GREEN CLIMATE FUND

Meeting of the Board
26 – 28 February 2019
Songdo, Incheon, Republic of Korea
Provisional agenda item 34

GCF/B.22/10/Add.02

1 February 2019

Consideration of funding proposals - Addendum II

Funding proposal package for FP100

Summary

This addendum contains the following seven parts:

a) A funding proposal titled "REDD-PLUS results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015";
b) No-objection letter issued by the national designated authority(ies) or focal point(s);
c) Environmental and social report(s) disclosure;
d) Secretariat's assessment;
e) Independent Technical Advisory Panel's assessment;
f) Response of the accredited entity to the independent Technical Advisory Panel's assessment; and
g) Gender documentation.

The funding proposal package for FP100 is being submitted for the first time for the Board's consideration at its twenty-second meeting.

Table of Contents

Funding proposal submitted by the accredited entity 3

No-objection letter issued by the national designated authority(ies) or focal point(s) 107

Environmental and social report(s) disclosure 111

Secretariat's assessment 113

Independent Technical Advisory Panel's assessment 139

Response of the accredited entity to the independent Technical Advisory Panel's assessment 166

Gender documentation 168

Funding Proposal

REDD-plus results based payments

Version 1.0

Accredited entities are expected to develop a funding proposal in close consultation with the relevant national designated authority and REDD-plus entity/focal point, in response to the request for proposals for the Pilot Program for REDD-plus results-based payments (Decision B.18/07). The funding proposal should follow the terms of reference of that Board decision and will be assessed per Stage 2 (sections 2 – 5) of the scorecard annexed to the same Board decision.

Program Title:	REDD+ results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015
Country:	Brazil
Results period in this proposal:	2014 – 2015
National Designated Authority:	Secretariat for International Affairs, Ministry of Finance Mr. Marcello de Moura Estavão Filho Secretary for International Affairs and.gcf@fazenda.gov.br
REDD-plus entity/focal point	Ministry of Environment Mr. Jair Schmitt Director, Department for Forests and Fighting Deforestation jair.schmitt@mma.gov.br Ms. Monique Ferreira Coordinator for Forests Transparency and Finance Department for Forests and Fighting Deforestation monique.ferreira@mma.gov.be reddbrasil@mma.gov.br
Accredited Entity:	United Nations Development Program, UNDP
Date of first submission/ version number:	*2018-08-27 [V.1]*
Date of current submission/ version number	*2019-01-25 [V.2]*

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Please submit the completed form to **fundingproposal@gcfund.org**
Please use the following naming convention in the subject line and file name:
"[Country] REDD-plus RBP FP-[Accredited entity]-yyyymmdd"

A. Proposed and projected REDD-plus results

Please provide the following information:

Total volume of REDD-plus results achieved in the results period as reported in the country's BUR technical annex (tCO_2eq):	The total volume of REDD-plus results achieved by Brazil in the Amazon biome[1] during the results period reported in the 2nd Biennial Update Report (BUR) technical annex (from 2011 to 2015) was 3,154,501,726.77 tCO_2e or 3.15 billion tCO_2e. The total volume of REDD-plus results achieved by Brazil in the Amazon biome that is eligible for the GCF pilot program (from 2014 to 2015) is 1,254,663,127.74 tCO_2e, or 1.25 billion tCO_2e. Table 1. REDD+ results from 2011 to 2015 **Year** / **REDD+ results (tCO_2e/ year)** **2011** / 622,451,671.72 **2012** / 671,275,311.89 **2013** / 606,111,615.42 **2014** / 634,367,865.74 **2015** / 620,295,262.00 **Total (2011 – 2015)** / **3,154,501,726.77** **Total (2014 – 2015)** / **1,254,663,127.74** Source: Brazil's 2nd BUR, REDD+ Technical Annex, 2017.
A= Achieved volume of REDD-plus results offered to the pilot program in this proposal (tCO_2eq):	Between 2006 and 2015, Brazil achieved significant results reducing emissions from deforestation in the Amazon biome (a total of 6,125,501,727.00 tCO_2e). **Only 2% of the total volume of REDD-plus results achieved between 2014 and 2015 (measured against FREL B) will be offered to the GCF in this proposal, a total of 25,093,262.55 tCO_2e or 25 $MtCO_2e$.** Table 2. REDD+ results offered to the GCF **Year** / **REDD-plus results (tCO_2e/ year) offered to the pilot program in this proposal (2% of the total REDD-plus results achieved by Brazil/ year)** **2014** / 12,687,357.31 **2015** / 12,405,905.24 **Total (2014 – 2015)** / **25,093,262.55** Source: Brazil's 2nd BUR, REDD+ Technical Annex, 2017

[1] In addition to the Amazon biome, which comprises approximately 4,197,000 km^2 and corresponds to 49.29% of the national territory, Brazil has five other biomes: Cerrado (2,036,448 km^2 – 23.92% of the national territory), Mata Atlântica (1,110,182 km^2 – 13.04% of the national territory), Caatinga (844,453 km^2 – 9.92% of the national territory), Pampa (176,496 km^2 – 2.07% of the national territory), and Pantanal (150,355 km^2 – 1.76% of the national territory) (BRASIL, 2010, Volume 1, Table 3.85).

