, equipment, vehicles, etc. Monitoring reports
C.40: Post-harvest monitoring of log yards	I.44: The company has a team on site to monitor logging operations. The team evaluates the crews' application of procedures and proposes remedial actions if necessary. Reports are written and available for consultation.	V.44: The surveillance team is in place and operational, with offices, computers, equipment, vehicles, etc). Monitoring reports

Level 2 RIL Chart:

Criteria	**Indicators**	**Verification procedures**
C.1: Total width of road corridors	I.1: Area covered by all of the components of a road is reduced, including (i) carriageway and sun exposure, (ii) disruption of vegetation, soil beyond the sun exposure and the residual stand, (iii) drainage infrastructure, and (iv) quarries and auxiliary roadside infrastructure (parking areas in the forest, camps, etc.).	V.1: Verification by on-site sampling V.2: Verification with Sentinel 2 data
C.2: Log yard size	I.2: Log yard density (total log yard area/total AAC area, expressed as a percentage) is reduced by optimizing log yard size or by roadside wood storage.	V.3: Verification with Sentinel 2 data
C.3: Size of quarries (laterite), camps, garages in the forest, etc.	I.3: The density of other logging infrastructure, expressed as the total area of other logging infrastructure divided by the total AAC area, is reduced by optimizing sizes.	V.4: Verification with Sentinel 2 data

C.4: Road network density	I.4: The road network density (total road area/total area expressed as a percentage) in the AAC area is reduced. The road network density is less than 2.5% of the AAC area.	V.5: Verification with Landsat and Sentinel 2 data
C.5: Skid trail network density	I.5: The impact of the skid trail network is reduced, including (i) damage to residual stand during extraction, (ii) damage in the felling zones. The reduction in road network density is expected to lead to greater skid trail network density. However, the skid trail network density is less than 120m/hectare for the AAC area.	V.6: On-site verification or verification using high-resolution or very-high-resolution satellite imagery

Level 3 RIL Chart:

Criteria	**Indicators**	**Verification procedures**
C.1: Skidding	I.1: Trees labeled as protected (future crop trees, banned species, heritage trees, etc.) have not been damaged during skidding (maximum of 20% labeled trees damaged)	V.1: On-site verification
C.2: Rehabilitation of skid trails	I.2: If it was not possible to avoid stream crossings, watercourses are restored to their initial state after logging.	V.2: On-site verification
C.3: Rehabilitation of log yards	I.3: Rutted log yards are regraded after use	V.3: Georeferenced photos provided by the company, on-site verification
C.4: Permanent closing off of access to the forest after logging	I.4: Logging roads in old AAC areas are closed and blocked with berms made of wood and earth	V.4: Georeferenced photos provided by the company, on-site verification
C.5: Optimizing commercial value of timber	I.5: Waste wood from processing industry is recovered: local industry/donations/fuel wood industry, etc.	V.5: Contract or other legal agreement (company), interviews with other parties to the contract
C.6: Sharing RIL knowledge	I.6: The company has made arrangements to transmit some of its knowledge of implementing RIL techniques. Reports/minutes or training materials are available	V.6: Meeting reports and protocols

Annex 3. List of bonus activities/RIL level 3 for forestry companies

RIL intervention category	Activity	Desription	Indicator	Source of verification
Skidding	Skidding operations	No damage to protected trees during skidding operations	The protected trees (trees for the next rotation, protected species) were not damaged during skidding operations (max. 5% damaged trees).	Field sampling
Skidding	Rehabilitation of skid trails	When crossing streams, the skidded tree is lifted up in order to avoid damage to the stream-bed	If the stream-bed was altered by skidding operations, it must be restored to its original state after skidding operations.	Field sampling
Log Landings	Rehabilitation of log landings	Levelling of the log landing and depositing of topsoil if available	Log landing levelled (no potholes, water ponds, etc) Surface covered in topsoil.	Georeferenced photos Field sampling
Post-harvesting	Access to the annual harvesting area is blocked after exploitation	Blocking of abandoned logging roads	Old logging roads are blocked with earth mounds and wood barricades.	Georeferenced photos Field sampling
Wood valuation	Maximization of wood valuation	The company collaborates with communities, NGOs,	Wood waste from the sawmill is sold to local companies or donated	Contract or other legal agreement (business)

		private sector regarding the valuation of "wood waste" (coal, local market).	to local communities or NGOs	Interviews with the parties to the contract
Information sharing	Sharing of knowledge and best practices regarding RIL implementation	Organization of workshops to share knowledge and lessons learned with RIL implementation	The company has taken steps to pass on some of its knowledge in the implementation of RIL practices. Reports, meeting notes and training materials are available.	Reports and meeting notes

