



Annex XI: Approach and Principles of Nesting for REDD+ Initiatives (Projects and Programs) in Guatemala

Guatemala, October 9, 2020



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Acronyms

ACOFOP	Association of Forest Communities of Petén (Asociación de Comunidades Forestales de Petén)
AFOLU	Agriculture, Forestry, and Land Use
BUR	Biennial Update Report
CALMECAC	Fundación para el Desarrollo Integral del Hombre y su Entorno
CONAP	National Council of Protected Areas
CO ₂	Carbone Dioxide
DCP	Directorate of Public Credit
ER	Emissions Reductions
ERPA	Emission Reductions Payment Agreement
FC	Carbon Fund
FCPF	Forest Carbon Partnership Facility
FDN	Fundación Defensores de la Naturaleza
FIP	Forest Investment Program
FRL	Forest Reference Level
FREL	Forest Reference Emission Level
FUNDAECO	Fundación para el Ecodesarrollo y la Conservación
GCI	Institutional Coordination Group
GhG	Greenhouse Gases
GIMBUT	Inter-Institutional Monitoring Group on Forests and Land Use
GIRED+	REDD+ Implementers Group
IFN	National Forest Inventory
INAB	National Forest Instituto
INGEI	Greenhouse Gases Inventory
LULUCF	Land Use, Land-Use Change and Forestry
MAGA	Ministry of Agriculture, Livestock and Food
MARN	Ministry of Environment and Natural Resources
MINFIN	Ministry of Public Finance
MRV	Measurement, Reporting and Verification
NDC	National Determined Contributions
BSP	Benefit Sharing Plan
ERP	Emissions Reductions Program

REDD+	Reducing emissions from deforestation and forest degradation, and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks
SiREDD+	Information System on REDD+
TAP	CF Technical Assessment Panel
UNFCCC	United Nations Framework Convention on Climate Change

Presentation

Guatemala has been making considerable efforts to mitigate climate change. In 2011, the country submitted to the Forest Carbon Partnership Facility (FCPF) Readiness Fund a proposal to prepare for Reduced Emissions from Deforestation and Forest Degradation (REDD+), in order to access resources to incentivize emission reductions in the Guatemalan forest sector.

In 2019, Guatemala submitted to the donors of the Carbon Fund (CF) of the FCPF its Emission Reduction Program (ERP) document in which the country presents the steps to follow to reduce up to a maximum of 10.5 tons of carbon dioxide over five years. Derived from this presentation, one of the requirements for the country to enter into an Emissions Reduction Payment Agreement (ERPA) is the submissions of a methodological proposal so that REDD+ initiatives (projects and programs), both current and future, can be aligned with national emissions accounting.

This document contains the principles and approach for nesting REDD+ initiatives to the ERP and its relation to the National Registry and Benefit Sharing Plan (BSP). This document will serve as a guide for the elaboration of the normative instruments that MARN with the support of the institutions that make up the GCI will adopt for the adequate nesting and registration of the country's REDD+ initiatives¹. As it is a methodological document, it could be considered a document that has the possibility of being updated when improvements are implemented in the inputs and these are accepted by the FCPF Carbon Fund.

¹ The REDD+ Initiatives Registry will be part of the National Registry of Projects for the Reduction or Removal of Greenhouse Gas Emissions as indicated in Article 22 of the Framework Law on Climate Change.

1. Comprehensive, transparent, and robust national carbon accounting system

1.1 Reference Level of Forest Emissions and Removals

Guatemala's FRL for the ERP is based on the average of historical GHG emissions and removals (2006-2016) in the (subnational) program area, the accounting of CO₂e based on emissions derived from deforestation and forest degradation, and CO₂ removal due to increases in the carbon stock. This calculation is determined by the product of the area (number of hectares) of land where changes in land use and cover have occurred (activity data) for each accounted REDD+ activity (deforestation, forest degradation and carbon stock increases), multiplied by the CO₂e emission or removal factor per hectare.

Activity data information was generated by sampling with the use of a 10,414-point grid distributed systematically throughout the program area, for a multi-temporal spatial analysis using medium-and high-resolution satellite images over the 10-year period between 2006 and 2016. Emissions factors were estimated with the use of the carbon strata map (Gomez Xutuc 2017), developed based on data from 2,307 forest inventory plots arising from different projects, and which yielded values for four strata of potential carbon stocks at the national level, ranging from 97 to 125 tC/ha (see table 48 of the ERPD). After deforestation, local values for agro-forestry systems and IPCC default data were used, ranging from 0 to 28.4 tC/ha (see table 49 of the ERPD). In the case of degraded forests, a value of 50 percent of the total carbon stock was assigned in the four strata of carbon (see table 50 of the ERPD). Carbon stock increases in plantation forests were estimated based on the measurement and remeasurement of permanent sampling plot in plantation forests in Guatemala, corresponding to 28 different tree species divided into coniferous and broadleaved types, and which showed values between 3.25 and 1.8 tC/ha/yr, respectively. The carbon deposits considered in emission and removal factors are above ground and below ground biomass.

The FRL is 13,085,445.54 tCO₂e/year, comprised of historical emissions from deforestation and degradation, as well as removals by plantations and the restoration of degraded forest areas (table 1).

Table 1 FREL for the ERP², with the contribution of average emissions by activity

ERPA Year	Average annual historical emissions from deforestation during the reference period (tCO ₂ -e/ yr) (Deforestation)	Average annual historical emissions from forest degradation during the reference period (tCO ₂ -e/ yr) (Degradation)	Average annual historical removals by sinks during the reference period (tCO ₂ -e/ yr) (Forest plantations)	Average annual historical removals by sinks during the reference period (tCO ₂ -e/ yr) (Restoration of degraded forest areas)	Reference level (tCO ₂ -e/yr)
1	12,290,764.08	3,010,475.45	-271,431.14	-1,944,362.85	13,085,445.54
2	12,290,764.08	3,010,475.45	-271,431.14	-1,944,362.85	13,085,445.54
3	12,290,764.08	3,010,475.45	-271,431.14	-1,944,362.85	13,085,445.54
4	12,290,764.08	3,010,475.45	-271,431.14	-1,944,362.85	13,085,445.54
5	12,290,764.08	3,010,475.45	-271,431.14	-1,944,362.85	13,085,445.54

This FRL was prepared in accordance with the FCPF CF methodological framework and was reviewed and approved by a panel of experts (Technical Assessment Panel -TAP) at the beginning of 2019.

The FRL for the ERP (aligned with the national FRL) may be updated as the country has better data and estimation methodologies than those currently available, in a process of continuous improvement.

Guatemala submitted its ERP at the 20th CF Meeting, having been provisionally included in the CF portfolio. In addition, Guatemala is currently consolidating its National REDD+ Strategy.

Guatemala will submit its national FRL to the technical evaluation of the United Nations Framework Convention on Climate Change (UNFCCC) panel of experts for Land Use, Land Use Change and Forestry (LULUCF) for technical review, considering the harmonization between the FRL and the Agriculture Sector's National Greenhouse Gas Inventory (INGEI), Forestry and Other Land Uses (AFOLU), which will be presented in January 2021, with the Third National Communication on Climate Change and Guatemala's first Biennial Updated Report (BUR) to be presented by the end of 2021. This will also involve harmonization with the National Forest Inventory (IFN) and potential project proposals involving result-based payments from international cooperation.

² https://www.forestcarbonpartnership.org/system/files/documents/Guatemala_ERPD_11_05_2019.pdf

With the adoption of this nesting approach and their links with the REDD+ Projects and Programs Registry System and the Benefit Sharing Plan, the country meets the criteria and indicators established in the CF Methodological Framework in reference to mitigate the risk of double counting while still ensuring alignment with the national GHG inventories (FRL and MRV system unique and national).

