



**Forest Carbon Partnership Facility (FCPF)**

**Carbon Fund**

**Emission Reductions Program Idea Note (ER-PIN)**

Country: \_\_\_\_\_ Costa Rica \_\_\_\_\_

ER Program Name: \_\_\_\_\_

Date of Submission or Revision: September 1<sup>st</sup> 2012, revised Sept. 16<sup>th</sup> 2012 \_\_\_\_\_

***FONAFIFO Disclaimer***

*This is a work in progress. FONAFIFO reserves the right to adjust this ER-PIN (for example, with regard to cost estimates, reference level, monitoring events, or timeline of activities) as the implementation plan for the ER Program moves forward. A World Bank mission will be arriving shortly and will cooperate in the general revision of this document. In addition, consultations will be undertaken during this mission on the ER-PIN proposal. Meanwhile, FONAFIFO is developing the ER-PIN Financial Strategy, which will be discussed at a technical workshop on September 28, 2012, and it is currently revising and updating the REDD+ (R-PP) strategy. These new elements may be included in the ER-PIN presentation to the Carbon Fund on October 16 and 17.*

***World Bank Disclaimer***

*The World Bank does not guarantee the accuracy of the data included in the Emission Reductions Program Idea Note (ER-PIN) submitted by a REDD Country Participant and accepts no responsibility whatsoever for any consequence of their use. The boundaries, colors, denominations, and other information shown on any map in the ER-PIN do not imply on the part of the World Bank any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.*

**Guidelines:**

1. The FCPF Carbon Fund will deliver Emission Reductions (ERs) from activities that reduce emissions from deforestation and forest degradation, conserve forests, promote the sustainable management of forests, and enhance forest carbon stocks in developing countries (REDD+) to the Carbon Fund Participants.
2. A REDD Country Participant interested in proposing an ER Program to the Carbon Fund should refer to the selection criteria included in the Carbon Fund Issues Note available on the FCPF website ([www.forestcarbonpartnership.org](http://www.forestcarbonpartnership.org)) and to further guidance that may be communicated by the FCPF Facility Management Team (FMT) over time.
3. ER Programs shall come from FCPF REDD Country Participants that have signed their Readiness Preparation Grant Agreement, using this ER Program Idea Note ('ER-PIN') template.
4. The completed ER-PIN should ideally not exceed 40 pages in length (including maps, data tables, etc.). If additional information is required, the FCPF FMT will request it.
5. Please submit the completed ER-PIN to: 1) the World Bank Country Director for your country; and 2) the FCPF FMT ([fcpfsecretariat@worldbank.org](mailto:fcpfsecretariat@worldbank.org)).
6. As per Resolution CFM/4/2012/1 the Carbon Fund Participants' decision whether to include the ER-PIN in the pipeline will be based on the following criteria:
  - i. **Progress towards Readiness:** The Emission Reductions Program (ER Program) must be located in a REDD Country Participant that has signed a Readiness Preparation grant agreement (or the equivalent) with a Delivery Partner under the Readiness Fund, and that has prepared a reasonable and credible timeline to submit a Readiness Package to the Participants Committee;
  - ii. **Political commitment:** The REDD Country Participant demonstrates a high-level and cross-sectoral political commitment to the ER Program, and to implementing REDD+;
  - iii. **Methodological Framework:** The ER Program must be consistent with the emerging Methodological Framework, including the PC's guiding principles on the methodological framework;
  - iv. **Scale:** The ER Program will be implemented either at the national level or at a significant sub-national scale, and generate a large volume of Emission Reductions;
  - v. **Technical soundness:** All the sections of the ER-PIN template are adequately addressed;
  - vi. **Non-carbon benefits:** The ER Program will generate substantial non-carbon benefits; and
  - vii. **Diversity and learning value:** The ER Program contains innovative features, such that its inclusion in the portfolio would add diversity and generate learning value for the Carbon Fund.

**1. Entity responsible for the management of the proposed ER Program**  
*Please provide the contact information for the institution and individual responsible for proposing and coordinating the proposed ER Program.*

<b>Name of managing entity</b>	National Forestry Financing Fund (FONAFIFO)
<b>Type and description of organization</b>	<b>FONAFIFO is the coordinating organization of the ER Program and the REDD+ strategy</b> in Costa Rica. FONAFIFO is a governmental institution established by Forestry Act 7575 to finance the forestry sector and execute the payment and sale of environmental services (PES and CES). The Act stipulates the Fund's responsibilities and powers in the area of environmental services for the implementation of deforestation avoidance projects and initiatives to reduce emissions, mainly in terms of land use. FONAFIFO is in charge of creating links between markets of environmental services, forest owners, the forestry sector, PES implementers, governmental agencies, financial bodies, indigenous territories, national and international non-governmental organizations and national and international donors.
<b>Main contact person</b>	Jorge Mario Rodriguez Zuñiga
<b>Title</b>	Director General
<b>Address</b>	AV 7 C3 y 5 San José, Costa Rica
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<b>Email</b>	<a href="mailto:jrodriguez@fonafifo.go.cr">jrodriguez@fonafifo.go.cr</a>
<b>Website</b>	<a href="http://www.fonafifo.go.cr">www.fonafifo.go.cr</a>

**2. National REDD+ focal point contact information**  
*Please provide the contact information for the institution and individual who serve as the national REDD+ Focal Point and endorses the proposed ER Program, or with whom discussions are underway*

<b>Name of entity</b>	National Forestry Financing Fund
<b>Main contact person</b>	Alexandra Saenz Faerron
<b>Title</b>	Director, REDD Strategy
<b>Address</b>	AV 7 C3 y 5 San José, Costa Rica
<b>Telephone</b>	(506) 22358475
<b>Email</b>	<a href="mailto:asaenz@fonafifo.go.cr">asaenz@fonafifo.go.cr</a>
<b>Website</b>	<a href="http://www.fonafifo.go.cr">www.fonafifo.go.cr</a>

**2.1 Endorsement of the proposed ER Program by the national government**  
*Please provide the written approval for the proposed ER Program by the REDD Country Participant's authorized representative (to be attached to this ER-PIN). Please explain if the national procedures for the endorsement of the Program by the national government REDD+ focal point and/or other relevant government agencies have been finalized or are still likely to change, and how this might affect the status of the attached written approval. ER Program)*

*must be located in a REDD Country Participant that has signed a Readiness Preparation grant agreement (or the equivalent) with a Delivery Partner under the Readiness Fund, and that has prepared a reasonable and credible timeline to submit a Readiness Package to the Participants Committee*

The Emission Reductions Program Idea Note (ER-PIN) in Costa Rica is managed by the office of the REDD+ Focal Point, and has been approved by the Office of the Minister of the Environment, Energy and Telecommunications, and by the Executive Office of FONAFIFO, which will oversee the REDD Executive Secretariat, responsible for managing and coordinating the REDD strategy and executing the Readiness Package (R-Plan).

It is important to note that the Governing Board of REDD+, the REDD Secretariat of FONAFIFO, the Executive Secretariat and the Interinstitutional Commission are in the process of being constituted. These bodies are included in the Costa Rican REDD R-Plan as being in charge of managing national “readiness,” and will therefore be responsible for implementing this ER Program.

## **2.2 Political commitment**

*Please describe the political commitment to the ER Program, including the level of support within the government and whether a cross-sectoral commitment exists to the ER Program and to REDD+ in general.*

Attached is a note duly signed by the Minister of the Environment, Energy and Telecommunications (MINEAT) and attesting to the support of his office. For now, there are no formal agreements of support from other sectors; however, the REDD Strategy, and therefore this ER-PIN, are duly aligned with the various public environmental initiatives and policies concerning forestry resources, renewable energy, and sustainable agriculture.

**3. Partners and other entities involved in the proposed ER Program**

**3.1 List of existing partner agencies and organizations involved in the proposed ER Program**  
*Please list existing partner agencies and organizations involved in the development of the proposed ER Program or that have executive functions in financing, implementing, coordinating and controlling activities that are part of the proposed ER Program. Add rows as necessary.*

Name of partner	Contact name, telephone and email	Core capacity and role in the proposed ER Program
<b>Governmental agencies</b>		
Ministry of the Environment, Energy and Telecommunications		Institution in charge of the country's environmental policies
National System of Conservation Areas (SINAC)		Institution responsible for promotion of sustainable forestry management, cutting permits, and control of illegal logging on private land.
College of Agricultural Engineers - CIAgro		Institution supervising the professional work of forestry engineers in charge of implementing the activities of the ER Program such as PESP for forestry conservation, establishment and sustainable forestry management of forest plantations and natural forests, and advance marketing of wood
<b>Implementers of REDD activities</b>		
Forestry engineers and organizations (FUNDECOR, ASIREA, CODEFORSA)		Natural or legal persons devoted to identifying and recruiting forest owners interested in participating in PES. Their main functions are to provide technical and administrative support and supervision to landowners so that they may qualify for the PESP or Sustainable Forestry Management Projects for wood production. Examples are: FUNDECOR, the Association for the Sustainable Development of the Atlantic Region (ASIREA), Forest Development Commission of San Carlos (CODEFORSA), and independent forest regents.
<b>Wood producers and environmental services providers</b>		
Indigenous peoples		Owners of land for the development of REDD+ activities in indigenous

		territories, such as conservation of natural forests and natural regeneration, which will produce carbon rights, water and biological diversity by avoiding deforestation.
Landowners		Owners of land in privately owned areas for the development of activities aimed at conservation and sustainable management of natural primary and secondary forests and plantations that will produce wood and carbon rights, water and biological diversity by avoiding deforestation.
National Forestry Office (ONF)		Organization responsible for designing policies, legislation, and activities to improve the business environment for the implementation of sustainable forestry management.
Chamber of Forestry		Organizes reforesters and industrial forestry producers, to enhance their political impact and improve the business environment in the forestry sector.
<b>Financial entities</b>		
World Forest Foundation, Pension Funds		Investments in sustainable wood production as a profit-making business.
Ministry of the Interior and Ministry of Planning		Governmental entities in charge of maintaining coordination and financing of national development programs, including PESP.
<b>Buyers of wood and environmental services</b>		
Distributors of electricity, water and sewage services, public and private hydroelectric power companies		Purchasers of environmental services, such as water produced by avoided deforestation, as a measure to protect the quality and flow of water necessary for their operations, either for human consumption or energy production.
FCPF Carbon Fund		Provides incentives for emission reductions while protecting forests, conserving biodiversity, and strengthening the means of subsistence of local communities and forest-dependent indigenous peoples.

Carbon neutral enterprises		Purchasers of forestry emission reductions to offset their greenhouse gas stocks.
Private environmentally sound activities, including in homes, tourist industries, cargo transport, and agricultural firms		Emissions reduction purchases, to mitigate the carbon footprint of their production activities.
Local businesses involved in construction		Increase use of wood as a strategy to reduce their carbon footprint by substituting other materials.

**3.2 Capacity of the agencies and organizations involved in implementing the proposed ER Program**  
*Please discuss how the partner agencies and organizations identified in section 3.1 have the capacity (both technical and financial) to implement the proposed ER Program*

The partners and entities involved in the proposed ER Program are identified in accordance with two implementation scenarios, established on the basis of the type of REDD+ activities to be carried out:

**Avoided deforestation activities:** This implementation scenario is based on the production of environmental services (ES) (water, biodiversity, carbon, and scenic beauty) in natural old growth forests and secondary growth forests, through the Payment for Environmental Services Program (PESP). In this scenario, FONAFIFO will serve as an intermediary between producers and buyers of local and global ES. In addition, FONAFIFO will manage the financing and administration of the PESP (control, implementation, and registration), with the support of private entities (individual forestry engineers and corporations) and the relevant government agencies. The avoided deforestation options under this scenario are the following: A. Additional PES area for avoided deforestation in old growth forest; and B. Additional PES area in secondary growth forest (see Figure 1).

**Activities to enhance carbon stocks:** This implementation scenario would cover both the production of ES and sustainable wood production through sustainable management of natural forests, establishment of forest plantations, and induction of secondary growth on degraded land. It would therefore include the partners and entities involved in the production of ES as well as international forestry investors, businesses involved in construction, and owners of unforested land. In this implementation scenario, the role of FONAFIFO is extended to the management and administration of financial mechanisms for the sustainable production of wood. The carbon stock enhancement options are: D. Additional PES area for carbon sequestration through the establishment of forest plantations; E. Additional PES area for carbon sequestration through induction of early regeneration; and F. Sequestration of carbon in wood products by increasing the use of wood (see Figure 2).

Figure 1 and Figure 2 show the partners and entities involved in the implementation of REDD activities under the ER Program. The following groups of entities are worth mentioning:

**Government agencies:** Specifically relevant are the organizations in charge of administration, protection, and illegal logging control in private and public forests. The agencies directly related to the ER Program are the National System of Conservation Areas (SINAC), the Ministry of the Environment, Energy and Telecommunications (MINAET), and the College of Agricultural Engineers (CIAgro). The Government has partially delegated control and protection of forestry management plans to CIAgro, which oversees the professional conduct of PES implementers.

**Providers of timber and environmental services:** This group includes natural or legal persons that own natural forests, planted forests, or unforested land, as well as organizations providing advisory assistance in the design and execution of avoided deforestation projects. Some examples are indigenous peoples, owners of degraded forests and land, and the Network of Private Reserves.

**Implementers of the PESP and sustainable forestry management:** Forestry engineers or enterprises responsible for identifying, contracting, and supervising providers of timber and environmental services that participate voluntarily in REDD actions under the ER Program.

**Buyers of timber and environmental services:** An effort will be made to increase participation by *users of wood* as a strategy to reduce their carbon footprint by the substitution of materials, especially in local businesses involved in construction. In addition, the Program will foster the involvement of *buyers of local environmental services*, as part of their corporate social responsibility programs, and *buyers of global environmental services*, as a result of multilateral and bilateral initiatives or private transactions.

**Financial entities:** The Ministry of Finance and the Ministry of Planning are the government entities in charge of ensuring the coordination and financing of national development programs, including the PESP. It is anticipated that the financing required for implementing the ER Program will mainly come from international business investors in timber production and private funding from the sale of carbon rights in the local market.



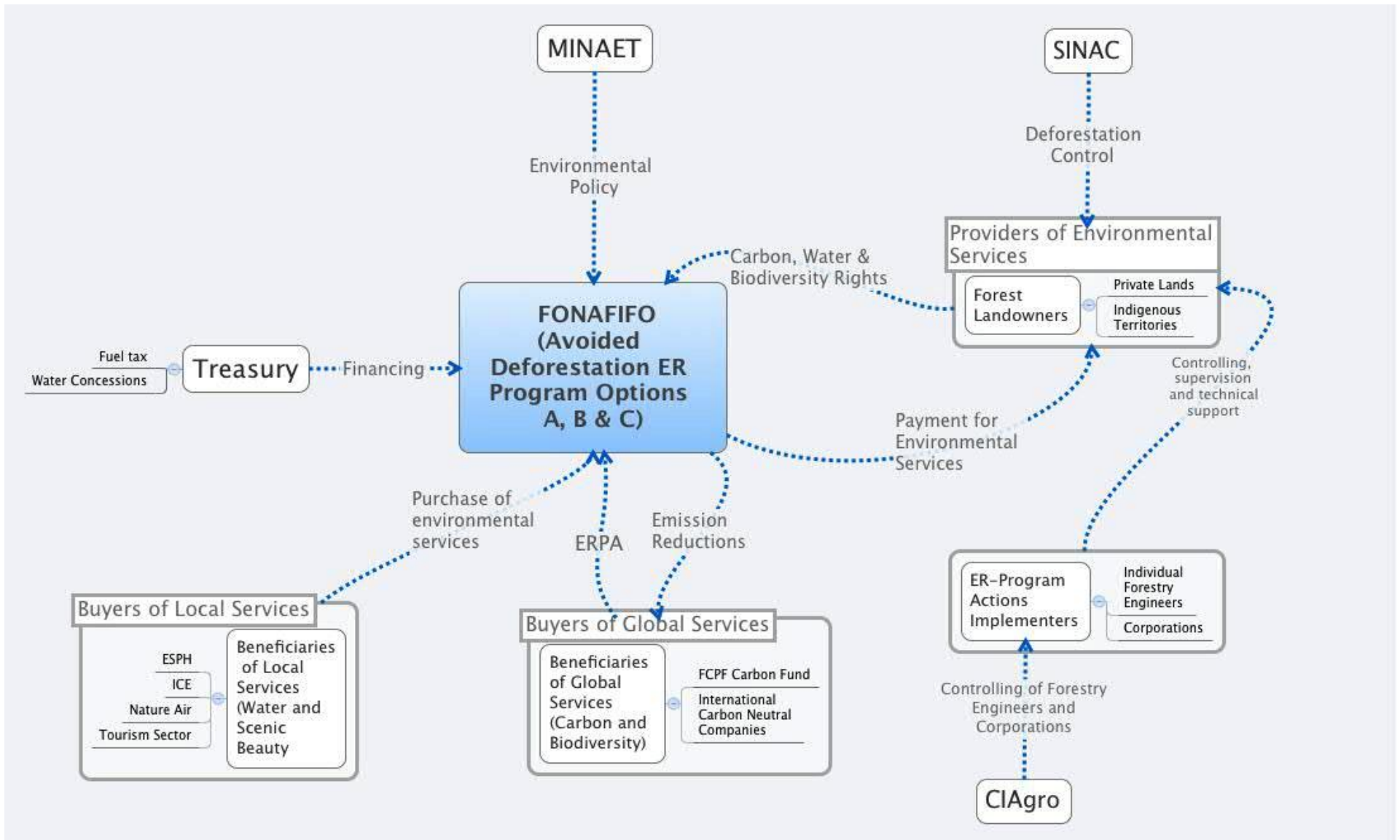


Figure 1: Agencies and organizations involved in the ER Program, for the avoided deforestation options: A. Additional PES area for avoided deforestation in old growth forest; and B. Additional PES area in secondary regeneration forest.