Annex 4. Examples of RIL Activities that Directly Result in Emission Reductions

Type of RIL Activity	Description of RIL Activity
Skidding	Reduce the length of skid trails by optimizing felling direction. Skid trail reduction may be achieved through the use of GIS for advance planning, the creation of skidding sites and the training of GIS and skidder operators.
Skidding	Minimize the impact of the skidder on the harvesting site by limiting as far as possible the "maneuvering area." Provide on-site training for skidder operators.
Log yards	Reduce, to the extent possible, the size of log yards. This will entail training GIS personnel to prioritize volume when planning the layout of log yards. Training should also be provided for bulldozer operators (for log yards located near roads) and skidder operators (log yards situated in the forest), to ensure compliance with the dimensions specified in the plans. Log yards should be built no larger than the specifications in the plans.
Selection of trees before harvesting	Avoid felling hollow, and otherwise defective trees that have no commercial value. Train the members of the pre-harvesting team to identify such trees so that they may be excluded from the harvesting inventory. Training should also be provided for chainsaw operators, to avoid the felling of trees previously marked as unsuitable by the pre-harvesting team. Training should be practical and conducted on-site.
Felling	Train chainsaw operators in directional felling to reduce damage to timber. Provide training in order to ensure optimization of the value of timber output.
Roads	Improve the design of road networks to reduce road density as far as possible. Specifically, this should involve reducing the number of secondary roads/trails and replacing them with longer skid trails (where possible). Provide training for GIS personnel in performing these tasks.
Roads	Restrict, as far as possible, the width of roads, by providing on-site training to bulldozer operators.
Roads	Limit the loss of biomass in drying sites along the roadside. Fell trees that are parallel to the roadside, and only those trees that really shade the road. Train chainsaw operators in carrying out these tasks.

Annex 5. Financing Plan for the Sangha Likouala ER-P

This plan will be updated to reflect the 4 year period of the ERPA.

Financing Plan		**Year**					
Item	**Description**	**2021**	**2022**	**2023**	**2024**	**2025**	**TOTAL**
Operational and implementation costs	**Sectoral activities**						
	Reduced impact logging (RIL)	1480709	2256657	1603620	1724216	1791860	**8 857 062**
	Logged to Protected Forest (LtPF)	58275	58275	58275	58275	58275	**291 375**
	Reduction of forest conversion from forest palm (HCVPalm)	67500	0	266000	32000	294000	**659 500**
	Smallholder shade cocoa in community development zones (SH Cocoa)	976110	1294841	1938942	2689287	3220506	**10 119 686**
	Palm oil palm production in community development zones (SH Palm)	243601	332701	503001	703001	851501	**2 633 805**
	Sustainable agriculture and other livelihood activities (SH SustainAgr)	586008	1014578	1638484	2405247	3119503	**8 763 820**
	Smallholder conservation payments (sH cons)	120000	120000	240000	400000	600000	**1 480 000**
	Enabling activities						
	Biodiversity and protected area management	1310433	1310433	1310433	1310433	1310433	**6 552 165**
	Community-level governance	767050	767050	767050	767050	767050	**3 835 250**
	Land use planning	1600000	1600000	1600000	1600000	1600000	**8 000 000**
	Forest sector governance	3072208	3072208	3072208	3072208	3072208	**15 361 040**
	Support for developing sustainable cocoa production	400000	400000	400000	400000	400000	**2 000 000**
	Support for developing sustainable palm oil production	400000	400000	400000	400000	400000	**2 000 000**
	Reduced impact mining	400000	400000	400000	400000	400000	**2 000 000**
Financing costs (e.g., interest payments on loans)	Financing costs (e.g., interest payment on loans)						
Costs related to MRV development and operation	Costs related to MRV development and operation	95000	354907	331035	320052	410052	**1 511 046**
Costs related to the implementation of a benefit sharing plan (direct carbon revenues distribution to companies and communities)	Costs related to the implementation of a benefit sharing plan (direct carbon revenues distribution to companies and communities)	0	2323722	0	10474139	0	**12 797 861**
Costs related to the implementation of the feedback and grievance redress mechanism	Costs related to the implementation of the feedback and grievance redress mechanism	12479	51413	52956	54545	56181	**227 574**