1.2 Measurement, Reporting and Verification System

The MRV system is national and is based on existing capacities in the country. The MRV is anchored in existing platforms, studies, data and processes, and is managed and operated by a diversity of governmental and non-governmental institutions, including academia, research centers and civil society organizations, essentially respecting the current legal frameworks: Forestry Law (Decree 101-96), Protected Areas Law (Decree 4-89), and the Framework Law to Regulate Vulnerability Reduction, Mandatory Adaptation to Climate Change Effects and Greenhouse Gas Mitigation (Decree 7-2013). These laws establish mandates to the different governmental institutions for the compilation and processing of information according to their scope of action.

Guatemala's MRV System is conceived as a collaborative inter-agency system that closely coordinates multi-stakeholder REDD+ actions. The MRV System has a steering committee, led by the Inter-Institutional Coordination Group (ICG) made up of the Ministry of Environment and Natural Resources (MARN), the Ministry of Agriculture, Livestock and Food (MAGA), the National Forest Institute (INAB) and the National Council on Protected Areas (CONAP), which has a political and technical component. The Inter-Institutional Monitoring Group on Forests and Land Use (GIMBUT) is made up of the GCI and three private universities, namely, Rafael Landívar University (URL) and the University of the Valley of Guatemala (UVG) y San Carlos de Guatemala University (USAC), which allows it to have the capacity to carry out annual/biennial measurements, reports and verifications of emissions and absorptions of GHGs from the AFOLU sector, aligned with the BURs publicly.

The monitoring of non-carbon variables, as well as safeguards will be in charge of CGI institutions according to the thematic competence of each one inside and outside protected areas. Currently, 10 categories and 27 indicators for monitoring non-carbon variables have been prioritized. For more than 15 years these categories of non-carbon variables have

been monitored and reported by the different institutions of the GCI. In addition, there are at least 21 platforms and registration systems for the monitoring of these variables

1.3 FCPF requirements: MRV and FRL update

The ERP Executing Unit (with the support of the GCI and GIMBUT) will analyze and process the information and results of the estimates during the ERPA period of the ERP. The INAB, through the Executive Unit of the ERP - currently in design - will be responsible for reporting and monitoring REDD+ activities for the CF during the ERP's implementation period to begin the verification process and provide accompaniment to it. This process will be accompanied by civil society, project stakeholders, and early REDD+ initiatives.

In relation to the frequency of monitoring and reporting during the ERPA period of the ERP, it is planned to carry out the monitoring of the FRL according to the following schedule:

- First monitoring report: report prepared in 2021 on monitoring carried out in January 1st, 2020 - December 31, 2020.
- Second monitoring report: report prepared in 2023 on monitoring carried out in January 1, 2021 - December 31, 2022.
- Final report: report prepared in 2025 on monitoring carried out in January 1, 2023 - December 31, 2024.

The first monitoring report could include REs that have been generated prior to the ERPA period (under discussion), in accordance with the requirements established by the FCPF (potential request for retroactivity to the World Bank).

1.4 Integration of REDD+ initiatives

In Guatemala, the implementation of conservation initiatives through REDD+ Projects has a long tradition, and even some of these projects have been recognized as examples of best practice. To be part of Guatemala's ERP, REDD+ Projects that voluntarily decide to participate in it (to date the Projects; Guatecarbon, Proyecto REDDes Locales para el Desarrollo and Proyecto Lacandón) must be methodologically harmonized with it, as otherwise it will not be possible to guarantee environmental integrity (e.g. ensure that double accounting will not occur).

In order to overcome these methodological differences between the scale of the Projects and the Program, Guatemala will use the concept of nesting, in order to integrate REDD+

Projects into broader (national/subnational) REDD+ Programs that include the areas of such projects.

Guatemala initiated a dialogue on nesting methodologies with the international standard VERRA-VCS and REDD+ project implementers since the preparation of the Letter of Intent (LoI) for the ERP. The inclusion of VERRA-VCS has been key in this process since most of the early REDD+ initiatives in Guatemala are registered under carbon standards and some of them have Emission Reduction (ER) certifications granted by VERRA-VCS.

VERRA leads a current line of work to develop viable methodologies for nesting REDD+ projects in jurisdictional/national programs that employ an FRL and a jurisdictional/national MRV System. Understanding that there is demand in the generation of ERs from projects in the voluntary carbon market and at the same time recognizing that a jurisdictional regulatory and programmatic framework (for example, the ERP with the FCPF CF) and national (Nationally Determined Contributions -NDC- and Art.6 Paris Agreement) in carbon accounting must be respected ('Nesting Guidance' of July 11, 2019), VERRA supports the generation of options that allow the methodological alignment in carbon accounting for projects within the jurisdictional and national framework.

In Guatemala, several REDD+ Projects have been developed, registered with the VERRA-VCS standard and led by public and private entities, including: (i) Fundación para el Ecodesarrollo y la Conservación, FUNDAECO excluded from the ERP area with a private purchase-sale contract for carbon credits in the voluntary market valid until 2022; (ii) Consejo Nacional de Áreas Protegidas, CONAP, and Asociación de Comunidades Forestales de Peten, ACOFOP, (GUATECARBON), partially excluded from the ERP area; and (iii) Fundación Defensores de la Naturaleza (Lacandón Bosques para la Vida).

The baselines for the existing projects were established using methodologies that have been approved for VCS projects, but these are not totally compatible with the methodological framework of the FCPF Carbon Fund (CF). To overcome the methodological differences between ongoing REDD+ Projects and the ER Program, Guatemala will adopt a nesting strategy in order to integrate these REDD+ Projects into broader REDD+ Programs (national/subnational) covering the areas included in the projects.

In addition, other projects are being developed by entities such as the Foundation for the Integral Development of Man and his Environment (CALMECAC) and Defenders of Nature (Sierra de las Minas Biosphere Reserve). These projects have not yet established baselines verified under the VCS, and/or have not been included in the national registry of REDD+ projects, therefore they are not included in the nesting process at this time.

There are also two projects, not contributing to the ERP under implementation (approx. 2,500 ha each) related to plantations for the production of natural rubber/hule (*Hevea brasilienses*) in the ERP area (South Coast: Departments of Escuintla, Suchitepéquez, Retalhuleu and Izabal), namely: (i) Natural Rubber Production, Industrialization, Commercialization and Advisory Projects (ECO2 Rubber Forest Guatemala) and (ii) Promoting Sustainable Development through Natural Rubber Tree Plantations in Guatemala (Pica de Hule Natural S.A.). Both projects belong to the Western Group, are operating and are registered with the VCS.

However, according to the national definition of forests in Guatemala: a forest is a land surface with a predominant and continuous tree cover with a minimum canopy cover of 30%, forming a land mass of at least 0.5 ha and a minimum width of 60 meters (GIMBUT, 2018b). According to the protocol for use of the Open Foris platform (Collect Earth) for updating GHG Forest Reference Emission Levels for Guatemala between 2001 and 2016, permanent crops of agro-industrial plantations, including species that have been introduced such as rubber (*Hevea brasiliensis*), are explicitly included in the Croplands Category. As such, these plantations cannot be classified as increases in forest carbon stocks in the context of REDD+ activities, since, as stipulated in IPCC guidelines and the methodological framework of the CF, a shift from one category of cropland to another does not imply a conversion to forest land. This is also in line with REDD+ safeguards, which make mention of the need for actions to be compatible with the conservation of natural forests and biological diversity. These safeguards discourage the use of REDD+ activities for natural forest land conversion, and instead, incentivize the protection and conservation of forests and their environmental services as well as enhance other social and environmental benefits.

As part of the national efforts to consolidate the National REDD+ Strategy in Guatemala, an Information System for GHG Emissions, Multiple Benefits, Other Impacts and Management and Safeguards, called SIREDD+, is being designed and developed, which should be aligned with the Registration System, the Benefit Distribution System and the Mechanism for Attention to Complaints and Conflict Resolution, which will be operating by the end of 2020. These systems are being developed with additional FCPF preparation funds executed by the Inter-American Development Bank.