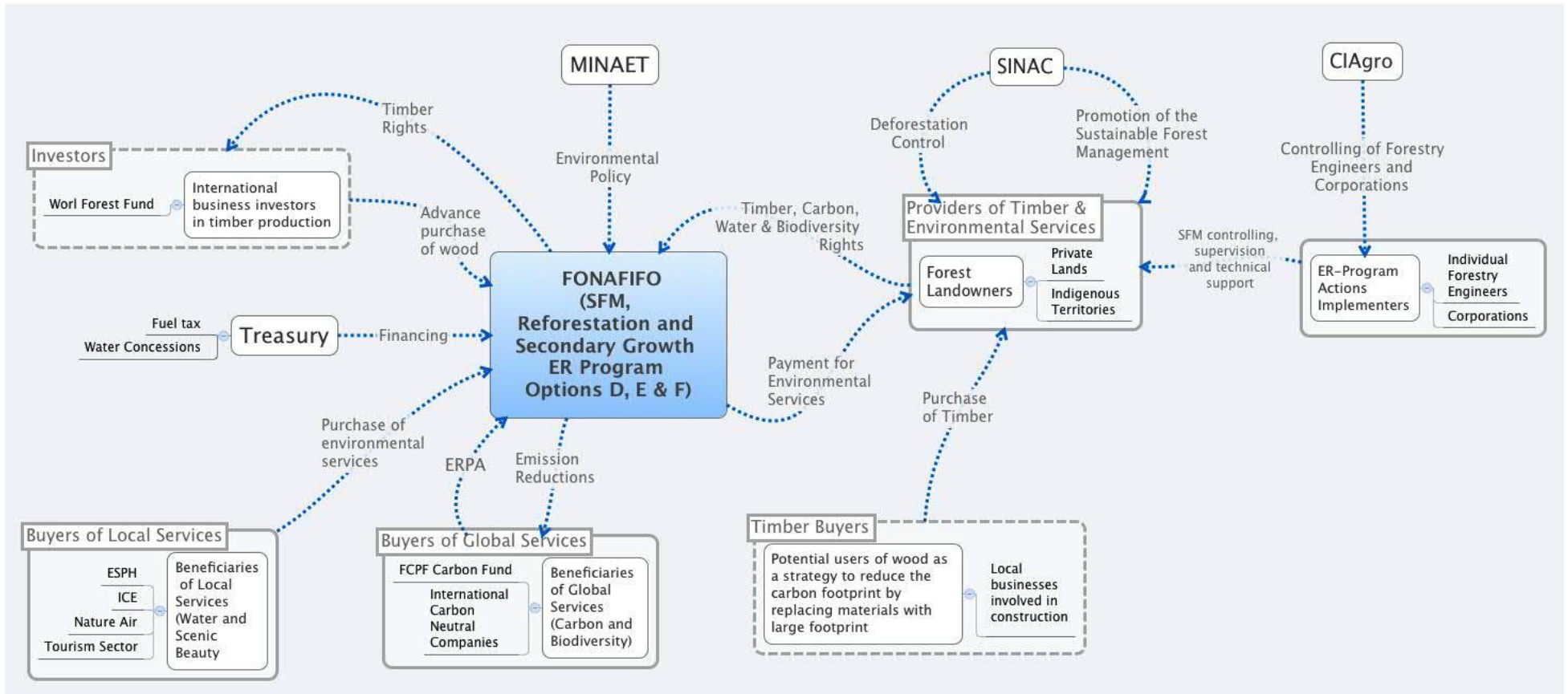


Figure 2: Agencies and organizations involved in the ER Program for the carbon stock enhancement options: D. Additional PES area for carbon sequestration through establishment of forest plantations; E. Additional PES area for carbon sequestration through induction of early regeneration; and F. Carbon sequestration in wood products through increased use of wood.

#### 4. ER Program location and lifetime

**4.1 Scale and location of the proposed ER Program** *Please present a description and map of the proposed ER Program location and surrounding areas, and its physiographic significance in relation to the country. Indicate location and boundaries of the proposed ER Program area, e.g., administrative jurisdiction(s).*

The ER Program is part of the Readiness Preparation Proposal approved for Costa Rica (R-PP). The REDD activities to be implemented are those called for in the REDD strategies for avoided deforestation and carbon stock enhancement. For the ER Program, only credits produced by REDD activities under the R-PP that represent an increase in the country's effort thus far will be taken into account.

There is a possibility that the reduction in emissions resulting from the implementation of the REDD activities under the ER Program will exceed the buying capacity of the Carbon Fund. Nonetheless, it is more attractive for the country to work on the entire package of new R-PP REDD activities for three reasons: i. to reduce the transaction costs; ii. to take advantage of favorable publicity from the signing of an Emissions Reduction Purchase Agreement (ERPA) with the Carbon Fund of the Forest Carbon Partnership Facility (FCPF); and iii. to anticipate the participation of other carbon buyers, both local and international, under the same package.

**Scale:** The REDD activities will be implemented in an area of approximately 342,000 ha of mixed-use private land (old growth and secondary forests, overused pastureland, and land used for perennial crops). This area would include the expansion of the FONAFIFO Payment for Environmental Services Program for avoided deforestation in an additional 127,000 ha of private old growth forest (107,600 ha) and secondary growth forest (19,191 ha). Also anticipated are the following: carbon stock enhancement through the induction of secondary growth in 142,000 ha of degraded farmland (124,282 ha of private land and 18,742 ha in indigenous territories), and the establishment of 72,132 ha of forest plantations and agroforestry systems.

**Location:** The REDD activities of the ER Program will not be implemented in a single territory or large expanse of land, but rather in a set of parcels of varying sizes -- mostly less than 50 ha (see Figure 6) -- located on private land or in indigenous territories zoned for mixed use (old growth and secondary forests, overused pastureland, and land used for perennial crops) and distributed throughout the national territory.

The ER Program will be implemented at the national level under the same modality as the current Payment for Environmental Services Program (PESP), in which owners of private land (3.3 million ha) are recruited, with clear property rights, mainly consisting of individually owned properties, but to a lesser extent communally held land (indigenous territories), zoned for forestry and agricultural use, other than national parks or biological reserves (see Figure 4).

In order to maximize environmental co-benefits such as soil recovery, erosion control, and improved water filtration, priority will be given to induction of secondary growth and the establishment of forest plantations and agroforestry systems on overused land. As can be seen in Figure 3, these areas are concentrated in the lowlands of the northern Caribbean slope and the

central and southern Pacific slopes of the country. To maximize environmental co-benefits such as protection of the quality and availability of water and biodiversity, priority will be given to avoided deforestation in basins with water concessions for human consumption, irrigation, and hydroelectric power production; priority will also be given to underrepresented habitats in the system of national parks and biological reserves considered as biodiversity hotspots (see Figure 3).

To give an idea of the potential structure of the client base for the ER Program, Figure 6 shows the number of contracts signed according to the size of individual properties (fincas), up to August 2012, in the FONAFIFO Payment for Environmental Services Program. Currently, the program has more than 4,500 contracts, of which 64% are under the Forest Protection modality, 33% under the Reforestation modality, and the remaining 3% under the modalities of Management and Regeneration. These contracts represent slightly more than 326,000 ha, 16% of which correspond to fincas of less than 50 ha, 33% to fincas between 50 and 150 ha, and 51% to fincas of over 150 ha.

#### **4.2 Expected lifetime of the proposed ER Program**

*Please describe over how many months/years the proposed ER Program will be:*

*a) prepared; and*

*b) implemented (including expected start date of the proposed ER Program).*

The implementation of the ER Program is planned for the period 2010-2020, which means an expected lifetime of 132 months, or 11 years. The early start date of the activities called for in the ER Program depends on i) the availability of public funds to finance the initial implementation of REDD activities in the ER Program and ii) the opportunity for the sale of emission reduction rights through the Carbon Fund. The project is scheduled to end in December 2020, just before the country begins the period of carbon neutral development. The project will not go beyond that date, because the outlook for selling emission reduction rights may change significantly, given the country's need to offset its greenhouse gas emissions with REDD reductions generated in its own territory.

The ER Program began in 2010 with the implementation of three of the eight activities included in the REDD Strategy: i) incorporation of an additional PES area for old growth forest; ii) new forest plantations; and iii) new secondary growth forests. From 1997 to 2009, the average coverage of PES for avoided deforestation in old growth forests was 218,000 ha; as of December 2011, 86,000 of the 107,600 ha of new contracts, established as a target in the REDD Strategy approved in 2010, had been incorporated. In addition, as of December 2011, 14,000 ha of new plantations and agroforestry systems, of the 72,000 set as a target in the REDD Strategy, had been established. Lastly, as of December 2011, about 7,000 ha of new contracts, out of the 123,000 targeted by the REDD Strategy, had been incorporated.

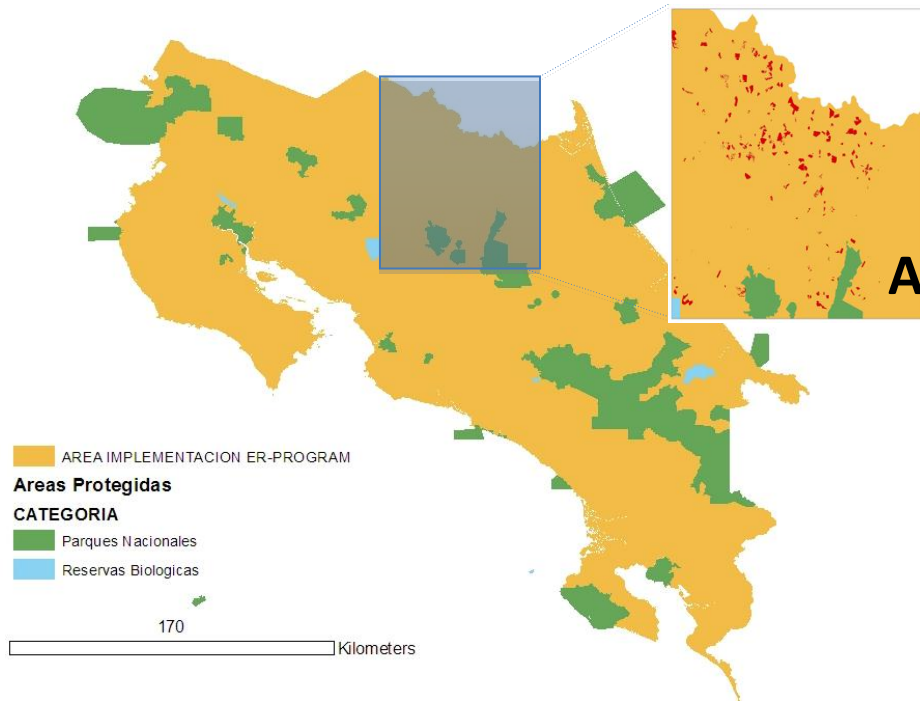


Figure 4: ER Program implementation area. REDD activities will be implemented at the national level on privately owned land, with clear property rights, mainly consisting of individual properties and to a lesser extent communal property (indigenous territories), zoned for forestry and agricultural use, other than national parks or biological reserves. Box A illustrates, in red, an example of private land distribution in the implementation area.

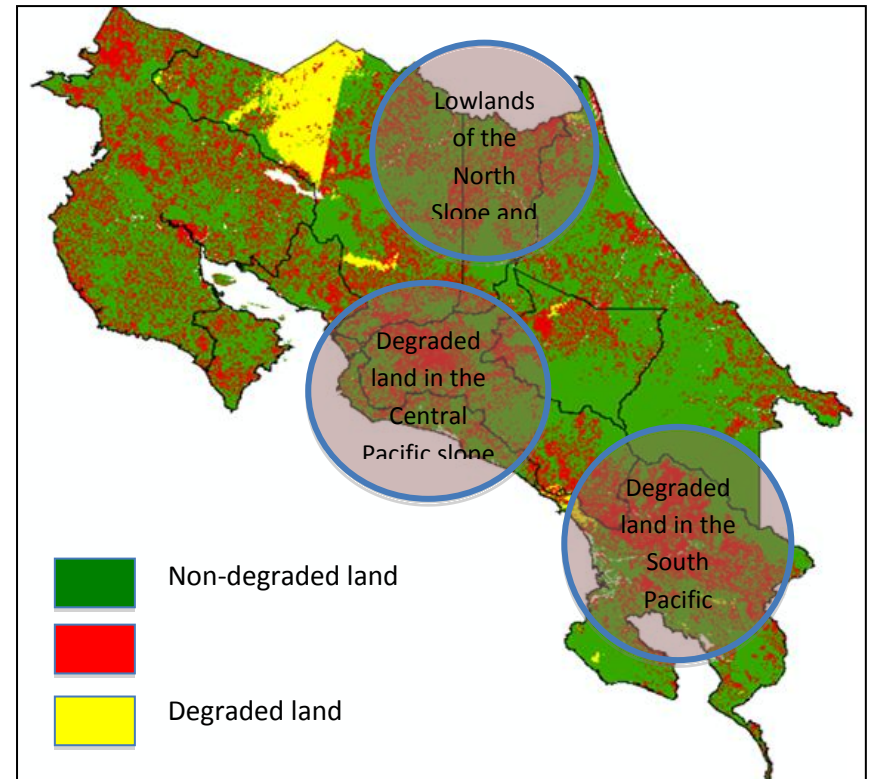


Figure 3: Location of REDD activities under ER Program aimed at enhancing carbon stocks through reforestation and secondary growth on degraded land (lowlands of the northern Caribbean slope and central and southern Pacific slopes).



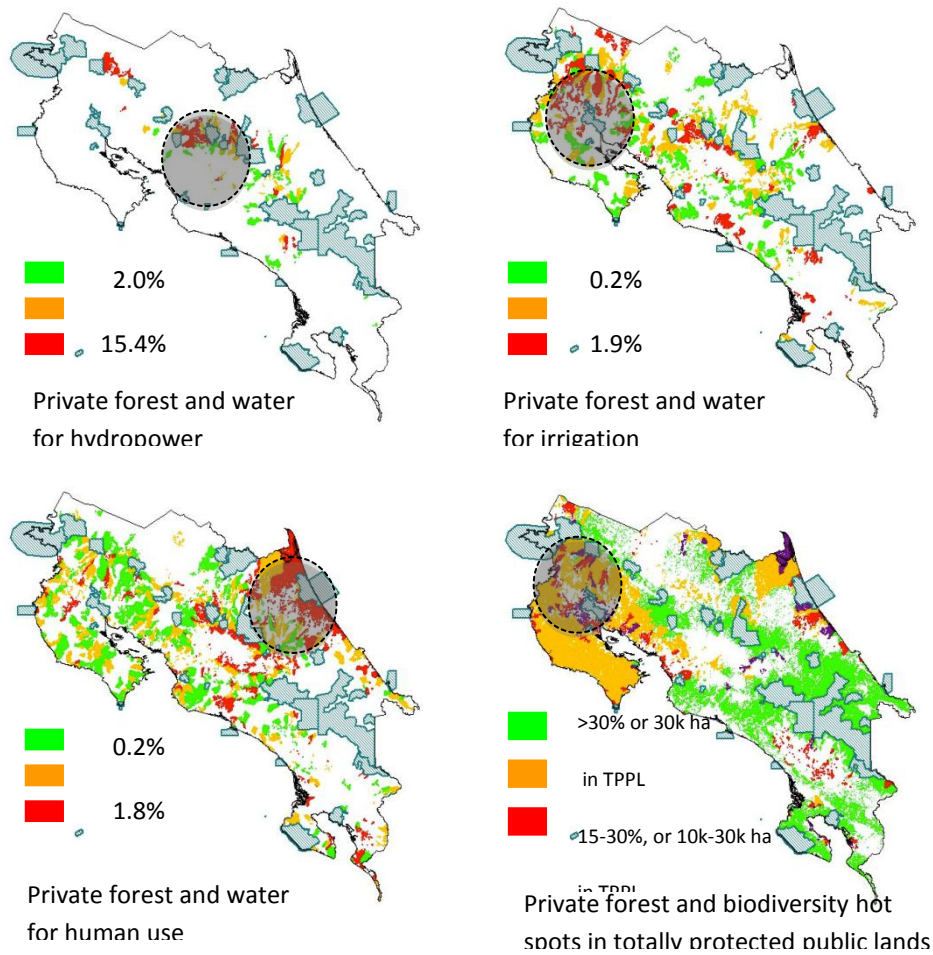


Figure 5. Private forest in basins with water concessions for human use, irrigation, and hydropower, and their contribution to conservation of biodiversity hot spots. The circled areas show the concentration of high-value forests in terms of water or biodiversity.

