

Proposal of a State- wide **REDD+** System in Amazonas

Study for Opportunities on REDD+ Initiatives
in the South/Southeast of the state of Amazonas

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Presentation

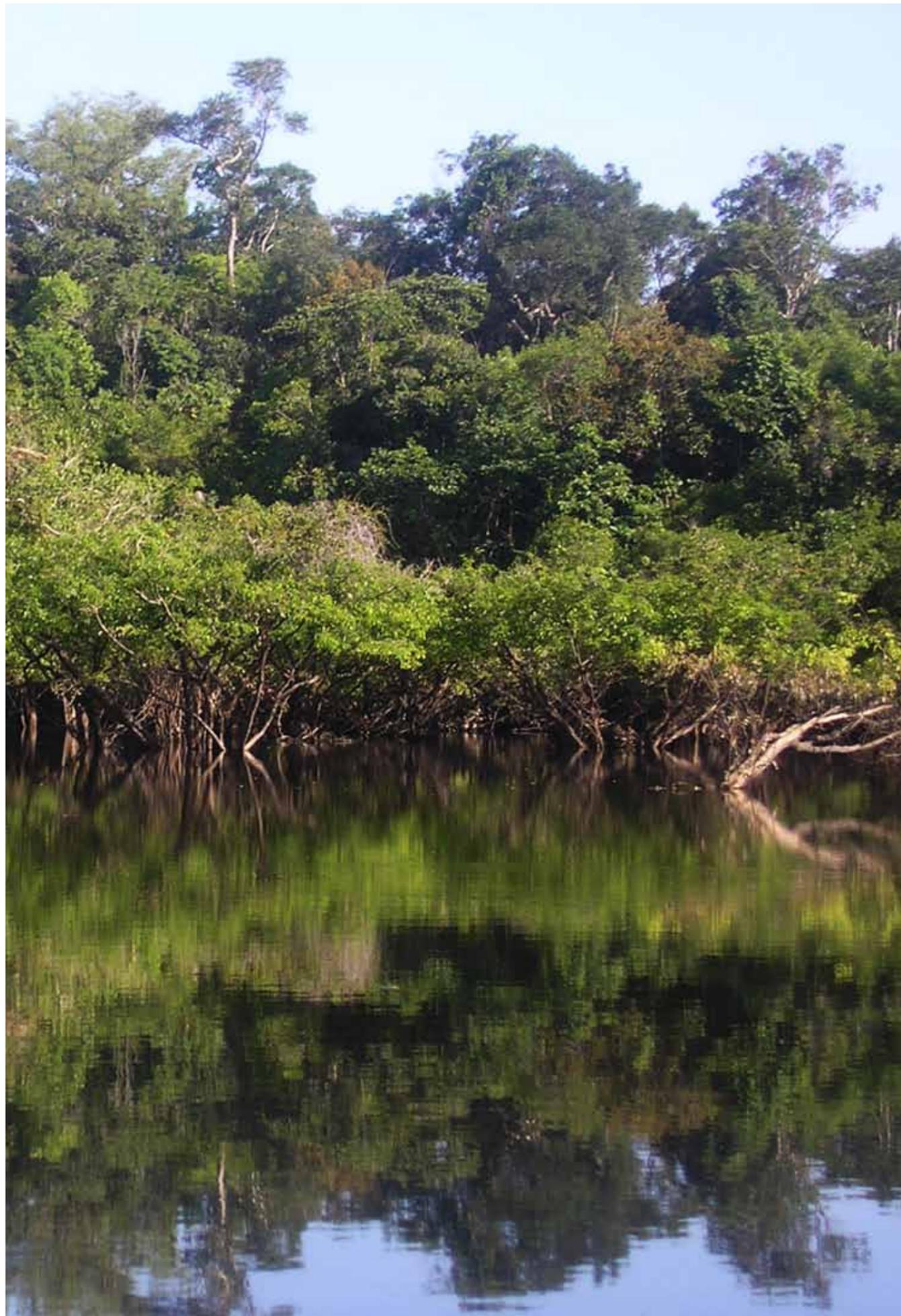
This report was prepared by the Institute for Conservation and Sustainable Development of Amazonas (IDESAM), Forest Trends and Carbon Decisions International (CDI), with technical support from the State Climate Center of Amazonas (CECLIMA) and financial support from KfW. It is a product of the project “Study of opportunities for REDD+ Initiatives in the South/Southeast of the State of Amazonas”. The report presents proposals for structuring a State-wide REDD+ System (SisREDD+) in Amazonas, as well as key elements for integrating state REDD+ systems into the National REDD+ System in Brazil. The report includes a broad analysis of all laws, programs and regulations related to REDD+ that are already in force or currently in discussion at the national and sub-national levels in Brazil. It is important to stress that all ideas and proposals presented in this report are still under discussion and they do not represent an official proposal agreed upon between the Amazon region Member States and the Federal Government.

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REDD+ in the UNFCCC

Climate change and its impacts are considered the greatest environmental threats ever faced by mankind. Scientific evidence obtained in recent years leaves no doubt that human activities are the main cause of this process¹. In the last century, the average surface temperature globally has increased by 0.7°C, caused by increased atmospheric concentrations of so-called greenhouse gases (GHG)² which have nearly doubled since the beginning of the industrial revolution.

Forest ecosystems occupy about 30% of the Earth's surface and are immense carbon reservoirs, containing more than twice as much carbon as is the atmosphere. Deforestation and the loss of forests are responsible for approximately 20% of global GHG emissions³. Forest conservation has been singled out as one of the most effective options for cost-effective climate change mitigation⁴.

In Brazil, the land use and forest sector is responsible for about 58% of the national GHG emissions⁵. Most of these emissions come from deforestation in the Amazon. Despite significant reductions

in recent years, the loss of forests in the Amazon has been occurring at an average rate of 0.56% (1,762,995 ha/year) in the past ten years. From 2002 to 2011, more than 17,6 million hectares were destroyed in the Brazilian Legal Amazon⁶, which corresponds to an area the size of Uruguay.

Understanding the causes that drive deforestation around the world is crucial for identifying and implementing appropriate strategies to change land use trends, benefit traditional populations and indigenous peoples who depend on the forest for their survival. In the last years the United Nations Framework Convention on Climate Change (UNFCCC)⁷ recognized the need for adopting policy approaches and positive incentives for assisting developing countries reducing GHG emissions in the forestry sector. A mechanism for “Reducing Emissions from Deforestation and Forest Degradation” (REDD+)⁸ in developing countries is expected to provide such incentives and is currently being developed. It will be part of the global climate protection regime under negotiation for after 2020.

The design of the REDD+ mechanism under the UNFCCC is subject of a great international discussion. During the eleventh Conference of the Parties (CPII, 2005), REDD+ entered the agenda of the UNFCCC negotiations through a joint bid between Papua New Guinea and Costa Rica⁹, which was strongly supported by several countries, including Brazil. In subsequent CPs, the REDD+ mechanism has broadened its scope and it now includes activities related to forest degradation, forest conservation, sustainable forest management and enhancement of carbon stocks, in order to address different circumstances in various developing countries.

At their sixteenth meeting in Cancun (CPI6, 2010), the Parties to the UNFCCC achieved an important milestone, by adopting a decision within the framework of the AWG-LCA¹⁰ that REDD+ would be included in the future UNFCCC climate change agreements. Although not defining important aspects of the REDD+ mechanism, such as the scale of implementation and funding sources, this decision also established that REDD+ activities should be implemented “in phases”, according to each country’s national circumstances, and that guidelines must be laid down to ensure the existence of appropriate social and environmental safeguards.

The subsequent CPI7, which occurred the next year (2011) in Durban, concluded with a “positive balance” on the REDD+. However, since many key aspects of the overall climate change agreement remained undefined, several issues that are important for the REDD+ mechanism remained unresolved, such as: origin of financial resources, ideal scale of implementation, accounting rules, links with Nationally Appropriate Mitigation Actions (NAMAs), role of governments and local communities, distribution of benefits to communities, as well as some methodological aspects.

While the detailed rules and requirements of the REDD+ mechanism are still in development under the UNFCCC, there are already early funding opportunities for the development of demonstration activities (readiness) as the FCPF, UN-REDD, the Green Climate Fund and donations to demon-

strative activities based on performance (Norway’s Fund, KfW/REM, FCPF Carbon Fund)¹¹ and the voluntary carbon markets.

This has encouraged several countries, such as Brazil, Indonesia, Mexico and Peru, as well as sub-national entities (states, provinces) to begin constructing their own REDD+ schemes and regulations.

In the case of Brazil, REDD+ motivated a broad national discussion, the consideration of the possibility of using national resources, through approaches ranging from the negotiation of credits between states, to the use of resources from diverse sources like oil extraction and the renegotiation of debt of states with the Union.

1 - IPCC, 2007.

2 - Greenhouse gases (GHG), when accumulated in the atmosphere, prevent the output of solar radiation, causing global warming. The main GHG are carbon dioxide (CO₂) emitted by burning fossil fuels and deforestation; Methane gas (CH₄)-emitted by decomposition of plant and animal waste in dumps and landfills and rumination (digestion) in bovine animals and herds; Nitrous oxide (N₂O)- resulting mainly from agriculture.

3 - IPCC, 2007a.

4 - Stern et al., 2006.

5 - MCT, 2009.

6 - Prodes 2011.

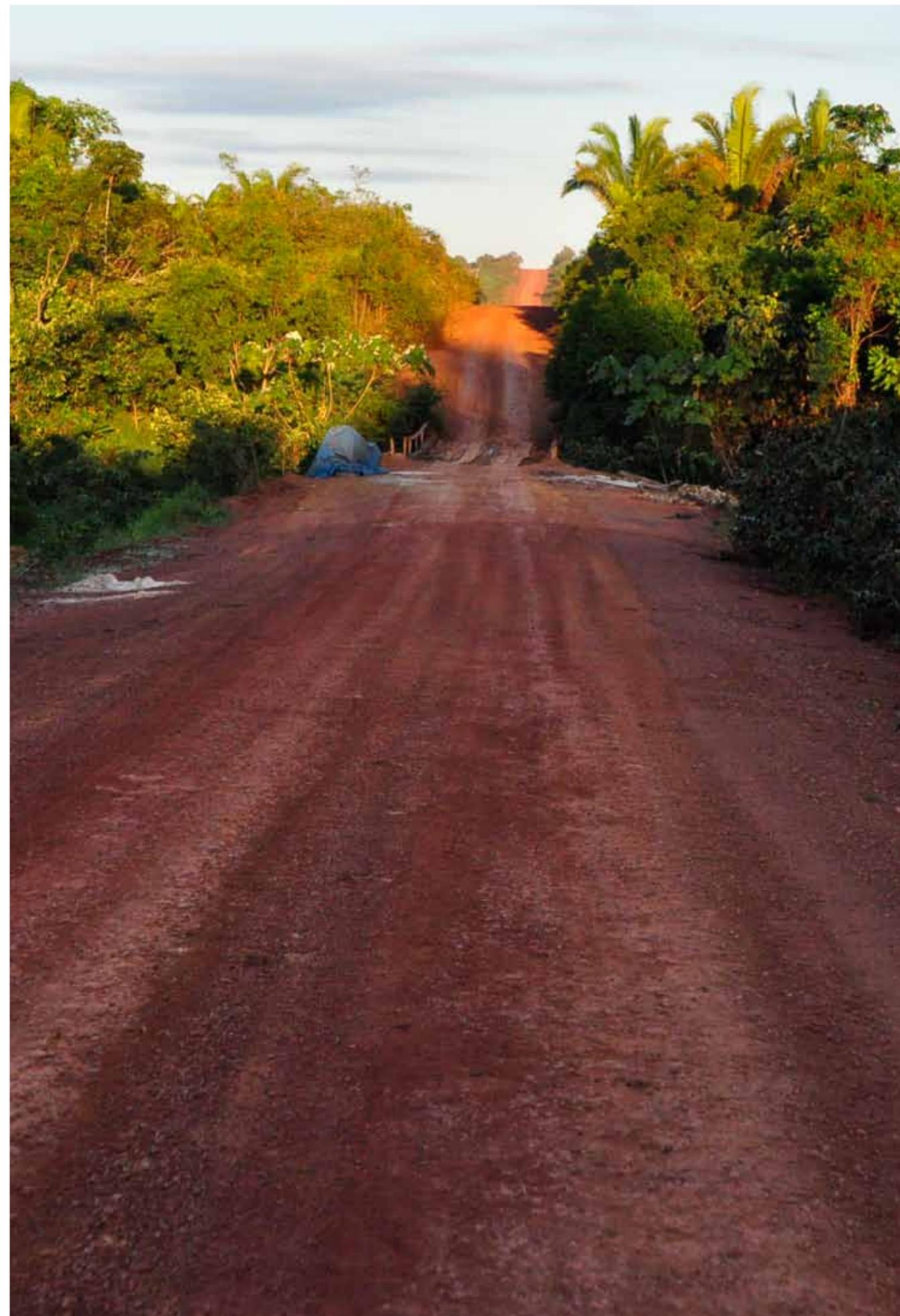
7 - United Nations Framework Conventions on Climate Change - UNFCCC

8 - While REDD refers to “reducing emissions from deforestation and forest degradation” the “+” refers to the concepts of “conservation”, “sustainable management of forests” and “carbon stock enhancement”.

9 - COP negotiation history and the original proposal of Papua New Guinea and Costa Rica can be found at: http://unfccc.int/methods_and_science/lulucf/items/1084.php

10 - Ad hoc Working Group on Long-term Cooperation within the Convention on Climate Change.