All REDD+ initiatives currently registered under VERRA-VCS or future initiatives potentially wishing to register under various standards must register with Guatemala's National Registry of REDD+ Initiatives. The registration requirement for all initiatives that generate

certificates of removal or reduction of greenhouse gas emissions, that seek access to voluntary and regulated carbon markets is required by Art. 22 of the Framework Law to Regulate the reduction of Vulnerability, Mandatory Adaptation to the Effects of Climate Change and the Mitigation of Greenhouse Gases (Framework Law on Climate Change- Decree No. 7-2013).

The following is a list of conditions that REDD+ initiatives should meet in order to join the ERP:

On a general basis:

1. REDD+ initiatives (projects and programs) shall be subject to each and every national or sub-national government rule, law, regulation, agreement or other rule relevant to nesting.
2. At the same time, REDD+ initiatives must comply, where appropriate, with the methodological requirements of the corresponding standard that will be, in any case, compatible with the methodological requirements established at the national level, the nesting standards and what is referred to in (1).
3. The baselines and measurements of REDD+ initiatives will always be derived from the national FRL and the national MRV system. In the absence of an approved national FRL (after review by the UNFCCC expert panel), baselines of nested REDD+ initiatives will be derived from the ERP FRL. Project baselines and measurements will be provided by MARN to Project and Program implementers.
4. The uncertainty analysis (and its corresponding discounts in the uncertainty buffer) will always be carried out at the national level (or at the level of the ERP accounting area, as long as the national FRL is not approved) in order to maintain consistency in emissions and removals accounting at the national (or jurisdictional) level.
5. Following approval of the full nesting regulations, the Program Entity (Ministry of Public Finance -MINFIN-) will send a letter to the REDD+ Project implementers explaining the nesting approach and the procedure to adopt the FRL of the Emission Reductions Program..

Measurements or monitoring of the various REDD+ initiatives will be at the national level (single and national FRL and single and national MRV system, as indicated in the ERP and as determined by the ERP Executing Unit with the support of GCI and GIMBUT). GCI institutions will be responsible for monitoring according to the steering role and thematic competence of each institution. Additionally, such measurements and monitoring will be done through appropriate methodologies at all scales, with the objective of avoiding

methodological inconsistencies and double accounting and guaranteeing the environmental integrity of the Verified Emission Reductions.

In the case of REDD+ initiatives registered prior to ERP under other standards, such as VERRA-VCS, they must follow the new nesting rules and adapt to other aspects and requirements of the recently published ERP and those that will be developed in the future, namely:

1. Projects must be subject to all relevant national or sub-national laws, regulations, agreements or other government rules related with nesting.
2. REDD+ projects registered under other standards, shall comply with all the requirements of the national registry.
3. The assignment to such projects of their reference level derived from the jurisdictional (national/subnational) reference level covering the project area (provided that such jurisdictional reference level has been technically assessed and validated; e.g. by the FCPF TAP or UNFCCC experts) will be carried out by the ERP Executing Unit (with the support of the GCI and GIMBUT).
4. Projects may carry out appropriate uncertainty analyses at the project level according to the requirements of the standard where they are registered (however, uncertainty analysis will always be carried out at the jurisdictional level -ERP or National- to maintain the environmental integrity of the verified ER considering the discounts -buffer of uncertainty- always carried out at the program area level).

The Government of Guatemala has decided to establish a period of pre-nesting or adaptation until December 31st, 2020 for those mitigation initiatives (REDD + projects) that currently operate and overlap (total or partially) in the area of the Emission Reductions Program of the FCPF CF. During this period (until December 31, 2020) these initiatives may use the baselines of their projects (VERRA) not based on the FRL of the Emission Reductions Program of the FCPF CF. The ERs corresponding to the period from ERPA signing up to December 31, 2020, verified and (re)issued under the Voluntary Carbon Standard VCS-VERRA, will be totally deducted from the available ERs in the Emission Reductions Program (ERP) of Guatemala before the CF of the FCPF for the same period.. No project under formulation or new initiatives may benefit from the pre-nesting or adaptation period.As from January 1st, 2021, all existing REDD + projects that partially or totally overlap the FCPF CF Emission Reductions Program area will adopt the quota system described below and therefore cease to use the baselines approved under the VERRA standard. They will proceed to use the FRL of the FCPF CF Emission Reductions Program, at least until the ERPA completion, and considering its possible updates based on the procedure of technical

corrections to greenhouse gas emissions and removals notified in the reference period, approved under the FCPC CF.

It is clarified that no initiative (project or program) that partially or totally overlaps the Program area, may use a baseline other than the FRL of the FCPF CF Emission Reductions Program beyond that indicated for the adaptation period and during the ERPA period.

Additionally, it is clarified that according to this document and what is specified in the ERPD regarding the Registry of REDD + initiatives and Benefit Sharing Plan, nested projects can only verify and market credits under other standards once the contract volume of ERs committed in the ERPA with the CF in each Reporting Period is satisfied.

1.5 Methodological approach for the nesting of REDD+ Initiatives in Guatemala

The Methodological Approach for the nesting of REDD+ initiatives in the ERP tries to adequately reflect the efforts made by the various REDD+ projects and programs (early REDD+ initiatives and/or projects and programs) and by the other actors in the national territory in the conservation of forests and the fight against deforestation and forest degradation.

A general, easy-to-apply and transparent methodology is proposed. This methodology consists of distributing the FRL (or, if applicable, until it is officially approved, the Reference Level of Emissions and Removals of the ERP) in portions ('quotas') according to criteria that reflect the effort made by the various forest conservation agents and the fight against deforestation and forest degradation, among the various initiatives participating in the ERP (REDD+ Projects, Mechanism for the Compensation of Ecosystem and Environmental Services (MCEES) associated to Forests under the PROBOSQUE Law framework-, rest of the ERP Area, rest of the national area). The results would be measured using the national MRV system, capable of estimating emissions and removals during the reporting period in the various areas of interest.

1.5.1 Variables to implement the nesting based on quota allocation

For the nesting it is proposed to use as variables to be considered in the distribution of 'quotas' of the FRL:

- (i) the current forest area within the initiative area (from the previous year of quota allocation) based on official information and
- (ii) the current deforestation/degradation rates (in hectares), within the initiative area (activity data from the two years prior to the quota allocation year),

Allocating to each FRL initiative 'quotas' proportional to the combination of both values. This proposal considers simple and fair methodological aspects of distribution and is based on two official variables that are obtained and updated in each monitoring event. Collect Earth's grid of sampling points has this information until 2016, but it will be updated soon until 2018 and then until 2020, coinciding with the beginning of the implementation of the ERP.

In addition to the variables mentioned above, three additional criteria are to be considered to establish the percentages of quota allocation:

- i) They are included in the Guatemalan System of Protected Areas (SIGAP) of the National Council of Protected Areas (CONAP)
- ii) They are in water recharge areas or strategic ecosystems that have been prioritized by the National Forest Institute (INAB)
- iii) They constitute Potential Areas for Forest Landscape Restoration in the Republic of Guatemala
- iv) They are part of REDD+ subregions as defined in the REDD+ subnational zoning strategy in Guatemala³

In any case, the information used will be official and generated by GIMBUT, particularly those officialized by CONAP and INAB.

1.5.2 Area of implementation of the quota-based nesting system

The target area corresponds to the ERP accounting area (9,985,930 ha) that will be divided into three areas; the total area covered by the Lacandón project in the La Libertad and Las Cruces municipalities; the partial area covered by the Guatecarbon project in the San Andrés, San José, Flores and Melchor de Mencos municipalities (included in the ERP), as well as the rest of the area encompassed by the ERP accounting area (table 2). Each of these areas will have corresponding FRL quotas assigned to them, calculated on the basis of the variables and criteria selected.