(verification of land, control equipment, and capacity building)	(verification of monitoring mechanisms and capacity building)						
Costs related to stakeholder consultations and information sharing (production and dissemination of communication support, regular consultation workshop)	Costs related to stakeholder consultations and information sharing (production and dissemination of communication support, regular consultation workshop)	281333	281333	281333			**843 999**
Total cost	**Total cost**	**12463342**	**14499470**	**18062277**	**17329054**	**29887939**	**92 242 082**
Expected sources of funds	**Expected sources of funds**						
Secured grant funding for projects directly related to the Sangha Likouala ER-P (Private and LCIP)	GEF/WB	0	0	0	0	0	0
	GEF/UNDP	0	0	0	0	0	0
	AFD PPFNC	1602300	1602300	1602300	1602300	1602300	**8 011 500**
	AFD Cacao	1161380	1161380	1161380	1161380	1161380	**5 806 900**
	PDAC/WB	0	0	0	0	0	0
	FIP	3200000	3200000	3200000	3200000	3200000	**16 000 000**
	FIP/DGM	900000	900000	900000	900000	900000	**4 500 000**
	CAFI	1600000	1600000	1600000	1600000	1600000	**8 000 000**
	FAO	0	0	0	0	0	0
	DFID	0	0	0	0	0	0
	APV-FLEGT	0	0	0	0	0	0
	WB/IDA	0	0	0	0	0	0
Private funding	Current level of interest	0	0	0	0	0	0
Revenue from REDD+ activities (e.g., sale of agricultural products)	Non-carbon revenue	3594052	8237591	14641450	24649529	34226824	**85 349 446**
Revenue from the sale of additional emission reductions (not yet contracted) ER-PA with the Carbon Fund	ER-PA with the Carbon Fund	6500000	0	5265000	0	23400000	**35 165 000**
Total							
Net revenue before taxes							
Net revenue without non-carbon revenue							

Annex 6 : Emission intensity factor calculations

The benchmark emission intensity factor gives the emissions per cubic meter harvested during the reference period (plus potential adjustment). The benchmark emission intensity factor includes emissions from the following sources:

a) Emissions from roads and log landings

b) Emissions from skid trails

c) Emissions from extracted timber

d) Emissions from logging slash

e) Emissions from abandoned timber

The benchmark emission intensity factor is calculated as follows

$$EIF_{benchmark} = EIF_{Roads\_LogL} + EIF_{skid} + EIF_{ext\_timber} + EIF_{slash} + EIF_{ab\_timber}$$

Where

$EIF_{benchmark}$	Is the benchmark emission intensity factor, in tCO2/m³
EIF_{Roads_LogL}	Is the emission intensity factor for roads and log landings, in tCO2/m³
EIF_{skid}	Is the emission intensity factor for skid trails, in tCO2/m³
EIF_{ext_timber}	Is the emission intensity factor for extracted timber, in tCO2/m³
EIF_{slash}	Is the emission intensity factor for logging slash, in tCO2/m³
EIF_{ab_timber}	Is the emission intensity factor for abandoned timber, in tCO2/m³

Roads and log landings

The emission intensity factor for roads and log landings is calculated as follows:

$$EIF_{Roads\_LogL} \frac{Em_{Roads\_LogL}}{V_{ext\_timber}}$$

Where:

EIF_{Roads_LogL}	Is the emission intensity factor for roads and log landings, in tCO2/m³
Em_{Roads_LogL}	Are the emissions from roads and log landings during the reference period, in tCO2
V_{ext_timber}	Is the volume of extracted timber during the reference period, in m³

Emissions from roads and log landings are calculated as follows:

$$Em_{Roads\_LogL} = AD_{Roads\_LogL} * EF_{Roads\_LogL}$$

Where

Em_{Roads_LogL}	Are the emissions from roads and log landings during the reference period, in tCO2
AD_{Roads_LogL}	Is the activity data for all roads and log landings constructed during the reference period, in ha
EF_{Roads_LogL}	Is the emission factor for roads and log landings, in tCO2/ha