11 - UN-REDD: <http://www.un-redd.org/>; FCPF: <http://www.forestcarbonpartnership.org/>; GCF: <http://gcfund.net/home.html>; Fondo da Noruega: <http://www.regjeringen.no/templates/RedaksjonellArtikkel.aspx?id=547202&epslanguage=EN-GB>; REM: http://www.bmz.de/en/publications/topics/international_cooperation/FlyerREDD_lang.pdf





2

Legal Framework for REDD+ in Brazil

Despite having major plans and policies related to climate change and deforestation reduction, Brazil does not yet have a specific nationwide legislation regulating REDD+. Among these existing policies, some worth citing are the National Policy on Climate Change¹², the National Plan on Climate Change¹³, the Plan for the Prevention and Control of Deforestation in the Legal Amazon¹⁴ and current legislative proposals such as the Bill 195/2011¹⁵ and PLS 212/2011¹⁶, which are aimed at establishing a National REDD+ System, described in more detail in the following.

Another relevant initiative is the proposed construction of the National REDD+ Strategy, which meets the guidelines established by the UNFCCC in 2011. This work in Brazil is being led by the Ministry of the Environment (MMA) and is based on inputs from the civil society and the Brazilian States which were collected during 2010¹⁷.

2.1 The National Policy on Climate Change (PNMC)

The National Policy on Climate Change (PNMC) and its subsequent Decree No. 7,390/2010 (regulating the PNMC) represent the main pieces of legislation related to climate change and, indirectly, to REDD+, in Brazil.

The PNMC established a national GHG emissions reduction goal of between 36.1% to 38.9% in relation to the expected trajectory of emissions until the year 2020, and sets out the guidelines for its implementation, initially through 5 Sectoral Plans:

- 1) **Action Plan for the Prevention and Control of Deforestation in the Amazon**
- 2) **Action Plan for the Prevention and Control of Deforestation in the Cerrado (PPCerrado)**
- 3) **Plan for Electric Energy Expansion (PDE)**
- 4) **Plan for the Consolidation of Low-Carbon Agriculture (ABC Plan)**
- 5) **Plan for Emissions Reduction in the Metallurgical Industry)**

The Decree 7,390/2010, in addition to regulating the PNMC, defines important issues such as the reference level for GHG emissions and deforestation in the Amazon, thereby establishing a “baseline scenario for REDD+” in the Brazilian Amazon by 2020, and the potential for REDD+ for the next decade. The reference level was built from the historical average of deforestation between the years of 1996-2005 (19,500 km²/year) and an average carbon density of 132,3 tC/ha (485,1 tCO₂-e/year). Reduction targets were established gradually until they reach 80% in 2020, as shown in Figure 1.

2.2 National Plan on Climate Change

The National Climate Change Policy stipulates, as one of its instruments, the structuring of the National Plan on Climate Change. Created by Decree N°. 6,263 (November 21, 2007) and released in December 2008, the National Plan on Climate Change¹⁸ aims to identify, plan and coordinate actions and measures for the mitigation of GHG emissions and implement adaptation actions. The plan involves actions in various sectors, specifically in the forestry sector, and aims to achieve sustained reduction of deforestation in the Amazon, with a reduction goal of 80% by 2020¹⁹ compared to the 1996-2005 baseline (Figure 1). In addition to actions against deforestation, reforestation activities will be encouraged, with the aim of doubling the planted forest area in Brazil from the cur-

rent 5.5 million hectares to 11 million hectares by 2020, of which 2 million will be with native species. This will be primarily in areas of degraded pastures, aiming for their economic and environmental recovery.

A large part of the emission reductions required by the PNMC is based on the 80% reduction in emissions from deforestation in the Amazon²⁰, which would represent approximately 55% of the national target, as shown in Table 1.

The baseline scenario established by Decree 7,390 and the goals established by the National Plan on Climate Change, determine the emission reductions that are expected to be generated from avoiding deforestation in the Brazilian Amazon region until 2020, as shown in Figure 2.

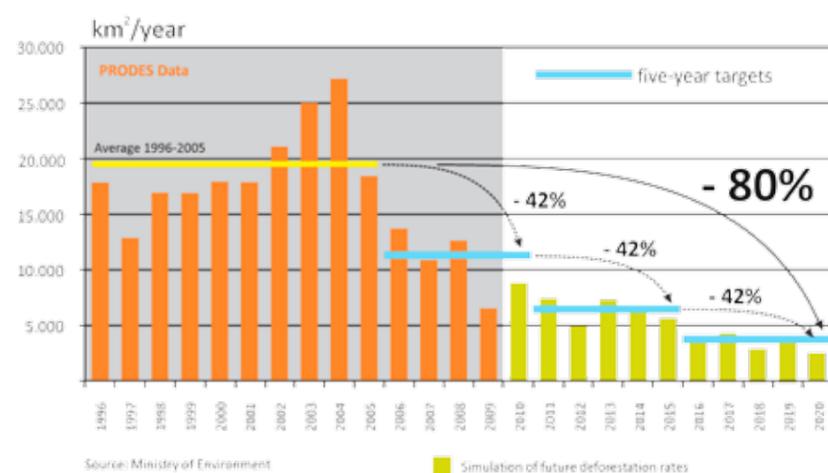


Figure 1. Deforestation reduction goals set for the Brazilian Amazon (Source: The Brazilian REDD+ Strategy, 2009²³)

Table 1. Actions for the mitigation of emissions by 2020

Mitigation Actions (NAMAs)	2020 (projection)	Reduction amplitude in 2020 (mi tCO ₂)		Reduction percentage (minimum/maximum)	
Land Use	1084	669	669	24,7%	24,7%
Reducing Deforestation in Amazon (80%)		564	564	20,9%	20,9%
Reducing deforestation in Cerrado (40%)		104	104	3,9%	3,9%
Agriculture and livestock	627	133	166	4,9%	6,1%
Recover of pastures		83	104	3,1%	3,8%
Integrated crop-livestock		18	22	0,7%	0,8%
Direct planting		16	20	0,6%	0,7%
Biological fixation of nitrogen		16	20	0,6%	0,7%
Energy	901	166	207	6,1%	7,7%
Energetic Efficiency		12	15	0,4%	0,6%
Increase the use of biofuels		48	60	1,8%	2,2%
Increase energy supply, by hydroelectric facilities		79	99	2,9%	3,7%
Alternative sources (OCH, bioelectricity, wind)		26	33	1,0%	1,2%
Others	92	8	10	0,3%	0,4%
Steel - repace coal from deforestation by planted		8	10	0,3%	0,4%
Total	2703	975	1052	36,1%	38,9%

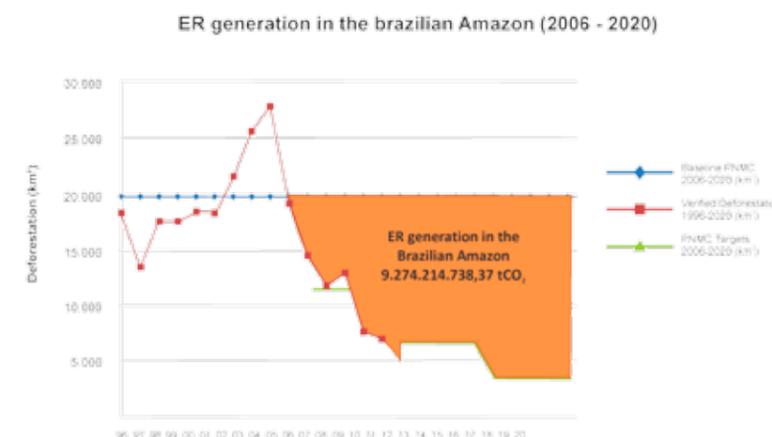


Figure 2. Potential for generating emissions reductions through fulfilling the deforestation reduction targets in the Amazon between 2006-2020, as defined by the National Plan on Climate Change.

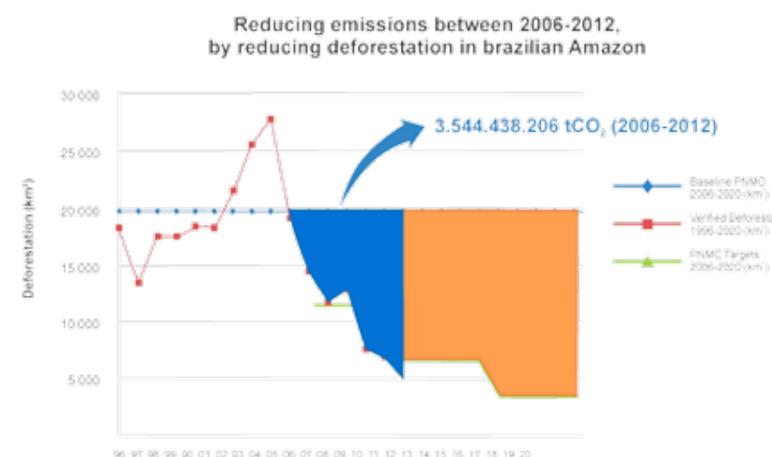


Figure 3. Emission reductions achieved through reduction of deforestation in the Brazilian Amazon, between 2006-2012.

Note that between 2006 and 2012, Brazil already achieved a significant amount of emissions reductions, however, such reductions have not leveraged sufficient financial resources to deal with the actors and issues that threaten forest conservation in the Brazilian Amazon. Brazil reduced 3,544 MtCO₂ (Figure 3) by 2012 but was compensated only over 272 MtCO₂ (or 7.5% of total reductions achieved so far) through bilateral agreements signed by the Amazon Fund with the Government Norway, the Federal Republic of Germany - KfW and Petrobras²¹.

The PNMC establishes that the national targets should be met “voluntarily” and rely on domestic financial contributions (lines of credit and promotion, National Fund for Climate Change, the Brazilian Market – MBRE emission reductions, etc.) and international financial contributions. In this sense, it is expected that financial resources will be used through public and private funds,

including financial and economical mechanisms existing in the context of the UNFCCC²². Thus, part of the emission reduction goal in Brazil could be achieved by national efforts and investments, and part could be achieved through “carbon credits” to other countries, using such credits for compliance with their own national targets and commitments under the UNFCCC.

Considering the potentially high volume of emission reductions that Brazil could export as “carbon credits” and that such credits would actually allow credit purchaser to “offset” their emissions and continue to pollute, there is an ongoing discussion, in Brazil, on need to cap the amount of “carbon offset credits” that Brazil should be allowed to put up for sale, seeking a balance between impacts on the global atmosphere and carbon markets. This “export cap” should be defined by law through a participatory process, involving states and civil society and considering both scientific and economic factors.

2.3 Action Plan for the Prevention and Control of Deforestation in the Amazon (PPCDAm)

The Action Plan for the Prevention and Control of Deforestation in the Amazon²⁴ is a program launched by the Federal Government in 2004, which aims to promote the reduction of deforestation rates through a set of integrated actions between different Ministries and involving partnerships among federal agencies, state governments, local governments, civil society and the private sector. It is organized into three strands of action:

1. Land and territorial planning;
2. Environmental monitoring and control; and
3. Promotion of sustainable productive activities.

The peak of PPCDAm actions took place between 2005 and 2008, when the most significant results were achieved in terms of reducing deforestation in Brazil. Most of its programs have been institutionalized by the organs and agencies of the Federal Government, in order to become solid and lasting actions and stabilize deforestation at low levels. The general coordination of PPCDAm takes place in the The Civil Cabinet of the Presidency of the Republic, and the Ministry of Environment, through the Department of Policies to Combat Deforestation in its Executive Board.

In addition to the PPCDAm implemented by the Federal Government, the States of the legal Amazon also have their own state plans for prevention and control of deforestation and forest fires.

2.4 Legislative Procedures of REDD+ Bill 195/2011 (PL REDD+) and Senate Bill 212/2011

Meeting the demands of society, the Environment Committee of the Chamber of Deputies began the process of building a Bill for the regulation of REDD+ in Brazil in 2009. The process began with Bill 5,586/2009, proposed by Mr. Lupércio Ramos, which was discussed and built in the Chamber of Deputies with the participation of various civil society organizations and Government agencies, incorporating many of the suggestions and

demands arising from these discussions. At the end of 2010, with the non re-election of its Tenderer, the project was put on hold, but returned to the discussion agenda the following year, as Bill 195/2011, proposed by Mrs. Rebecca Garcia, who acted as rapporteur for Bill 5.586^{25/26}. Currently, Bill 195 is awaiting the opinion of the Committee on Agriculture, Livestock, Supply and Rural Development (CAPADR).

The purpose of this Bill reflects the importance that has been given to the issue within the National Legislature and the need for regulation of REDD+ activities at national level, taking into account also the current initiatives and sub-national legislation on implementation and integration between these different levels. Bill 195/2011 suggests strategies for the creation of a National REDD+ System. It creates the “general rules” so that the System may result in real and additional emission reductions, as well as proposing mechanisms for accounting and registration of federal emissions reductions and methodologies for allocation of emission reductions between the Federal Government, States and independent initiatives. Among the proposals discussed, one which stands out and is cited in the Bill’s text is to create a mechanism for allocating emission reductions units (“U-REDD+”) for Amazonian States based on a methodology of “stock-flow”, which would consider both the effective reduction of deforestation (flow), as well as the existence of forest carbon stocks (stock).