Table 2 Initiatives and their corresponding areas proportional to the total ERP area

Initiative	Area (ha)	%
Lacandón Bosques para la Vida (complete project area)	205,107.39	2
Guatecarbon (partial project area)	663,857.51	7
Rest of the area within the Emission Reduction Program	9,116,965.11	91
Total area of the Emission Reduction Program (total)	9,985,930.00	100

³ <http://www.marn.gob.gt/Multimedios/1837.pdf>

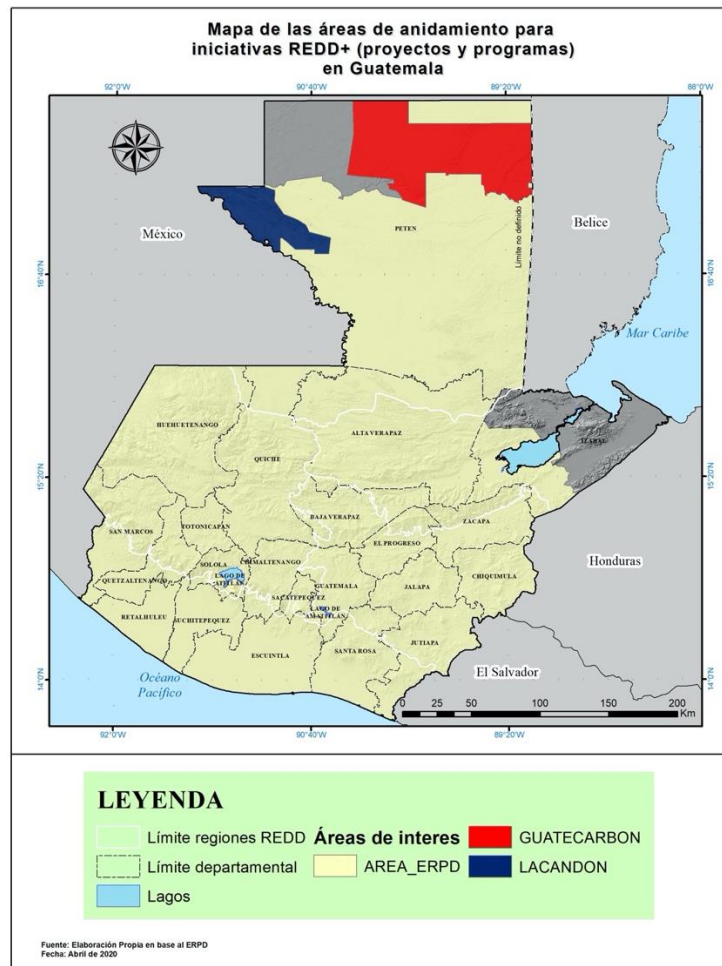


Figure 1 Program area map and the area covered by the projects.

1.5.3 Inputs used

The following information was collected and reviewed in conjunction with various governmental and non-governmental institutions (MINFIN, MAGA, MARN, INAB, CONAP, UVG, FDN, IDB) and was used to quantify the selected variables and criteria⁴.

- Polygon of the emission reduction program implementation area. This refers to the entire polygon of the accounting area of the ERP (9,985,930 ha) (ERP, 2019)⁵.
- Polygons of the REDD+ projects being implemented within the ERP area. These cover the entire polygon of the Lacandón project, 205,107.39 ha, and the polygon of the

⁴ This information was placed in an information repository for subsequent analysis and use, in case of need: <https://drive.google.com/drive/folders/194aqKt-12WYulhwUA-DQjPvf95WIEywt?usp=sharing>

⁵ https://www.forestcarbonpartnership.org/system/files/documents/Guatemala_ERPD_11_05_2019.pdf

Guatecarbon project located within the ERP implementation area, 663,857.51 ha. These polygons were taken from the VERRA website⁶.

- Data on existing forest cover (2016). This refers to forest cover data obtained using a visual interpretation of the grid of 10,414 sampling points for the preparation of the FRL, which, for the final year (2016) relates to the category of forest land.
- Data on recent deforestation (2014-2016). This refers to the data obtained using a visual interpretation of the grid of 10,414 sampling points for the preparation of the FRL, that reflected a change from forest to any other type of use between 2014 and 2016.
- Data on recent forest degradation (2006-2016). This refers to the data obtained using a visual interpretation of the grid of 10,414 sampling points for the preparation of the FRL, reflecting forest areas that remain as forests, but which lost forest cover between 2006 and 2016.
- Map of the Guatemalan System of Protected Areas (SIGAP). This refers to the current (2019) map prepared by the National Council of Protected Areas on the different categories of management of protected areas at the national level, in Shapefile format, (CONAP 2019).
- Map of Potential Areas of Forest Landscape Restoration of the Republic of Guatemala. This refers to the official 1:50,000 map of the protected areas, in raster format, of the priority areas selected for the implementation of forest restoration activities at the national level, prepared in 2014 by the National Forest Institute, the Ministry of Agriculture, Livestock and Food, the Ministry of the Environment and Natural Resources, the National Council of Protected Areas, and with technical and financial support from IUCN (INAB 2014).
- Map of Forest Land that serve as Water Captation Zones or play a role in Hydrological Regulation and Recharge, 1:50,000-scale, in raster format, prepared by INAB in 2017 (INAB 2017).
- Final version of the sampling points grid and database for the visual interpretation of high- and medium-resolution images used to generate the FRL of the ERP, prepared by GIMBUT in 2019 (GIMBUT 2019).

1.5.4 Interpretation of variables and criteria

The main variables and additional criteria discussed and selected beforehand were interpreted as follows:

The first variable is the existing forest area (ha), which was quantified using the forest area in 2016 (most recently available information) based on a visual interpretation of the grid of 10,414 sampling points that was used to prepare the FRL. This variable is interpreted in such a way that areas with more extensive forest cover have greater responsibility and need to invest more resources to promote forest conservation and prevent deforestation and forest

⁶ <https://www.vcsprojectdatabase.org/#/home>

degradation. The greater the forest area is the higher the quota or baseline that should apply. This variable will be used to estimate quotas for the three REDD+ activities included in the FRL.

The information on existing deforestation corresponds to the measurements quantified between 2014 and 2016, using the same points grid that was used to estimate the activity in the FRL. The data set used is the total area of deforestation in hectares for the period mentioned above. This variable is used to estimate the quotas corresponding to emissions from deforestation.

The information on current forest degradation relates to the data quantified between 2006 and 2016, using the same points grid that was used to estimate the activity in the FRL, and corresponds to loss of forest cover. In this case, the entire period analyzed was used (2006-2016) as it was not possible to quantify a shorter time period owing to the lack of records on the precise year in which the process occurs. This would make it difficult to directly identify a year of change. This variable is used to estimate the quotas corresponding to forest degradation.

These two variables (recent deforestation and degradation) are interpreted such that those areas that currently have larger areas or higher rates of deforestation or forest degradation need to do more and invest increased resources to combat the causes of deforestation and forest degradation. The larger the area and the higher the rate of deforestation or forest degradation is the higher the quota or baseline that should apply.

The Potential Areas for Forest Landscape Restoration are areas favorable to forest management, without vegetation or with degraded forest vegetation, and that lend themselves to the implementation of restoration actions across eight possible categories or modalities of restoration. These areas were considered in the allocation of quotas for the activity related to the increase in the carbon stock corresponding to the restoration of degraded areas.

Protected Areas refer to any area in a protected category, in accordance with the national classification officially recognized by CONAP as part of the Guatemalan System of Protected Areas. This criterion was used to allocate quotas in the three REDD+ activities included in the FREL of the ERP.

Areas in Forest Land that serve as Water Captation Zones or play a role in Hydrological Regulation and Recharge, that have high or very high values, are considered eligible for the allocation of quotas for the three REDD+ activities included in the ERP.

Protected Areas and Forest Land that serve as Water Captstion Zones or play a role in Hydrological Regulation and Recharge are regarded as a secondary criterion. This means that they are assigned less weight in the allocation of quotas relating to the main variables.

The REDD+ subregions have not yet been brought on board for the allocation of quotas, as some of these subregions (Tierras Bajas del Norte and Sarstún Motagua) are partially included in the ERP. Nevertheless, when a FREL is developed at the national level, consideration should be given to assigning quotas to all subregions. These quotas would then be allocated to the projects implemented by each region.