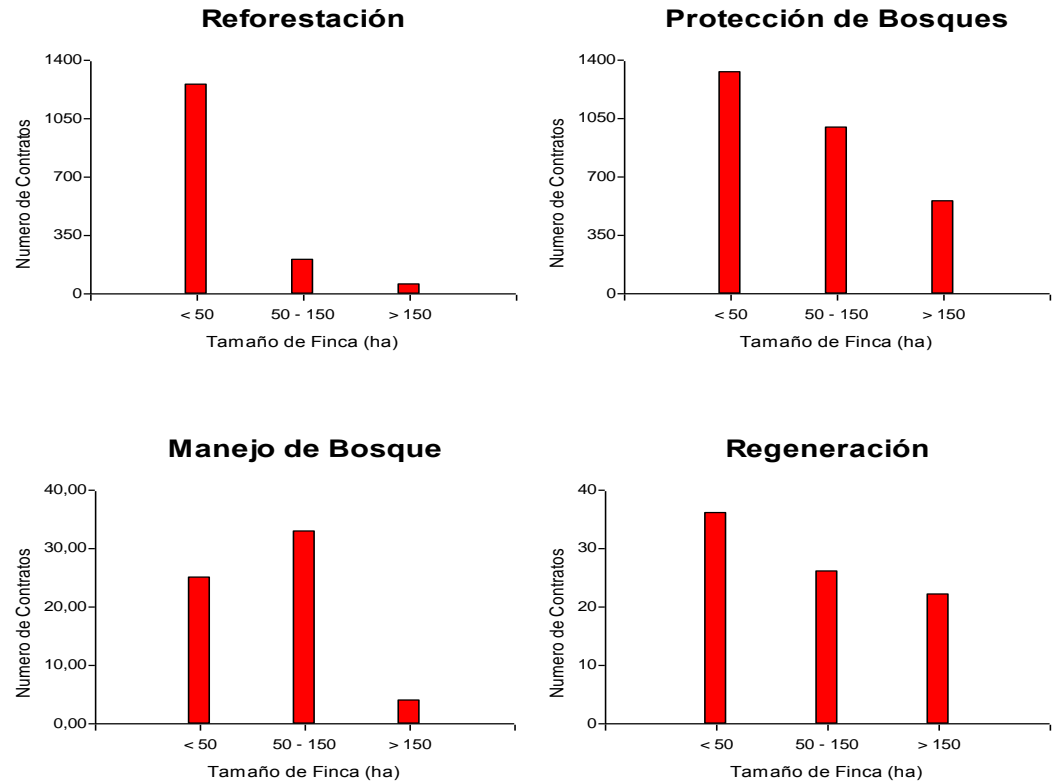


Figure 6: Size of individual properties (fincas), as of August 2012, under the FONAFIFO Payment for Environmental Services Program, for avoided deforestation under the modalities of Forest Protection for biodiversity conservation and water resources and Natural Forest Management for the sustainable production of wood, together with carbon stock enhancement through the induction of secondary growth (Regeneration) and the establishment of monocultures and mixed plantations, with native and exotic species (Reforestation).

Listed below are the main events during the lifetime of the ER Program:

July 2008	Date of selection of country for FCPF.
June 2010	R-PP assessed by FCPF PC at PC6. Strategic actions were reviewed and the country promoted a group of eight strategic actions, including the six actions included in the ER Program.
June 2010	Public funds (from fuel tax, water fee, and Ecomarkets II project) were made available and were used to begin the implementation of three of the six actions considered in the ER Program. As of December 2011, 86,000 new PES contracts were incorporated in old growth forests; 14,000 ha of new forest plantations were established, and about 7,000 new secondary growth contracts were incorporated.
May 2011	SESA process was initiated with a national workshop; risks and concerns in relation to strategic options in R-PP, including REDD activities of the ER Program, were identified, and will be addressed, after due consideration, in the ESFM.
March 2012	Costa Rica presented initial ideas for an ER-PIN to the FCPF Carbon Fund at the meeting held in Paraguay.
September 2012	Costa Rica submitted ER-PIN for consideration of FCPF/FMT Secretariat.
March 2013	Establishment of reference level for REDD Strategy, including ER Program.
December 2013	Signing of Emission Reductions Purchase Agreement (ERPA) with FCPF Carbon Fund
January 2014	Subject to additional funds, new PES contracts will begin to be incorporated for avoided deforestation in secondary growth forests through secondary regeneration and the sequestration of carbon in wood products.
December 2017	First monitoring event for ER Program
December 2020	Second monitoring event for ER Program

## 5. Description of activities planned under the proposed ER Program

### 5.1 Analysis of drivers and underlying causes of deforestation and forest degradation, and conservation or enhancement trends

*Please present an analysis of the drivers, underlying causes and agents of deforestation and forest degradation. Also describe any policies and trends that could contribute to conservation and enhancement of carbon stocks. Please distinguish between both the drivers and trends within the boundaries of the proposed ER Program, and any drivers or trends that occur outside the boundaries but are affecting land use, land cover and carbon stocks within the proposed ER Program area. Draw on the analysis produced for your country's Readiness Preparation Proposal (R-PP) and/or Readiness Package (R-Package).*

In Costa Rica, *deforestation* is the result of economic policies centered on agriculture and livestock, with the expansion of the latter being more significant. These policies have a direct impact on income derived from land, affecting either positively or negatively the dynamics of change in the use of land in Costa Rica. A more detailed description of the causes of deforestation in Costa Rica is given in the R-PP document, especially in section 2a. Listed below are the primary drivers of change in the use of each type of landholding in Costa Rica:

- i. **Protected wilderness areas:** restricted access to PES for owners of forests with problems related to the formalization of property rights.
- ii. **Privately owned forests:** prohibition of land use conversion; overregulation and administrative ban on the sustainable management of natural primary and secondary forest; restricted access to PES for owners and holders of natural forests under forestry management; lack of competitiveness of forest use versus alternative use; State's failure to enforce mechanisms for the control of illegal logging.
- iii. **Indigenous reserves:** little income from forest resources for inhabitants of indigenous territories; State's failure to prevent invaders from gaining illegal title to land in indigenous territories.
- iv. **National parks and biological reserves:** State's failure to protect the natural heritage against the threat of squatters, illegal loggers, hunters, and miners.

Moreover, with regard to *degradation* in Costa Rica, it is important to clarify that, for lack of information on the subject, the scope of the land use assessment made during the preparation of the R-PP did not include an analysis of forest degradation. Up to now, no studies have been conducted to evaluate the extent of anthropogenic degradation of biomass in Costa Rican forests. The lack of studies on degradation in the country may be a result of the perception that its effect on the loss of biomass is not significant, given the low consumption of wood in Costa Rica.

Nonetheless, the implementation of the Monitoring, Reporting, and Verification system of the REDD Strategy will help estimate the forest degradation rate in the country. This input will enable the appropriate adjustments to be made, if necessary, to the REDD Strategy and therefore to the actions included in the ER Program (see section 12.1).



## 5.2 Assessment of the major barriers to REDD+

*Please describe the major barriers that are currently preventing the drivers from being addressed, and/or preventing conservation and carbon stock enhancement from occurring.*

Privately owned forests in Costa Rica went through a process of intervention during the 1970s and 1980s, followed by a reform of the forestry sector in the 1990s. Those who supported market-based solutions to control deforestation were opposed by reformists who advocated greater governmental intervention in the sector. This process influenced the current Forestry Act 7575,<sup>1</sup> which provided for payments to forest owners for environmental services (Art. 22-27) and established the National Forestry Financing Fund (FONAFIFO) to provide financial support for the forestry activities of small and medium-sized producers (Art. 46-51) (Brockett and Gottfried 2002). The results of this law, however, have been counterproductive. The major barriers preventing the implementation of the ER Program resulting from the sectoral reform are as follows (see [Table 1](#)):

- i. **Overregulation of forestry:** In the initial stages of implementation of the Payment for Environmental Services Program (1997-2003), one type of deforestation identified in the country was that associated with the use of sawn timber (Office of the Comptroller General of the Republic 2008). This situation exists, paradoxically and collaterally, as a result of overregulation of natural forest management promoted in the new forestry law; the implementation of an unwritten policy by the Ministry of the Environment, Energy and Telecommunications (MINAET, formerly MINAE), which ordered an administrative ban on natural forest management; and the elimination of PES for forests subject to natural forest management. These measures were based on the views of the conservationist sector of the country, which unjustifiably accused this activity of being responsible for deforestation and forest degradation.
- ii. **Lack of competitiveness of forest use versus alternative uses:** Situations such as high income from privately owned land, the State's inability to enforce environmental legislation, and policies that make forestry industries less competitive have led to a preference for farming over forestry, even when it is not an appropriate use of the land. The capacity of PES in this area is limited, and it cannot compete with the use of land for such highly profitable crops as pineapple or bananas. To finance land recovery initiatives, a series of changes will be needed in the policies that restrict forest use; in addition,

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<sup>1</sup> This new law establishes participatory mechanisms for third parties interested in designing forestry policies and in creating and distributing subsidies for the preservation of forest cover. The law prohibits any conversion of land use on privately owned land (Art. 2), even if the purpose of such conversion is to establish a forest plantation (Art. 19). In order to encourage sustainable forest management, the law simplifies requirements for forest management projects, including general and operational plans, and eliminates seasonal restrictions on the implementation of the development plan (Art. 20 and 21). On the other hand, this law allows for the harvesting, transport, industrialization, and exportation of wood from forest plantations (Art. 28). The law also created the National Forestry Office, composed of representatives of forestry producers, industrial wood producers, the trade sector, and environmental organizations. This Office provides advisory assistance to MINAET on policy (Art. 7-11).

mechanisms need to be set up to prevent the illegal elimination of secondary cover, and thereby take advantage of the co-benefits of this type of market.

- iii. **Non-sustainability of sources of wood:** Until the mid-1990s, natural forests were the main source of supply for industries; however, the restrictive policy applied to natural forest management (both primary and secondary forests) resulted in a rapid increase in the harvesting of trees on farmland, along with the degradation of forests and deforestation. Beginning in 2002, MINAE formalized the strategy for control of illegal logging and tightened the requirements for obtaining cutting permits on agricultural land; consequently, the exploitation of forest plantations increased exponentially, becoming the major source of raw material for the forestry industry. As a result of this series of events, the structure of wood sources changed radically: more than 70% of processed wood now comes from forest plantations and the rest from forests and farmland (see [Figure 7](#)). Unfortunately, this resource has not been adequately replenished, and this has led to shortages (de Camino 2007) and the premature clearcutting of forest plantations, which could have severe environmental and economic consequences (Office of the Comptroller General of the Republic 2008) (see [Figure 8](#)).
- iv. **Legal uncertainty:** Legal uncertainty in Costa Rica affects investment and undermines the permanence of private forestry resources. Draft law 17472 is one example of an incoherent crosscutting policy; it creates an environment of legal uncertainty in the forestry industry, because it affects article 28 of the Forestry Act, which allows the harvesting, transport, industrialization, and exportation of wood from forest plantations, agroforestry systems, and individually planted trees without a permit. This is in response to Constitutional Chamber resolution 2007-003923. Consequently, the Legislative Assembly, through draft law 17472, is attempting to limit the right to harvest trees in cases where there is no approved management plan. The restriction means that proof must be given that the necessary steps have been taken to avoid or contain any damage to the environment or human health.
- v. **Reduced consumption of wood as a result of environmental education based on the misuse of scientific concepts:** In Costa Rica, it is commonly accepted that in order to preserve forests, trees must be planted, and that it is better to replace wood with other products, such as cement, aluminum, and steel in buildings, furniture and implements so that trees do not have to be cut down. This has caused Costa Ricans to lose interest in using wood for construction purposes. The building of houses made of wood in Costa Rica fell from 30% in 1984 to 10% in 2000, and continues to drop. Policies have limited the development of an architectural culture that uses wood; moreover, some environmentalist groups have demonized the consumption of wood as a cause of deforestation and environmental degradation. These cultural, legal, technological, and educational barriers currently discourage the extensive use of wood, provide a disincentive to wood harvesting on private land, devalue natural and secondary forests and forest plantations, and make the exploitation of forests less competitive, thereby hindering the coherent development of the forestry sector, the promotion of sustainable production of wood, and the provision of environmental services.

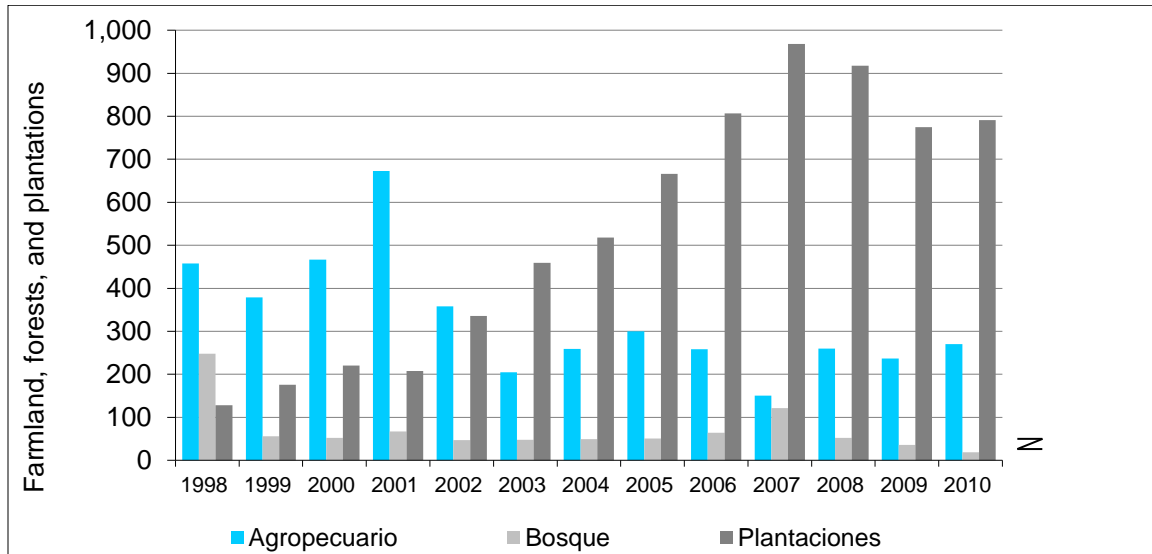


Figure 7: Dynamics of wood supply by source in Costa Rica. Source: Barrantes, Salazar and Salas (2009) and (2010).

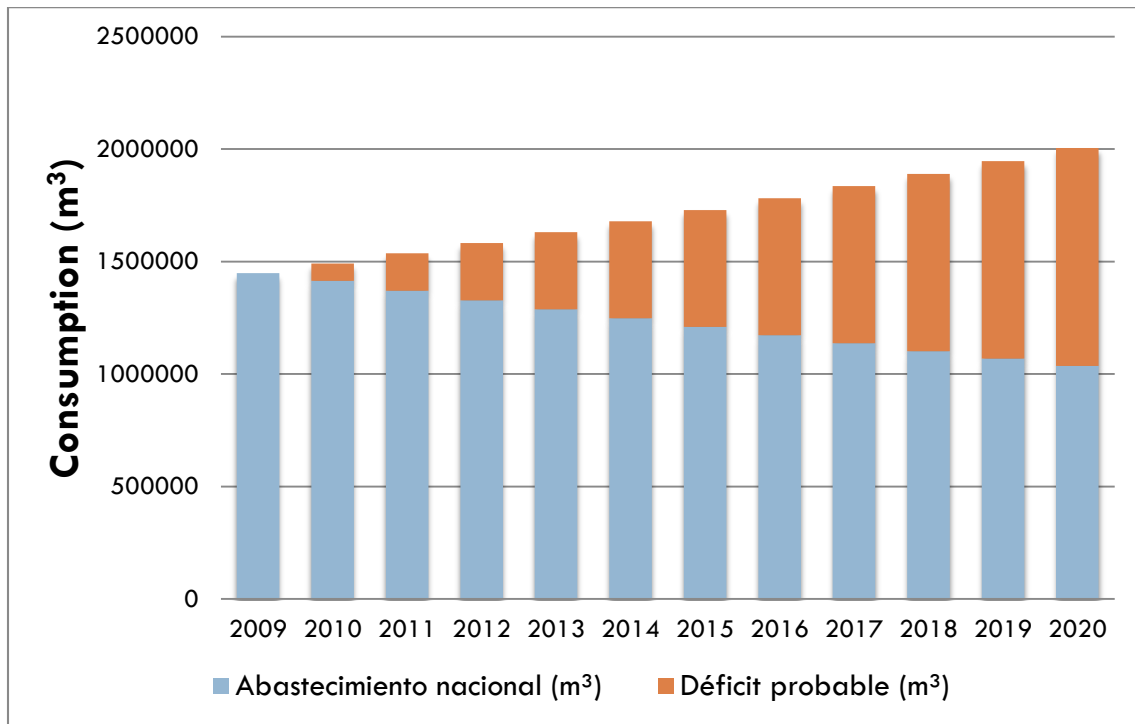


Figure 8: Projection of probable deficit in national wood consumption in Costa Rica resulting from premature clearcutting of forest plantations, an insufficient rate of reforestation, and disincentives to primary and secondary natural forest management and the production of wood.