	So far Brazil received payments for less than 5% of its total REDD-plus results (for more information on payments see Section B.2.2 (viii) of this proposal). All the results already paid for have been excluded from the estimate of results offered to the GCF for payments. Since 1988 the Brazilian National Institute for Space Research (INPE) of the Ministry of Science, Technology, Innovation and Communication (MCTIC) monitors deforestation rates in the Legal Amazon region. Brazil used the Amazon Deforestation Monitoring Program (PRODES) as activity data for its REDD+ estimates. Every year, Brazil releases the deforestation rate for the previous year in the Legal Amazon region[2]. PRODES estimates are considered reliable by national and international scientists (Kintish, 2007). This system has been shown to be of great importance for the actions and planning of public policies in the Amazon. The PRODES database is open and available to the public. The methodology used by Brazil to estimate yearly deforestation rates in its REDD-plus technical submissions is modified, compared to the PRODES methodology. This was done to improve accuracy, verifiability and limit the scope to the Amazon biome, following the biome-level approach of the policies developed by Brazil to combat deforestation (more information in Section B.1.1 (ii.a) of this proposal). REDD-plus results are presented to the United Nations Framework Convention on Climate Change (UNFCCC) through the BUR. In 2014, after validation by the Working Group of Technical Experts on REDD+, as part of the domestic MRV process, Brazil submitted its 1st BUR and technical annex with REDD-plus results achieved in the Amazon biome between 2006 and 2010, measured against FREL A. In 2017, Brazil's 2nd BUR technical annex presented the REDD-plus results achieved by Brazil in the Amazon biome between 2011 and 2015, measured against FREL B. The 3rd BUR is expected to the submitted to the UNFCCC in 2019 and should include REDD-plus results up to 2017, measured against FREL C.
B= Expected volume of REDD-plus results to be achieved in the following years of the eligibility period (tCO_2eq):	Table 3 presents **an indication of the expected volume of REDD-plus results to be achieved by Brazil in the Amazon biome between 2016 and 2018, a total of 1,122,289,619.33 tCO_2e or 1.1 billion tCO_2e.**

[2] The Legal Amazon region is an area of approximately 5.217.423 km² (521.742.300 ha) that covers the totality of the following states: Acre, Amapá, Amazonas, Pará, Rondônia, Roraima and Tocantins; and part of the states of Mato Grosso and Maranhão. The Legal Amazon region encompasses three different biomes: the entire Amazon biome; 37% of the Cerrado biome; and 40% of the Pantanal biome.

Table 3. Expected volume of REDD+ results for the 2016 to 2018 period

Year	Expected volume of REDD+ result (tCO_2e)
2016	361,880,230.19
2017	392,437,303.00
2018	390,000,000.00
Total (2016-2018)	**1,122,289,619.33**

Source: REDD+Brasil and PRODES, 2018

Between 2014 and 2018, the expected volume of REDD-plus results to be achieved by Brazil in the Amazon biome is 2,398,980,660.93 tCO_2e, or 2.39 billion tCO_2e.

This amount, greatly exceeds the limit established by the GCF pilot program for REDD-plus results-based payments per country, which is USD 150 million or 30 million tCO_2e. **The GCF limit per country corresponds to 1.2% of the total REDD-plus results achieved by Brazil between 2014 and 2018.**

The REDD-plus results for year 2016 were preliminarily estimated using the FREL C and validated by the Working Group of Technical Experts on REDD-plus in February 28th, 2018 (Technical Note n. 285/ 2018-MMA).

The REDD-plus results for year 2017 have not yet been estimated by Brazil. The expected volume presented here, estimated only for this proposal, are based on the PRODES deforestation rate for year 2017 and the FREL average carbon content for the Amazon biome of 151.6 tC/ ha.

For year 2018, the emission reductions estimate was an extrapolation of 2017 results.

A+B =Total volume expected to be submitted to the pilot program (tCO_2eq):

Between 2014 and 2018, Brazil is expected to achieve a total reduction in emission from deforestation in the Amazon biome of around 2,398,980,660.93tCO_2e, or 2.39 billion tCO_2e.

Table 4 presents the total volume expected to be submitted to the pilot program for payments is 47,979,613.22 tCO_2e. This is 2% of the expected volume of REDD-plus results to be achieved by Brazil in the Amazon biome between 2014 and 2018.

This submission includes only results achieved in years 2014 and 2015.

Brazil will submit the 2016 to 2018 REDD-plus results to the GCF for results-based payments in the future.

Table 4. Total expected volume of REDD-plus results for the eligible period (2014 to 2018) and the 2% to be offered by Brazil to the GCF

Year	Expected volume of REDD+ result to be achieved	Expected volume of REDD+ result to be offered to the GCF (2% of the total)
2014	634,367,865.74	12,687,357.31
2015	620,295,262.00	12,405,905.24
2016	361,880,230.19	7,237,604.60
2017	392,437,303.00	7,848,746.06
2018	390,000,000.00	7,800,000.00
Total (2014-2018)	2,398,980,660.93	47,979,613.22

Source: Brazil's 2nd BUR, REDD+ Technical Annex, 2017, REDD+Brasil and PRODES, 2018

The terms of reference for this GCF pilot program indicate that countries "will be expected to present a significant, indicative volume of results" throughout the eligibility period. A footnote explains that in this context, significative means "that the annual indicative volume of results should be proportional to the overall level of results achieved in relevant years".

The indicative volume of results to be presented by Brazil to the GCF is not significant if compared with the total amount of results achieved. It is, nevertheless, proportional for all years of the eligibility period.

The total payable volume per country is set by the terms of reference as 30Mt CO_2e for the entire length of the pilot. There are no rules concerning the allocation of **payments** per year within the eligibility period. Countries are required to present an **indicative significant volume**, , **proportional** for all years, as stated above. Country specific allocation, however, may vary and will be determined by the GCF based on the scorecard. There are no specifications of or restrictions on the volumes of REDD+ results countries elect to offer to the GCF.

B. Carbon elements

B.1. Forest Reference Emission Level / Forest Reference Level (FREL/FRL)

Please provide link to the FREL/FRL submission:
https://redd.unfccc.int/files/redd_brazil_frel_final_19nov.pdf

Please provide link to the UNFCCC Technical Assessment Report:
https://unfccc.int/resource/docs/2014/tar/bra01.pdf

B.1.1. UNFCCC Technical Assessment and Analysis process

(i) Consistency of the FREL/FRL: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the consistency of the FREL/FRL with the GHG Inventory, including the definition of forest used. If the report identifies inconsistencies,*

explain these inconsistencies between the GHG inventory and FREL/FRL, and describe how they will be resolved in the next GHG inventory or FREL/FRL.