14 - 12,187 Law, 12/29/2009. Available at: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/112187.htm

15 - Federal Decree 6,263 , 11/21/2007. Available at http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2007/Decreto/D6263.htm

16 - Available at http://www.casacivil.gov.br/arquivos/pasta.2010-08-02.3288787907/ppcdam_ParteI.pdf

17 - Available at <http://www.camara.gov.br/proposicoesWeb/fichadetramitacao?idProposicao=491311>

18 - Available at http://www.senado.gov.br/atividade/materia/detalhes.asp?p_cod_mate=100082

19 - Brasil/Ministério do Meio Ambiente (MMA). “REDD+: documento síntese com subsídios de múltiplos atores para preparação de uma Estratégia Nacional”. Relatório virtual publicado em 2011. Available at: http://www.observatoriodoredd.org.br/site/pdf/Estrategia_Nacional_redd_mma.pdf

18 - Brazil. 2008. PLANO NACIONAL SOBRE MUDANÇAS DO CLIMA - PNMC - BRASIL. Available at http://www.mma.gov.br/estruturas/169/_arquivos/169_29092008073244.pdf

19 - Available at: www.ipam.org.br/revista/-p-A-revisao-do-PPCDAM-e-o-papel-dos-estados-no-controle-do-desmatamento-p-142

20 - The Action Plan for Prevention and Control of Deforestation in the Cerrado (PPCerrado) establishes a target of 40% reduction of deforestation in this biome until 2020.

21 - www.fundoamazonia.gov.br

22 - The Decree 7,390/2010, which regulates the PNMC, states, in paragraph 4, that: “the actions referred to in this article may be implemented inclusively through the Clean Development Mechanism or other mechanisms under the United Nations Framework Convention on Climate Change”.

23 - The Brazilian REDD+ Strategy. Publication launched by the Brazilian Federal Government at the Fifteenth Conference of the parties to the Climate Convention. December 2009.

24 - Brazil. 2004. PLANO DE AÇÃO PARA A PREVENÇÃO E CONTROLE DO DESMATAMENTO NA AMAZÔNIA LEGAL, Presidência da República, Brasília-DF. Available at: <http://www.planalto.gov.br/casacivil/desmat.pdf>

25 - For more information about the building process and review of the REDD+ Bill can be found at: http://www.idesam.org.br/programas/mudancas/politicas_lei5586.php

26 - It can be consulted at <http://www2.camara.gov.br/>



3

The National REDD+ Strategy (EN-REDD+)

Another relevant process for the regulation of REDD + in Brazil is being spearheaded by the Federal Government under the leadership of the Ministry of Environment (MMA), through the construction of a National Strategy for REDD + (ENREDD). The drafting of the National Strategy for REDD + was required by the UNFCCC in 2010, during COP 16, to all Convention countries eligible for REDD+.

The consultation process began with the creation of working groups, led by the MMA in 2010. The initiative brought together civil society organizations in order to propose recommendations for EN-REDD+, based on three different themes (i) institutional arrangements, (ii) safeguards, and (iii) funding.

These groups met several times and ultimately generated reports that summarized the main points and built consensus on each of the three themes, which were sent to the Civil House, thus formalizing the demands of civil society for the future national scheme. However, to date, the proposed EN-REDD is still under construction and its text has not been publicly disclosed. The MMA has stated that EN-REDD will be completed by the end of 2013²⁷.

27 - <http://www.mma.gov.br/redd/index.php/noticias/99-em-defesa-da-amazonia>



4

A proposal for the National REDD+ System (SysREDD+)

One of the biggest challenges in Brazil is creating a “REDD+ management system” for national policies and bodies to support initiatives and programmes implemented at the sub-national level, thus encouraging the participation of the private sector, local governments, traditional communities and other communities, while ensuring compliance with the guidelines, principles and criteria of the State and national level.

The National REDD+ System (SisREDD+) must ensure that initiatives and projects are developed based on common methodological approaches and that they comply with social and environmental safeguards previously set. To allow the development of projects, it is necessary to develop a “Record System” for REDD+ activities and projects, to avoid double counting of emission reductions.

Another important element is the division of benefits generated from emission reductions, here called REDD+ Units (U-REDD+²⁸). This division should consider the contribution of the various actors involved in the process of reducing present and future deforestation, both at federal and state levels.

At the end of 2012, during the discussions on the national strategy for REDD+, a proposal was presented for allocating the benefits of emission reductions between the Federal Government and the Amazonian States, being 20% to the Federal Government and 80% for the States²⁹. These numbers were never officially adopted, but they are used in this report as a reference option. Another challenge is to establish a proposal for dividing U-REDD+s between each of the Amazonian States, considering that they have different profiles and contributions in the process of reducing deforestation in the Amazon.

Due to the various challenging steps in structuring a SisREDD+ in Brazil³⁰, we propose that a “phased approach” be adopted, which defines priority actions and a logical order for implementing activities. This approach would consist of:

Phase 1: Development of overall capacity for state-level monitoring and measurement, negotiation of allocation scheme with federal and other Amazon state governments. Establishment of principles and criteria for implementing and crediting of sub-national activities (pilot projects) in the Amazonas State, targeted at the voluntary market. Creation of the Registry System for pilot projects, with a cap on the overall volume of emissions reductions these could generate. Funding primarily from public international sources (REDD+ readiness) and voluntary markets (for projects).

Phase 2: Implementation of state-wide monitoring, reporting and verification system (MRV), in harmony with national system. Efforts to secure compensation for statewide emissions reductions, or subprograms within the state, shall be based on sale of U-REDD+s and/or performance-based public funding. Allocation of a limited volume of U-REDD+s to projects under public notices.

Phase 3: Direct allocation of U-REDD+s to all land use categories in the context of possible market mechanisms post-2020.

4.1 Financing Options for REDD+ Activities: Implications and Opportunities

Currently, the biggest gap faced by REDD+, at international, national, and sub-national levels, is the lack of clear rules and regulations for its operation. Rules and regulations are fundamental to integrate multiple REDD+ programs and activities into a coherent national framework; in addition they provide greater transparency and certainty for investors wishing to finance actions that lead to the reduction of deforestation.

Brazil, like other developing (and developed) countries, is under international pressure to set targets for greenhouse gas emission reduction and to adopt such targets as a commitment under the UNFCCC. Under such an eventuality, reducing emissions from deforestation may develop an important role for allowing that countries achieve their national targets of emission reductions.

One of the most important issues in this sense refers to the options that Brazil may use to finance the activities needed to fulfill its emission reduction

goals. Most likely, there will be a limit on the total U-REDD+ issued nationally which could go to the international compensatory markets. An important portion of them will have to be counted as “domestic reductions” and will have to remain in the country. This implies that Brazil will need to develop and rely on a national market for at least part of its U-REDD+ or seek funding sources (performance-based or not) which are not linked to exports of carbon units that could be used to offset emissions in other countries (e.g. Norway’s donation to the Amazon Fund³¹). So far, however, there is no definite proposal for limiting the volume of exportable U-REDD+s.

Options currently available to finance REDD+ activities in Brazil are the following:

- **Voluntary Markets:** Funding sources linked to voluntary carbon markets have been used to finance early actions at the project scale. Funding is provided by investors interested in obtaining carbon-offset credits or having philanthropic objectives. However, the financing volume available in the voluntary carbon market is limited, as it is linked to perceptions regarding the possibility of using carbon credits in future

compliance markets and under the UNFCCC, which in the current context remains highly uncertain. E.g. Surui Forest Carbon Project (Validated by VCS and CCBS³²) and RED Project in the Juma Sustainable Development Reserve (Validated by CCBS).

- **Internacional Funds:** These may offer to a government the opportunity to capture a greater volume of short-term resources - both for the preparation process (readiness) - e.g. for capacity-building - and for results based actions. However, the current international context (financial crisis in Europe, USA, Japan and other developed countries, insufficient commitments under the UNFCCC) makes it unlikely that international funds will be able to guarantee sufficient and long-term finance for REDD+. E.g. Norway Fund, “Rewarding Early Actions Program” - REM of KfW, FCPF, FIP and others.

- **“Pre-compliance” and bilateral markets (e.g. California, Australia and Japan):** Although they are at different design and regulation stages, these initiatives are aimed at consolidating bilateral market opportunities for REDD+, currently considering both of the above options (investment/financing linked to emissions reductions).

- **Brazilian emissions reduction market (MBRE):** It is still in early stages of discussion, but it may become a promising source of resources for the Amazonian States, as they create a demand for REDD+ credits in other sectors of the PNMC (energy, transport, industry, etc.) or even in States that are creating their own state reduction goals (e.g. São Paulo and Rio de Janeiro).

4.2 U-REDD+ allocation mechanism in the Brazilian Amazon

As the PNMC already established a baseline and reduction target for the whole Amazon region (Figure 2) using a “top-down” approach it is now practically impossible to establish baselines at the level of projects, municipalities or states in a way that consistency could be maintained when aggregating all baselines at the level of the Amazon region. A different approach than setting sub-Amazon baselines is now needed.

In this sense, once the PNMC is established, regulated and running through various instruments, it is proposed to work with the established national/Amazon-wide scheme and seek an allocation strategy (from top to bottom) of the REDD+ benefits (U-REDD+) among and within the different levels (national, state, sub-state). Taking into consideration that States currently have almost full environmental management in the Amazon, and that each Amazon State has (i) specific circumstances, (ii) differentiated strategies and (iii) distinct stages of regulation and implementation of REDD+ activities³³; we propose the allocation of U-REDD+s between 2 main levels: the Federal Government and the Amazon States.

The allocation methodology would be based on the concept of “stock-flow”³⁴, which allows a fair distribution of U-REDD+s between the States of the Amazon. This approach determines the allocation of U-REDD+ to each State based on two main criteria: the historic level of deforestation (flow) and the forest area (stock) remaining in each State of the Amazon. The further allocation of REDD+ benefits within each state would then be subject to specific State regulation, considering state-specific circumstances and respecting social and environmental safeguards³⁵ and relying on a participatory process involving all relevant actors.

It is important to note that the calculation of U-REDD+ under the PNMC will consider **only the reduction of GHG emissions from deforestation**. That is, it does not include possible reductions in emissions from forest degradation, nor the enhancement of carbon stocks, forest conserva-

Table 2. Projected deforestation in baseline scenario for the Amazon Region and Amazonas State, considering the historical rates approach (PNMC) and deforestation models (SimAmazonia II).

Approach	Projected deforestation in baseline scenario (2011-2020) (ha)	Source
Amazônia		
Historical Rates (1996-2005)	18.923.022	PNMC
Deforestation Model	24.204.800	SimAmazonia II
Estado do Amazonas		
Stock Flow	3.683.098	SisREDD+
Deforestation Model	4.850.800	SimAmazonia II

tion and, sustainable management of forests. At the national level only the reduction of emissions from deforestation in relation to the historic baseline will be considered (as shown in Figure 2).

If the allocation of U-REDD+ to States would consider only the criterion of historical deforestation levels, the scheme could be perceived as unfair and perverse as it would reward States that had high historic deforestation rates to the detriment of States which have maintained their forests preserved and with low rates of deforestation – although these rates present an upward trend for the future (due to infrastructure works, population growth, etc.) as shown in Table 2.

According to the deforestation scenarios developed by SimAmazônia II³⁶ there is a clear trend of increased deforestation in the Amazon. This deforestation is also covered in the baseline adopted by the PNMC for projecting emissions from deforestation in the Amazon by 2020 (Figure 2), even though there is no spatial allocation of this deforestation projection. Table 2 below presents a comparison of deforestation rates projected by the PNMC (without space allocation) and by SimAmazonia model (with spatial allocation) until 2020.

The concept of stock-flow will therefore enable the allocation of emission reductions (U-REDD+) based on two criteria: State participation in the reduction of deforestation based on national historical rates (only for the Amazon biome); and the amount of carbon stored in the forests existing within the State.

The allocation of U-REDD+ based on these two criteria allows for an equitable distribution of the benefits expected from the REDD+ mechanism among Amazon States. The proposed allocation scheme will also reduce the risk of leaks between the Member States by migration of agents and drivers of deforestation seeking new areas with high remaining stocks.

Table 3. Division between stock and flow for each state in the Brazilian Amazon, for the year 2010.

	Forest C stocks (km ²) ^a	Forest C stocks (%) ^b	Reduced Deforestation (km ²) ^c	Reduced Deforestation (%) ^d	UREDD (%) ^e
Acre	131.408,36	4,7	342,52	2,7	3,7
Amazonas	1.235.608,72	44,5	274,82	2,2	23,3
Amapá	70.742,59	2,5	26,50	-0,2	1,2
Maranhão	31.173,31	1,1	237,00	1,9	1,5
Mato Grosso	309.790,87	11,2	6.786,13	53,7	32,4
Pará	771.470,02	27,8	2.484,60	19,7	23,7
Rondônia	126.104,66	4,5	2.340,32	18,5	11,5
Roraima	89.704,86	3,2	15,36	-0,1	1,6
Tocantins	9.918,76	0,4	212,49	1,7	1,0
TOTAL	2.775.922,15	100%	12.636,02	100%	100%

a. Forest area of the States (km²) in 2010 (Source: PRODES)

b. Forest area per State in relation to the Brazilian Amazon forest area.

c. (Historical Deforestation) – (Verified Deforestation) in 2010 (Source: PRODES)

d. Deforestation reduction per State, in relation to the deforestation reduction in the Brazilian Amazon (%)

e. Allocation based on the stock-flow mechanism, considering 50% for stock and 50% for flow.

4.3 Methodology of the stock and flow mechanism

The stock and flow methodology uses the following parameters to calculate the potential emission reductions allocation among the States:

- **Stock**³⁷: State forest area compared to the total forest area of the Amazon biome³⁸.