**Table 1: Major barriers to the implementation of REDD+ activities under the ER Program in Costa Rica.**

<b>Option</b>	<b>Type of Land Ownership</b>	<b>Emission Reduction Option</b>	<b>Major Barriers to Implementation</b>
A	Private forests and indigenous reserves	Additional PES area for avoided deforestation in old growth forest	<ul style="list-style-type: none"> <li>• Lack of competitiveness of forestry use versus alternative use.</li> <li>• State’s failure to prevent invaders from gaining illegal title to land in indigenous territories.</li> </ul>
B	Private forests	Additional PES area for avoided deforestation in secondary regeneration	<ul style="list-style-type: none"> <li>• Overregulation and administrative ban on sustainable management of natural forest (primary and secondary).</li> </ul>
C	Private forests	Additional PES area for carbon sequestration through induction of early regeneration	<ul style="list-style-type: none"> <li>• Lack of competitiveness of forestry use versus alternative use.</li> <li>• Imbalance between protection and production in forestry sector.</li> <li>• Policies that reduce the competitiveness of forestry use versus alternative uses.</li> </ul>
D	Private forests	Additional PES area for carbon sequestration through establishment of forest plantations	<ul style="list-style-type: none"> <li>• Overregulation and administrative ban on sustainable management of natural forest (primary and secondary).</li> </ul>
E	Indigenous reserves	Additional PES area for carbon sequestration through induction of early regeneration	<ul style="list-style-type: none"> <li>• Early clearcutting and inadequate replenishment of forest plantations.</li> </ul>
F	Not applicable	Sequestration of carbon in wood products through increased use of wood	<ul style="list-style-type: none"> <li>• Reduced wood consumption as a result of environmental education based on misuse of scientific concepts.</li> </ul>

### 5.3 Description and justification of planned and ongoing activities under the proposed ER Program

*Please describe the proposed activities and policy interventions under the proposed ER Program, including those related to governance, and justify how these activities will address the drivers and underlying causes of deforestation and forest degradation and/or support carbon stock enhancement trends, to help overcome the barriers identified above (i.e., how will the ER Program contribute to reversing current less sustainable resource use and/or policy patterns?)*

Since 1997, Costa Rica has had a Payment for Environmental Services Program (PESP), which comprehensively addresses four services: protection of water resources, scenic beauty, biodiversity, and mitigation of greenhouse gases. This program has been implemented by the National Forestry Financing Fund (FONAFIFO). The program has brought significant benefits, including poverty reduction, protection of water quality, carbon fixation, conservation of biodiversity, public health, and improvements in infrastructure (Hartshorn et al. 2005). The PES program has also allowed for the development of a local market for environmental services produced from avoided deforestation and carbon stock enhancement. The PESP therefore forms the basis of the REDD+ Strategy in Costa Rica, which in turn represents the third generation of deforestation control activities in Costa Rica.

Figure 9 shows that, from 2000 to 2008, the PES program administered by FONAFIFO resulted in carbon stock enhancement, preliminarily estimated at 55 million tons of CO<sub>2</sub>. The same program, following the Bali Action Plan (2008) and with the ending of the Ecomarkets loan in 2013, will produce an estimated overall increase in carbon stocks of 30 million tons of CO<sub>2</sub>. With the implementation of the REDD+ Strategy, it is estimated that carbon stock enhancement over a period of 11 years (2010-2020) will amount to 52,000,000 tons of CO<sub>2</sub>, of which 22 million represent the maintenance of the current PES program when the Ecomarkets II project ends, and the remaining 30 million will be new REDD activities being carried out within this ER Program.

The ER Program covers only REDD R-PP activities that represent an increase in the country's efforts until now. The ER Program corresponds to the following lines of action in Costa Rica's REDD+ strategy: i. Expanding PES coverage to reduce even further the deforestation rate in regenerated and old or ancient growth forest; providing PES for regeneration and reforestation; and iii. Promoting the sustainable production and consumption of wood from natural primary and secondary forests and regeneration.

- i. **Expanding PES coverage to reduce even further the deforestation rate in regenerated and old or ancient growth forest (options A and B in Table 2):** if the rate of deforestation in the period 2000-2005 in old growth and secondary forests can be cut in half, and, in addition, the natural regeneration of private forests outside Guanacaste is doubled and natural regeneration in indigenous reserves is tripled, the country could capture 139,125 Gg CO<sub>2</sub> in the period 2010-2030 (estimates used in the preparation of the R-PP).

According to preliminary estimates based on the econometric model cited in section 2a of the R-PP, FONAFIFO will be required to increase PES coverage for old growth forests by 107,600 ha. The Program is focused on areas with a high income index, such as natural wood-producing forests that are subject to sustainable forestry management (multi-cyclical) and/or natural

regeneration forests; its aim is to increase the PES supply and promote natural forest management for the production of wood. Costa Rica has nearly 220,000 ha of 15-year-old secondary forests located on private land. Most of these forests are in the hands of smallholders, who generally live in rural areas. According to preliminary estimates using the above-mentioned econometric model, FONAFIFO will provide to landowners in regenerated areas approximately 19,000 ha of new PES contracts. In addition, SINAC will define and formalize clear guidelines for the sustainable management of secondary forests.

- ii. **PES for regeneration and reforestation (options C, D, and E in Table 2):** the potential is thought to exist for the regeneration or reforestation of 724,000 ha of the 937,000 ha whose use is being disputed. Moreover, it is estimated that there are more than 650,000 ha of private land now being farmed that could be used for forestry. The plan is to induce regeneration and promote reforestation by providing positive incentives such as the PES Program. For owners of land that could be used for forestry but is now unforested, FONAFIFO will provide positive incentives to induce the regeneration of approximately 124,000 ha and the establishment of 72,000 ha of forest plantations. Both the regeneration and its maintenance will be centered on land where, because of its opportunity cost, PES is more cost effective, for example on land being used for anything other than forestry, indigenous reserves, and privately owned protected wilderness areas. In addition, agroforestry systems have a significant capacity to enhance carbon stocks, since agriculture is the second highest producer of greenhouse gases in the country. An assessment will be made, however, of the suitability of including these systems in the REDD+ Strategy, because it is more complex and costly to monitor carbon stock enhancement in agroforestry systems. Before including them in the ER Program, the financial and environmental profitability of agroforestry systems will be determined.
- iii. **Promoting the sustainable production and consumption of wood from natural primary and secondary forests and regeneration (Option F in Table 2):** In order to promote the production of wood, the administrative, technical, and legal barriers that restrict income from the management of natural forests and forest plantations must be eliminated. It is also necessary to promote commercial reforestation and sustainable management of primary and secondary natural forests, mainly among organizations of smallholders, and the community management of forests in indigenous territories. Access to green markets must be improved in order to augment the income of landowners and producers of wood from natural forests and plantations. Moreover, programs must be promoted for enhancing the productivity of forestry plantations through genetic improvement. If the sustainable production of wood is to be increased, there must be a readiness for consumers to buy it on local markets. The consumption of wood will therefore have to be encouraged, which would result in co-benefits for the country. On the one hand, the storage of carbon in buildings and other storage facilities would increase and, on the other, the consumption of materials with a large carbon footprint, such as cement, steel, and aluminum, would decrease.

Table 2 lists the various options for emission reduction by avoided deforestation and a preliminary estimate of emission reductions to be included in Costa Rica's ER Program. The reduction of emissions resulting from the implementation of these REDD activities clearly exceeds the buying capacity of the Carbon Fund. Nonetheless, in order to reduce transaction costs and take advantage of favorable publicity from the signing of an ERPA with the FCPF Carbon Fund, it is more attractive for the country to work on the entire package of new REDD activities, making room for other carbon buyers, both local and international, to participate in the same package.

The implementation of these emission reduction options offers the following opportunities:

- i. **Significant unmet demand for PES:** The FONAFIFO PES Program shows an average annual unmet demand of 72,000 ha under the Forest Conservation modality and 7,000 ha in that of Reforestation (see [Figure 12](#)). This offers the country the opportunity to expand the avoided deforestation and reforestation programs.
- ii. **High potential for mitigation in forestry and agricultural sectors:** Costa Rica's National Economic, Environment and Development Study for Climate Change (NEEDS) Project estimates the potential costs of the use of alternative production technologies and practices at the national and sectoral level and assesses their impact on the country's capacity to mitigate greenhouse gas emissions. This analysis focused especially on the potential to achieve carbon neutrality (CN) by 2021, one of the main objectives of the country's National Strategy for Climate Change (ENCC). Among other things, the studio noted that the forestry and agricultural sectors offer competitive options, with a high abatement potential. As can be seen in [Figure 10](#), by maintaining the current PES Program and incorporating new REDD activities such as those contained in this ER Program, the forestry and agricultural sectors would be able to abate the business-as-usual (BAU) emissions scenario for Costa Rica by 79% by 2021, and projected emissions for the period 2021-2030 by 49%.
- iii. **High migration potential in privately owned secondary growth forest:** In Costa Rica, there is a deforestation gradient related to the income index of various types of ownership, with the lower incomes being those with the least deforestation (national parks and biological reserves), followed by protected wilderness areas, indigenous reserves and, lastly, privately owned forests ([Figure 11](#)). Deforestation is also correlated with the age of the forest. The highest rate of deforestation is seen in early regeneration forests, followed by secondary regeneration forests and old growth or late regeneration forests ([Figure 11](#)). This suggests, among other things, that the greater mitigation potential, for both avoided deforestation and secondary growth, can be found in early regeneration forests located on private lands.
- iv. **High potential for co-benefits:** Costa Rica has 8,191 km<sup>2</sup> unforested land involved in land use conflicts, specifically because of overuse, on privately owned property and indigenous territories. This land, generally speaking, has problems with erosion, surface runoff, and filtration that adversely affect the supply of high-quality water for human consumption, irrigation, and hydroelectric power generation. These lands are of special interest to the ER Program, since carbon stock enhancement can be combined with the generation of environmental co-benefits such as soil recovery, erosion control, and improved filtration of water, especially if it is found in basins with water concessions. Similarly, forests in Costa Rica have been identified as being associated with the basins having the most water concessions for different uses, as well as conservation hotspots (see [Figure 5](#)); thus, the REDD activities of the ER Program, besides avoiding deforestation, could produce environmental co-benefits by prioritizing avoided deforestation in those basins with a high volume of water concessions for human consumption, irrigation, and hydroelectric power generation, as well as habitats that are underrepresented in the system of national parks and biological reserves that are considered biodiversity hotspots.
- v. **High potential for production and consumption of sustainable wood from primary and secondary natural forests and reforestation:** As a result of environmental education based on the misuse of scientific concepts, the construction sector in Costa Rica uses less than 10% wood, preferring materials with a large carbon footprint such as cement, steel, or aluminum.



These building materials consume 40% of the natural resources of the planet extracted by mining, 17% of the world's freshwater supply, 40% of global energy, and 50% of fossil fuels, and generate up to 20% of solid waste products; Moreover, they contribute 20% of CO<sub>2</sub> on the planet by using fossil fuels (Roodman and Lensen 1996, Dimson 1996, Locken 1994). These facts offer the country the opportunity to increase the storage of carbon in buildings and other storage facilities and to reduce emissions by replacing materials that have a large carbon footprint. This would promote the consumption of wood, and consequently the establishment of new forest plantations and the incorporation of new primary and secondary natural productive forests in order to increase the supply of sustainable wood in local markets; it would therefore provide environmental and social co-benefits to the country.

**5.4 Activities to address risks of reversal of greenhouse gas benefits**

*Please describe major risks of anthropogenic and non-anthropogenic reversals of greenhouse gas benefits (from e.g., fire, agriculture expansion into forest, changes in commodity prices). Also describe any activities or design features in the proposed ER Program that are incorporated to minimize and/or mitigate the anthropogenic risks or reversals, and how these activities are consistent with the design features of the (emerging) national REDD+ strategy to address risks of reversal.*

With regard to the risks of reversal of benefits, note that the Program is scheduled to end in December 2020, just before the country begins the period of carbon neutral development. In 2021, the country will require a given balance in its greenhouse gas emissions, for which it will use the REDD reductions generated in its own territory, and hence the country should continue investing in REDD activities. Accordingly, reforestation and induction of secondary growth, as promoted in the ER Program, will continue to enhance carbon stocks until 2055, at which time the last recruited areas would be in full use and would no longer fix carbon.

The greatest risk of reversal of benefits is found in forests located in higher income land (with greater accessibility). Old growth and/or secondary growth forests that are difficult to reach and located on steep hillsides would normally have a low risk of deforestation. The production and consumption of wood promoted by the ER Program would encourage the sustainable management of these natural old and secondary growth forests and forest plantations, which would maintain/renew carbon stocks beyond 2020, provided that wood continues to be a profitable business.

In the long term, it is a matter of concern that, once the carbon stock enhancement program ends in Costa Rica and gross deforestation is minimal, the maintenance of carbon stocks will require alternative funds to support carbon stock conservation, in order to keep the lack of motivation for maintaining coverage from becoming a perverse incentive.

The R-PP identified as risks of reversal of greenhouse gas benefits potential problems of inefficiency of the programs to control illegal logging and forest fires, and problems relating to lack of clarity about emission reduction rights under the REDD Strategy, owing to difficulties in terms of land ownership or fraudulent activities.

Costa Rica's REDD Strategy (R-PP) calls for the following actions to mitigate the identified risks::



- i. **Promotion of the production and consumption of sustainable wood from primary and secondary natural forests and reforestation:** see section 5.3 iii.
- ii. **Improved management of SINAC and CI Agro:** Through the REDD Strategy, it is hoped to tighten control over activities that degrade and eliminate forest cover. To that end, it is proposed to improve the management of SINAC in controlling illegal logging and forest fires, as well as the oversight role of the College of Agricultural Engineers.
- iii. **Establishment of a National Registry for Environmental Service Rights:** (see section 6.4).
- iv. **Establishment of a Fraud Control Unit:** The purpose of this Unit is to prevent fraudulent transactions of environmental service rights and regulate transactions of environmental service rights in the local environmental services market. It has not yet been decided which institution or entity will be responsible for this Unit.

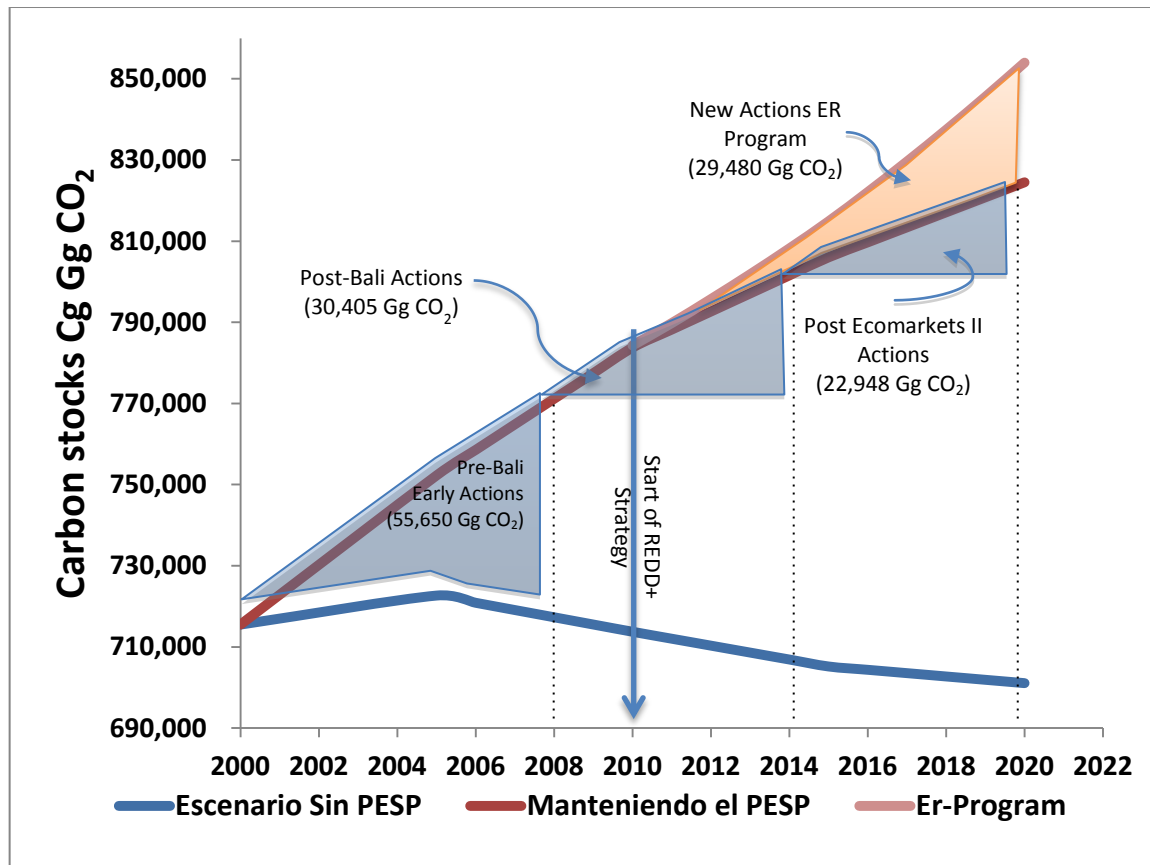


Figure 9: Preliminary estimate of accumulated growth of carbon stocks through implementation of proposed and current activities under Costa Rica’s REDD+ Strategy. (Scenarios shown with PES Program and without PES Program.)