Brazil values and prioritizes data consistency and transparency as crucial to ensure a high level of confidence in its REDD+ estimates.

Paragraph 8 in Decision 12/CP.17 requires that FRELs/ FRLs shall be established maintaining consistency with anthropogenic forest-related greenhouse gas emissions (GHG) by sources and removals by sinks as contained in the country's National GHG Inventory.

In the Technical Assessment Report (TAR), the assessment team (AT) noted that, overall, **Brazil's FREL maintains consistency, in terms of sources for the activity data and the emission factors, with the national GHG inventory included in Brazil's Second National Communication (SNC),** the national GHG inventory available when Brazil submitted its FREL (FREL A and B) to the UNFCCC in 2014. In 2016, Brazil submitted to the UNFCCC its Third National Communication (TNC) with an updated national GHG inventory.

In 2018, Brazil submitted to the UNFCCC an updated FREL that will be used to estimate results achieved through reducing emissions from deforestation in the Amazon biome from 2016 to 2020 (FREL C).

Brazil applied the IPCC definition of consistency (IPCC, 2006) which is that an inventory should be internally consistent in all its elements over a period of years. "*An inventory is consistent if the same methodologies are used for the base year and all subsequent years and if consistent data sets are used to estimate emissions or removals from sources or sinks. An inventory using different methodologies for different years can be consistent if it has been estimated in a transparent manner considering the guidance in Volume 1 on good practice in time series consistency*" (IPCC Glossary, 2006).

Below is an assessment of the differences in emissions from gross deforestation in the Amazon biome as presented in Brazil's FREL and its Second National GHG Inventory (Box 1).

Box 1. Emissions from gross deforestation as presented in the Second National GHG Inventory and in the FREL

Table 3.97 from the Second National GHG Inventory provides the following information for the Amazon biome:

For the area of primary forest converted to other land uses:

- Total area of managed and unmanaged primary forest land (FM and FNM, respectively) converted to other land uses from 1994 to 2002, inclusive = 164,997.14 km^2.
- Average annual primary forest land area converted to other land uses from 1994 to 2002, inclusive = 164,997.14/8 years = 20,624.64 km^2.

The corresponding data in the FREL submission is as follows:

- Total area of managed and unmanaged primary forest deforested (adjusted deforestation increment) for all years from 1996 to 2002, inclusive = 137,860.00 km^2.
- Average annual area deforested in this period is 137,860.00/7 years = 19,694.29 km^2.

It is also important to note that the Second and the Third National GHG Inventories included emission estimates from the conversion of forest land (natural, secondary, subject to selective logging, planted) to other land-use categories. However, for REDD-plus purposes, Brazil only included emissions from conversion of natural forests to other land uses, given its importance. **The relative contribution of emissions from the conversion of other than primary forests to the total emissions from deforestation in the Amazon biome is low (only 1.57%** – refer to Table 3.98 in the Second National GHG Inventory).

Analysis of the differences

It is important to note that the analysis of the transition areas and associated emissions provided in the transition matrices in the Second National GHG Inventory (Table 3.97 and Table 3.98, respectively) was carried out only for two years (1994) and (2002), and the area changes were not adjusted for the different dates and/or the presence of clouds. Rather, a reporting category has been introduced in the transition matrix, referred to as areas not observed due to cloud cover.

The difference between the average annual area deforested (adjusted deforestation increment) from the submission and the average annual area of forest land converted to other land-uses from the Second National GHG Inventory was 930.36 km^2. This corresponds to a percent difference of 4.72% relative to the average annual area deforested in the period 1996 to 2002 presented in the FREL.

Table 5 provides the CO_2 emissions reported in the Second National GHG Inventory for the period 1994 to 2002, inclusive (Table 3.98) from conversion of Forest Land (FNM and FM) to Grassland (Ap), Cropland (Ac), Settlements (S), Reservoirs (R) and Others (O) which total 8,175,002,260.0 tCO_2. Thus, the average annual emission is 1,021,875,828.5 tCO_2 yr-1.

Table 5 also provides the CO_2 emissions for years 1996 to 2002 inclusive, estimated for the FREL, which total 7,141,038,666.2 tCO_2, providing an annual average emission of 1,020,148,380.9 tCO_2 yr-1.

The difference between the average annual emission from the SNC and the FREL is nearly zero, or 0.17%.

Table 5. Average annual emissions: FREL for the Amazon biome vs National GHG Inventory

*Forest land conversion to: **		Ap	Ac	S	Res	O	Total emissions from 1994 to 2002 (tCO2)	Average annual emissions from 1994 to 2002 (tCO2)
Second Inventory **	FNM	6,882,784,770.0	904,422,860.0	11,047,800.0	5,610,690.0	4,605,170.0	8,175,002,260.0	1,021,875,282.5
	FM	322,777,250.0	39,564,070.0	1,101,070.0	145,090.0	2,943,490.0		
FREL	1996	979,523,413.9					Total emissions from 1996 to 2002 - FREL (tCO2)	Average annual emissions from 1996 to 2002 - FREL (tCO2)
	1997	979,523,413.9						
	1998	979,523,413.9						
	1999	979,523,413.9					7,141,038,666.2	1,020,148,380.9
	2000	979,523,413.9						
	2001	908,964,139.9						
	2002	1,334,457,456.9						
Percent Difference								0.17%

* Grassland (Ap), Cropland (Ac), Settlements (S), Reservoirs (R) and Others (O).

** Note that the emissions in Table 3.98 in the Second National GHG Inventory are reported in Gg CO2, and have been converted to t CO2 in the present table.

Source: FREL, 2014 and BRAZIL, 2010, Brazil's SNC, MCTIC.

The percent difference of 0.17% is indicative of results that are very similar despite the minor (but consistent) change in the methodology used for the purposes of the Second National GHG Inventory and the one applied to the FREL.