- **Flow**³⁹: contribution of each state in the reduction of deforestation (based on their historical deforestation rate) in relation to the reduction of deforestation in the Amazon biome (Table 3). To project expected deforestation reduction in states until 2020 in accordance with the goals of the PNMC, the baseline for each state is considered (using the historical average of deforestation between 1996 and 2005) and future deforestation reduction goals are subtracted, also according to the PNMC.

This proposal suggests that the system of REDD+ in Brazil should allocate emission reductions

achieved by reducing deforestation in the Amazon between 2006 to 2020 (difference between the national baseline, calculated from the average of deforestation between 1996-2005 and deforestation reduction targets set by NPCC - as shown in Figure 2) between Union and States (Figure 3). After this division, is then applied to the stock-flow methodology for the portion relating to the States.

The scenario representing the average of the three simulations (Scenario 1: 50%/50%), will be adopted in the remaining of this study.

In addition to the allocation system proposed in this study (stock-flow), at least two other alternatives approaches could be considered for the construction of baselines in the Amazon States. The first alternative approach would be the use of a model (such as SimAmazonia II) to establish the future dynamics of deforestation (including quantity and location of deforestation) in each State. The second alternative approach would be to assume that historical rates of deforestation observed over the past 10 years (1996-2005) are repre-

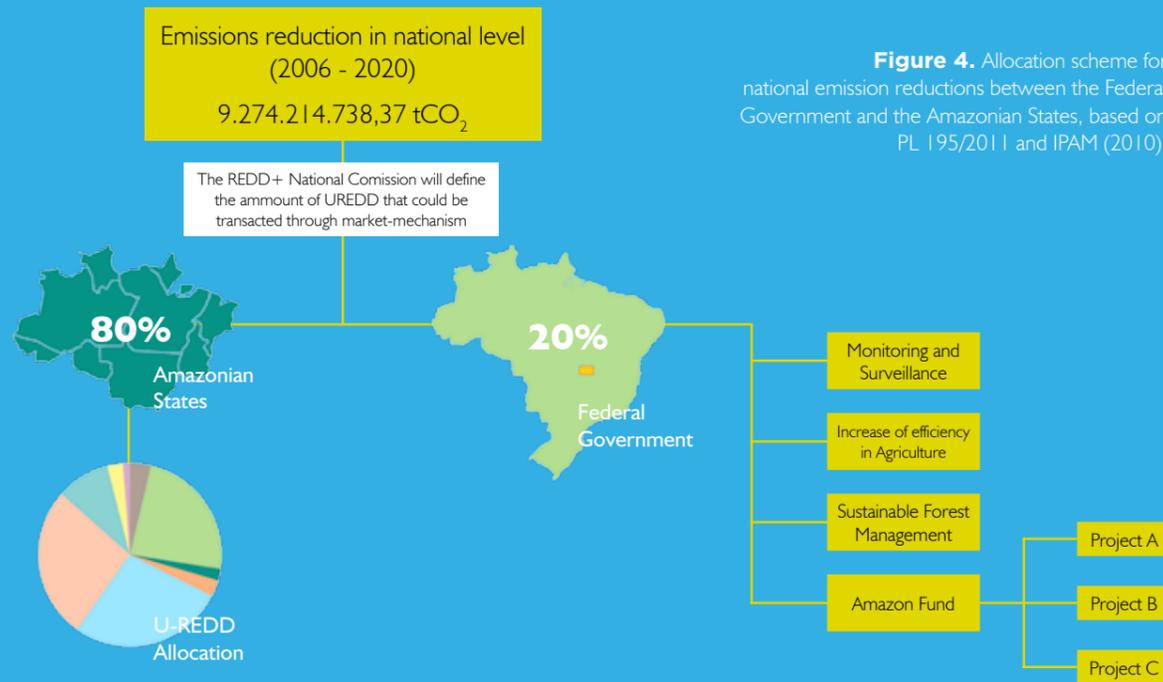
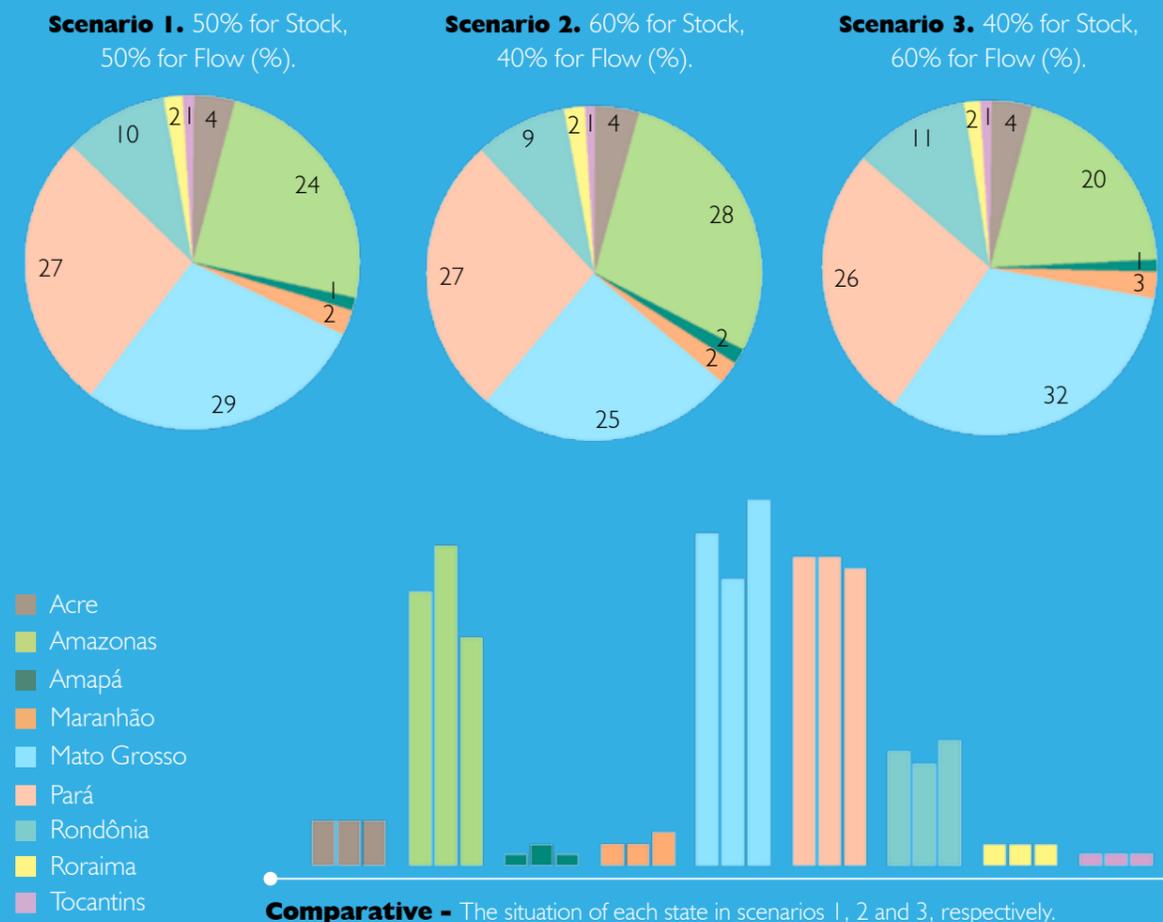


Figure 4. Allocation scheme for national emission reductions between the Federal Government and the Amazonian States, based on PL 195/2011 and IPAM (2010).

In the following, three allocation scenarios are presented based on different weights given on the “stock” and “flow” criteria.



representative of future deforestation trends. Both approaches are not analyzed further in this study because for many reasons we consider them less suitable than the proposed stock-flow approach.

However, it is important to highlight that the choice of the approach has significant impacts of the benefits that a State could expect from REDD+. To illustrate this point, Table 5 presents a comparison of the 3 different approaches for the State of Amazonas. Clearly, the choice of a scenario entails significant changes in potential allocations that this state could receive. The approach of the stock-flow proposed by SisREDD+, is on one hand, more conservative than the model SimAmazonia II. On the other hand, the possibility of future pressures for deforestation by 2020 (not covered by the historical rates observed in State between 1996 - 2005) allow compatibility with the rates proposed by the NPCC for all Amazonian states.

According to the methodology adopted by SisREDD+ (stock-flow), the total amount allocated for Amazonas corresponds to 24% of total U-REDD+ which could be allocated to the Amazonian States between 2006 and 2020 (Scenario 1), considering the national baseline (19,500 km²/year) and the pe-

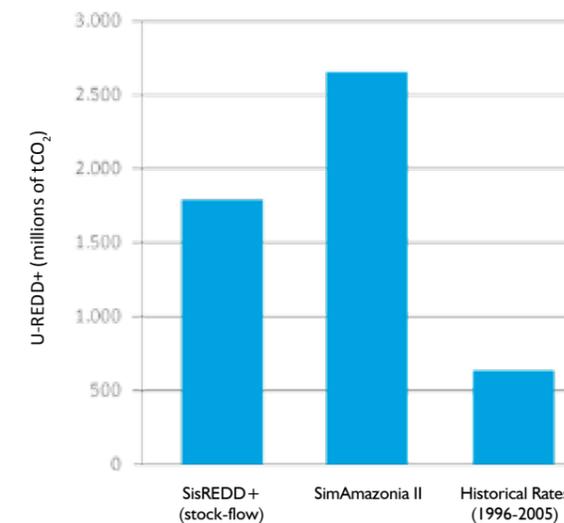


Figure 5. Baseline Scenarios for Amazonas between 2006-2020.

riodic reduction goals set by the National Plan for Climate Change (PNMC).

In determining the approach to be used and the percentage allocated to each state, it is possible to quantify in terms of reducing emissions (tCO₂) and create strategies for internalizing the allocations within each state, according to the circumstances and needs of each. In the case of Amazonas, this proposal will be presented in the next chapter.

28 - Emission reduction units from deforestation and forest degradation (UREDD). 1 UREDD+ equates to 1 reduction tCO₂-e. UREDDs should be allocated among all actors who have contributed to the reduction of deforestation in the Brazilian Amazon.

29 - Documento de contribuição dos Estados da Amazônia Legal à estratégia nacional de REDD+.

30 - REDD+ nos estados da Amazônia: Mapeamento de iniciativas e desafios para integração com a estratégia brasileira. Idesam e MMA. Disponível em http://www.idesam.org.br/publicacoes/pdf/rel_idesam_mma_rio20.pdf

31 - The emission reductions that the Federal Government has to deliver to the donors of the Amazon Fund will be discounted of the total amount of U-REDD+s of the Federal Government share.

32 - VCS (Verified Carbon Standards) and CCBS (Climate Community and Biodiversity Standards) are the two main international standards for certifying REDD+ projects. More information available at www.v-c-s.org and <http://www.climate-standards.org/>

33 - More information can be found in the document developed by Idesam and MMA “REDD+ in the Amazon States: mapping initiatives and challenges for integration with the Brazilian strategy”. Available at http://www.idesam.org.br/publicacoes/pdf/rel_idesam_mma_rio20.pdf

34 - Adapted from IPAM, 2011

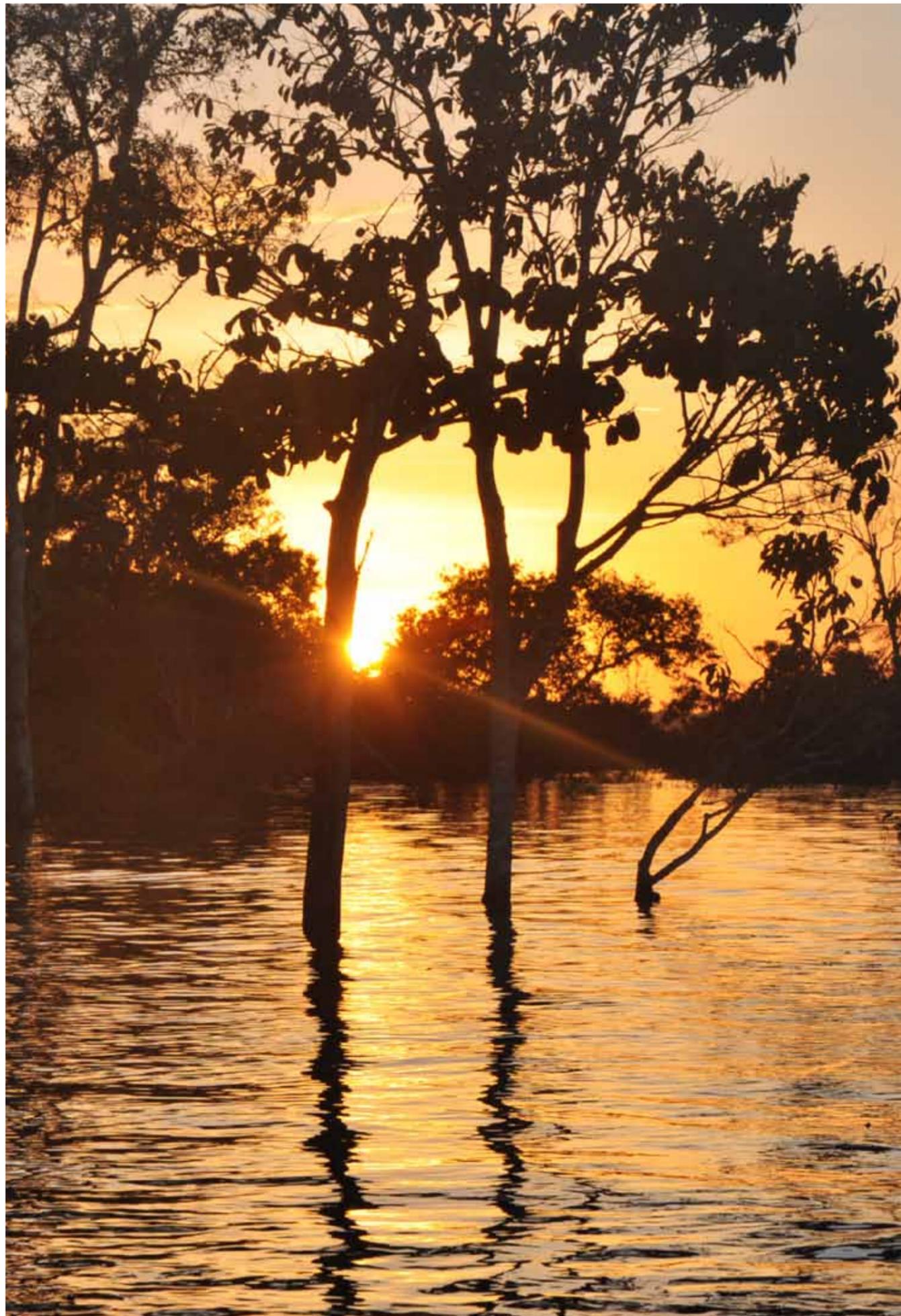
35 - More information can be found in the document “Desenvolvendo Salvaguardas Socioambientais de REDD+”. Available at http://www.imaflora.org/downloads/biblioteca/guia-REDD_portugues_digital2.pdf

36 - Soares Filho et al, 2010.