**Table 2. Migration potential and implementation area of various options for emission reduction through avoided deforestation and carbon sequestration proposed in Costa Rica's ER Program.**

<b>Option</b>	<b>Type of Land Ownership</b>	<b>Emission Reduction Option</b>	<b>PES Area (ha)</b>	<b>Tons CO<sub>2</sub></b>
A	Private forests and indigenous reserves	Additional PES area for avoided deforestation in old growth forest	107,600	8,540,929
B	Private forests	Additional PES area for avoided deforestation in secondary regeneration	19,191	628,952
C	Private forests	Additional PES area for carbon sequestration through induction of early regeneration	124,282	6,505,287
D	Private forests	Additional PES area for carbon sequestration through establishment of forest plantations	72,132	8,019,422
E	Indigenous reserves	Additional PES area for carbon sequestration through induction of early regeneration	18,742	785,370
F	Not applicable	Carbon sequestration in wood products through increased use of wood	-	5,000,000
<b>Total</b>			<b>341,946</b>	<b>29,479,960</b>

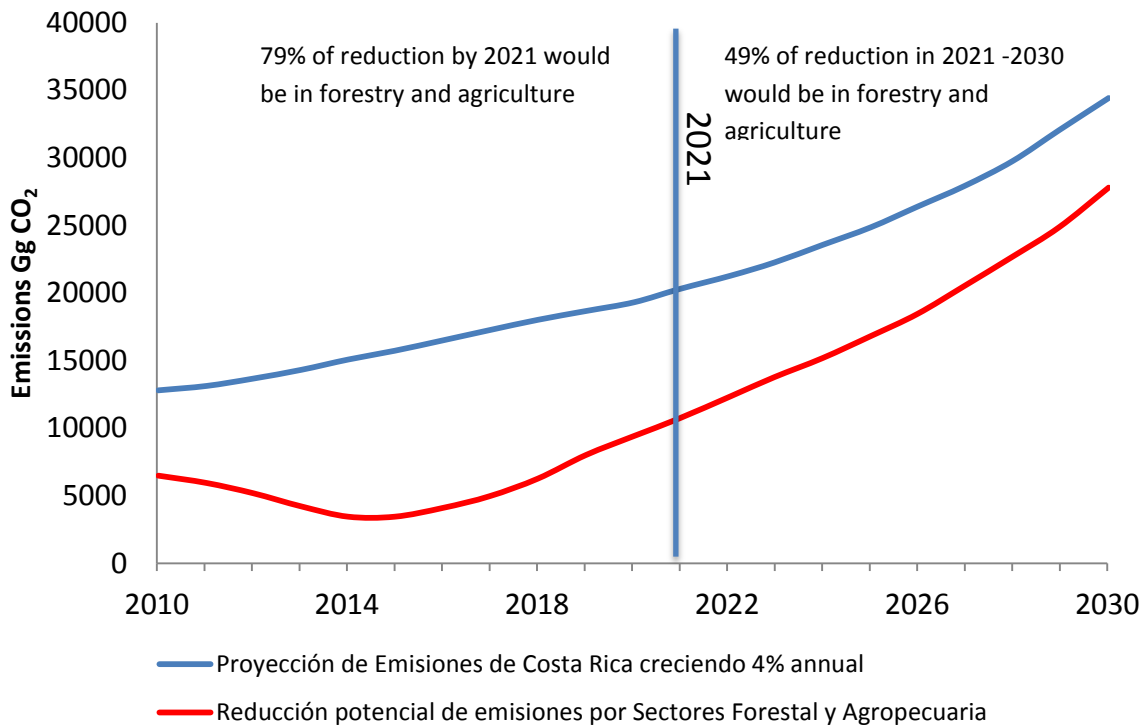


Figure 10: Potential for reduction in forestry and agriculture sectors. Business as usual (BAU) scenario for emissions in Costa Rica, assuming a 4% annual growth of the economy, without implementing mitigation activities in transport, renewable energy, energy efficiency, waste treatment, and agroforestry mitigation. Mitigation potential assuming maintenance of current PES Program and incorporation of new REDD activities in the ER Program (Source: NEEDS Project-Costa Rica).

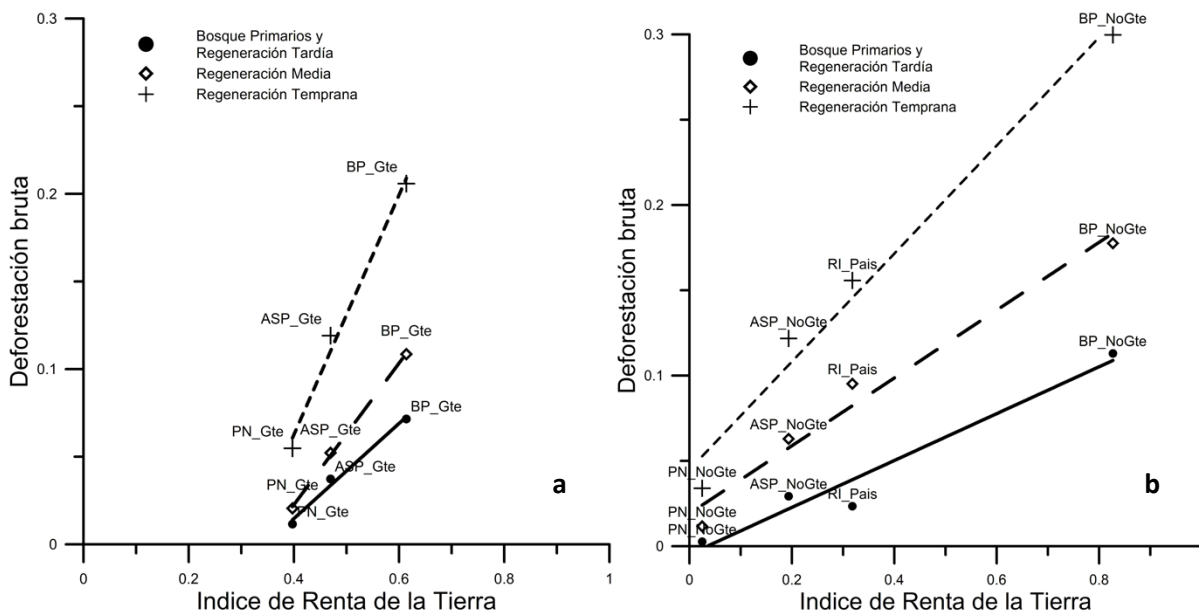
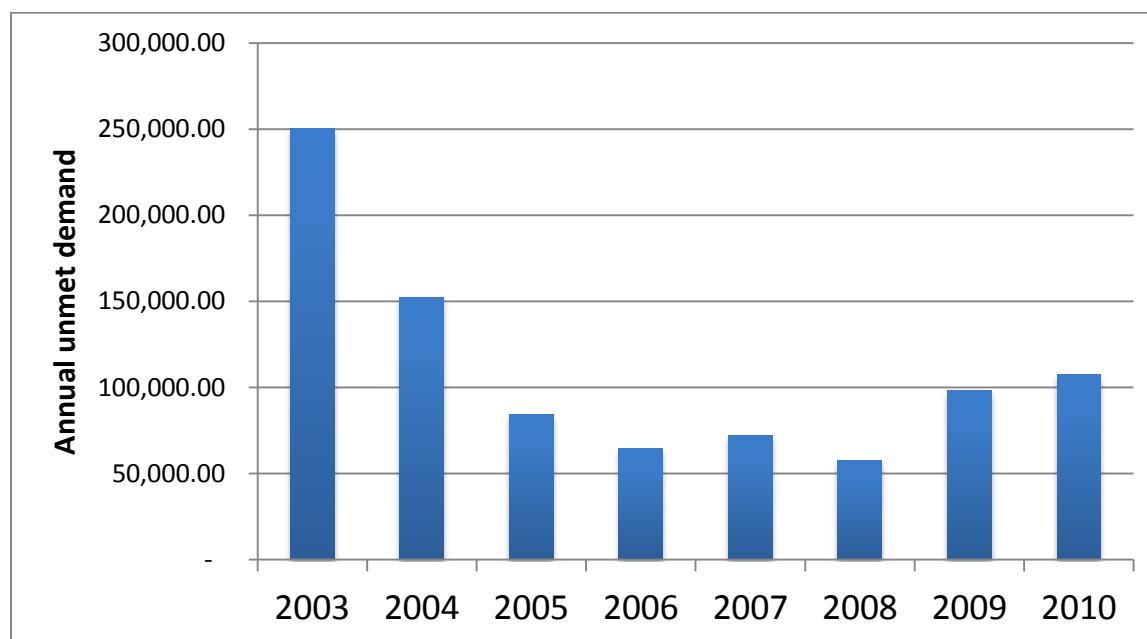


Figure 11: Gross deforestation for different regeneration cohorts, by income index of land in uniform stratum of land use dynamics outside Guanacaste (a) and within Guanacaste (b). PN: national parks; ASP: protected wilderness areas; RI: indigenous reserves; BP: private forests.

**Table 3: Distribution of area in conflict over use, in km<sup>2</sup> (agricultural use in forestry category) by stratum of land use dynamics in Costa Rica.**

Region	Stratum	Area in conflict over use (Agricultural use in forestry category)	Total area of non-forestry use	% of area in conflict over use
Country Rest of country	Indigenous reserves	676	862	78%
	National parks and biological reserves	95	98	97%
	Protected wilderness areas	606	863	70%
Guanacaste	Private property	5,992	14,487	41%
	National parks and biological reserves	360	366	98%
	Protected wilderness areas	118	184	64%
	Private property	1,523	4,365	35%
<b>Total</b>		<b>9,369</b>	<b>21,226</b>	<b>44%</b>



**Figure 12: Annual unmet demand in the FONAFIFO Payment for Environmental Services Program for the Forest Conservation and Reforestation modalities. Since 2005, the eligible period for receipt of applications has been restricted to 30 working days a year.**

### **5.5 Description of the potential risks of both domestic and international displacement of emissions (leakage)**

*Please describe the potential risks of both domestic and international displacement of emissions from the proposed ER Program activities. Then also describe how the proposed ER Program activities will minimize the risk of domestic displacement and international displacement (if applicable), via the design of the proposed ER Program and the ER Program activities and the selection of locations. For sub-national programs, pay special attention to identifying domestic risks of displacement of emissions, the proposed ER Program activities to mitigate these risks, which otherwise would contribute to fewer net emission reductions generated by the proposed ER Program, and how these activities are consistent with the design features of the (emerging) national REDD+ strategy to address risks of displacement.*

**Domestic leakage:** It is expected that there will be no significant risk of domestic displacement of emissions from the proposed ER Program activities, for the following reasons:

- i. The activities will be national in coverage;
- ii. Land purchases are not included;
- iii. Landowners are recruited on a volunteer basis;
- iv. A landowner participating voluntarily in the REDD activities of the proposed ER Program, who might be motivated by the demand for agricultural products to migrate and deforest another piece of land, would have to find a property without an owner, in order to convert it to agricultural use. This situation would not be very feasible, given that in Costa Rica nearly all the forests outside of national parks and indigenous reserves have already been reclaimed or have owners. Moreover, Costa Rica is now implementing a program for regularization of the official land register; its main objective is to improve legal certainty about real property rights. The program is geared to identifying, preventing, and resolving conflicts relating to land ownership and use, especially in indigenous territories. This component is operating in 15 Costa Rican indigenous territories, collecting information on the ownership and use of land in these territories.
- v. Lastly, the REDD activities of the ER Program are expected to discourage illegal logging by promoting the production and consumption of sustainable wood from natural primary and secondary forests and reforestation.

**International leakage:** If the supply of wood from forest plantations and agroforestry systems increases significantly as a result of the ER Program, the current trend of meeting local demand for wood through imports could be reversed, thus avoiding the leakage of emissions from deforestation and degradation to other countries.

**6. Consistency with national REDD+ strategy and governance arrangements**

**6.1 Institutional arrangements**  
*Please describe the governance arrangements anticipated or in place to manage the proposed ER Program (committee, task force), and the institutional arrangements among ER Program stakeholders (i.e., who participates in this ER Program, and how, including the roles of civil society organizations and forest dependent communities).*

Figure 13 and Table 4 summarize the institutional, hierarchical, and functional arrangements put in place to implement the REDD Strategy and consequently this ER Program. It is also important to note that an *environmental services market* is being developed in Costa Rica (for water, biodiversity, scenic beauty, and carbon), in which FONAFIFO serves as an intermediary between producers and buyers of local and international environmental services, together with managing and financing the PESP (control, implementation, registration) with the support of private entities (individual forestry engineers and corporations) and the relevant government agencies (see Figure 1)

The carbon stock enhancement activities in the ER Program would broaden the context to include the sustainable production of wood, by including the participation of partners and entities, both within and outside the Costa Rican forestry sector, such as international forestry investors, businesses involved in construction, and owners of unforested land. In this implementation scenario, the role of FONAFIFO would expand to include the management and administration of financial mechanisms for the sustainable production of wood (see Figure 2)

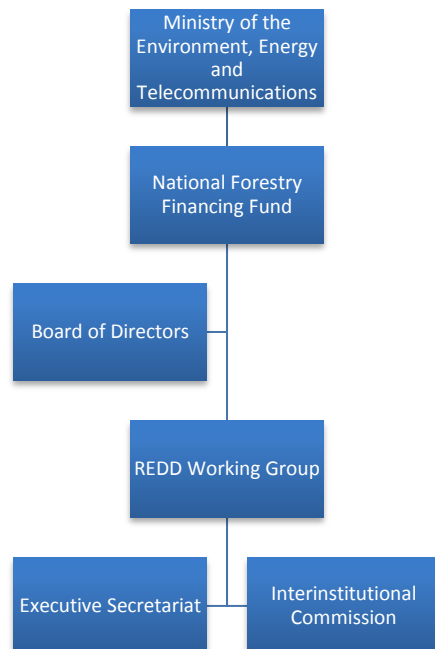


Figure 13: Organization chart for the management of the REDD Strategy

**Table 4: Institutions, bodies, functions, and members necessary for the management of the REDD Strategy in Costa Rica**

Functions	Institution - Body	Members
<p>In context of REDD+ strategy:</p> <ul style="list-style-type: none"> <li>• Issue of policies</li> <li>• Decision-making</li> <li>• Conflict resolution</li> </ul>	<p>REDD+ Board of Directors (JD)</p>	<ul style="list-style-type: none"> <li>• Two representatives of National Forestry Office (ONF)</li> <li>• One representative of ADIIs</li> <li>• One representative of Ministry of Agriculture and Livestock</li> <li>• One representative of MINAET</li> <li>• One representative of National Banking System</li> <li>• One representative to be chosen among owners of degraded lands (large and small), environmentalist NGOs, and civil society organizations</li> <li>• FONAFIFO Executive Director</li> </ul>
<ul style="list-style-type: none"> <li>• Management and coordination of REDD+ Strategy</li> <li>• Execution of ER Program</li> <li>• Interinstitutional coordination</li> <li>• Implementation of REDD+ JD agreements</li> <li>• Execution of Communication Strategy</li> <li>• Interinstitutional execution of REDD+ Strategy</li> </ul>	<p>FONAFIFO-REDD Secretariat</p> <p>Executive Secretariat</p> <p>Interinstitutional Commission</p>	<ul style="list-style-type: none"> <li>• Secretary</li> <li>• Two professional assistants</li> </ul> <p>Composed of liaison officials from:</p> <ul style="list-style-type: none"> <li>• Academia</li> <li>• SINAC</li> <li>• National Meteorological Institute (IMN)</li> <li>• College of Agricultural Engineers (CIAgro)</li> <li>• National Forestry Office (ONF)</li> <li>• Associations of Comprehensive Indigenous Development (ADII)</li> <li>• Ministry of Agriculture and Livestock</li> </ul>

**6.2 Linking institutional arrangements to national REDD+ implementation framework**  
*Please describe how the institutional arrangements for the proposed ER Program fit within the national REDD+ implementation framework.*

The ER Program calls for the implementation of six of the eight strategic options of the Readiness Preparation Proposal (R-PP) approved for Costa Rica. Accordingly, the ER Program is operating under the same implementation framework as the REDD Strategy: institutional arrangements (see section 6.1); SESA (see section 7.2); consultation process (see section 8.1). In addition, the strategy is being duly adjusted to meet the requirements of the Carbon Fund in relation to the MRV system (see sections 11 and 12).

### **6.3 Consistency with national REDD+ strategy and other relevant policies**

*Please describe:*

- a) How the planned and ongoing activities in the proposed ER Program relate to the variety of proposed interventions in the (emerging) national REDD+ strategy.*
- b) How the proposed ER Program is strategically relevant for the development and/or implementation of the (emerging) national REDD+ strategy (including policies, national management framework and legislation).*
- c) How the activities in the proposed ER Program are consistent with national laws and development priorities.*

The ER Program is part of the Readiness Preparation Proposal approved for Costa Rica (R-PP). The ER Program covers only REDD R-PP activities that represent an increase in the country's effort up to now. The ER Program corresponds to the following lines of action in Costa Rica's REDD+ strategy: a. Reducing even further the deforestation rate in regenerated and old growth forests; b. Expanding PES coverage; and c. increasing carbon sequestration through the induction of regeneration, establishment of forest plantations, and promotion of wood consumption. [Table 2](#) details the various options for emission reduction by avoided deforestation and carbon sequestration proposed in the Costa Rican ER Program.