It is important to reiterate, and as the AT also noted, that the sources for the activity data and the emission factors are consistent between the Second National GHG Inventory and the FREL, with the activity data based on the analysis of remotely sensed data and the emission factors based on the same carbon map.

Brazil adopted Approach 3 for land representation, meaning that all the data on land conversions and lands remaining in a same land-use category between inventories are spatially explicit. The basis for all activity data in the Second National GHG Inventory, as well as the assessment of deforestation for the purposes of its FREL, was remotely sensed data of the same spatial resolution (Landsat-class, up to 30 meters).

The same national institutions and team engaged in the development of the land use, land use change and forestry (LULUCF) estimates for the Second National GHG Inventory were in charge of the annual estimation of the rate of gross deforestation for PRODES, ensuring an even greater consistency between the estimates for the Second National GHG Inventory and those used for the generation of PRODES data, which are the basis for estimating the gross CO_2 emissions from deforestation for the Amazon biome included in the FREL. The minimum mapping unit was defined as 1 mm^2 for the printed maps, which is equivalent to 6.25 ha on the surface. The digital PRODES data maintained this threshold to ensure consistency of the time series. Since 2008, the small deforestation patches under the minimum mapping area are monitored by INPE and are retrieved later by PRODES if they evolve into an area larger than 6.25 ha. The AT commended Brazil for its effort and encouraged Brazil to continue monitoring small deforestation events and to provide information on the extent of deforestation areas that are not retrieved later by PRODES, with the aim of showing that no significant deforestation is excluded from the FREL. This is being done by INPE/MCTIC.

Furthermore, the experts from the institutions responsible for the development of the Second National GHG Inventory and the PRODES data are also part of the Working Group of Technical Experts on REDD+ that supported the development of the FREL submission and its quality control.

LULUCF reporting under Brazil's Second National GHG Inventory covered the period 1994 to 2002 and included land-use transition areas and net CO_2 emissions for each individual biome. Hence, the figures provided in the Second National GHG Inventory for the area deforested in both managed and unmanaged forest land represent the area converted or maintained in the same land-use category for the 8-years interval between years 1994 and 2002. In addition, the figures provided in the Second National GHG Inventory considered both the emissions from the conversion to a new land-use category as well as removals from this new category. The Amazon biome data presented in the FREL refers only to gross emissions. The emissions associated with forest land converted to other land-use categories in the Second National GHG Inventory and those estimated for gross deforestation in Brazil's FREL for the Amazon biome are based on the same carbon map.

The forest definition used by Brazil in the construction of the FREL was the same as the one that Brazil used in its Second National GHG Inventory (i.e. minimum area of 0.5 ha, height of 5 m or more and at least 10 per cent canopy cover).

Area for future improvement: The AT considered the treatment of non-CO_2 gases as an area for future technical improvement.

Brazil's response: The FREL included only CO_2 emissions, consistent with the Second National GHG Inventory. The Third National GHG Inventory, submitted to the UNFCCC in 2016, two years after Brazil's submission of a FREL for results achieved between 2014-2015, included estimates of non-CO_2 emissions from biomass burning resulting from deforestation in the Amazon biome, but only for a single year (2010).

Box 2 below presents some considerations regarding the treatment of non-CO_2 gases. More information can be found in the next sections of this proposal.

Box 2. Consideration regarding non-CO_2 gases

Paragraph 29 of the TAR of the FREL submitted by Brazil to the UNFCCC indicated the treatment of emissions of non-CO_2 gases as an area for future technical improvement of the FREL. An analysis of the impact of non-CO_2 emissions of carbon monoxide (CO), methane (CH4), nitrous oxide (N_2O) and NOx for year 2010, included in the Third National GHG Inventory indicates the following emissions: 8,400 Gg; 549 Gg; 16 Gg; and 129 Gg, respectively.

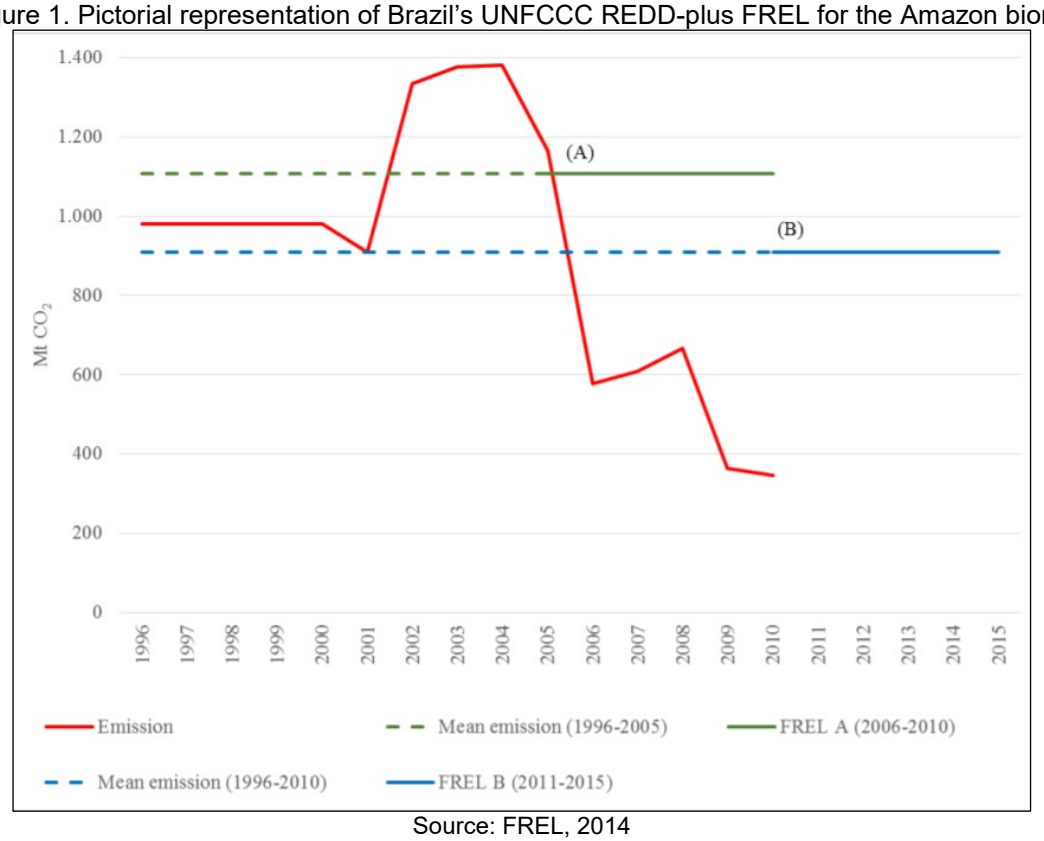
Non-CO_2 emissions from deforestation in the Amazon biome are not available for other years and hence, recalculation of the emission estimates to include non-CO_2 emissions would not be possible, nor would it be consistent overtime.