1.5.5 Use of inputs to estimate variables

Following the review of the available information for the quantification of the selected variables, the pre-processing of this information was then undertaken. This involved the allocation of values for each variable and criterion, in accordance with their coverage in each quota allocation area.

The first step was to generate a single file covering the general polygon of the ERP area, and within the polygons of the two projects for which the nesting quotas were established. Once this file was in place, the maps were then intersected: the SIGAP covering, the Potential Areas of Forest Landscape Restoration and Forest Land that serve as Water Captation Zones or play a role in Hydrological Regulation and Recharge. Similarly, all the grid points occurring in each area⁷ were intersected

The variables used to calculate the quotas for each area, were taken from this information (Table 3).

Table 3 Quantified values for each defined variable and criterion

Initiative	Area covered with forest (ha)	Recent Deforestation (2014-2016) (ha)	Recent Degradation (2006-2016) (ha)	Forest restoration areas (ha)	NPA Coverage (ha)	Strategic ecosystems for groundwater recharging (ha)
Lacandon (complete)	127,533.00	2,876.68	3,835.58	64,536.71	205,063.29	91,855.43
Guatecarbon (partial)	621,363.79	- ⁸	1,917.79	22,408.21	663,588.44	1,755.24
Rest of area under the Emissions	2,582,303.54	73,834.90	147,669.79	3,234,750.90	1,850,898.31	4,440,532.07

⁷ The processed data can be viewed at the following link: <https://drive.google.com/drive/folders/194aqKt-12WYulhwUA-DQjPvf95WIEywt?usp=sharing>

⁸ Based on the data analyzed, no deforestation occurred between 2014 and 2016 in the area covered by this project, a factor that could limit the effectiveness of the existing density grid.

Reduction Program						
Total area of the Emissions Reduction Program (Total)	3,331,200.33	76,711.58	153,423.16	3,321,695.82	2,719,550.04	4,534,142.74

1.5.6 Quota allocation tool

To facilitate the preparation of quota estimates in the future, an Excel spreadsheet was developed integrating the values obtained from the variables and criteria applicable to each area. This Excel file then allocates the quotas for each REDD+ activity included in the ERP.

In this way, the tool will allocate the FRL value of each activity in portions, in line with the variables selected. In this case, the tool is calibrated to assign a weighted value of 80 percent (40-40) for the main variables and 20 percent (10-10) for the additional criteria. Quotas are estimated for each activity separately, and, at the end of the process, the emissions from deforestation and forest degradation and the removals from the restoration of degraded areas are integrated separately. In the same way, the estimates for each activity can be projected based on the emissions reduction results achieved for each activity.

1.5.7 Results

Table 4 shows that around 10 percent of emissions and 9 percent of removals are allocated to the Guatecarbon Project area, while almost 4 percent of emissions and 3 percent of removals are allocated to the Lacandón project. At the same time, 86 percent of emissions and 88 percent of removals are allocated to the rest of the emissions reduction program area.

Table 4 Results of the tCO₂e quotas and the percentages allocated to each initiative.

Area	tCO ₂ e		%	
	Emissions	Removals	Emissions	Removals
Lacandón	595,160.43	-63,486.36	4	3
Guatecarbon	1,530,652.10	-197,837.34	10	9
Rest of the Program Area	13,175,427.00	-1,954,470.30	86	88
Total	15,301,239.53	-2,215,793.99	100	100

The following table illustrates each activity on a disaggregated basis:

Table 5 Results of tCO₂e quotas, disaggregated by each REDD+ activit

Area	tCO ₂ e Emissions		tCO ₂ e Removals	
	Deforestation	Degradation	Restoration	Plantations
Lacandón	490,155.17	105,005.26	-63,486.36	--
Guatecarbon	1,217,409.78	313,242.32	-197,837.34	--

Rest of the Program Area	10,583,199.13	2,592,227.87	-1,683,039.16	-271,431.14
Total	12,290,764.08	3,010,475.45	-1,944,362.85	-271,431.14

The tool may be applied⁹ directly to review each activity on a disaggregated basis and to examine contributions by variable and criterion.

All REDD+ initiatives (current and future), whether belonging to the ERP area, will be subject to this FRL 'quota' sharing system. An adaptation period is considered for the various current initiatives, as indicated above. Quotas will be estimated and proposed by GIMBUT for approval. These quotas will be reviewed at each monitoring period to evaluate their update.

The measurement of the results (achievements) of each registered REDD+ initiative (in the Registry of REDD+ Initiatives in Guatemala) will be determined by MARN with support from CONAP and INAB under GIMBUT using data from the national MRV system. To measure results, the 'quotas' assigned to each initiative (baseline of each initiative) will be considered, as well as contributions to buffers, and other discounts that are listed later in this proposal.

The data and methods used for establishing the baselines of the initiatives (allocation of 'quotas') and for measuring the results obtained are therefore consistent with those used for the establishment of the FRL (and its updates) and the national MRV system. The data used, the methods and the allocated quotas will be communicated in time and form for each initiative. Also, the ERP Executing Unit (with the support of GCI and GIMBUT) should apply the percentage discount related to uncertainties, which as indicated, are calculated and applied at the jurisdictional/national level so as not to compromise the environmental integrity of the program according to the established FRLs. Some initiatives may require knowledge of the level of uncertainty associated with the ERs generated in their accounting areas and may have their own requirements for this purpose, as indicated above. The calculation of the level of uncertainty may be performed at the request of the initiative as a service delivery by the Implementing Unit of the ERP; however, the calculation of the levels of uncertainty in the areas of the initiatives will not be binding on the national/jurisdictional calculations of ERs. To compensate for possible imbalances in levels of emission reductions achieved at the jurisdictional level, a reserve fund will be created.

The periodic review and updating for each monitoring event (2 years) of the 'quotas' corresponding to each initiative of the national/jurisdictional FRL (and/or in its case the FRL update), will be done punctually so that the initiatives will have the calculations of their

⁹ https://1drv.ms/x/s!AliVzgzZsyD7gpg_mL9c8iel_ZjxDQ?e=b5QSzL

quotas. Deadlines will be established for reviews, claims and justifications, both for the updates of the FRL before it is sent to the CF or the UNFCCC, and for the quotas assigned to each initiative.

1.5.8 Next steps for implementing the nesting system

The first exercise outlined in this document for the projection of quotas to be used for the nesting of REDD+ projects is the first step in the implementation of a comprehensive nested system. It has been prepared as a tool for future use and outlines a first approach to nesting through the projection of estimated quotas, using real estimates of emissions tied to ERP carbon quantification.

The following are the next steps for implementing the process:

- Update the values quantified for all the variables and criteria applicable to a more recent period than that used in this exercise, such as deforestation and degradation between 2016 and 2019. This should be done in 2020. These values should then be used to update the information in the tool and to estimate the FREL quotas for each project.
- The FREL generated for each project and for the rest of the program area will be the official FREL against which performance will be measured in the first monitoring exercise¹⁰. The data used to evaluate each nested project will be taken directly from each monitoring system without using the quota mechanism.
- Once the first monitoring exercise is completed, the most up-to-date data from the monitoring period, such as 2020 - 2021, for example, will be used to update the FREL quotas. These updated quotas will be used in the following monitoring exercise, and this pattern will be applied successively. Each monitoring exercise will also be used to update the FREL quotas.
- The country may report to the FCPF CF the total ER recorded based on the performance of each project and the rest of the program area, estimated using the quota tool, and determined in accordance with the performance of each individual project.