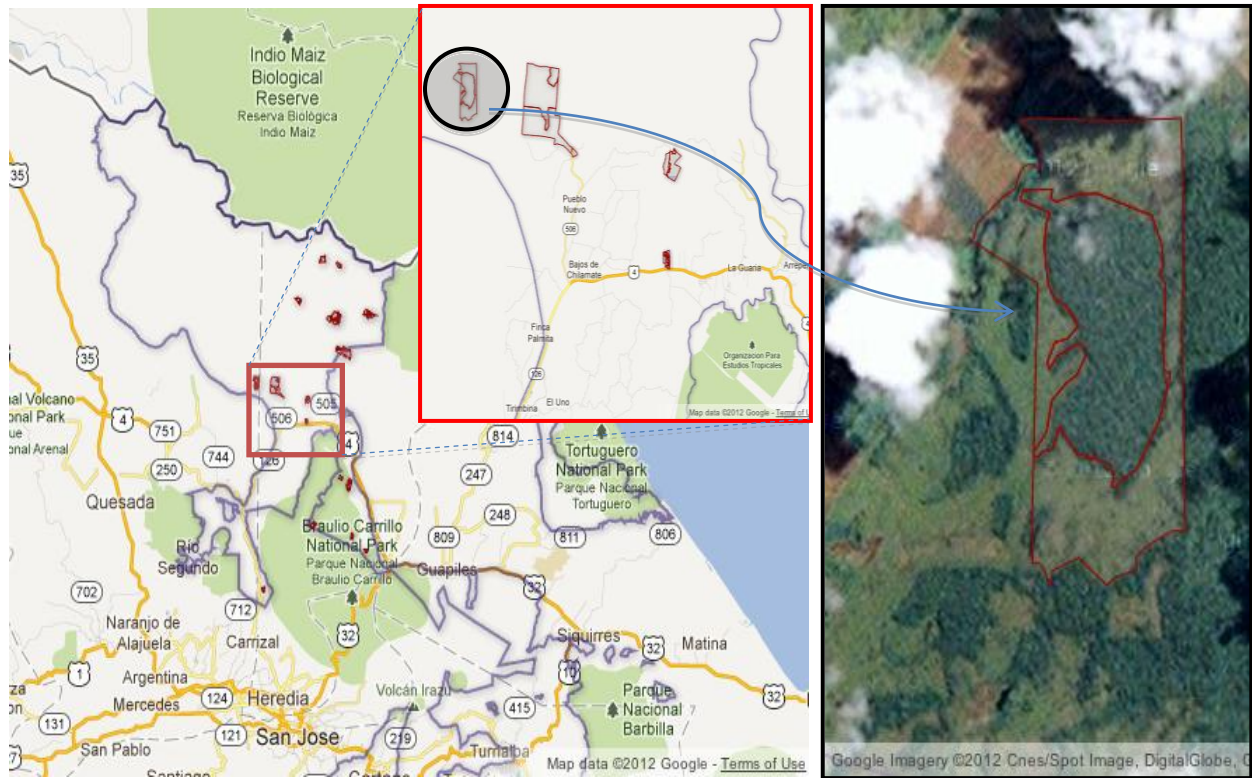
### **6.4 National registry**

*Please include a short description of the relationship of the proposed ER Program to national REDD+ activity management arrangements, and if the proposed ER Program will be part of any system to track REDD+ or other emissions reduction activities (e.g., a REDD+ registry).*

In Costa Rica, landowners own the environmental services; thus, any problem relating to overlapping property titles affects the unity of emission reduction rights under the REDD+ Strategy. Private initiatives are also being implemented to reduce emissions through avoided deforestation and carbon stock enhancement in parallel to those taken by FONAFIFO, including, among others, the PES Solidarity Program of the Foundation for the Development of the Central Volcanic Mountains (FUNDECOR), the Carbon Neutral Program of EARTH University, and the "Reforest the Tropics" Program. The National Registry for Environmental Service Rights would allow for the orderly operation of the various concurrent activities in the country, ensuring the unity and spatial and temporal integrity of forestry emission reductions in a way that is simple and understandable to the general public, as well as being auditable by third parties and subject to public consultation. Moreover, this registry would provide information on which of the increases in carbon stock determined by the Monitoring, Reporting and Verification (MRV) system may be claimed by the initiatives taken under the ER Program. Figure 14 shows a simple example of the registering of REDD emission reduction rights, developed by FUNDECOR (a non-profit NGO) for a private PES program in the central volcanic mountain range. The same example is developed further in Google Fusion Tables, a low-cost open source platform.



**7. Preliminary assessment of the proposed ER Program in the context of the national Strategic Environmental and Social Assessment (SESA) and the Environmental and Social Management Framework (ESMF)<sup>2</sup>**



**Figure 14: Example of registration of emission reduction rights developed by FUNDECOR for the Solidarity Payment for Environmental Services Program [http://www.fundecor.org/public\\_html/PSA\\_Solidario.html](http://www.fundecor.org/public_html/PSA_Solidario.html). This is an initiative to raise private funds to finance positive incentives to avoid deforestation in the central volcanic mountain range conservation area of Costa Rica.**

<sup>2</sup> The ESMF is the assessment process to be used in FCPF REDD+ countries during R-PP implementation and REDD+ readiness preparation. The ESMF is an output of SESA that provides a framework to examine the issues and impacts associated with projects, activities, and/or policies/regulations that may occur in the future in connection with the implementation of the national REDD+ strategy but that are not known at the present time.

### **7.1 Progress on SESA/ESMF**

*Please describe the country's progress in the implementation of SESA and the development of the ESMF, and their contribution or relationship to the proposed ER Program.*

FONAFIFO has completed the following steps necessary for the development of the SESA Work Plan:

- i. *Identification of Participants:* The identification of the relevant stakeholders took place during the R-PP process; improvements have been made in the form of the preparation of a directory of stakeholders and a better definition of roles.
- ii. *Identification of World Bank Safeguards:* The specific environmental and social safeguard policies were identified for the preparation phase and the preparation of the ESMF (Environmental and Social Management Framework) as part of the R-PP. The following World Bank Operational Policies were identified as the reference framework for the SESA in the R-PP: Environmental Assessment (OP/BP 4.01), Indigenous Peoples (OP/BP 4.10), Forests (OP/BP 4.36) and Involuntary Resettlement (OP/BP 4.12).
- iii. *Identification of the Cancún Safeguards:* A proposal was made to UN-REDD to design the safeguards information system for Costa Rica.
- iv. *SESA National Workshop:* FONAFIFO organized the first SESA National Workshop (May 4-5, 2011) to begin the SESA process with the relevant stakeholders. The relevant sectors of society were represented, including the indigenous peoples, other persons dependent on the forests, owners of rural lands, and others. During this workshop, the relevant stakeholders were informed about Costa Rica's revised proposal for the design of a national REDD strategy and were offered a platform to raise their issues and concerns regarding the proposal. As well, the risks and benefits of each of the REDD strategy options were identified for consideration in the design of the national REDD strategy. The proceedings of the national workshop were distributed to the stakeholders and included responses to the risks and concerns identified during the workshop.
- v. *SESA Work Plan:* Based on input from the stakeholders, FONAFIFO is preparing a SESA work plan, which will be distributed to the indigenous peoples in 2012. A World Bank mission in support of the preparation of the work plan is scheduled for late September of this year (September 20-30).

### **7.2 Incorporation of SESA outputs and/or outcomes into the proposed ER Program**

*Based on the progress outlined in 7.1, please describe how the proposed ER Program is expected to make use of the outputs and/or outcomes of the SESA process. Provide an analysis of the ways in which activities planned under the proposed ER Program will rely on the measures and procedures included or to be included in the ESMF. Are there likely to be any gaps or issues regarding the compliance of the proposed ER Program activities with applicable safeguard standards, including the UNFCCC safeguards?*

Using a participatory approach, FONAFIFO will conduct analytical and diagnostic studies of the social and environmental aspects, legal and political impacts, and risks and benefits of the options proposed in the

REDD strategy, of which the ER Program REDD activities are an integral part. Studies of the following risks identified during the SESA Workshop will be carried out:

- a. Land Tenure and Overlaps
- b. Management of the Natural Forest
- c. Payment for Differentiated Environmental Services: Indigenous Peoples and Farmers
- d. Restrictions on economic activities and access to natural resources in communities

The data and results of these analytical and diagnostic studies will be summarized in a separate SESA report, which will include the following key information: (i) the consultation process for the analytical and diagnostic studies; (ii) the risks and benefits of the options proposed in the national REDD strategy, including the ER Program actions in particular; and (iii) the contextual challenges that could weaken and/or improve the long-term sustainability of the national REDD strategy

Based on the SESA report, an Environmental and Social Management Framework (ESMF) will be prepared to manage future impacts once the national REDD strategy (including the ER Program actions) is being implemented. The ESMF strategic options will take account of deficiencies so as to manage risks and potential impacts in accordance with the corresponding World Bank safeguard policies. The ESMF will provide a framework for managing and mitigating the possible environmental and social impacts of the specific projects and activities (for example, investments and carbon finance transactions in the context of REDD implementation).

## **8. Stakeholder Information Sharing, Consultation, and Participation**

### **8.1 Stakeholder engagement to date on the proposed ER Program**

*Please describe how key stakeholder groups have been involved in designing the proposed ER Program, and summarize issues raised by stakeholders, how these issues have been addressed in the ER Program to date, and potential next steps to address them.*

FONAFIFO has held numerous information-sharing sessions since 2008 on Costa Rica's proposal for the design of a national REDD strategy, in particular during the preparation of the R-PP. Some 80 civil society organizations, NGOs and government entities participated in the preparation of the R-PP (2009), which sets out the strategic options, including the REDD actions in the ER Program. A working session was organized to discuss the REDD with civil society and academic institutions such as the University of Costa Rica, the National University of Costa Rica, the Costa Rican Institute of Technology, the *Tropical Agricultural Research* and Higher Education Center (CATIE), the National Biodiversity Institute (INBio), and FUNDECOR. Information packages, including the R-PP, were distributed to a wide range of government entities, civil society organizations, indigenous peoples and rural organizations such as the ONF, the Junta

Nacional Forestal Campesina, the Central American Indigenous and Farmers' Coordinating Association for Community Agroforestry (ACICAFOC), FECON, ARADIKES, the Mesa Nacional Indígena, the Coordinadora ADII-Caribe, and the Network of Private Reserves

For its discussions with the indigenous peoples, FONAFIFO has been holding bilateral dialogues with the Integral Indigenous Development Associations (ADIIIs) and indigenous peoples' organizations, in which information has been provided, as well as early planning meetings to identify their problems and concerns. Visits and meetings were held in 2009 with the ADIIIs in Talamanca and other organizations of indigenous peoples such as the RIBCA in the Atlantic region. FONAFIFO also supported a series of planning workshops organized by the indigenous peoples themselves in the Atlantic region specifically to discuss the R-PP.

In the national SESA workshop (May 4-5, 2011), the relevant sectors of society (indigenous peoples, other people who depend on the forests, owners of rural lands, etc.) were informed of Costa Rica's revised proposal for the design of a national REDD strategy and a platform was provided for the relevant stakeholders to raise their problems and concerns regarding the REDD strategy and its options, including the REDD actions in the ER Program. In this SESA workshop, the risks and benefits of each of the REDD strategic options were identified for consideration in the design of the national REDD strategy.

## **8.2 Planned outreach and consultation process**

*Please describe how relevant stakeholder groups will participate in further design and implementation of the proposed ER Program and how free, prior and informed consultation leading to broad community support for the ER Program and key associated features, including the benefit-sharing arrangement, will be ensured. Please describe how this process will respect the knowledge and rights of Indigenous Peoples and local communities, by taking into account relevant international obligations, national circumstances and laws.*

FONAFIFO has carried out a series of early information dissemination workshops and has engaged in an initial dialogue on the REDD with a variety of stakeholder groups, including the indigenous peoples in the Atlantic and Pacific areas. A new series of communications actions will be undertaken to ensure the dissemination of culturally appropriate information to the relevant stakeholders. FONAFIFO will establish institutional agreements for the communications work, mobilize the necessary human and financial resources, and develop and implement a comprehensive communications strategy based on a baseline communications survey. The communications strategy will also support the SESA consultation and processes.

In developing the REDD strategy, FONAFIFO is planning to carry out relevant and culturally appropriate consultations with the relevant stakeholders. Special attention has been paid to the active participation

of indigenous communities and their representative organizations, as well as farmers' organizations, to ensure an open, transparent and credible consultation process. The intention of the process is to help strengthen local and regional organizations to make them better able to identify and articulate the issues that affect them. Account will be taken in this consultation strategy of the indigenous peoples' traditional and nontraditional structures, their own decision-making process, and socio-cultural channels of communications and decision-making. As well, FONAFIFO will support a self-selection process for the identification of representatives of the indigenous peoples on the FONAFIFO Board.

FONAFIFO also plans to analyze the socio-economic profile of farmers dependent on the forests and, based on an adequate consultation process, will propose measures to tackle their problems. Farmers dependent on forests are a demographically significant group in Costa Rica and in general are the poorest.

FONAFIFO will continue providing information to the members of indigenous communities that are not members of the ADII structure and to local organizations, associations and cooperatives that represent other non-indigenous communities. At the same time, FONAFIFO plans to cooperate with the institutional structure to ensure the participation of representative indigenous and farmers' organizations at various levels, including decision-making on implementation, monitoring and assessment.

Finally, it should be added that the ER-PIN will be ready by the time of the consultations with the relevant stakeholders, and its discussion will be combined with that of all the other REDD strategy options. This communications strategy will support the dissemination of information on the risks and benefits of the strategic options, including the REDD actions in the ER Program, to strengthen the participatory platforms and process and raise awareness about the overall national REDD strategy.

### **8.3 Feedback and grievance redress mechanisms**

*Please describe the mechanism(s) that are or will be put in place to resolve any disputes regarding the proposed ER Program.*

The grievance mechanism will be managed by FONAFIFO's Audit Office (*Contraloría de Servicio*), which has been established by law and is responsible for receiving and processing complaints on behalf of each specific governmental agency. In the case of grievances and complaints relating specifically to the REDD, the REDD Executive Secretariat (within FONAFIFO) will receive and communicate the grievance and/or complaint to the Audit Office, which will coordinate with the relevant FONAFIFO department to prepare the appropriate institutional response. The REDD Working Group will not communicate the institutional response to the complainant or provide further advice on responding to questions regarding the implementation of the R-PP and the design of the national REDD strategy. The grievance mechanism will include specific procedures for receiving, documenting, following up, investigating and reporting that will

be managed by the Audit Office with assistance from the REDD Executive Secretariat in coordination with the REDD Working Group.

## 9. Additional Benefits

### 9.1 Expected social and environmental benefits

*Please describe the environmental and social benefits, other than emission reductions, that the proposed ER Program is planning to achieve; and any other ways in which the ER Program would contribute to broader sustainable development.*

The following table describes the environmental and social benefits, other than emission reductions, that the ER Program could help achieve.

**Table 5: Environmental and Social Benefits, Other than Emission Reductions, of the Costa Rica ER Program.**

ER-PIN Mitigation Option	Co-Benefits	Size of the Co-Benefit <sup>3</sup>
A. Additional PES area for Avoided Deforestation/Old Growth Forest	i. Biodiversity conservation ii. Water quality conservation (erosion control)	i. Potential conservation of <b>35,000 ha</b> of high biodiversity value forests not included in the existing system of protected areas and improvement of connectivity in biological corridors
B. Additional PES area for Avoided Deforestation/Middle Regeneration Forest	iii. Water flow regulation.	ii. Potential water quality conservation of <b>25 million m<sup>3</sup>*year<sup>-1</sup></b> for human consumption iii. Potential water quality conservation of <b>333 million m<sup>3</sup>*year<sup>-1</sup></b> for hydroelectric power production.
C. Additional PES area for Carbon Capture by inducing Early Regeneration	i. Wood production ii. Water quality conservation (erosion control)	i. Potential income of <b>US\$400*ha<sup>-1</sup>*year<sup>-1</sup></b> for owners of unforested lands that establish forest plantations for wood production
D. Additional PES area for Carbon Capture by establishing Forest Plantations		ii. Potential income of <b>US\$50*ha<sup>-1</sup>*year<sup>-1</sup></b> for owners of land who manage secondary growth forests for the sustainable production of wood.
E. Additional PES area for Carbon Capture by inducing Early Regeneration		
F. Carbon capture in wood products by means of increased use of wood	i. Creation of demand for wood	i. Promotion of forest activity ii. Job creation in depressed regions of the country

<sup>3</sup> The size of the environmental co-benefits is estimated on the basis of the work by Tattenbach, Obando and Rodriguez (2006). Generation of Environmental Services. Chapter 13 in Costa Rica's Experience with Payments for Environmental Services. Publishers: Platais and Pagiola.

## **9.2 Diversity and learning value**

*Please describe the innovative features of the proposed ER Program and what learning value the Program would bring to the FCPF Carbon Fund.*

As this proposal is the first ER program draft presented by a country to the FCPF Carbon Fund, it has an inherent learning value. The preparation of the ER-PIN has forced both Costa Rica and the FCPF technical support team to undertake a technical and financial exercise that has brought Costa Rica closer to implementation of the REDD actions contained in the R-PP and has provided the FCPF with an opportunity to adjust and design its proposal preparation and assessment mechanism. Nevertheless, it should be made clear that it is hoped that Costa Rica's work on this ER-PIN will contribute to the R-PP preparation process without undermining its own preparatory work. Civil society is concerned that if Costa Rica concentrates on the implementation of this ER-PIN it will not complete the work required for the preparation of the general REDD strategy.

As well, the following innovative features were identified during the preparation of this proposal:

- i. Promotion of wood production: The lack of additional public funds to finance the implementation of the REDD actions has made it necessary to include alternative sources of financing. Private investment in forestry businesses for the production of wood is proposed. This would require the creation of financial mechanisms and institutions to attract investment to a depressed and overregulated forestry sector.
- ii. Promotion of wood consumption: The success of the previous initiative depends on the promotion of wood consumption in Costa Rica. This will require R&D in biomaterials and the re-education of architects and engineers in the use of wood, expansion of the supply of sustainable wood products, and readjustment of the housing insurance policy to reverse the trend toward the use of materials with a large carbon footprint.
- iii. Measuring, Reporting and Verification for the Emissions Reductions Payment Agreement (ERPA): This is an important aspect for the negotiation of the ERPA; this proposal will provide experience in tackling areas of uncertainty and deductions and in assessing cost-effective monitoring technologies. In general, the REDD proposal MRV strategies have lacked this focus in their design.

## **10. Benefit Sharing**

### **10.1 Rights to territories and land, and mitigation benefits**

*Please describe the land use and land tenure context of the proposed ER Program, and if and how rights to territories and land and mitigation benefits from REDD+ are reflected in traditional practices and codified in legal and/or regulatory frameworks.*

In Costa Rica, the ownership of environmental services generated by forests or plantations is considered an "asset" or "good" that belongs to the owner of the property providing the service. Although such

goods are not easily classifiable using traditional definitions (Article 253 and ff. of the Civil Code), their nature as an "asset" that could potentially receive a payment from the State through mechanisms such as the PES is generally accepted. Logically therefore, in Costa Rica a forest or plantation can become an asset that is an economic factor that gives value to a specific environmental service provided (mitigation, water production, protection of biodiversity, protection of ecosystems), which is a real right derived from the ownership of the forest and thus transferable.<sup>4</sup> Therefore, the owner of the land is also the owner of the carbon. On public lands, the carbon rights belong to the State; in indigenous areas, the rights belong to the indigenous community; and on private lands, the rights belong to the individual owner. Thus, the owner can sell his carbon rights to a third party in exchange for compensation. Carbon rights purchased by FONAFIFO belong to the State since they were purchased with public funds; FONAFIFO can therefore market these rights if it so wishes.