Estimation of non-CO_2 emissions from fire resulting from deforestation is expected to be improved in the next national GHG inventories. These estimates will be included in the national FREL to be submitted by Brazil to the UNFCCC in 2020 if consistency of the time-series can be assured and if deemed significant.

(ii.a) Data source of the FREL/FRL: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the data used for to the construction of the FREL/FRL, specifying whether the FREL/FRL is based on historical data and is equal to or below the average annual historical emissions during the reference period.*

For results achieved in the period from 2011 to 2015, **the FREL (Figure 1) is equal to mean historical annual emissions from gross deforestation in the Amazon biome for the period 1996–2010 (historical data) and corresponds to 907,959,466 tCO_2 (FREL B).**

Figure 1. Pictorial representation of Brazil's UNFCCC REDD-plus FREL for the Amazon biome



Source: FREL, 2014

The gross emissions from deforestation in the Amazon biome were estimated by combining activity data (i.e. the area of annual gross deforestation) with the appropriate emission factors (i.e.CO_2 emissions associated with the corresponding forest type).

Activity data

The **activity data** used for the construction of the FREL for the Amazon biome were based on a historical time series from INPE/ MCTIC. Through PRODES, INPE/ MCTIC has been assessing annual gross

deforestation (clear cut in areas of primary forests) in the Legal Amazon since 1988 using Landsat-class satellite data on a wall-to-wall basis, with a minimum mapping unit of 6.25 ha.

The area of the Legal Amazon region (5,217,423 km^2) is 24.3% bigger than the Amazon biome, as it includes areas from the Cerrado and Pantanal biomes. The Amazon biome comprises approximately 4,197,000 km^2 and corresponds to 49.29% of the national territory.

For the construction of its FREL, Brazil used the PRODES data for the Legal Amazon region excluding the areas from other biomes. Activity data (area deforested) are available in analogue format until 1997 and in digital format from 1998 onwards. Only since 2001 are data in digital format available annually. No ground truthing was required for the Amazon biome owing to the unequivocal identification of the clear-cut patches through visual interpretation.

In response to technical inputs by the AT, Brazil clarified that gross deforestation under cloud-covered areas has been estimated, so as not to under- or overestimate deforestation in any particular year, by **using an approach (adjusted deforestation increment) that evenly distributes the area of the deforestation polygons observed in the satellite image for the first time over previously cloud-covered areas over the year of the observation and all previous year(s) with persistent cloud cover in the same area**. For more information on the different methodologies used to estimate the area of gross deforestation in the Amazon biome, see Box 3 below.

Box 3: Approaches to estimate the area of gross deforestation in the Amazon biome

There are several approaches to estimate the area deforested and different results may be obtained depending on the approach adopted. For example, the annual deforested area can be estimated from the annual increments of deforestation; from the annual rate of deforestation; or from the adjusted deforestation increment. The explanation provided below is meant to clarify these different approaches and terminologies.

(1) **Deforestation Polygons (at year t):** refers to new deforestation events identified from the analysis of remotely sensed data (satellite images) at year t as compared to the accumulated deforestation mapped up to year t-1. Each deforestation polygon is spatially identified (geocoded), has accurate shape and area representations, and has an associated date of detection (the date of the satellite image from which it was mapped). For each year, a map containing all deforestation polygons (deforestation map) is made available in shapefile format for PRODES (and hence, for the Amazon biome, after exclusion of the areas associated with the Cerrado and Pantanal biomes) at (http://www.obt.inpe.br/prodesdigital/cadastro.php). **This map does not include deforestation polygons under cloud covered areas.** However, the deforestation map also renders spatially explicit distribution of the cloud covered areas.

(2) **Deforestation Increment or Increments of Deforestation (at year t):** refers to the sum of the areas of all observed deforestation polygons within a given geographical extent. This geographical extent may be defined as the boundaries of a satellite scene which has the same date as the deforestation polygons mapped on that scene; or the entire Amazon biome, for which the deforestation increment is calculated as the sum of the individual deforestation increment calculated for each scene that covers the biome. **The deforestation increment may underestimate the total area deforested (and associated emissions), since it does not account for the area of deforestation polygons under clouds.**

(3) **Adjusted Deforestation Increment or Adjusted Increments of Deforestation (at year t):** this adjustment is made to the deforestation increment at year t-1 (or years t-1 and t-2, etc., as applicable) to account for deforestation polygons in areas affected by cloud cover and that are observable at time t. It is calculated according with the following equation:

$$Inc_{adj(t)} = Inc_{(t)} - \sum_{\Delta=1} A_{CC(t-\Delta),(t)} + \sum_{\Delta=1} \frac{A_{CC(t-\Delta),(t)}}{\Delta+1} + \sum_{\Omega-1} \frac{A_{CC(t+\Omega),(t)}}{\Omega+1}$$

Where:

Incadj(t) = adjusted deforestation increments at year t; km^2
Inc(t) = deforestation increment at year t; km^2
∑ACC(t−Δ),(t) = area of the deforestation polygons observed (cloud-free) at year t over cloud-covered areas at year t- Δ ; km^2. Note that when Δ =1, ACC(t−1),(t) equals the area of the deforestation polygons observed at year t over cloud-covered areas at year t-1 (but which were under cloud-free at year t-2); for Δ = 2, ACC(t−2),(t) equals the area of the deforestation polygons observed at year t over an area that was cloud-covered at both years t-1 and t-2.
ACC(t+Ω),(t) = area of the deforestation polygons observed at year t+ Ω over cloud-covered areas at year t; km^2. Note that when Ω =1 , the ACC(t+1),(t) provides the area of the deforestation polygons observed at year t+1 over the area that was cloud-covered at year t; when Ω = 2 , the term ACC(t+2),(t) provides the area of the deforestation polygons observed at year t+2 over the area that was cloud-covered at years t and t+1.
Δ = number of years that a given area was persistently affected by cloud cover prior to year t but was observed at year t; Δ =1, 2, ...
Ω = number of years until a given area affected by cloud cover at year t is observed in subsequent years (i.e., is free of clouds); Ω = 1,2, …

As an example, suppose that the area of the deforestation increment observed at year t, Inc(t), is 200 km^2 and that 20 km^2 of this occurred over primary forest areas that were cloud covered at year t-1 (but are cloud-free at year t). Since these 20 km^2 may accumulate the area of the deforestation polygons under clouds at year t-1 and the area of the deforestation polygons that occurred at year t, the deforestation increment may overestimate the total area deforested area (and associated emissions) at year t.

(4) **Deforestation Rate (at year t):** was introduced in PRODES to sequentially address the effect of cloud cover; and, if necessary, the effect of time lapse between consecutive images. The deforestation rate aims at reducing the potential under or over-estimation of the deforested area at year t. The presence of cloud-covered areas in an image at year t impairs the observation of deforestation polygons under clouds, and may lead to an **underestimation** of the area deforested; while the presence of clouds in previous years (e.g., at 17-year t-1) may lead to an **overestimation** of the area deforested if all deforestation under clouds at year t-1 is attributed to year t.

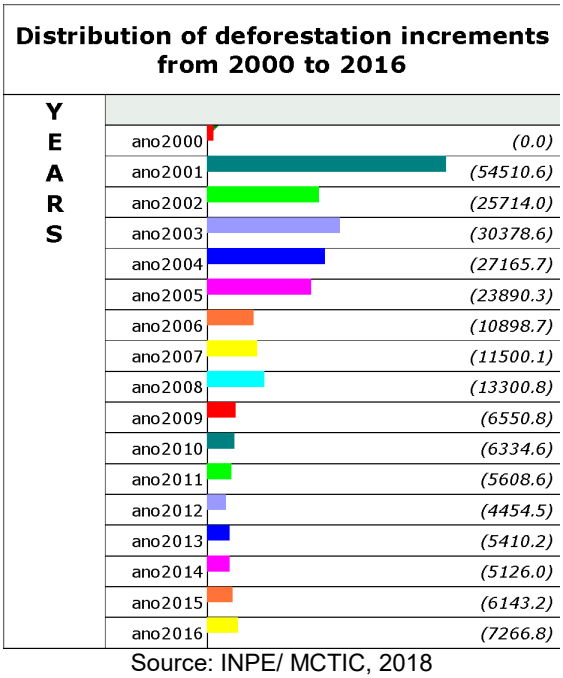
This over or under-estimation may also occur if the dates of the satellite images used in subsequent years are not adjusted. To normalize for a one-year period (365 days) the time lapse between the images used at years t and t+1, the rate considers a reference date of August 1st and projects the cloud corrected increment to that date, based on a model that assumes that the deforestation pace is constant during the dry season and zero during the wet season.

As an example of cloud correction, suppose that the primary forest area in an image is 20,000 km^2 and that 2,000 km^2 of this occurred over primary forest areas that were cloud covered. Suppose also that the observed deforestation increment is 180 km^2. As part of the calculation of the rate, it is assumed that the proportion of deforestation measured in the cloud-free forest area (18,000 km^2) is the same as that in forest under cloud (2,000 km^2). Therefore, the proportion 80/18,000 = 0.01 is applied to the 2,000 km^2, generating an extra 20 km^2 that is added to the observed deforestation increment. In this case, the adjusted increment of deforestation is 200 km^2.

IMPORTANT REMARKS:

(1) Note that at any one year, an estimate based on the adjusted deforestation increment may be higher or lower than the rate of gross deforestation.
(2) For the sake of verifiability, Brazil's FREL submission introduced a slight change in the methodology used in PRODES to estimate the annual area deforested. **The PRODES methodology to annualize observed deforestation and to consider unobserved areas due to cloud cover is not directly verifiable unless all the estimates are adjusted backwards.**
(3) The approach applied in Brazil's FREL submission relies on a verifiable deforestation map and does not annualize the time lapse between consecutive scenes. It deals with the effect of cloud cover by equally distributing the area of the deforestation polygons observed at year t over cloud-covered areas at year t-1 (or to years where that area was persistently cloud covered) among years t and t-1.
(4) **The use of the adjusted deforestation increments to estimate the gross deforestation area and associated gross CO_2 emissions is appropriate for the purposes of REDD-plus, since the areas covered by clouds in the Amazon biome were significant and non-consideration of deforestation under clouds could result in an underestimation of the annual emissions.**
(5) As seen in Table 6, in recent years, the availability of data from similar spatial resolution sensors to Landsat is reducing the need for adjustments, as deforestation under cloud-covered areas is assessed using alternative satellite data.

Table 6. Deforestation increment trends



Source: INPE/ MCTIC, 2018

The AT sought several clarifications on the estimation of activity data from Brazil. Brazil clarified that PRODES considers deforestation not only as the clear-cut in "intact" primary forest, but also as the clear-cut areas of primary forest that may have been previously subjected to a process of degradation (e.g. selective logging). The emissions from deforestation of these areas are estimated using the same carbon map.