1.6 Nested approach and the benefit-sharing plan

The quota mechanism, used as a technical solution to nest REDD+ initiatives in the FCPF CF ER Program, is applied to determine both the baseline of the REDD+ projects and of the rest of the Program Area; so, the sum of all quotas must be equal to the FRL. The ERs units corresponding to each Project will be calculated at each monitoring event and these units

¹⁰ For the pre-nesting period corresponding to the first year, the baselines registered and approved in the VCS for each project will be applied in the first monitoring exercise to the year for which performance is being evaluated.

may be marketed by the project implementers under certain conditions (meeting the ERPA commitments signed with the FCPF CF) in the voluntary market according to their standards, may be transferred to the FCPF CF Participants through the contract mechanisms established in the Benefit Sharing Plan (and receive the corresponding benefits) or sold to third parties. For the rest of the Program Area, the corresponding ER units will also be calculated using the corresponding FRL quota as a baseline and the benefits obtained from their sale to the FCPF CF Participants or third parties (beyond the volume committed with the FCPF CF) will be distributed according to the Benefit Sharing Plan.

The allocation of quotas will establish a baseline reference level that will help ensure that existing REDD+ projects that are to be nested into the ERP as well as the other projects under this program (at the design phase or future projects that will not have to be nested) can receive equitable results-based payments that are consistent with those applicable to other ERP areas.

In this regard, this protocol seeks to establish a consistent approach to the projection of emission reductions and, consequently, to the assessment of the benefits and results that REDD+ projects and other areas add to nested systems. It attributes a FREL quota to each existing REDD+ project, representing the contribution of each project included in the nested system to the annual emissions. The emissions generated in each monitoring period will be compared with the FREL and will be used to provide an estimate of the emission reductions generated from each project. It therefore also affects the extent of the benefits they are eligible to receive.

Nevertheless, while nesting helps determine the volume of emission reductions and removals associated with each REDD+ project, the distribution of benefits will begin only after these reductions have been verified and then paid through a results-based fund (such as the Carbon Fund). Consequently, the nesting exercise is considered as a necessary prior condition for the application of the Benefit-Sharing Plan, which explains why this protocol applies to the full scope of the emissions reduction program.

In this regard, the contributions made to the reduction of emissions and the increase in forest carbon stock, measured in tonnes of carbon dioxide equivalent (tCO₂e), as a result of REDD+ mitigation measures and estimated on the basis of the quota approach to nesting, will constitute the main criteria for the benefit-sharing component of the Emissions Reduction Program. The criteria outlined in the Benefit Sharing Plan (BSP) will apply to the other areas implementing initiatives and projects.

If the ERP achieved emission reductions are greater than the projected levels, ER transfers and, consequently, the net results-based payments¹¹ will be divided as follows: 50 percent among existing registered REDD+ projects and 50 percent among all other projects (that is,

¹¹ Net benefits refer to gross benefits, less operational costs and the solidarity fund.

new REDD+ projects, MCEES, and Program 31 Concessions) provided that, based on their performance, they meet the target of the verification period provided to the Carbon Fund and fulfill the requirements associated with the award of 50 percent of the results-based payments allocated to them.

This equity criteria has its origin in the BSP (p. 73) and it was the result of consultations with the stakeholders, who seek that, insofar as possible, the ERP benefit both the preexisting REDD+ Projects as well as the new REDD+ initiatives.

The 50% rule will be applied for the Contracted Minimum Volume, to the Contracted Sweep Volume, and to the Additional ERs, as follows:

- In case the ERP achieves a higher volume of ERs than the contracted minimum volume and the contracted sweep volume in a given monitoring event (optimal performance scenario), the transfer of ERs and, thus, the results-based net payments achieved by the REDD+ Projects registered for the corresponding reporting period, cannot exceed 50% of the total contracted volume and sold to the CF for the cited monitoring event.
- In case the contracted minimum volume or the contracted sweep volume is not achieved with 50% of the ERs of the REDD+ projects registered for the corresponding reporting period, they will sell more than 50% (and up to 100% if necessary) of their ERs to the CF, in order to comply with the contracted minimum volume and the contracted sweep volume in each monitoring event and in accordance with the decision of the National Benefit Sharing Committee.
- In the third (and last) monitoring event in case the total contracted volume with 50% of the ERs is not reached with the registered REDD+ Projects, they will sell more than 50% (and up to 100% if necessary) of their ERs to the CF, in order to comply with the total contracted volume in the ERPA and in accordance with the decision made by the National Benefit Sharing Committee. Once the Call Option has been exercised by the CF and the additional ERs volume has been determined, if this volume is not achieved with 50% of the ERs of the registered REDD+ Projects, they will sell more than 50% (and up to 100% if necessary) of their ERs to the CF, in order to comply with the additional ERs volume agreed upon in the call option and in accordance with the decision made by the National Benefit Sharing Committee.”

2. Legal framework for nesting REDD+ initiatives in Guatemala

Within the legal framework related to the nesting of initiatives, the "Framework Law to regulate the reduction of vulnerability, mandatory adaptation to the effects of climate change and the mitigation of greenhouse gases" (Decree No. 7-2013) stands out. The

objective of this instrument is to establish the necessary regulations to prevent, plan and respond in an urgent, adequate, coordinated, and sustained manner to the impacts of climate change in the country.

The implementation of REDD+ mechanisms in Guatemala contributes to the mitigation of GHGs through the prevention of deforestation, forest degradation, as well as the increase of carbon stocks, thus responding to the objectives of the Framework Law on Climate Change. It should be noted that Article 22 of this law states that initiatives that generate ER certificates must be registered with the registry that the MARN must create, which in turn is a requirement for the nesting of initiatives to be comprehensive.

2.1 Participating institutions: mandate and inter-institutional agreements

The ERP-Executing Unit (with the support of GCI and GIMBUT), will perform the measurements and establish the quotas and must apply the percentage discount related to uncertainties at the jurisdictional/national level.

The institutions linked to the nesting process are mentioned later in this document. These institutions will oversee the elaboration and updating of the FRL, management of the MRV system, preparation of monitoring reports, reports to the UNFCCC (INGEI and BUR), registration of mitigation measures and ER transactions.

The institutions in charge of developing the ERP have the legal mandate and the technical and financial capacity to develop their roles and functions according to a robust, transparent, and coordinated regulatory framework (inter-institutional coordination) and avoiding conflicts of interest.

By legal mandate of Article 22 of the Framework Law on Climate Change (Decree 7-2013), the MARN shall issue the necessary regulations for the creation and operation of the registry of GHG emission removal or reduction initiatives for the procedures of disclosure, promotion, registration, validation, monitoring and verification of projects. Currently, there is ongoing process for the elaboration of the regulations for the system of registration of GHG emissions removal or reduction projects. However, the existing regulation drafts must be updated to take into account the national context with the presentation of the ERPD as well as to address the issues of emissions accounting, establishment of quotas and the nesting of these initiatives within the accounting of emissions.

To coordinate the four institutions involved in land use and land use change -CONAP, INAB, MARN and MAGA- in 2015 an agreement was signed for the creation of the GCI, whose objectives are:

- Establish a coordination mechanism for the harmonization of policies of the represented institutions and to increase the effectiveness of conservation, management and protection of biodiversity and natural resources actions in the national territory.
- Coordinate the application of policies on the use, management, conservation, management, and administration of renewable natural resources that will be oriented, promoted and applied for the planning and territorial rural development.

In addition, the agreement that created the GIMBUT has a duration of five years being signed by the authorities of each institution in 2015. GIMBUT's mandates are:

- The generation and systematization of the information produced in the institutions, in relation to the monitoring of forests and land use and other related issues, within the framework of the competences and capacities of each institution, harmonizing the information among the institutions that integrate the GIMBUT.
- The maintenance of a framework of action and technical inputs under an integrated vision for the generation of information that allows the implementation of forest monitoring projects and land use and its dynamics.
- The support to national actions and projects related to the National Strategy for the Reduction of Emissions from Avoided Deforestation and Forest Degradation in Guatemala, within the framework of the competencies and capacities of each institution.
- The coordination of actions with other national and international bodies related to the issue of forest monitoring and land use and other related issues.