It is important to note that the government payment is compensation for conservation or for the dedication of land to the ends pursued by Law 7575. Said compensation is not paid for a specific environmental service, since such services are not considered individually for such payments. In the event that the State (through FONAFIFO) has actually paid for the environmental mitigation service, selling would no longer be an option.

### 10.2 Description of envisioned benefit-sharing arrangement for the proposed ER Program.

*Please describe the benefit-sharing arrangements that are envisioned to be used for this proposed ER Program.*

The benefit-sharing arrangement applicable to the various types of forest ownership throughout the country that was developed and implemented in the PES Program will be used for the ER Program. This mechanism has been used at the highest administrative and political levels by means of the Valuation Matrix for Forest Protection Projects established by FONAFIFO Decree No. 36935-MINAET. This matrix prioritizes the inclusion of the following types of forests in the program:

1. **Private forests:** Priority is given to the inclusion in the PES of properties located in districts with a low degree of social development (IDS MIDEPLAN 2007) that measure less than 50 ha.
2. **Indigenous Reserves:** Priority is given to the inclusion in the PES of forests located in indigenous territories throughout the country.
3. **Protected Forest Areas:** Priority is given to the inclusion in the PES of forests and farms located within Protected Forest Areas that have not yet been purchased or expropriated by the State.

### 10.3 Link between the envisioned benefit-sharing arrangement and the activities in the proposed ER Program.

*Please explain how these benefit-sharing arrangements would support the activities identified in section*

<sup>4</sup> See the doctrine set out in Resolution 546-90 of the Constitutional Chamber of the Supreme Court of Justice (2:30 p.m., May 22, 1990) regarding the rights derived from forest ownership.



*5.3 to address the drivers of deforestation and forest degradation. Identify, if possible at this stage, potential issues or constraints that may emerge in development of the ER Program that could need additional progress in order to effectively implement the benefit-sharing mechanisms.*

The benefit-sharing arrangement would build on the systems created for the PES program, with adjustments and complementary approaches where needed. The ER Program could include new PES variants in order to involve a large number and diversity of landowners and further strengthen the principles of equity and transparency. A specific variant of the PES could be designed to meet the particular conditions of the indigenous communities. The R-PP discusses how the strategic options will be further improved by analytical studies and consultations. For example, the R-PP foresees systematic analysis of opportunity costs for all strategic options, including analysis of the potential costs of compensation in the case of loss of income or restricted access to natural resources by communities.

#### **10.4 Progress on benefit-sharing arrangements**

*Describe the progress made thus far in the discussion and preparation of the benefit-sharing arrangements, and who has been participating in this process.*

In the National SESA workshop held in May 2011, the following key aspects that are directly linked with benefit-sharing arrangements under the ER Program were identified:

- i. The lack of a differentiated PES for farm communities, based on their unique characteristics, situation and needs, that would favor the farm community as it favors the indigenous communities.
- ii. Design a new indigenous PES model that responds to and meets the expectations of the indigenous peoples.

Based on these and other inputs provided by the participants in the National SESA Workshop, FONAFIFO is preparing a SESA work plan that contains operational directives on the next steps and activities to carry out the necessary studies with those who are working on the adjustments to the national REDD strategy, including the ER Program actions, and the steps to be taken in the ESMF to mitigate the impact of the risks identified.

## **11. Reference Level and Expected Emission Reductions**

### **11.1 Approach for establishing the Reference Emission Level (REL) and/or Forest Reference Level (FRL)**

*Please briefly describe how the REL/FRL for the proposed ER Program has been or will be established. Describe how the approach for establishing the REL/FRL is consistent with UNFCCC guidance available to date and with the emerging Methodological Framework of the FCPF Carbon Fund, and with the (emerging) national REL/FRL (or with the national approach for establishing the REL/FRL).*

Implementation of the ER Program is planned for 2010-2020, so that the proposed reference level for the ER Program will be Costa Rica's carbon stock on December 31, 2009 (see Figure 9). The early initiation of

the ER Program actions responds to: (i) the availability of public funds to finance early implementation of the REDD actions included in the ER Program; and (ii) the opportunity provided by the Carbon Fund to sell emission reduction rights. The project is to end in December 2020, just before Costa Rica begins the carbon neutral development period. The project will not continue past this date, which means that the outlook for the sale of emission reduction rights could change substantially, which is why Costa Rica must balance its greenhouse gas emissions with REDD reductions generated on its own territory.

### **11.2 Expected REL/FRL for the ER Program**

*Please provide an estimate of the REL/FRL for the proposed ER Program area. Even a very preliminary estimate would be helpful.*

The ER Program began in 2010 with the implementation of REDD actions in addition to the activities already under way. A preliminary estimate shows that the level of Costa Rica's carbon stocks as of December 31, 2009 could be above 777,000 Gg CO<sub>2</sub>. This estimate was made using the model constructed for Costa Rica's R-PP, which was used to prepare a preliminary projection of Costa Rica's carbon sequestration capacity for each uniform stratum of dynamic land use by means of transition matrices using the change in land use observed in the period 2000-2005 as the baseline. The sequestration estimate was calculated in Gg of CO<sub>2</sub> for each five-year period based on the stock changes from period to period, considering only the above-ground biomass. The estimate of the stocks for each year was based on two assumptions: (a) that a secondary forest site reaches total vegetative cover in 35 years; and (b) that for forests in Guanacaste and the rest of the country, the average biomass of mature forests is 60 and 100 tons per hectare of carbon, respectively. For each cohort of regeneration (early, middle, and late), the stock was estimated based on the proportion of middle regeneration to the total time necessary to reach total reforestation of the site (age/35 years) multiplied by the carbon for total reforestation of the stratum. An age of 22 years was taken for early regeneration and 27 years for middle regeneration. Late regeneration was considered total reforestation of the site, with an age above 35 years.

### **11.3 Expected Emission Reductions (ERs)**

*Please provide an estimate of the expected impact of the proposed ER Program on the REL/FRL (as percentage of emissions to be reduced). Based on this percentage, also estimate the volume of ERs, as expressed in tonnes of CO<sub>2</sub>e, that would be generated by the ER Program:*

- a) up to December 31, 2020 (currently the end date of the FCPF)*
- b) for a period of 10 years; and*
- c) the lifetime of the proposed ER Program, if it is proposed to continue longer than 10 years.*

It was first estimated that with the implementation of the REDD actions in the ER Program, emissions could be reduced by 9,170 Gg CO<sub>2</sub> by means of avoided deforestation in old growth and middle regeneration forests. As well, by inducing secondary growth on private lands and indigenous territories and establishing forest plantations and agroforestry systems on private lands, the carbon stock could be increased by 15,310 Gg CO<sub>2</sub>. Finally, by implementing policies to increase the consumption of wood

products and replace materials with a large carbon footprint, it is hoped that a reduction of 5,000 Gg CO<sub>2</sub> (see Figure 15) can be achieved. The total anticipated impact of the program is 29,479 Gg CO<sub>2</sub>.

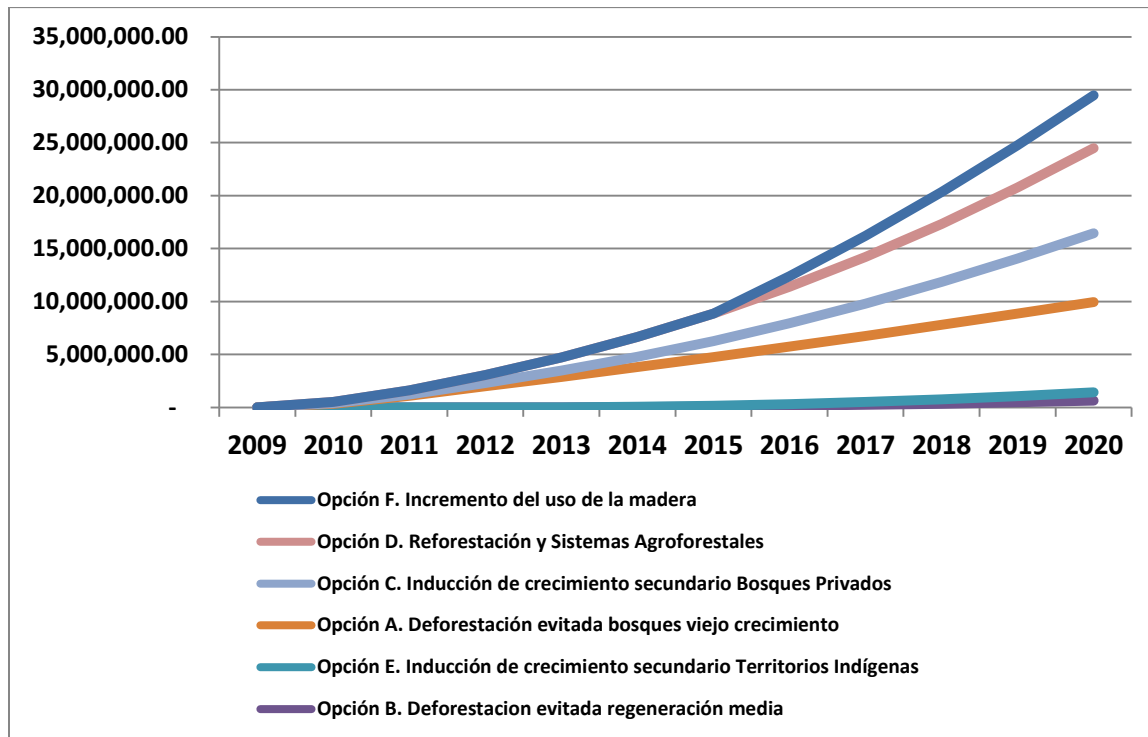


Figure 15: Preliminary estimate of the anticipated impact of the ER Program proposed by Costa Rica.

#### 11.4 Volume proposed for the FCPF Carbon Fund

*Please explain the portion of the expected ERs that would be offered to the Carbon Fund, and if other carbon finance providers or buyers have been identified to date, the portions of the expected ERs that would be offered to them.*

Considering that implementation of the ER Program costs US\$238 million, that Costa Rica should be able to count on public funds in the amount of US\$73 million (fuel tax and water royalty) for initial implementation and that, based on preliminary analyses, Costa Rica should be able to raise US\$43 million from private investments in forestry businesses, the program would need to offer the Carbon Fund an emission reduction volume with a value of at least US\$62 million.

This amount could be raised based on a hypothetical price of US\$5 per ton of CO<sub>2</sub> and an emission reduction volume of around 12,482 Gg CO<sub>2</sub> as of December 31, 2020. This volume of reductions represents 50 percent implementation of the REDD actions in the ER Program, excluding the 5,000 Gg CO<sub>2</sub> from the program to increase wood consumption.

Thus, the Carbon Fund is offered 50 percent of the emission reduction produced as of December 31, 2020 (excluding the 5,000 Gg CO<sub>2</sub> from the program to increase wood consumption). Nevertheless, it is clearly important to have the option of selling a part of the REDD action program to increase wood consumption and replace large carbon footprint materials in construction to the Carbon Fund. Additional purchasers identified included international investors interested in wood production as well as developers in the construction sector interested in reducing emissions by means of increased use of wood.

## 12. Forest Monitoring System

### 12.1 Description of approach and capacity for measurement and reporting on ERs

*Please describe the proposed approach for monitoring and reporting the emission reductions attributable to the proposed ER Program, including the capacity of the proposed ER Program entities to implement this approach.*

The monitoring of emission reductions attributable to the ER program will be part of the REDD+ Strategy MRV. The main challenges in adjusting the REDD strategy MRV to the requirements of ER Program monitoring are: inclusion of the status of forest resources and biodiversity in monitoring, minimization of the deductions for uncertainty, estimation of degradation, and monitoring of the consumption of collected wood products. The current scope and the adjustments needed to respond to the requirements of an eventual agreement with the FCPF Carbon Fund for the purchase of emission reductions are detailed below:

- i. **Scope:** Deforestation, Reforestation/Secondary Growth, Degradation.  
*Adjustments for the ER Program:* The design of the REDD Strategy MRV is limited in terms of the estimation of the emissions resulting from degradation, specifically by means of the proposed inventory method. It is hoped that this problem will be solved by combining the traditional inventory approach with the use of Light Detection and Ranging (LIDAR).
- ii. **Carbon Reserves:** Only the biomass carbon of above-ground trees is considered.  
*Adjustments for the ER Program:* Monitoring of the carbon gains based on collected wood products (CWP) is also required. The appropriateness of monitoring additional reservoirs such as organic carbon in the soil and forest litter, especially in areas of secondary growth, will be assessed.
- iii. **Reference Level Option:** Carbon stock in the reference year (between 2000 and 2008). The historic rate of deforestation/degradation is not used.  
*Adjustments for the ER Program:* For purposes of carrying out carbon transactions, three periods of greenhouse gas emissions reduction based on forest carbon<sup>5</sup> are identified, for each of which a reference level will need to be established (see Figure 9):

<sup>5</sup> Draft Memorandum of Understanding between the Verified Carbon Standard Association and FONAFIFO.

- Post-Bali Carbon: From January 2008 (just after the Bali COP) until 2013;
- ER Program: Reduction of emissions resulting from the increased level in the PES program actions from 2010 to 2020;
- Post Ecomarkets II Carbon: Reduction of emissions resulting from the current PES program. This period would run from 2014, when the Ecomarkets II ends, until 2020.

**iv. Calculation Methodology:** Change in carbon stocks (IPCC, 2005)

*Adjustments for the ER Program:* The capacity of the National MRV to measure emission reductions under the ER Program is limited. Given that the potential reduction under the ER program is less than 4 percent of Costa Rica's total carbon stock, the risk is run that inventory errors will be higher than the anticipated change (IPCC, 2005). For ER Program monitoring purposes, it is important to assess the good practice method of estimating default gains (reductions and removals).

**v. Assessment of Uncertainty:** The proposed MRV does not consider the issue of uncertainty.

*Adjustments for the ER Program:* It is proposed that uncertainty be calculated on the basis of the IPCC's good practice for LULUCF (Land Use, Land-Use Change and Forestry). Uncertainty regarding the change in the carbon stock on forest lands is calculated on the basis of the change in stocks taking into account the uncertainty associated with the area involved, the uncertainty associated with the change in biomass, and the uncertainty associated with the estimation of the IFC carbon factor. The overall estimate will be the sum of the combination of these uncertainties in forest lands that remain forest lands and lands converted into forest lands.

**vi. Sampling Methodology:** The continuous forest inventory will be used to monitor emission reductions with the required monitoring frequency.

*Adjustments for the ER Program:* Even though the issue of deductions from emission reductions for monitoring uncertainty has not been clarified, it is clear that it should preferably be as small as possible. Although the MRV proposal for Costa Rica does not contemplate the use of LIDAR, this airborne mapping method will be combined with the information from the forest inventory to reduce costs, improve accuracy, and reduce the uncertainty of the estimate of the change in the carbon stocks (see Figure 16 and Table 6).

**vii. Entities involved in the MRV:** Among the entities involved in the MRV of the REDD Strategy are the National System of Conservation Areas (SINAC), which is responsible for the national forest inventory, the mapping of forest cover for sustainable management, monitoring and reporting on the biodiversity status, and, together with FONAFIFO, monitoring and assessment of the PES program; FONAFIFO, which is responsible for designing and implementing the REDD strategy; and the public universities, to which the Government of Costa Rica has traditionally delegated auditing.

*Adjustments for the ER Program:* FONAFIFO and SINAC have signed a memorandum of understanding to coordinate MRV actions for the REDD strategy and the ER Program.

**viii. Monitoring and Reporting Capacities:** Academia, FONAFIFO and SINAC have experience with the preparation of cover maps (1997, 2000 and 2005) and knowledge and experience in the establishment of traditional forest inventory parcels, biomass estimation, and the preparation of allometric equations. As well, Costa Rica has

institutions of higher education that have the capacity and appropriate experience for the establishment and measurements of sampling parcels. With their cooperation, the Network of Permanent Forest Parcels has been created, although the data have not yet been processed or released to the public.

*Adjustments for the ER Program:* Training of Costa Rican personnel in the use of the images from new remote sensors and in the use of LIDAR-type airborne mapping methods is required. As well, coverage of the Network of Permanent Monitoring Parcels is required, especially in early and middle secondary forests, using a standard parcel to generate information for detail levels 2 and 3.

**12.2 Describe how the proposed ER Program monitoring system is consistent with the (emerging) national REDD+ monitoring system.**

Monitoring of the reduction of emissions under the ER Program will be part of the REDD+ Strategy MRV. As indicated in 12.1, a series of adjustments to the R-PP proposal are required. The largest adjustments relate to the integration of the use of LIDAR, the assessment of uncertainties, and the calculation methodology (see 12.1).