Area for future improvement: The AT noted that the carbon density of the areas previously subjected to selective logging is likely to be lower than the carbon density of corresponding intact primary forests. Consequently, **the AT noted that for these areas the emission estimates used in the construction of the FREL include both the emissions from deforestation (clear cuts) and the emissions from degradation processes that occurred previously. The AT acknowledges the complexity of separating emissions between the two activities. The AT considers better understanding of the relationship between degradation and deforestation as an area for future technical improvement of the FREL.**

Brazil's response: The modified FREL submission clarified **that the extent of degraded area that is subsequently deforested is small** (see Table 7). Brazil continues its efforts to progress discussions on the best tools to generate estimates of forest degradation that are as accurate as possible. The major challenge of monitoring and addressing forest degradation adequately (in particular in relation to the anthropogenic contribution to the associated emissions) lies in the ability to accurately assess the changes of carbon stock in the areas affected by degradation, particularly aboveground biomass. Degradation may have different intensities, from very low (where few trees are removed) to very high (where, most likely, the land will be deforested at some point in time). As mentioned on the previous sections of this proposal, forest degradation is an area in which the Working Group of Technical Experts on REDD+ has worked intensively over the past few years and which will be included in Brazil's national FREL submission to the UNFCCC in the future.

Table 7. Percentage of the areas identified as degraded by DEGRAD and subsequently converted to clear-cut (deforestation) and included in PRODES, from 2007 to 2012.

% conversion of the area degraded (DEGRAD) to clear cut (PRODES)		PRODES (year)					
		2008	2009	2010	2011	2012	2013
DEGRAD (year)	2007	12	2	2	2	1	2
	2008		1	2	1	1	1
	2009			2	2	2	2
	2010				3	1	2
	2011					2	4
	2012						4

Source: FREL, 2014

The AT considered the exclusion of degraded areas conservative in the context of constructing the FREL.

Emission factors

Data from the Second National GHG Inventory (in tonnes of carbon per unit area, tC ha-1) were used to calculate the **emission factors**. The emission factors in the FREL were defined as the carbon densities in living biomass (above and below-ground biomass) and litter, consistent with those adopted in the Second National GHG Inventory. The carbon stock of the different forest types in the Amazon biome were estimated by combining sample-plot information (i.e. circumference at breast height (CBH)) from RADAMBRASIL (conducted between 1970 and 1985 this project collected geo-referenced data from 2292 sample plots, including CBH and height of all trees above 100 cm in CBH), with various equations (equations 5 to 9 in the modified FREL submission).

Box 4 below presents detailed information on the selection of the allometric equation to estimate aboveground biomass.

Box 4. Choice of the Allometric Equation to Estimate Aboveground Biomass

Four statistical models (linear, non-linear and two logarithmic) selected from thirty-four models in Santos (1996) were tested with data from 315 trees destructively sampled to estimate the aboveground fresh biomass of trees in areas near Manaus, Amazonas State, in the Amazon biome (central Amazon). This area is characterized by typical dense "terra firme" moist forest in plateaus dominated by yellow oxisols.

In addition to the weight of each tree, other measurements such as the diameter at breast height, the total height, the merchantable height, height and diameter of the canopy were also collected. The choice of the

best statistical model was made based on the largest coefficient of determination, smaller standard error of the estimate, and best distribution of residuals (Santos, 1996[3]).

In the case of each model, the difference between the observed and estimated biomass was consistently below 5%. In addition, the logarithm model using a single independent variable (diameter at breast height - DBH) produced results as consistent and as precise as those with two variables (DBH and height) (Higuchi, 1998[4]).

Silva (2007)[5] also demonstrated that the total fresh weight (above and below-ground biomass) of primary forest can be estimated using simple entry (DBH) and double entry (DBH and height) models and stressed that the height added little to the accuracy of the estimate. The simple entry model presented percent coefficient of determination of 94% and standard error of 3.9%. For the double entry models, these values were 95% and 3.7%, respectively. It is recognized that the application of the allometric equation developed for a specific area of the Amazon biome may increase the uncertainties of the estimates when applied to other areas.

In this sense, the work by Nogueira et al. (2008)[6] is relevant to be cited here. Nogueira et al. (2008) tested three allometric equations previously published and developed for dense forest in Central Amazon (CA): Higuchi et al. (1998), Chambers et al. (2001)[7] and Silva (2007). All three equations developed for CA tend to overestimate the biomass of the smaller trees in South Amazon and underestimate the biomass of the larger trees. Despite this, **the total biomass of the sampled trees estimated using the equations developed for CA was like those obtained in the field (-0,8%, -2,2% e 1,6% for the equations from Higuchi et al., 1998; Chambers et al., 2001 and Silva, 2007, respectively, due to the compensation of under and over-estimates for the small and larger trees.** However, when the biomass per unit area is estimated using the equations developed for the CA, the estimates were 6.0% larger for the equations from Higuchi et al. (1998); 8.3% larger for Chambers et al. (2001); and 18.7% for Silva (2007).

The AT noted that the “carbon map” used in the FREL, based on the RADAMBRASIL database, combined with an allometric equation (to relate above-ground fresh biomass to carbon densities), represented a significant effort aimed at recognizing the heterogeneity in carbon densities within the Amazon biome, and commended Brazil for this. In response to questions raised by the experts regarding apparent inconsistencies in the carbon map, Brazil explained that these were partly associated with the specific circumstances of the region (e.g. soil types, climatic conditions and flood regimes), and noted that the widely used RADAMBRASIL database is the best information available now.

Area for future improvement: The AT considers better understanding of the relationship between degradation and deforestation as an area for future technical improvement of the FREL. The AT noted that, when emissions from degradation are included in the FREL, Brazil will need to demonstrate how double counting of emissions included under degradation and deforestation is avoided (e.g. for forests that were subject to selective logging and subsequently clear cut).