2.2 Registered initiatives contributing to the National REDD+ Strategy

REDD+ initiatives in Guatemala that make up the pool of nationally recognized mitigation actions must be formally registered. Registered REDD+ initiatives must be aligned with the National REDD+ Strategy and Framework Law to Regulate the reduction of Vulnerability, Mandatory Adaptation to the Effects of Climate Change and the Mitigation of Greenhouse Gases. Only those initiatives that satisfactorily meet the national eligibility criteria and requirements and contribute to the National REDD+ Strategy will be able to enjoy the rights and fulfill the duties derived from the registration act.

Among the initiatives that are contributing to the national REDD+ process, the ERP presented to the donors of the FCPF CF during the meeting of the CF20 Meeting in July 2019 stands out. The main objective of this programme is to reduce greenhouse gas emissions to a maximum of 10.5 million tonnes of carbon dioxide equivalent (CO₂) equivalent a period of five years.

Another initiative that is prominent and contributes to the national REDD+ process is the REDD+ GuateCarbon Project, implemented by CONAP and ACOFOP, in the Mayan Biosphere Reserve-Multiple Use Zone (MBR-ZUM), with an area of 665,000 hectares. The project carries out activities of control and protection of the forest, forest governance, as well as development of productive alternatives that generate economic and social development for the local communities. The objective of the project is to reduce emissions from deforestation within the multiple use zone of the Maya Biosphere Reserve, one of the largest protected areas in Guatemala. A reduction of 37 million tons of CO₂ equivalent over a 30-year period is estimated, according to VCS. The project began in 2012 and will culminate in 2042. This project has a baseline validated and verified by VERRA-VCS. In August 2019, the project carried out a first verification (2012-2014 period) with a volume of 1,200,000 tons of CO₂ equivalent of which none has been commercialized and there is no sales commitment with any organization.

Also noteworthy is the project "Lacandón: Forests for Life" that is being implemented from 2012 and is expected to last until January 31, 2041. This project grouped and led by Fundación Defensores de la Naturaleza -FDN-, is located in the Sierra de Lacandón protected area in the department of Petén. The project area, in its initial phase (integrated by private areas of FDN and the cooperatives La Lucha, La Técnica Agropecuaria and Unión Maya Itzá), is 53,884.2ha, of which 45,288ha are forest. For this reason, the project has the objective of reduce the deforestation to conserve biological diversity and strengthen sustainable development of local populations This initiative has a mitigation projection with more than 30 million tons of CO₂ equivalent over 30 years on the project baseline, verified by Verra-VCS and from which more than 179 families benefit. This project already has sales within the voluntary market, as it has 369,982 tCO₂e verified.

Also noteworthy is the FUNDAECO project (REDD+ Project for Caribbean Guatemala: the Conservation Coast). This emission reduction project is located in the Caribbean coast region of Guatemala (Department of Izabal). The project aims to reduce 23 million tons of CO₂ equivalent over a period of 30 years. The baseline of this project has the approval and verification by VCS. The FUNDAECO initiative is excluded from the ERP area of the FCPF and has a contract for the sale of carbon credits in the voluntary market valid until 2022.

Finally, there are other projects under formulation, such as the Foundation for the Integral Development of Man and his Environment (CALMECAC) and, once again, the Foundation for the Defense of Human Rights (Fundación de Defensores de la Naturaleza).

2.2.1 National Criteria for Registration of REDD+ Initiatives in Guatemala

A minimum, verifiable set of national criteria is established, whose compliance is a condition for any REDD+ activity to be formally and publicly recognized as a contributor to the National REDD+ Strategy and registered in Guatemala's National Registry of REDD+ Initiatives¹² (act and number grant).

The established criteria are:

- Contribute to sustainable development.
- Comply with the social and environmental safeguards of the jurisdictional initiative in which it is nested.
- To be able to demonstrate the ownership/possession of carbon rights and the absence of land conflicts.
- Possess the potential to reduce emissions in the territories where the mitigation actions will be developed.
- Establish a BSP signed by the participants in the REDD+ initiative.

2.2.2 Procedure for the registration of REDD+ initiatives

The MARN will define the formal procedure for the evaluation and eventual registration of REDD+ initiatives in Guatemala, which includes:

- Publish national eligibility criteria and timeline for review and approval.
- Define and communicate conditions for existing REDD+ initiatives to meet the requirements for proper registration.
- Establish an evaluation mechanism for the assessment of compliance with national eligibility criteria.
- Establish procedural and documentation requirements for proponents of REDD+ initiatives to submit applications and documentation related to the registration process (e.g., project or program design document, evidence of compliance with national eligibility criteria, independent verification, etc.).

¹² It is officially called 'Registro de Proyectos de Remoción o Reducción de Emisiones de GEI' and considers all the ER initiatives (not only REDD+ initiatives).

- Define requirements for transparency in decision-making by the authority, as well as timelines for the administrative registration procedure.

2.2.3 Rights and obligations of registered REDD+ initiatives

Duly registered REDD+ initiatives will have access to a series of rights and obligations, among others:

- Right to be allocated a national/jurisdictional LRF 'quota' following the determined allocation methodology.
- Right to be part of the Benefits Sharing Plan of the ERP, for those initiatives nested into the ERP.
- Right to receive benefits from the Reserve of ERs when the period of compliance of a jurisdiction, program or REDD+ initiative ends and can be used (this only refers to the national reserve and does not affect the buffer of uncertainty or reversion).
- Ownership or right over ERs generated in the project area/initiatives. These ERs will be determined using as baseline the FRL quota assigned ex ante and the biennial expost measurement of actual emissions by the national MRV entity, taking into account any applicable deductions for uncertainties and contributions to national reserves of ERs and trade restrictions, in compliance with ERPA agreements (committed volume).
- Right to see published in the registry of REDD+ initiatives the quotas of the FRL and the ERs assigned to the initiative.
- Right to request review and information, following the established procedures and deadlines, on previous allocations (FRL quota and ERs) and to receive a response within a reasonable period.
- Obligation to report any transactions of ERs to the registry of REDD+ initiatives, without losing the right to confidentiality of sensitive private information in accordance with applicable law.
- Obligation, if constituted, to contribute a predefined percentage of ERs to a reserve of ERs under the ERP/National as a risk mitigation mechanism for low jurisdictional return.
- Obligation to pay a fee proportional to the volume of ERs generated to contribute to the cost of maintaining and operating the national registry and MRV systems, and other institutional costs of the national nested REDD+ system.
- Prohibition to transfer ERs to entities of foreign parties wishing to use them to comply with their respective NDCs unless authorized by the designated national authority.

3. Guarantee mechanisms for fair and efficient performance of REDD+ initiatives in Guatemala

In cases where a jurisdiction, program or REDD+ initiative may have a significant underperformance for reasons beyond the control of the REDD+ initiative's proponent, does not enter into operation or does not guarantee the permanence of the ERs or the safeguards and regulations have not been respected despite appropriate warnings, the possibility of withdrawing the registration or "operating license" of a REDD+ initiative or jurisdictional program will be enabled if no ERs are generated for 5 or more consecutive years.

The triggers and legal conditions for such withdrawals will be clearly defined in the final document and will form part of the REDD+ regulatory framework.

An underperformance situation could occur for a variety of reasons, such as inefficiency in the design or implementation of REDD+ policies and programs at the jurisdiction level, leakage from displacement of activities caused by sub-jurisdictional activities, leakage from other jurisdictions, lack of funds, or a combination of all these factors.

Permanence refers to the concept that it must be ensured that verified emission reductions used to offset emissions accounted for under a cap and trade scheme are truly permanent. There is always the risk that a protected forest today could be deforested tomorrow, generating future emissions.

For both under-performance and permanence, appropriate insurance mechanisms are required, such as the creation of a verified emissions reserve, which could be cancelled in the case of under-performance or non-permanence, as well as other insurance mechanisms.

A project registry will measure the performance or underperformance and permanence of ERs under a nested scheme ensuring fair and efficient competition for REDD+ initiatives. (See Chapter V-National Registry of mandatory and complete REDD+ initiatives: design and information contained).