37 - For this report, we used the PRODES system as a data source (<http://www.obt.inpe.br/prodes/index.html>)

38 - As it is being used a default emission factor for all the Amazon biome (132.3 tC/ha), as established by the Federal Decree 7,390, we may relate “forested area” with “carbon stock”

39 - As above.



5

The State REDD+ System in Amazonas (SisREDD+ AM)

The goal of SisREDD+ AM is to ensure a fair and transparent allocation of the benefits of REDD+ among the different stakeholder's groups existing within the State that contribute to forest conservation. SisREDD+ AM will be a set of rules, principles and criteria for the development of REDD+ in the State, ensuring the inclusion and recognition of the diverse actors involved in reducing deforestation and the appropriate distribution of benefits between them. Through this system, it is intended that forest conservation practices will be rewarded, including those that were adopted in the past.

Actions carried out in this context will be able to access financial resources through both markets and national and international funds, thus enabling the implementation of actions required for the structuring of a new forestry economy, which is fair and inclusive. It is essential that the SisREDD+ AM takes into account the capacities, needs and contributions to forest conservation of all existing stakeholder's groups of REDD+ in the State and that the design of the system warrants a fair distribution of the benefits of REDD+ to all stakeholder's group according to their particularities and actual contributions.

The SisREDD+ AM should create the necessary structure for allocating emission reductions within the State of Amazonas to the different land categories existing under its jurisdiction, such as public lands, settlements, state conservation units, among others. A Registry System will be needed for bookkeeping of the allocations within the State and to manage a set of strategies for dealing with non-permanence and non-performance⁴⁰.

5.1 REDD+ Regulation in Amazonas

The States of the Amazon region are already in the process of developing specific regulations for REDD+. The most advanced States in this process are Amazonas, Acre and Mato Grosso. The goal is to create legal and institutional frameworks facilitating the implementation of pilot projects and programs at the state and sub-state levels. One example is the state of Acre, which in 2010 introduced a new Law (SISA) that created the Incentive System for Environmental Services of the State of Acre (SISA). Acre also established cooperation agreements for negotiation of REDD+ with California (USA), São Paulo and Rio de Janeiro.

The State of Amazonas was the first Brazilian State to implement a statewide policy to plan ways to reduce emissions from deforestation within its territory. The Law 3,135/2007, which instituted the “State Policy on Climate Changes (PEMC)”, and the complementary law No. 53, which created the State System of Conservation Units, created the legal framework for the State to be able to manage existing environmental services in state conservation units. In this context, the Programa Bolsa Floresta (Bolsa Floresta Program - PBF) was launched and the “Projeto de RED do Juma” (RED Project in the Juma Sustainable Development Reserve) was developed, the first project designed to reduce emissions from deforestation in Brazil and validated under the Climate, Community and Biodiversity Standards (CCBS).

However, the existing legal framework in the State of Amazonas deals only with REDD+ proposals for state protected areas, without including other land categories such as private land, settlements and others. Furthermore, it does not address key issues such as strategies for accounting of statewide emission reductions and integration with PNMC goals and the National REDD+ System. For these reasons, it is necessary to extend the State’s legal framework in order to address these and other issues, such as the inclusion of other environmental services (water, biodiversity, scenic beauty, etc.) and to create a registry system for REDD+ projects and activities.

In 2010, the first discussions took place in the Thematic Chamber of Forests and Environmental Services (CT Florestas) within the Amazonian Forum on climate change (FAMC), in order to propose subsidies for the construction of a law addressing these issues presented above. The themes related to the construction of an environmental services regulation was intensely discussed during the years 2010 and 2011, with the participation of various governmental and non-governmental organizations participating of the FAMC, as well as a technical-scientific committee composed of individuals invited by CT Florestas. The key objective of these discussions was to draft a document describing the demands and suggestions of the civil society regarding a law project, and to then translate the draft into legal language that today composes the draft of the law’s text.

In March 2011, the first draft of the law “Amazonas State Policy on Environmental Services and Environmental Services Management System” was formally presented to the Amazonian society. This proposal was presented and discussed during various public consultations forums and is currently undergoing the final revisions and adjustments, with the legislative process being forecasted to start in the first semester of 2013.

One of the main points of this law is the creation of a Climate and Carbon Regulation Programme (PRCC), which seeks to regulate a State REDD+ system (SisREDD+) in Amazonas in order to allow the State and other actors to develop activities and projects within the State. The PRCC and the SisREDD+ should also address other issues, such as the creation of a state REDD+ registration system (to avoid double accounting of credits and to ensure transparency within the system) and proposals for integration of SisREDD+ AM with the future national REDD+ System.

This system opens a window of opportunities for REDD+ activities to be developed and guided by different actors, in addition to the State Government. Because it is legally established (within the PESA), it would ensure that all activities in the state are developed following the same technical criteria and methodology, which ensures robustness, legal security and system reliability.

5.2 REDD+ benefit allocation methodology for Stock-Flow Risk

This section presents the proposed allocation of emission reductions (U-REDD+) internally to the State of Amazonas, based on the principle of the proposed allocation of the national REDD+ presented in item 3⁴¹. The methodology proposed for the Amazon is based on three parameters: stock, flow and risk of deforestation in the future. The proposed geographic allocation is structured on the same principles that govern the allocation proposal to the national level (stock-flow), but with an additional

component of the projection of future deforestation, considering the vulnerability of areas that should be at risk of deforestation due to factors such as population growth, infrastructure projects, expansion of agricultural activities, among others - not showing geographical correlation with historical deforestation occurred between 1996 to 2005. Thus, the AM + SisREDD proposes to use the following parameters for the internal allocation of U-REDD in the Amazon:

Contribution to reducing deforestation (based on historical rates):

considers the contribution of different land categories to the reduction of historical deforestation in Amazonas.

Amount of carbon stocks:

considers the existing forest area in each of the land categories, in relation to the total forest area of the State (area is equivalent to stocks in this case because one single emission factor is used for the whole Amazon Biome)

Risk of future deforestation:

considers the location of the projected deforestation (until 2020) on the basis of SimAmazonia II model (Figure 6).

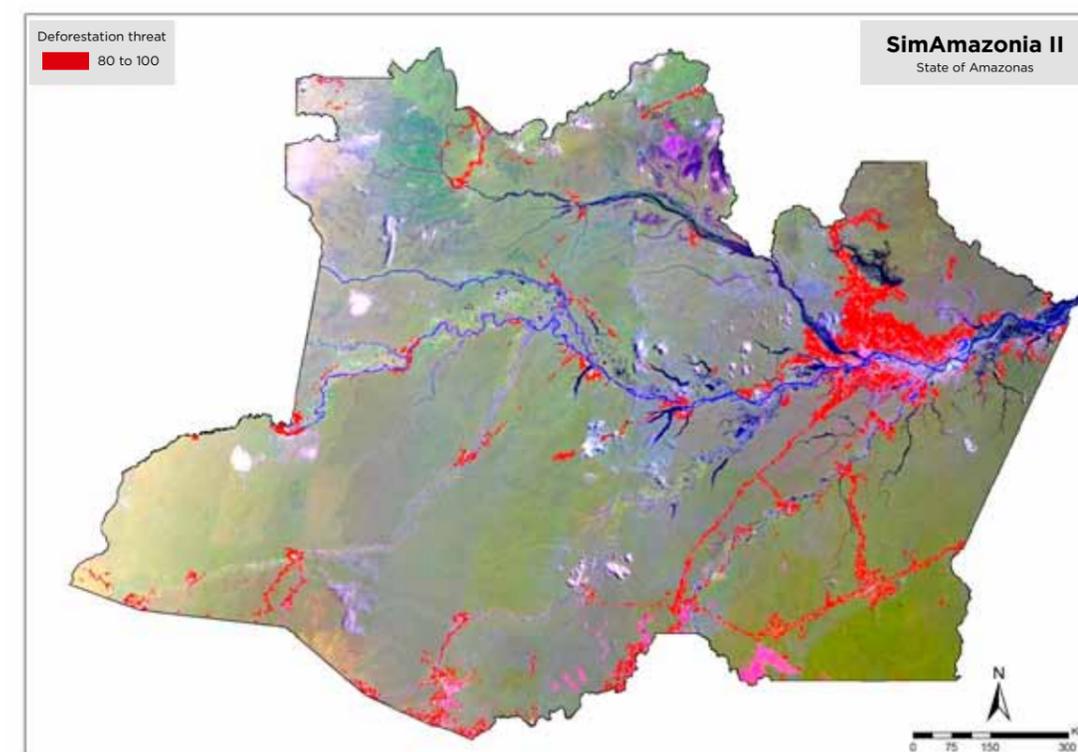


Figure 6. Projection of future deforestation in the state of Amazonas until 2020 according to SimAmazonia II.

Thus, based on the allocation criteria and assumptions described previously (achievement of emission reduction goals, allocation between the federal government and the states, stock-flow approach to allocate U-REDD+ among Amazonian States), the potential number of U-REDD+ which could be allocated to the State of Amazonas, between 2006 and 2020, is of 1,792,669,833 tCO₂-e. For the allocation of U-REDD+ within the Amazonas State, we propose the following allocation scheme:

Buffer	All U-REDD+ generated between 2006 and 2009 (297,205,286.26 tCO ₂ -e) should be put into a reserve (buffer) to protect the State System against the risk of possible non-compliance with reduction targets established by the State and any unforeseen events that could result in a loss of forest carbon stocks (burning, wildfires, etc.) until 2020.
State Government	The State Government will receive 29% of the total U-REDD+ allocated to Amazonas between 2010 and 2020 (430,888,925 tCO ₂ -e). The State will be responsible for developing environmental management actions, monitoring, licensing, technical assistance and also managing allocations to the State Conservation Units (SCU). The allocations to SCUs will be in accordance with the criteria set out above (stock-flow-risk). Allocations intended for State Government (29%) will be managed by the State Fund for Climate Change, Environmental Conservation and Environmental Services (provided by the State Policy of Environmental Services, PESA-AM). The total amount to be allocated to the land categories (IT, HR and UCE) is defined according to the criteria-stock-flow risk. However, if a category does not require all their U-REDD + s, the State Fund can redirect them to other priority activities in the State of Amazonas (supervised by the Monitoring Committee and Transparency, which will be created under the PESA-AM .) In this sense, the main objective is to create a flexible mechanism that allows adjustments and revisions, if necessary.
Rural Settlements (AR)	The Rural Settlements will receive 15% of the total U-REDD + allocated to the Amazon between 2010 and 2020 (222,857,059.65 tCO ₂ -e). Although the rural settlements are territories under federal management, environmental management in these locations is already decentralized, with the State Government acting in licensure actions, technical assistance, etc. Furthermore, some settlements have begun to undergo the process of emancipation, whereby settlement becomes private property under state jurisdiction. Allocations to the RAs will be in accordance with the criteria-stock-flow risk.
Indigenous Lands (IT)	The Indigenous Lands will receive 16% of the total U-REDD + allocated to the Amazon between 2010 and 2020 (247,175,655.53 tCO ₂ -e). While also being territories under forest management, indigenous peoples have the autonomy to conduct activities aimed at protecting their territories and improving the quality of life of indigenous peoples ⁴² . This ensures that REDD + activities in these territories are developed by their own indigenous associations. Allocations for IT will be in accordance with the criteria-stock-flow risk.
Municipal Governments	Municipal governments can access 10% (149,546,454 tCO ₂ -e) of the U-REDD+ allocated to Amazonas between 2010-2020 to strengthen municipal structures for dealing with deforestation (environment secretaries, municipal funds, training and capacity building) and promote more sustainable production chains. The allocation will be based on the same criteria set above (stock-flow-risk), considering the area of each municipality.
Public Notices	Public Notices (corresponding to unclaimed areas, without titling or other entitlements) will be with the rest (30% - corresponding to 444,996,452 tCO ₂ -e) of U-REDD+ of the State, so the final bill always closes on the total U-REDD+ allocated to Amazonas. This method aims to encourage actors wishing to develop independent projects of REDD+ to do so, with the guarantee that they will be inserted into the SisREDD+ and state accounting.