**12.3 Describe how the proposed ER Program monitoring system is consistent with UNFCCC guidance available to date and with the emerging Methodological Framework of the FCPF Carbon Fund.**

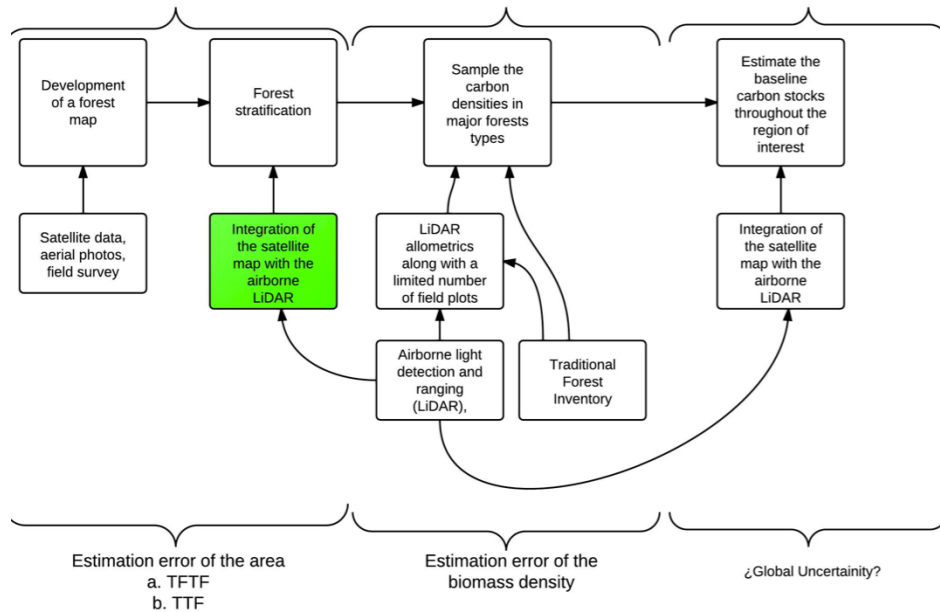
For purposes of the ER Program monitoring, the IPCC good practice method of estimating default gains (reductions and removals) will be assessed. As well, the uncertainty of the change in the carbon stock on forest lands will be calculated on the basis of the change in stocks, taking into account the uncertainty associated with the area involved, the uncertainty associated with the change in biomass, and the uncertainty associated with the estimation of the carbon factor. The overall estimation will be the sum of the uncertainties for forest lands that remain forest lands and lands converted into forest lands.

**12.4 Describe any potential role of Indigenous Peoples or local communities in the design or implementation of the proposed ER Program monitoring system.**

The design of the forest inventory that will provide LIDAR calibration information, which will be the responsibility of SINAC and will be financed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), has not yet been completed. A SINAC-FONAFIFO interinstitutional committee, created by means of a letter of understanding, will revise the scope of said design to ensure full and effective participation of the stakeholders (indigenous peoples and local communities).

**12.5 Describe if and how the proposed ER Program monitoring system would include information on multiple benefits like biodiversity conservation or enhanced rural livelihoods, governance indicators, etc.**

The design of the forest inventory that will provide LIDAR calibration information, which will be the responsibility of SINAC and will be financed by GIZ, has not yet been completed. A SINAC- FONAFIFO interinstitutional committee, created by means of a letter of understanding, will revise the scope of said design to ensure that information is provided for monitoring the compatibility of the REDD measures with forest conservation and biodiversity.



**Figure 16: Integration of the Continuous Forest Inventory with LIDAR-type Airborne Mapping Methods to Reduce Costs, Improve Accuracy and Reduce Uncertainty in the Measurement of Changes in the Carbon Stock**

**Table 6: Calculation of the Change in Tropical Forests: Integration of Satellite and Airborne Mapping<sup>6</sup> (Asner, 2009)**

<b>Satellite Images + Forest Parcels Inventory</b>	<b>Satellite Images + Parcels Inventory + LIDAR</b>
<p>No satellite technology can directly measure carbon density</p> <p>Satellites offer the opportunity to observe changes in forest carbon caused by deforestation and degradation, but only if carbon densities have been measured</p> <p>Carbon densities have been measured using inventory parcels, which are valuable but also are costly, take time, and are limited in their usefulness by their geographic representation</p>	<p>Airborne mapping methods can help in the development of estimates of carbon stored in tropical forests</p> <p>The most recent airborne approaches, particularly LIDAR, can be used to estimate large-scale above-ground carbon stocks</p> <p>LIDAR mapping combined with field calibration information (parcels) can produce maps of above-ground carbon covering thousands of hectares per day of flight.</p>

<sup>6</sup> Given the limited work attempting to integrate airborne technologies into the carbon mapping process for REDD, there are no operational or even any clearly proposed methods for using these technologies (Asner, 2009).



### 13. Summary of Progress on REDD+ Readiness

#### 13.1 Brief summary of major achievements of readiness activities in country thus far

*Please briefly provide any additional updates on REDD+ readiness activities not described above, using the component categories of the R-PP as a guide. If public information is available on this progress, please refer to this information and provide a link.*

The following advances in the REDD strategy should also be mentioned:

1. Strategic Environmental and Social Assessment (SESA) Workshop: The national SESA workshop was held; it consisted of a participatory process to create an interactive platform that would contribute to the design of the national REDD strategy. This workshop was used to prioritize the environmental, social and, political/legal issues from the viewpoint of the stakeholder groups. It consisted of a process that involved representatives of the 24 indigenous territories in a discussion of the common priorities, after many years of nonparticipation. As well, a farmers' group was established at the petition of the farmers.
2. Process of definition of the reference level for the REDD and the measuring, reporting and verification (MRV) system.
  - a. First National Workshop of Experts: Analyze and suggest the methodology for the Baseline and the Measuring, Reporting and Verification System for Costa Rica's National REDD+ Strategy. September 2011.
  - b. Second National Workshop of Experts: Propose general guidelines for the design of the National Forest Inventory. November 2011.
  - c. Exchange of knowledge and experience on the MRV methodologies: Contributions for the development of a pilot project in Costa Rica to access the Carbon Fund within the framework of the REDD+ Strategy project. June 2012.
3. In the last week of September 2012, FONAFIFO will receive a World Bank mission, which will provide support for the preparation of the SESA Work Plan and will revise the current proposed ER-PIN.
4. FONAFIFO is in the process of updating its R-PP, integrating the agreements reached in the Information and Consultation Process, design of the MRV and SESA.
5. During the coming 18 months, FONAFIFO will be working on the implementation of the reference level of the ER Program and the REDD Strategy, preparing the respective terms of reference for contracting and execution of the necessary consultancies and services.

**13.2 Current status of the Readiness Package and estimated date of submission to the FCPF Participants Committee (including the REL/FRL, REDD+ Strategy, national REDD+ monitoring system and ESMF).**

The details are being finalized for Costa Rica to receive a grant of US\$3.6 million. These funds should be available in the coming weeks. The purchasing plan is being approved to allow FONAFIFO to begin contracting support staff and thus continue aggressive implementation of the strategy starting in October. Although the date for submission of the Readiness Package has not been finalized, it is estimated that this could take place in June 2013. As well, the reference level should be ready by March 2013 as part of its formal preparation for the beginning of negotiations on an ERPA agreement with the World Bank and FCPF.

**13.3 Next steps to finalize the proposed ER Program implementation design (REL/FRL, ER Program monitoring system, financing, governance, etc.). Provide a rough timeline for these steps.**

The next steps to finalize the proposed implementation of the ER Program are provided below. It should be noted that Costa Rica needs financial support and technical assistance from the FCPF to complete these tasks in a timely fashion.

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**Reference Level and Monitoring:**

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|----------------------|---|
| <u>December 2012</u> | <ul style="list-style-type: none"> <li>• Stratification of forest cover based on biomass for the completion of the LIDAR flights</li> <li>• Definition and location of the forest inventory sampling units that perform LIDAR calibration and validation functions</li> <li>• Development of a methodology for estimating gains using the default method established as a good practice by IPCC, for all REDD activities in the ER Program</li> </ul> |
| <u>February 2013</u> | <ul style="list-style-type: none"> <li>• Development of the protocol of estimating overall uncertainty in the change in the carbon stock for all REDD activities under the ER Program.</li> <li>• Development of the protocol for monitoring collected wood products (CWP).</li> </ul>  |
| <u>March 2013</u>    | <ul style="list-style-type: none"> <li>• Establishment of the Reference Level for the ER Program and Post Ecomarkets II carbon based on satellite images, LIDAR data and forest inventory parcels.</li> </ul>   |
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**Financing**

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- |                      |  |
|----------------------|--|
| <u>December 2012</u> | <ul style="list-style-type: none"> <li>• Development of the business plan for the establishment of forest plantations by means of private investment of at least US\$46 million.</li> </ul>  |
| <u>March 2013</u>    | <ul style="list-style-type: none"> <li>• Project Design Document (PDD) for the packaging of the Post Bali and Post Ecomarkets II carbon.             <ul style="list-style-type: none"> <li>○ JNR-VCS Initiative</li> <li>○ Establishment of the Reference Level for the Post Bali Periods.</li> </ul> </li> <li>• Project Design Document (PDD) for the emission reduction program by means of increased wood consumption and replacement of large carbon footprint materials in construction.</li> </ul> |
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**14. Financing plan (in US\$ million)**

*Please describe the financial arrangements of the proposed ER program including potential sources of funding. This should include both near-term start-up cost and long-term financing. If the proposed ER program builds on existing projects or programs that are financed through donors or multilateral development banks, provide details of these projects or programs, including their financing timeframe.*

Table 9 provides a financing scenario based on a set of assumptions. According to the parameters set out in Table 7, the cost of the ER Program would be US\$238 million. It is important to emphasize that implementation of the ER program will require additional financing. Existing public funds cover maintenance of the current level of penetration of the PES program administered by FONAFIFO and will be able to finance only US\$73.4 million out of the US\$238 million required for implementation of the ER Program activities

Owing to the inability of the government to allocate additional public resources, the remaining financing of the ER Program will depend primarily on the sale of emission reduction rights produced early, such as the Post Bali/Post Ecomarkets II Carbon<sup>7</sup> (US\$22.3 million), and those produced by the ER Program (US\$62 million). The funds raised through carbon transactions represent the sale of 50 percent of the potential emission reductions under the ER Program and 5 percent of early reductions. Transactions are planned only for carbon produced prior to 2021, avoiding potential inconsistencies with the Carbon Neutrality declaration (see Table 8).

It should be noted that this is a very preliminary version of the Financing Plan. Additional scenarios that can better handle the surpluses and reduce the deficits must be developed, and aspects such as the impact of low farmer recruitment levels at the beginning of the project or an increase in the price of the PES, among many other variables to be taken into consideration, must be analyzed.

**Table 7: Parameters Considered in the Development of the ER Program Financing Plan**

Assumption	Amount	Units
Old growth forest PES amount	80	US\$/ha
Middle regeneration PES amount	80	US\$/ha
Secondary growth PES amount	70	US\$/ha
Reforestation PES amount	1200	US\$/ha
Price of carbon	5	US\$/ton CO <sub>2</sub>

<sup>7</sup> The aim of the ECOMARKET Project was to preserve forests in Costa Rica, support the development of private markets and suppliers of environmental services offered by private forests, incorporate protection of biodiversity, mitigate the gases produced by the greenhouse effect and promote hydrologic services.

Table 8: Amount of Carbon to be Traded, in Tons of CO<sub>2</sub> produced in the Different Periods, to Finance Implementation of the ER Program

Year	ER Program	Post Bali/Post Ecomarkets Carbon	Annual Total
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	385,977	385,977
2014	3,322,622	428,761	3,751,383
2015	-	474,558	474,558
2016	-	523,414	523,414
2017	4,263,524	575,376	4,838,900
2018	-	630,473	630,473
2019	-	688,735	688,735
2020	4,895,992	-	4,895,992
<b>Total</b>	<b>12,482,138</b>	<b>3,707,293</b>	<b>16,189,431</b>

Table 9: Summary of the Financing Plan

Expected ER Program costs	Description / Specification	Breakdown per year											Total	
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Operational and implementation costs	Pago por servicios ambientales para deforestación evitada en 107600 ha de boques de viejo crecimiento	3,217,378	6,935,290	8,608,014	8,608,014	8,608,014	8,608,014	8,608,014	8,608,014	8,608,014	8,608,014	8,608,014	8,608,014	79,016,781
	Pago por servicios ambientales para deforestación evitada en 19000 ha de Regeneración media					219,325	438,650	657,975	877,300	1,096,625	1,315,951	1,535,276		6,141,103
	PSA para 19,000 ha de crecimiento secundario en Territorios indígenas					187,418	374,836	562,254	749,672	937,090	1,124,507	1,311,925		5,247,701
	PSA para 123,000 ha de crecimiento secundario en terrenos privados	338,676	480,811	1,188,531	1,896,252	2,603,973	3,619,928	4,635,884	5,651,839	6,667,794	7,683,750	8,699,705		43,467,142
	PSA para 72,000 ha de plantaciones forestales o sistemas agroforestales en terrenos privados	8,243,514	8,531,298	7,753,689	7,753,689	7,753,689	7,753,689	7,753,689	7,753,689	7,753,689	7,753,689	7,753,689		86,558,011
	Captura de carbono en productos de madera mediante el Incremento Uso de Madera					1,000,000	1,000,000	1,000,000	1,000,000	1,000,000				5,000,000
Financing costs (e.g interest payments on loans)	(please explain)													-
Costs related to developing the ER Program (i.e monitoring costs)	Establecimiento nivel de referencia y eventos de monitoreo del ER-Program				1,500,000				1,000,000				1,000,000	2,500,000
Other costs	Iniciativa JNR-VCS, empaquetamiento Carbono Post Bali y Post Ecomercados II	500,000												500,000
<b>Total costs</b>		<b>12,299,568</b>	<b>15,947,399</b>	<b>17,550,234</b>	<b>19,757,955</b>	<b>20,372,418</b>	<b>21,795,117</b>	<b>23,217,815</b>	<b>25,640,514</b>	<b>26,063,212</b>	<b>26,485,911</b>	<b>28,908,609</b>	<b>238,038,752</b>	
<b>Expected income</b>	<b>Description</b>													
Revenue from REDD+ activities (e.g sale of agricultural products)	(please name sources)													-
Other sources of income (e.g grants)	R Package, apoyo al MRV				1,500,000									1,500,000
	Grant aumento consumo de madera					1,000,000	1,000,000	1,000,000	1,000,000	1,000,000				5,000,000
	Fondos Públicos	5,191,268	3,752,619	6,547,415	6,798,212	6,874,286	6,970,211	7,151,411	7,306,292	7,458,337	7,621,773	7,797,452		73,469,277
	Ecomercados II	8,049,545	11,600,000	5,631,084										25,280,629
Loans	Credito Forestal FONAFIFO	500,000	500,000	500,000	500,000	500,000								2,500,000
	Inversionistas Forestales						7,650,000	7,650,000	7,650,000	7,650,000	7,650,000	7,650,000		45,900,000
Revenue from sale of Emission Reductions (contracted)	ERPA Fondo de Carbono FCPF ER-Program					16,613,112			21,317,618				24,479,960	62,410,690
Revenue from sale of additional Emission Reductions (not yet contracted)	Mercado Local de carbono			1,929,884	2,143,803	2,372,789	2,617,069	2,876,880	3,152,367	3,443,675	3,750,951			22,287,418
	Mercado Voluntario Internacional (Carbono Post Ecomercados II)													-
	Mercado Voluntario (Carbono Post BALI)													-
	Mercado Regulado Saldo Carbono ER-Program													-
<b>Total income (before taxes)</b>		<b>13,740,813</b>	<b>15,852,619</b>	<b>12,678,499</b>	<b>10,728,096</b>	<b>27,131,201</b>	<b>17,993,000</b>	<b>18,418,480</b>	<b>40,150,790</b>	<b>19,260,704</b>	<b>18,715,448</b>	<b>43,678,363</b>	<b>238,348,013</b>	
<b>Net revenue before taxes (=total income – total costs)</b>		<b>1,441,245</b>	<b>(94,780)</b>	<b>(4,871,735)</b>	<b>(9,029,859)</b>	<b>6,758,783</b>	<b>(3,802,117)</b>	<b>(4,799,335)</b>	<b>14,510,276</b>	<b>(6,802,508)</b>	<b>(7,770,463)</b>	<b>14,769,754</b>	<b>309,261</b>	

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**15. List of acronyms used in the ER-PIN***Please include an explanation of any institutional or other acronyms used. Add rows as necessary.*

<b>Acronym</b>	<b>Meaning</b>
ACICAFOC	Indigenous and Farmers' Coordinating Association for Community Agroforestry
CIAgro	College of Agricultural Engineers
COP	Conference of the Parties
DCC	Climate Change Directorate
ERPA	Emission Reductions Payment Agreement
ER-Program	Emission Reduction Program
ESMF	Environmental and Social Management Framework
ESPH	Heredia Public Utility Corporation
FCPF	Forest Carbon Partnership Facility
FONAFIFO	National Forest Financing Fund
FUNDECOR	Foundation for the Development of the Central Volcanic Range
Gg	Gigagrams
GHG	Greenhouse Gases
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
ICE	Costa Rica Electricity Company
IPCC	Intergovernmental Panel on Climate Change
LIDAR	Light Detection And Ranging
LULUCF	Land Use, Land-Use Change and Forestry
MINAET	Ministry of the Environment, Energy and Telecommunications
MRV	Measuring, Reporting and Verification
NEEDS	National Economic, Environment and Development Study for Climate Change Project)
NGO	Nongovernmental Organization
ONF	National Forest Office
PC	Participants Committee
PES	Payment for Environmental Services
PIR	Relevant Stakeholder
REDD	Reducing Emissions from Deforestation and Forest Degradation
SESA	Strategic Environmental and Social Assessment
SINAC	National System of Conservation Areas
TFTF	forest lands that remain forest lands
TTF	lands converted into forest lands