The activity data for roads and log landings for the reference period is calculated as follows:

$$AD_{Roads\_LogL} = \sum_{i=1}^{n} A_{PR,i} + \sum_{i=1}^{n} A_{SR,i} + \sum_{i=1}^{n} A_{LogL,i}$$

Where:

AD_{Roads_LogL}	Is the activity data for all roads and log landings constructed during the reference period, in ha
$\sum_{i=1}^{n} A_{PR,i}$	Is the sum of all areas cleared for principal roads during the reference period for concession 1, 2, ...,n, in ha
$\sum_{i=1}^{n} A_{SR,i}$	Is the sum of all areas cleared for secondary roads during the reference period for concession 1, 2, ...,n, in ha
$\sum_{i=1}^{n} A_{LogL,i}$	Is the sum of all areas cleared for log landings during the reference period for concession 1, 2, ...,n, in ha

The area cleared for all principal roads across all concessions during the reference period is calculated as follows:

$$\sum_{i=1}^{n} A_{PR,i} = A_{PR,1} + A_{PR,2} + \cdots + A_{PR,n}$$

Where:

$\sum_{i=1}^{n} A_{PR,i}$	Is the sum of all areas cleared for principal roads during the reference period for concession 1, 2, ...,n, in ha
$A_{PR,i}$	Is the area cleared for principal roads during the reference period for concession i, in ha

The area cleared for principal roads at each concession during the reference period is calculated as follows:

$$A_{PR,i} = \frac{tL_{PR,i} * mW_{PR,i}}{10{,}000}$$

Where:

$A_{PR,i}$	Is the area cleared for principal roads during the reference period for concession i, in ha
$tL_{PR,i}$	Is the total length of principal roads constructed during the reference period for concession i, in m
$mW_{PR,i}$	Is the mean width of principal roads for concession i, in m

The area cleared for all secondary roads across all concessions during the reference period is calculated as follows:

$$\sum_{i=1}^{n} A_{SR,i} = A_{SR,1} + A_{SR,2} + \cdots + A_{SR,n}$$

Where:

$\sum_{i=1}^{n} A_{SR,i}$	Is the sum of all areas cleared for secondary roads during the reference period for concession 1, 2, ...,n, in ha
$A_{SR,i}$	Is the area cleared for secondary roads during the reference period for concession i, in ha

The area cleared for secondary roads at each concession during the reference period is calculated as follows:

$$A_{SR,i} = \frac{tL_{SR,i} * mW_{SR,i}}{10{,}000}$$

Where:

$A_{SR,i}$	Is the area cleared for secondary roads during the reference period for concession i, in ha
$tL_{SR,i}$	Is the total length of secondary roads constructed during the reference period for concession i, in m
$mW_{SR,i}$	Is the mean width of secondary roads for concession i, in m

The area cleared for all log landings across all concessions during the reference period is calculated as follows:

$$\sum_{i=1}^{n} A_{LogL,i} = A_{LogL,1} + A_{LogL,2} + \cdots + A_{LogL,n}$$

Where:

$\sum_{i=1}^{n} A_{LogL,i}$	Is the sum of all areas cleared for log landings during the reference period for concession 1, 2, …n, in ha
$A_{LogL,i}$	Is the total area cleared for log landings during the reference period for concession i, in ha

The emission factor for roads and log landings is calculated as follows:

$$FE_{Roads\_LogL} = (((AGB_{DEF} + BGB_{DEF}) * CF) + SOC_{logging} + Lit_{logging}) * \frac{44}{12}$$

Where:

FE_{Roads_LogL}	Is the emission factor for roads and log landings, in tCO2/ha
AGB_{DEF}	Is the loss of above-ground biomass from deforestation, in tdm/ha
BGB_{DEF}	Is the loss of below-ground biomass from deforestation, in tdm/ha
CF	Is the carbon fraction in biomass, in tC/tdm
$SOC_{logging}$	Is the loss of soil organic carbon from logging, in tC/ha
$Lit_{logging}$	Is the loss of litter carbon from logging, in tC/ha

Skidding

The emission intensity factor for skid trails is calculated as follows :

$$EIF_{skid} = \frac{Em_{skid}}{V_{ext\ timber}}$$

Where:

EIF_{skid}	Is the emission intensity factor for skid trails, in tCO2/m³
Em_{skid}	Are the emissions from skid trails during the reference period, in tCO2
$V_{ext\ timber}$	Is the volume of extracted timber during the reference period, in m³