U-REDD AM (2006-2020)

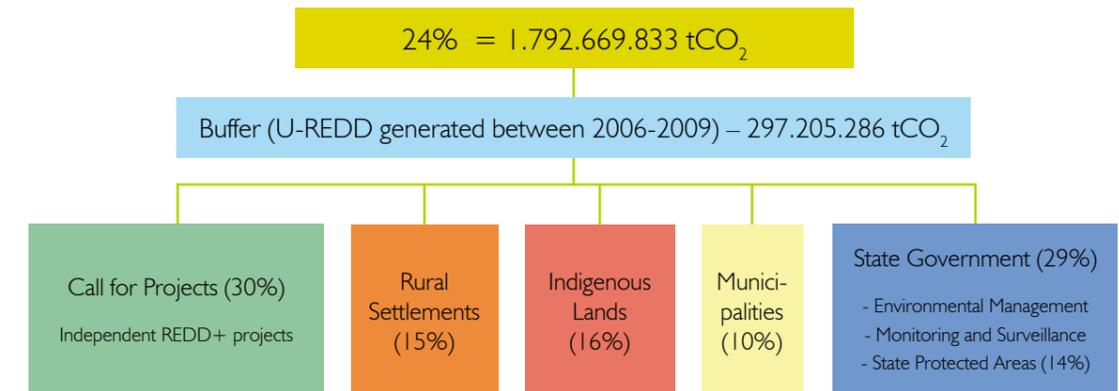


Figure 7. Division scheme between State Government and land categories, balanced between historical deforestation, forest carbon stocks and deforestation. (Source: IDESAM, 2011)

5.3 Scenarios for allocation of U-REDD+

The main criterion for defining the percentages of U-REDD+ to different land category is whether the amount allocated is compatible with the area of each category, the opportunity cost in each category, and the threat of deforestation in each category, given that regions under greatest pressure of deforestation need larger quantities of U-REDD+ to carry out actions to prevent and control deforestation. Presented below is an analysis of allocation scenarios for the Amazonas State Government. The allocation system might follow the “steps” presented in Figure 8.

5.3.1 Allocations for a reserve (“buffer”) for non-permanence and under-performance

The strategy for consolidating a non-permanence/ non-performance reserve (“buffer”) for SisREDD+ AM is based on emission reductions generated between the years 2006-2009 within the State that will be allocated to Amazonas by the Federal Government. Such reductions shall be recognized as a positive effort for reducing deforestation in the State and thus entered into state and national accounting..

The proposed reserve for Amazonas would retain a total of 297,205,286 tCO₂-e that cannot be sold

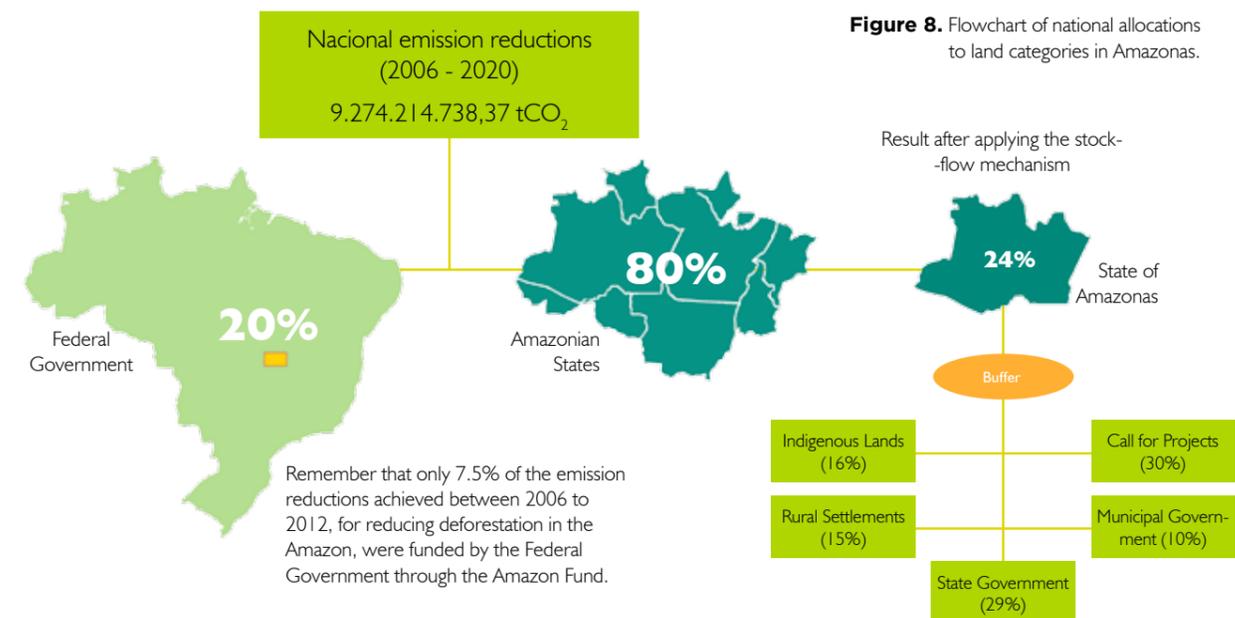


Figure 8. Flowchart of national allocations to land categories in Amazonas.

Remember that only 7.5% of the emission reductions achieved between 2006 to 2012, for reducing deforestation in the Amazon, were funded by the Federal Government through the Amazon Fund.



or exchanged. If the emissions from deforestation observed in the coming years would be larger than expected by SisREDD+ AM, part of the U-REDD+ the reserve will be cancelled to offset and the excess emissions. However, if future verifications prove that emission reductions are being achieved as expected, part of the buffer may be released and become available for trade. We propose to adopt a buffer policy that is similar to the one recently proposed by the Verified Carbon Standard (VCS), that is that each 5 years 15% of the buffer is made available for transactions, up to 2020. After this period, the buffer might be re-filled with new credits.

- SCENARIO 1:** 5% of U-REDD+ for Amazonas (2010-2020);
- SCENARIO 2:** 10% of U-REDD+ for Amazonas (2010-2020);
- SCENARIO 3:** 15% of U-REDD+ for Amazonas (2010-2020);
- SCENARIO 4:** 20% of U-REDD+ for Amazonas (2010-2020);
- SCENARIO 5:** 25% of U-REDD+ for Amazonas (2010-2020);
- SCENARIO 6:** 30% of U-REDD+ for Amazonas (2010-2020).

5.3.2 Allocations for the Amazonas State Government

The State Government will receive 29% of the allocations for Amazonas, between 2010 and 2020. These allocations will be to encourage environmental management actions in the State (regulations, public policy, workshops and training, etc.), focused on reducing deforestation and promoting sustainable development in State Conservation Units, Rural Settlements and Indigenous Lands, following the stock-flow-risk criteria.

The main criterion for defining these scenarios was the prospect of increases which the allocations would represent in the State budget intended for environmental policies and programs. Three price assumptions were made, being: \$3.00/U-REDD+⁴³; \$5.00/U-REDD+⁴⁴ and \$ 7.00/U-REDD+⁴⁵, considering the current market trends for such credits. The results of the scenarios presented are compiled in Chart 1.

In order to carry out an analysis of the allocation percentages which must go to environmental management actions from the State Government, 6 possible scenarios were analyzed, respectively.

These analyses lead to the conclusion that **the potential for generating resources from U-REDD+ allocations to the State Government would be quite reasonable, and may range from US\$224,319,682 (US\$20,392,698 per year) to US\$3,140,475,549.82 (US\$285,497,777 per year).** In comparison, the annual budget of the Amazonas State Secretary for Sustainable Development and Environment (SDS/AM) for the year 2010 was of R\$35,046,089.87⁴⁶ (US\$20,615,347)⁴⁷. The allocation of UREDDs to the State could therefore increase the

Potential allocation for State Government of Amazonas (U\$)

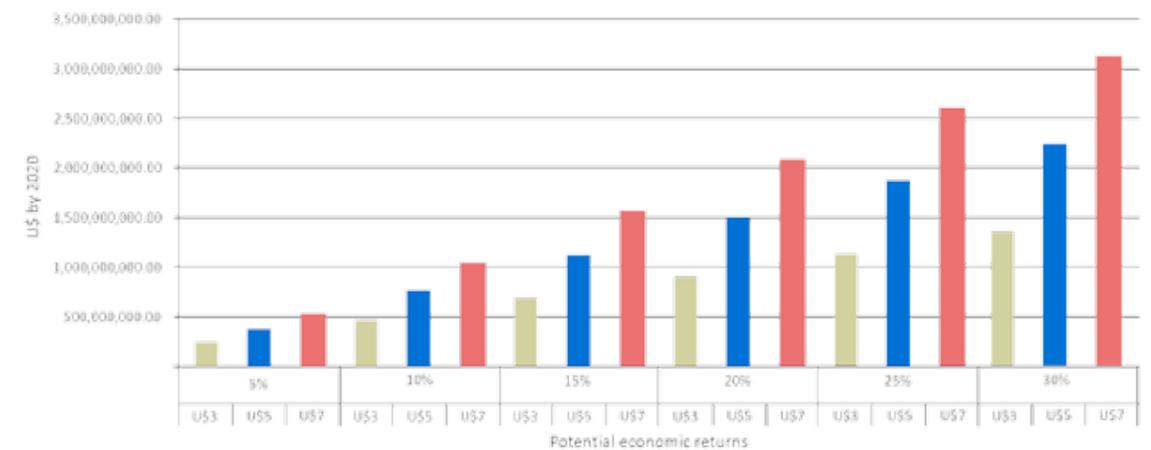


Chart 1. Potential revenue forecasted from U-REDD+ transactions allocated to the Amazonas State Government

budget SDS/AM at least on 99%, thus substantially enhancing its capacity to develop programs and policies to reduce deforestation.

We consider that the most appropriate scenario would be SCENARIO 3, with 15% allocation of UREDD for the State. In this scenario, considering the most conservative price for a UREDD (\$3.00), it would be possible to estimate an increase of more than 290% in the State budget for the environmental agency (on average, an additional \$61,178,095 per year).

5.3.3 Allocations intended to land use categories in the State of Amazonas

Assuming that 29% of the U-REDD+ would be allocated directly to the State Government, 15% would be for environmental management actions and the other 14% will remain available for allocation to the State Conservation Units.

Land Use Categories	Area (%)	Stock (%)	Historical Deforestation (%)	Future Deforestation (%)
State Conservation Units	13	12	13	13
Rural Settlements	2	6	23	13
Indigenous Lands	27	29	12	7

Table 4. Value of the area, stock, historical and future deforestation for the land categories considered (Conservation Units, Rural Settlements, Indigenous Lands), in 2012.

To define allocations destined for land categories, the 3 criteria defined in item 4.2 will be used (stock-flow-risk). Allocations corresponding to areas unclaimed without titling or other possessions will be grouped in the category of public notices, as explained in item 4.2. This report will present 6 scenarios generated from different weights assigned to these criteria, specifically:

The results, in terms of U-REDD+ allocations, are grouped in Chart 2 for the 6 scenarios.

	Stock (%)	Deforestation Reduction (%)	Risk of Deforestation (%)
Scenario 1	33,33	33,33	33,33
Scenario 2	40	30	30
Scenario 3	30	40	30
Scenario 4	30	30	40
Scenario 5	50	25	25
Scenario 6	25	50	25