4. Strong institutional framework with appropriate regulations for REDD+ initiatives in Guatemala

The institutional framework for nesting, as well as the registration of REDD+ initiatives within Guatemala's National REDD+ Strategy will be an institutional coordination among

the various actors involved in Guatemala's REDD+ strategy. The key institutional actors within this strategy are MINFIN, MARN, CONAP, INAB, MAGA, MINFIN and government institutions that are required in the process, as well as the GCI, GIMBUT and GIREDD+

The functions and responsibilities of government institutions and inter-agency working groups are detailed below:

MARN: It is the public sector entity in charge of in environmental matters. MARN is responsible for protecting the natural systems that develop and sustain life in all its manifestations and expressions, promoting a culture of respect and harmony with nature and protecting, preserving and rationally using natural resources in order to achieve a transgenerational development and articulating the institutional, economic, social and environmental task, with the purpose of forging a competitive, supportive, equitable, inclusive and participatory Guatemala.

Having direct competence in climate change and REDD+ (Framework Law on Climate Change -Decree 7-2013), through the Directorate of Climate Change and in conjunction with the GCI, MARN will be responsible for developing/modifying/updating the Registry of GHG Reduction or Removals Projects.

MAGA: It is the entity that promotes integral rural development through the transformation and modernization of the agricultural, forestry and hydrobiological sectors, developing productive, organizational and commercial capacities to achieve food security and sovereignty and competitiveness, with clear rules and regulations for the handling of products in the national and international markets guaranteeing the sustainability of natural resources.

INAB: It is an autonomous, decentralized state institution, created in 1996, with legal personality, its own patrimony and administrative independence. INAB is the governing entity in charge of the administration of forest resources outside protected areas. INAB's mission focuses on executing and promoting national forest policy instruments and facilitating access to the services provided by the institution to forest sector actors through the design and promotion of programs, strategies and actions that generate greater economic, environmental and social development in the country.

CONAP: The National Council of Protected Areas (CONAP) is the highest organ of direction and coordination of the Guatemalan System of Protected Areas (SIGAP). It has jurisdiction over the entire national territory, its maritime coasts, and its air space. It has functional autonomy and its budget is composed of annually allocated by the State and specific donations from individuals, donor countries, international organizations, and entities.

CONAP, as governing body of the Guatemalan System of Protected Areas, can also propose a joint REDD+ initiative, as is the case of the Guatecarbon early REDD+ project.

MINFIN: The Ministry of Finance is the Program Entity of the ERP, has the mandate to fulfill and enforce the fiscal and budget legal regime, the administration of tax revenues, the management of internal and external financing, budget execution and the registration and control of assets that constitute the State patrimony.

GCI: It is the group formed by MARN, MAGA, INAB and CONAP and is in charge of establishing a coordination mechanism for the harmonization of policies of the institutions they represent and to make more effective the actions for the conservation and sustainable management of natural resources, as well as to coordinate the application of policies on the use, management, conservation, management and administration of renewable natural resources that be oriented, promoted and applied for the planning and territorial rural development.

GIREDD+: This is a specific working group composed of national and international NGOs and community associations that have the capacity to implement REDD+ actions in their territories. The objective of GIREDD+ is to create a forum for dialogue, discussion and advocacy between implementers of early REDD+ projects and demonstration activities, including proposals, methods and actions for reducing deforestation and degradation through direct field experience that allow feedback on both national and international policy processes through the active participation of its members.

Likewise, MINFIN, which will be the Program Entity, has the mandate to comply with and enforce everything related to the state tax legal regime, the administration of tax revenues, the management of internal and external financing, budget execution and registration. and control of the assets that constitute the patrimony of the State.

5. Mandatory and comprehensive national Registry of REDD+ initiatives: design and contained information

All REDD+ initiatives must be registered in accordance with the requirements described in the Registry that the Framework Law to Regulate Vulnerability Reduction, Mandatory Adaptation to the Effects of Climate Change and Mitigation of Greenhouse Gases (Decree 7-2013) stipulates in its Article 22 and that creates the Registry of Projects for Removal or Reduction of Greenhouse Gases Emissions (GHG). This registry will be ascribed to the MARN with the objective of having a system for recording mitigation actions, including the REDD+

mechanism, and all emission reduction transactions. This instance will issue a registration certificate when the project is registered.

This registry system will link the FREL established in the country, the MRV system and all REDD+ initiatives¹³ into an integrated database, thus allowing transparent tracking of the origin and destination of each emission reduction at the level of each registered REDD+ activity. This registration system and its regulations are being designed by the MARN, with the support of the IADB, in the context of the preparation of the national REDD+ Strategy and will be operational from August 2020.

This information system will be part of the National Climate Change Information System (SNICC), described in the Climate Change Law which is administered by the MARN.

The registry shall be of a public nature and shall include at least the following general information:

- a) Basic information of the MRV system, national FREL, emission factors, activity data, and biennial results.
- b) Regulatory framework applicable to all REDD+ initiatives.
- c) Procedures, timelines, and forms that will be used to submit and process any application, claim, report, assignment, etc.
- d) Names and contact points of the national bodies to which any request for registration, complaint, transaction, etc. should be addressed.

The registration system must include at least the following information for each initiative:

- a) National approval letter demonstrating that the initiative is Registered, with all rights and obligations and a registration number.
- b) The documents submitted by the proposer that support compliance with the national eligibility and quality criteria.
- c) The document describing the project or jurisdictional program, with its participants, planned activities, duration, etc.
- d) The accounting area (polygon of the area), in pdf format and shapefiles format to visualize and analyze in any geographic information system (GIS).
- e) The 'quota' of the assigned FRL, with the corresponding calculation.
- f) The volume of ERs achieved and allocated on a biennial basis, with the corresponding calculation, including any deduction for uncertainties and contributions to national reserves.

¹³ As well as other programs or projects that generate ERs.

- g) All transactions of ERs, under certain privacy conditions.
- h) Authorizations from the designated national authority to transfer assigned ERs to another Party that may use them to comply with their respective NDCs.

The registration system should be a transparent, efficient, and secure system managed by a single institution but fed by several other Guatemala institutions according to the national institutional arrangements and regulations developed for it. REDD+ initiatives must be recorded in the Registry to qualify for inclusion in the ERP. This registry should keep a record of the annual emissions that have been registered by each project in its FREL, as well as of the emission reductions that have been projected in projects for which estimated quotas have been allocated. The registry should also keep a record of emissions and emission reductions for the entire ER program. It should be noted that, to qualify for the allocation of estimated quotas for nesting, a project must meet the criteria for inclusion in the registry.

6. National strategy and design of mechanisms to address a potential lack of results at the jurisdictional level

The nested system only makes sense if there is legal certainty for registered REDD+ initiatives that will receive an allocation of CERs according to established rules, regardless of the performance of other REDD+ initiatives and the entire jurisdiction. The nesting system has the goal of avoiding double counting of emissions.

The mechanism/regulation to preserve the environmental integrity of ERs allocated to registered REDD+ initiatives will consider the following criteria:

- ERs should be calculated by summing the biennial results obtained in each REDD+ initiative cumulatively. This implies that, if an initiative has emissions above FREL in certain years, it will first have to offset these emissions before receiving an allocation of ERs.
- The establishment of a Solidarity Reserve fueled by a percentage of the ERs initially allocated to each nested initiative will allow the jurisdiction to cancel its environmental debt within a reasonable timeframe.
- Contributions could also be collected in the form of payments into a fund that would be used to acquire ERs from other jurisdictions and sectors.
- For those initiatives that do not show results within the framework of the ERP in accordance with the proposed monitoring (established and intermediate) a partial or total cancellation process will be started for those initiatives that do not comply with the Forest Management Plan.

The MARN in conjunction with the GCI should define the percentage of contribution to the national reserve, which can be determined, initially, with a risk analysis and would be adjusted in a fixed period of time (every 4 years) or according to the results obtained by each initiative and the general performance of the jurisdiction after monitoring.