The emissions from skid trails are calculated as follows:

$$Em_{skid} = AD_{skid} * EF_{skid}$$

Where:

Em_{skid}	Are the emissions from skid trails during the reference period, in tCO2
AD_{skid}	Is the activity data for all skid trails constructed during the reference period, in ha
EF_{skid}	Is the emission factor for skid trails, in tCO2/ha

The activity data for all skid trails constructed across all concessions during the reference period are calculated as follows:

$$\boldsymbol{AD_{skid}} = \sum_{i=1}^{n} A_{skid,i}$$

Where:

$\boldsymbol{AD_{skid}}$	Is the activity data for all skid trails constructed during the reference period, in ha
$\sum_{i=1}^{n} A_{skid,i}$	Is the sum of all areas cleared for skid trails during the reference period for concessions 1, 2, ...,n, in ha

The area cleared for skid trails for all concessions during the reference period is calculated as follows:

$$\sum_{i=1}^{n} A_{skid,i} = A_{skid,1} + A_{skid,2} + \cdots + A_{skid,n}$$

Where:

$\sum_{i=1}^{n} A_{skid,i}$	Is the sum of all areas cleared for skid trails during the reference period for concessions 1, 2, ...,n, in ha
$A_{skid,i}$	Is the area cleared for skid trails during the reference period for concession i, in ha

The area cleared for skid trails for each individual concession during the reference period is calculated as follows:

$$\boldsymbol{A_{skid,i}} = \frac{\boldsymbol{tL_{skid,i} * mW_{skid}}}{\boldsymbol{10,000}}$$

Where:

$\boldsymbol{A_{skid,i}}$	Is the area cleared for skid trails during the reference period for concession i, in ha
$\boldsymbol{tL_{skid,i}}$	Is the total length of skid trails constructed during the reference period for concession i, in m

$\boldsymbol{mW_{skid}}$ Is the mean width of skid trails, in m

The emission factor for skid trails is calculated as follows:

$$EF_{skid} = ((AGB_{skid} * (1 + RSR) * CF) + Lit_{logging}) * \frac{44}{12}$$

Where:

EF_{skid} Is the emission factor for skid trails, in tCO_2/ha
AGB_{skid} Is the loss of above-ground biomass from skid trails, in tdm/ha
RSR Is the root-shoot ratio, dimensionless
CF Is the fraction of carbon in biomass, in tC/tdm
$Lit_{logging}$ Is the loss of litter carbon from skid trails, in tC/ha

Extracted timber, logging slash and abandoned timber

The emission intensity factor for extracted timbre is calculated as follows:

$$EIF_{ext\_timber} = F_{Vnet\_Vgross} * WD_{mean} * (1 + RSR) * FC * \frac{44}{12}$$

Where:

$FIE_{bois\ extrait}$ Is the emission intensity factor for extracted timber, in tCO2/m³
F_{Vnet_Vgross} Is the conversion factor to convert net timber volumes to gross timber volumes (volume over bark), dimensionless
WD_{mean} Is the mean wood density, in tdm/m³
RSR Is the root-shoot ratio, dimensionless
CF Is the fraction of carbon in extracted timber, in tC/tdm

The emission intensity factor for logging slash is calculated as follows:

$$EIF_{slash} = \left((BEF * WD_{mean}) + F_{RSDR}\right) * \left(\frac{1}{P_{com\_timber}}\right) * (1 + RSR) * CF * \frac{44}{12}$$

Où :

EIF_{slash} Is the emission intensity factor for logging slash, in tCO2/m³
BEF Is the biomass expansion factor, dimensionless
WD_{mean} Is the mean wood density, in tdm/m³
F_{DPR} Is the residual stand damage factor, dimensionless
Tx_{Vcom_ref} Is the fraction of commercialized wood expressed as a percentage of extracted timber, dimensionless
Tx_{BS} Is the root-shoot ratio, dimensionless
FC Is the carbon fraction, in tC/tdm

The emission intensity factor for abandoned timber is calculated as follows:

$$EIF_{ab\_timber} = EIF_{ext\_timber} + EIF_{slash}$$

Where:

EIF_{ab_timber}	Is the emission intensity factor for abandoned timber, in tCO2/m³
EIF_{ext_timber}	Is the emission intensity factor for extracted timber, in tCO2/m³
EIF_{slash}	Is the emission intensity factor for logging slash, in tCO2/m³