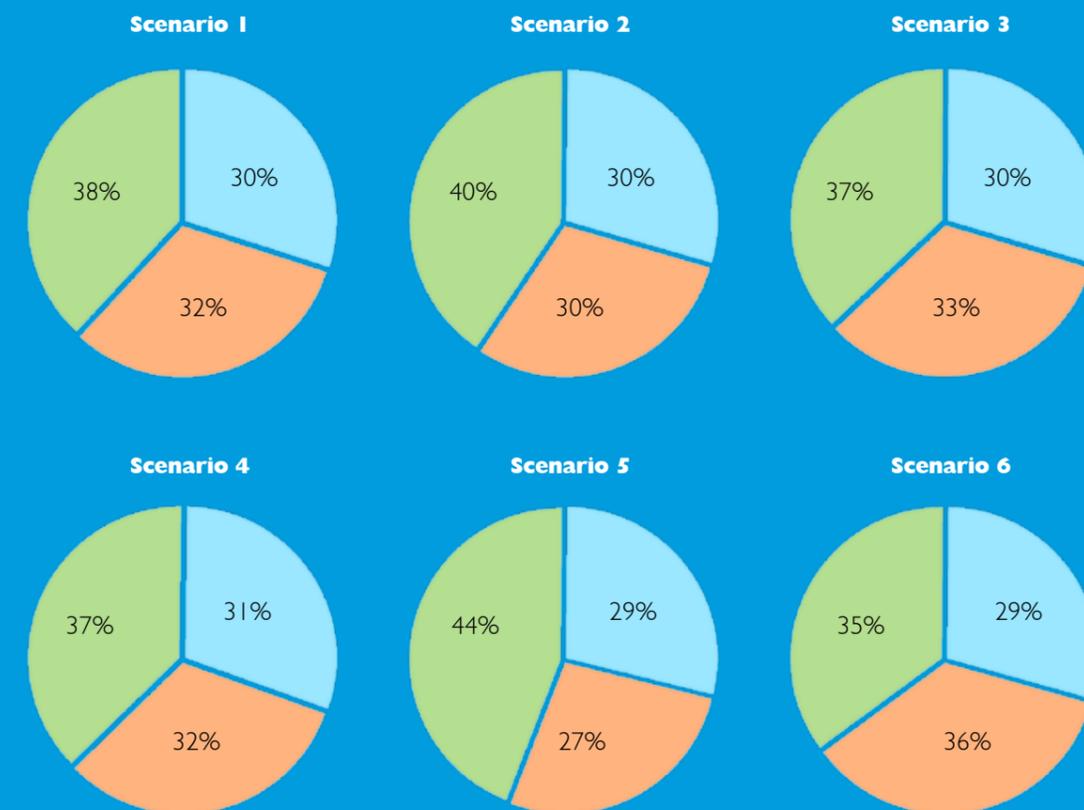
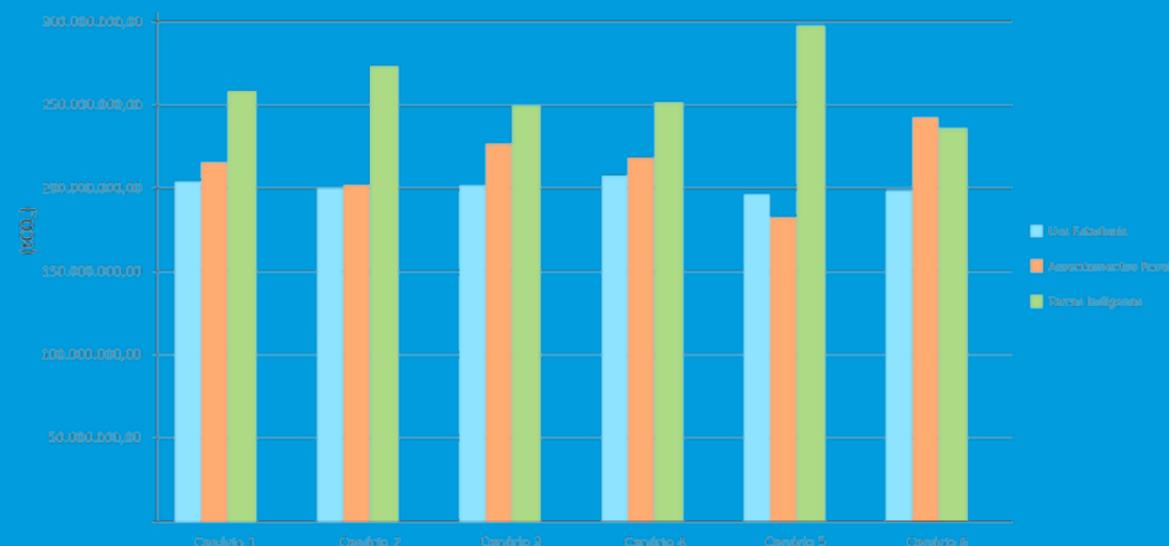
Table 5. U-REDD+ allocations scenarios, between Amazonas State land categories, from different weights assigned to stock-flow-risk criteria.

5.3.4 Allocations for Public Notices

The allocations earmarked for land categories with other titles will be focused on structuring a new allocation category: Public Notices. These public notices will allow independent projects to develop and may be included in the Amazonas SisREDD+, in order to ensure the emissions reductions sum never surpass the total allocated for the State. Public notices can also be accessed through protected areas, rural settlements and indigenous lands not wishing to receive the U-REDD+ through the proposed allocation system, but through independent projects (following validated methodologies, audit processes, etc.) – thus avoiding any kind of double-counting.

The total emissions reductions reserved for public notices will be 30%, and the REDD+ framework must assure that independent projects follows the procedures and criteria established by the SisREDD+ AM, such as safeguards, enrolment and registry methods.

Chart 2. U-REDD+ allocations by land use category until 2020, according to the six scenarios defined.



5.3.5 Allocation system according to SimAmazonia II and historical rates

In addition to the allocation system proposed by SisREDD+, there are other methods of dividing emission reductions internally to the State of Amazonas. In this section two alternative scenarios for U-REDD+ allocation will be presented for comparative purposes:

(i) SimAmazonia II Scenario, which will consider projection of deforestation presented by this model for Amazonas until the year 2020, by land category. It's important to note that through this approach only areas with high risk of future deforestation (>80%) will be covered by the allocation system.

(ii) Historical scenario, which will consider historical deforestation rates over the last 10 years.

Both approaches take into account the pressure for deforestation (past or future) to compose a U-REDD+ allocation logic. Thus, the following is the result of the comparison between three allocation scenarios considered in this study in terms of percentage of U-REDD+ allocated to the categories considered and the U-REDD+ / ha per category in each scenario:

U-REDD (%)			
Land Use Categories	SisREDD+	SimAmazonia II	Historical Average
State Conservation Units	30,5	39,3	27,5
Indigenous Territory	36,5	23,6	26,4
Rural Settlements	32,9	37,1	46,1

Table 6. Land allocation by category, in percentage, in each scenario considered.

The allocation system proposed by SisREDD+ also considers areas with low past and future deforestation pressure. These allocations allow new forestry-based activities to be developed, as well as supporting deforestation reduction actions in border and high-pressure areas for loss of forest coverage.

An important factor to take into account is the relationship of U-REDD+/ha for the land categories in each scenario analyzed.

U-REDD+ / ha			
Land Use Categories	SisREDD+	SimAmazonia II	Historical Average
State Conservation Units	10,5	13,54	9,47
Indigenous Territory	5,82	3,75	4,2
Rural Settlements	93,28	105,15	130,67

Table 7. Relationship of U-REDD+/ha to the land categories in each scenario analyzed.

40 - The concept of "non-permanence" is related to the risk of a potential loss in carbon stocks due to a natural or anthropogenic disturbance, during the project lifetime. The concept of "non permanence" applies when the project can not lead to the expected reduction of deforestation.

41 - The proposal suggests that the REDD+ system in Brazil should allocate 80% of the total national emissions reductions to the Amazon States, following the stock-flow approach. However, it is really important that the amount allocated to the States allow the implementation of regulations, strategies and mechanisms for UREDD allocation within the States, registry systems and institutional frameworks, etc. The Amazon States should establish the minimum amount of UREDD necessary to develop all these activities.

42 - Report "Desmatamento evitado (REDD) e povos indígenas" – Instituto Socioambiental. Setembro de 2010, available at http://www.socioambiental.org/banco_imagens/pdfs/10394.pdf and Baker & McKenzie, 2009.

43 - Ecosystem Market Place, 2011. Average price (US\$/tCO₂) for REDD projects in 2009: US\$3/tCO₂. Available at http://www.forest-trends.org/documents/files/doc_2828.pdf

44 - Ecosystem Market Place, 2011. Average price (US\$/tCO₂) for REDD projects in 2010: US\$ 5/tCO₂. Available at http://www.forest-trends.org/documents/files/doc_2828.pdf

45 - Average price (US\$/tCO₂) for verified REDD projects in 2012: US\$ 7/tCO₂ (Source: Thomson Reuters 2012).

46 - <http://www.sefaz.am.gov.br/arquivos/QUADRO%20DE%20DEMONSTRATIVO%20DA%20DESPESA%20EMPENHADA%20POR%20ÓRGÃO.pdf>

47 - US\$/R\$: 1,7



SisREDD+ AM Institutional Architecture

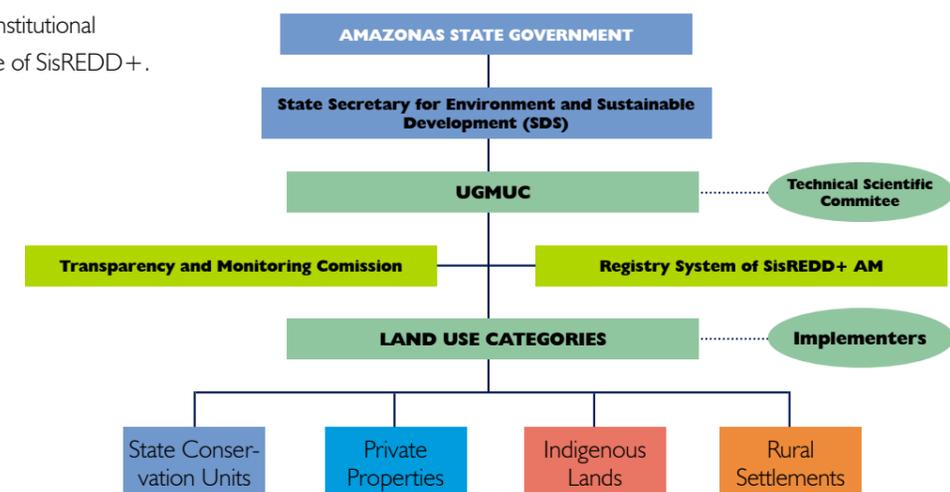
According to current Environmental Services policy proposals in the State of Amazonas (in preparation), the architecture to be established to manage and run the State REDD+ System will include the existent group called "Management Unit on Climate Change and Protected Areas (UGMUC)", a government body in the State of Amazonas, positioned in the institutional organization of the SDS.

The Amazonas State System of Environmental Services (SESAA) will feature a Technical Scientific Committee, made up of experts who can provide

a strategic vision in regards to technical, scientific, legal and methodological issues pertaining to the REDD+ System in Amazonas.

The Policy also authorizes the creation of a mixed capital Company (public and private) that can assist in the development of the Activities and Investment Plans for a particular actor or land category and in the implementation of field activities. The Company shall have an executive role, and may be contracted to provide technical assistance to small producers and traditional communities that wish to implement REDD+ actions.

Figure 9. Institutional architecture of SisREDD+.





State REDD+ Registry

A key component to the consolidation of the SisREDD+ AM is the structuring of a Registry System capable of tracking and centralizing important information about activities and programs that wish to reduce deforestation and associated GHG emissions through an online platform. In addition, it would define which actors present in the State may access the U-REDD+s, allocated according to the parameters defined above (stock-flow-risk).

The system must ensure that independent projects which emerge within Amazonas remain within the ceiling established in the State and that REDD+ activity information is periodically verified and updated in the online platform.

Basically, the online Registry Platform should ensure that essential information about these activities is registered and stored in a single, transparent and easily accessible base and is understandable by interested persons. Centralizing this information can help to manage the implementation of REDD+ activities in the Amazonas State, avoiding double-counting and giving greater transparency and credibility to the SisREDD+, in addition to enabling future connection with the National Registry System. Furthermore, it will serve as a form of “certification” for these State projects, to ensure they comply with the established principles and criteria.

The platform should be used to trace the origin of credits, with the use of serial numbers to guarantee

the origin and reference in a given geographic region of the State. The platform should also ensure the storage of general information, such as name and contact of the person responsible for the specific activity or project, baseline definitions, methodology (if applicable), duration of the project, planned activities, schedule and budget, implementing safeguards, ownership of credits, number of people served, reducing deforestation and verified, etc. It should also state if there were transactions, donations received and credit status: under validation, validated, verified, allocated, retired, etc⁴⁸.

The Registration System should, therefore, ensure the environmental integrity of allocations and transactions, maintaining an accounting system which does not allow the sum of the baselines of the land categories to exceed the state baseline nor that more credits be transacted than those which are registered in the Amazonas Registry System. This system must be incubated within the UGMUC (within the framework of the Sustainable Development Secretary of Amazonas State).

Complementarily, the Amazonas Registry System should standardize the steps to be followed so that the State Government and the land categories may access U-REDD+ allocations, while maintaining control of independent projects that may arise, always maintaining the emissions reductions within the U-REDD+ limit for Amazonas. The steps to be followed to access available U-REDD+ are:

UGMUC	<ul style="list-style-type: none"> i. Buffer and allocations calculation for the State Government and Land Categories; ii. To elaborate and inform state actors of the pre-requisites and procedures necessary to access U-REDD, to be carried out through the regulation of SESA programs and sub-programs.
State Government	<ul style="list-style-type: none"> i. Must present an Activities and Investment Plan, as well as a strategy for transacting UREDD in available sources. Also, how the governmental programs will attend to the state safeguards. ii. Regulate REDD+ Programs and Subprograms iii. Elaborate monitoring plans, annually iv. Create an Action Plan for communities in areas without defined titles (outside of Conservation Units, Indigenous Lands, settlements and private properties)
State Conservation Units	<ul style="list-style-type: none"> i. Project Proponent: Management Body (State Centre for Conservation Units); Conservation Unit Management Council; Communities Association (through partner institutions, co-management or private funds) ii. Pre-Requisites: Unit Management (or Running) Plan; Council Creation Act and the last three Council Meeting Acts (the Council must be active in the Unit) iii. Project Presentation Document (DAP): a. A DAP model must be presented by the specific Registry System for a State Conservation Unit, which includes: Activities and Investment Plan, as well as a strategy for transacting UREDD in available sources. Also, how the projects and programs will attend to the state safeguards. iv. Elaborate motoring plans, annually v. Statement of Consent from the State Centre for Conservation Areas (CEUC)
Rural Settlements	<ul style="list-style-type: none"> i. Project Proponent: INCRA; Rural Settlement Producers (or Residents) Cooperative (through partners or private funds) ii. Pre-Requisites: Lot title and beneficiary registration in INCRA; Rural Environmental Registry (CAR), if applicable; iii. Project Presentation Document (DAP): DAP Model should be presented by the specific Registry System for Rural Settlements; Activities and Investment Plan, as well as a strategy for transacting UREDD in available sources. Also, how the projects and programs will attend to the state safeguards. iv. Elaborate motoring plans, annually v. INCRA Terms of Consent
Indigenous Lands	<ul style="list-style-type: none"> i. Project Proponent: FUNAI; Indigenous associations and organizations. ii. Pre-Requisites: Decree of homologation of the Indigenous Land. iii. Project Presentation Document (DAP): DAP Model should be presented by the specific Registry System for Indigenous Lands; Activities and Investment Plan, as well as a strategy for transacting UREDD in available sources. Also, how the projects and programs will attend to the state safeguards. iv. Elaborate motoring plans, annually. v. FUNAI Terms of Consent.
Private Properties	<ul style="list-style-type: none"> i. Project Proponent: Land Owner. ii. Pre-Requisites: Rural Environmental Registry (CAR) concluded. iii. Project Presentation Document (DAP): DAP Model should be presented by the specific Registry System for Private Properties; Activities and Investment Plan, as well as a strategy for transacting UREDD in available sources. Also, how the projects and programs will attend to the state safeguards. iv. Elaborate motoring plans, annually
Municipal Governments	<ul style="list-style-type: none"> i. Project Proponents: Mayors; municipality Secretaries of Environment; other organizations registered through UGMUC ii. Pre-requisites: Must have a municipal secretary of environment; must have an advising body for the environmental council; must have a municipal plan for prevention and control of deforestation iii. Documentation and Presentation of the Project (DAP): Should present a model of DAP through Registration System for municipality governors; should have a Plan of Activities beyond the U-REDD strategy and available sources. Also, municipal projects should be complete with safeguards defined for Amazonas. iv. Create monitoring plans annually

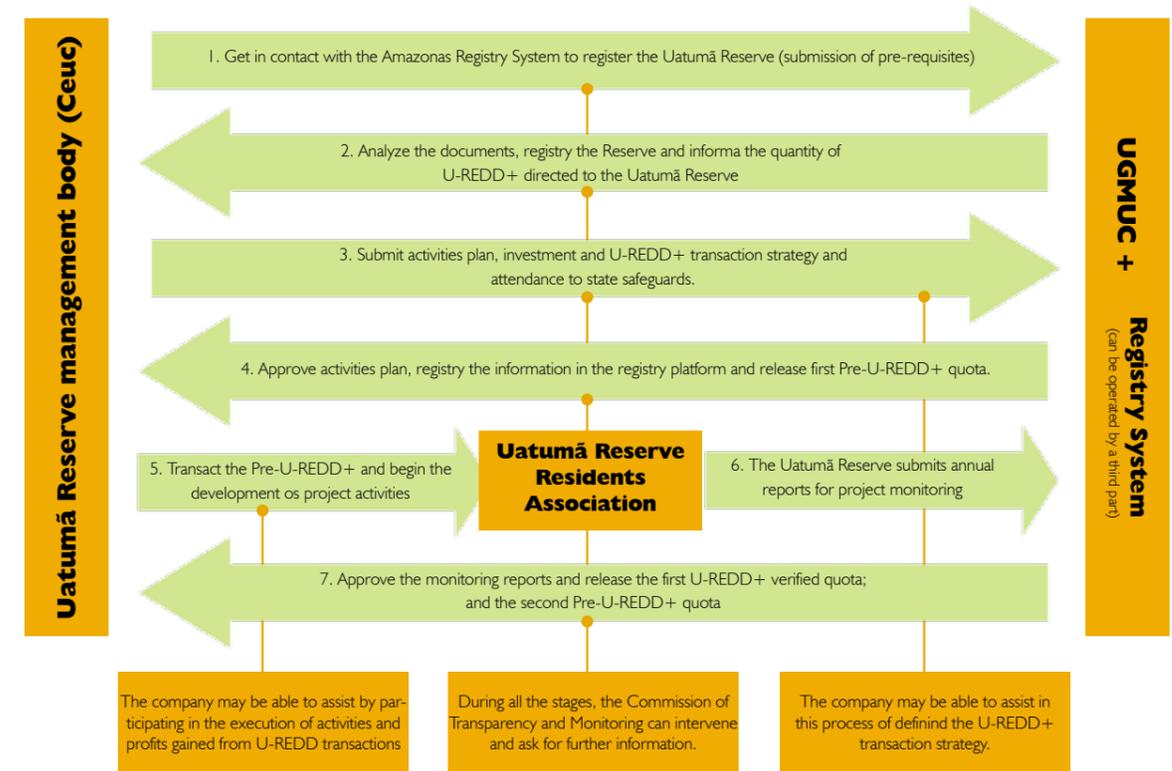


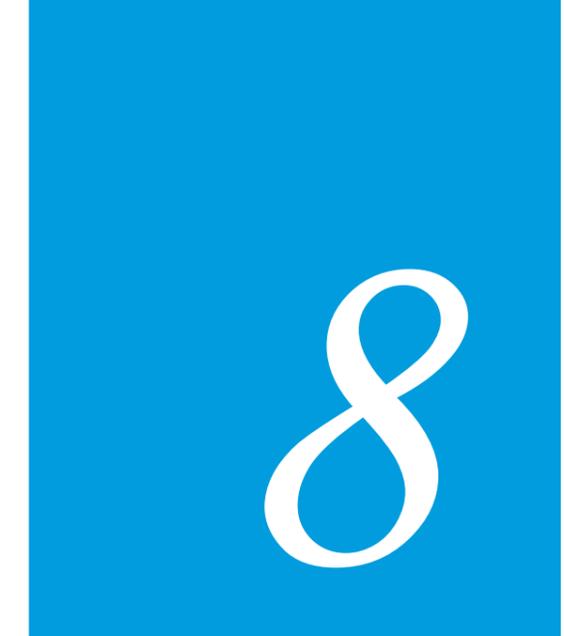
Figure 10. Flow chart with the stages and requirements for accessing U-REDD+ for determined land categories.

Table 8. U-REDD+ allocation potential for the land categories defined in this study, within the state of Amazonas, for the year 2012.

Land Use Categories	Stock (ha)	Stock(%)	Deforestation Reduction (ha)	% on state deduction	Deforestation Projection (ha)	Deforestation Projection (%)	U-REDD (%)	UREDD (tCO ₂)
State Conserv. Units	15.188.103,56	12	7.620,78	13	58.436,36	12	13,85	17.201.614,33
Indigenous Lands	35.244.064,84	29	6.978,42	12	32.036,36	7	16,47	20.458.730,88
Rural Settlement	7.243.278,51	6	13.293,89	23	55.236,36	11	14,68	18.242.900,52
State Government							15	18.634.415,24
Local Government							10	12.422.943,50
Public Notes							30	37.268.830,49
TOTAL							100	124.229.434,96

In this way, there will be a standardization of the processes which State actors must meet in order to access U-REDD+ defined by SisREDD+. The stages which a State Conservation Unit (e.g. Uatumã Reserve) must go through in order to access a certain amount of U-REDD+ are detailed on Figure 10⁴⁹. Table 8 presents the U-REDD+ which could potentially be allocated to the land categories in the year 2012, according to the parameters previously defined (stock-flow-risk).

48 - Sensitive information can have restricted access in the System.
 49 - It is important to define what the strategies will be to deal with non-fulfilment of obligations by actors who will be requesting and transacting a certain quantity of U-REDD+. If a land category fails to submit its Activity Plan, doesn't follow verification events with companies approved by the SisREDD+, etc., this land category should be penalized, running the risk of losing its right to sell certain U-REDD+ batches.



Preliminary Conclusions and Recommendations

The Amazonas State REDD+ System (SisREDD+) seeks to create a structure which would allow funding on a scale sufficient for projects and programs to be developed, aimed at reducing deforestation in Amazonas and structuring a new forestry economy, based on the standing forest. SisREDD+ should allow local communities, rural settlers, 'ribeirinho' river peoples, etc, to have new, productive and economic alternatives, which do not lead to loss of forest cover.

Analysis of different scenarios are essential for Amazonas to create a robust system which meets local demands to ensure the reduction of deforestation in the State and local social development. In this sense, the six scenarios which most fit this profile have been presented in this document.

Scenario 4 (Stocks: 30%, Deforestation Reduction: 30%, Projected Deforestation: 40%) will distribute most equally the benefits originating from the reduction of deforestation in the State of Amazonas between the actors who contribute to the process.

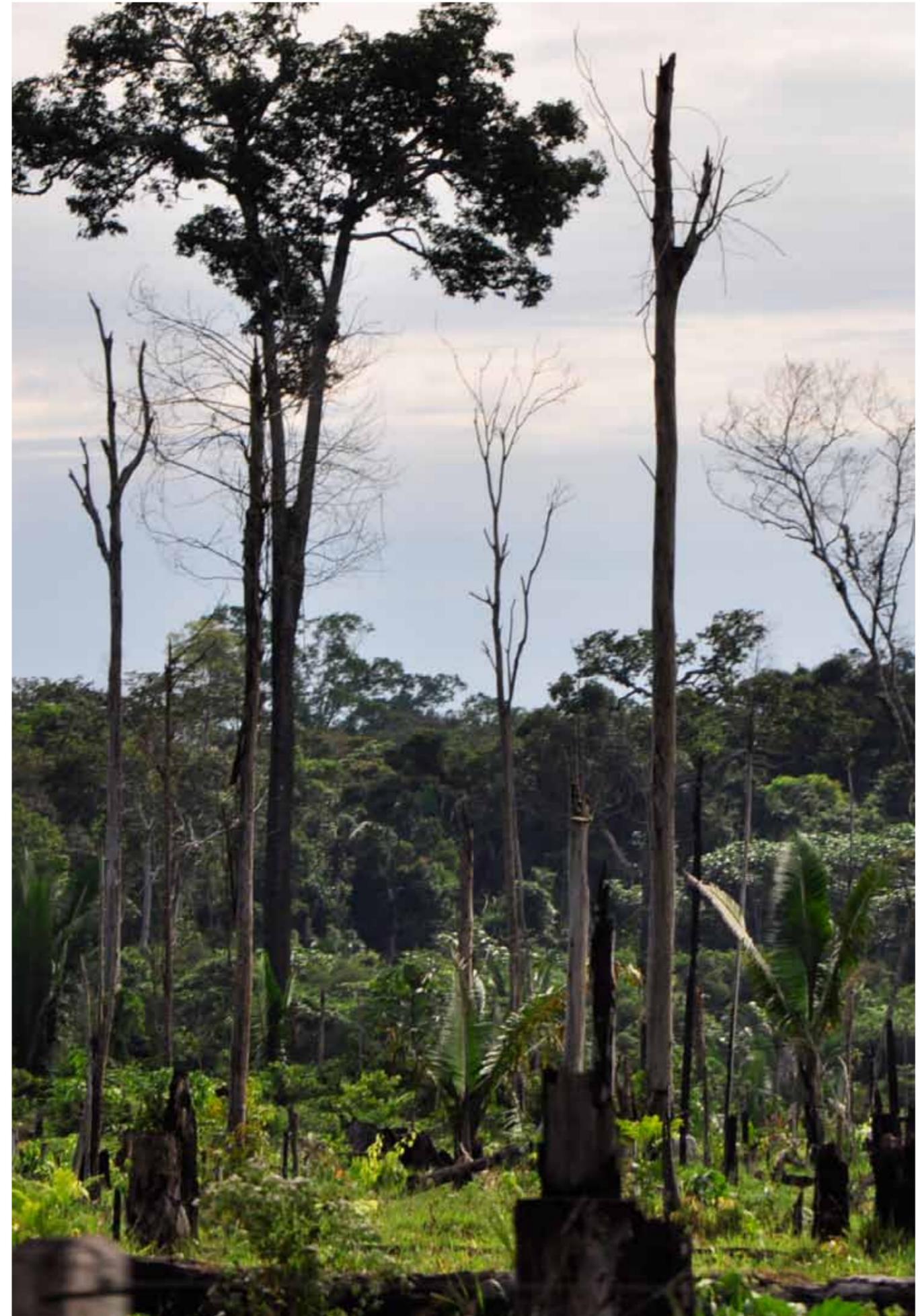
SisREDD+ should be based on a mechanism consistent with the various realities present in the State, such as the southern region, which currently suffers great deforestation pressure, and the northwestern region, which has low rates of deforestation and whose situation is unlikely to change in the short term. In this way, feasible and fair distribution of the benefits from reducing deforestation is needed at the national and state level, considering their different land categories and payees.

The regulatory process of the State REDD+ System will be essential to channel resources to areas under pressure and also to support the creation of new economic mechanisms which value standing forest in areas of lower deforestation pressure. However, there is still a long way to go, and critical issues such as institutional arrangements and legal right to the marketing claims, must yet be defined.

However, there is still a long road ahead, we must define critical issues such as institutional arrangements and legal and entitled to credit trading. Below are a number of issues identified by the authors of this document, which require further discussion:

Questions to discuss

1. The initial division of the U-REDD+ requires that 20% of the total U-REDD+ achieved should be allocated to the Federal Government and 80% for the Amazon states. However, it is essential that each state set the amount of U-REDD+ allocated is sufficient to guarantee the implementation of programs and activities that promote the reduction of deforestation, as well as regulations, strategies to combat deforestation, registration systems, etc.
2. Likewise, it is necessary to assess whether the results obtained after division by the stock-flow mechanism, considering an equal basis, with 50% to stocks and 50% for flow, is sufficient to deal with the issues that lead to deforestation in each state.
3. It is also necessary to set the limit of emission reductions that could be traded via market compensation (offsets) and what will be regarded as domestic effort.
4. As for the buffer given to the State of Amazonas; will this be replenished with new credits after the period 2006-2020?
5. In the category of "Notices", what happens if the independent projects do not request all U-REDD+'s available (30% of U-REDD +'s allocated to the Amazon between 2010-2020)? Will the difference be used to refill the buffer?
6. Or, what if independent projects request a greater amount of U-REDD + s than the total allocated to the category "Public Notices"?
7. How will flexibility of SisREDD + AM be ensured?





9

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