The LULUCF experts encouraged Brazil to continue its efforts to improve its carbon map for the Amazon biome. The AT acknowledged the significant efforts made thus far by Brazil to assess the spatial distribution in carbon densities in the Amazon biome and commended Brazil for continuing to work on updating and

[3] SANTOS, J. 1996. Análise de modelos de regressão para estimar a fitomassa da floresta tropical úmida de terra firme da Amazonia brasileira. Tese de Doutorado, Universidade Federal de Viçosa, 121 p.
[4] HIGUCHI, N. DOS SANTOS, J., RIBEIRO, R.J., MINETTE, L., BIOT, Y. 1998. Aboveground biomass of the Brazilian Amazon rainforest. Acta Amazonica 28 (2), 153- 166.
[5] SILVA, R. P. 2007. Alometria, estoque e dinâmica da biomassa de florestas primárias e secundárias na região de Manaus (AM). Tese de Doutorado. Universidade Federal do Amazonas (UFAM), Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus. 152 p. CDD 19. ed. 634.95.
[6] NOGUEIRA. E.M., FEARNSIDE, P.M., NELSON, B.W., BARBOSA, R.I., KEIZER, E.W.H., 2008. Estimates of forest biomass in the Brazilian Amazon: New allometric equations and adjustments to biomass from wood-volume inventories. Forest Ecology and Management 256, 1853-1867.
[7] CHAMBERS, J.Q., SANTOS, J., RIBEIRO, R.J., HIGUCHI, N., 2001. Tree damage, allometric relationship, and above-ground net primary production in central Amazon forest. Forest Ecology and Management 152, 73-84.

improving the carbon map based on new and improved ground data from its first National Forest Inventory (NFI).

Brazil's response: Brazil explained that the time series available is too short to allow an adequate understanding of the degradation process. Since 2015, Brazil has been working on building an understanding of forest degradation trends to allow for the construction of a credible time series for the Amazon and the Cerrado biomes and ensure that there is no double counting of emissions when considering deforestation and forest degradation. This included a Technical-Scientific Seminar on Degradation and Forest Regrowth (Secondary Vegetation) in the Amazon and the Cerrado biomes held in October 2017. Experts from well-known research centers, non-government organizations, the academia and other countries in the Amazon basin were invited by Brazil to participate in this seminar. In three days of work, the individual presentations from researchers as well as results from group discussions provided valuable inputs to create or improve Brazilian policies on climate change and forests. The objective was to better understand the forest dynamics to provide inputs for future REDD-plus submissions to the UNFCCC.

Experts agreed that, unlike the case of deforestation, better understanding of forest degradation and forest regrowth may require the production of new data by research institutions, as well as the assessment of the latest remote sensing products. **The major challenge of monitoring and addressing forest degradation adequately (in relation to the anthropogenic contribution to the associated emissions) lies in the ability to accurately assess the changes of carbon stock in the areas affected by degradation, particularly aboveground biomass.** Degradation may have different intensities, from very low (where few trees are removed) to very high (where, most likely, the land will be deforested at some point in time).

With regards to improvements in the carbon map, Brazil indicated that this will be possible with the conclusion of the country's first NFI, which is currently collecting the necessary data for the whole national territory. In the absence of new and reliable data, partial improvements in the carbon map have already been done through statistical adjustments for the TNC (finalized in 2016 after the submission of Brazil's FREL and 1st BUR).

(ii.b) If a country is considered HFLD: *Please provide the basis/justification for this classification.*

Not applicable**.** Brazil's is not a HFLD country.

(ii.c) FREL/FRL adjustments for a HFLD country: *If adjustments made, please provide information that the adjustment does not exceed 0.1% of the carbon stock over the eligibility period in the relevant area and/or exceed 10% of the FREL/FRL to reflect quantified, documented changes in circumstances during the reference period that likely underestimate future rates of deforestation or forest degradation during the eligibility period*

Not applicable. Brazil's is not a HFLD country.

(iii) FREL/FRL in accordance with 12/CP.17: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the quantified estimate of the FREL/FRL. Include whether the FREL/FRL was constructed in accordance with the guidelines in Decision 12/CP.17; specifically on the modalities for FREL/FRL and whether the raised issues were material or not material to the quantified estimate of the FEEL/FRL.*

Brazil followed the modalities for forest reference emission levels from section II of Decision 12/ CP.17 for the submission of information on reference levels as contained in the Annex to the same decision. Brazil structured its FREL following the guidelines for submission of information on reference levels as presented in the Annex of Decision 12/ CP. 17 to include: (a) information that was used in constructing a FREL; (b) complete, transparent, consistent, and accurate information, including methodological information used at the time of construction of FRELs; (c) pools and gases, and activities which have been included in FREL; and (d) the definition of forest used in the construction of FREL.

The AT noted that the data and information used by Brazil in constructing its FREL are transparent and complete and are in overall accordance with the guidelines contained in the annex to decision

12/CP.17. All the elements in the annex of decision 12/ CP.17 were considered in the constructions of Brazil's FREL.

Brazil recalled in its FREL that paragraphs 10 and 11 of Decision 12/CP.17 (FCCC/CP/2011/9/Add.2) "agrees that a step-wise approach to a national FREL may be useful, enabling Parties to improve the FREL by incorporating better data, improved methodologies and, where appropriate, additional pools" and "acknowledges that subnational FRELs may be elaborated as an interim measure, while transitioning to a national FREL".

Brazil is a country of continental dimensions and with a large diversity of forest types, which makes the development of data at the national level a huge challenge. Brazil submission a subnational FREL for the Amazon biome comprised approximately 4,197,000 km^2 and corresponds to 49.29% of the national territory (a total of 8.516 million km^2, the fifth-largest country in the world, 2 times the size of the total area of the European Union).

In 2014, Brazil's FREL submission to the UNFCCC, included an Annex detailing the approach that the country plans to undertake to construct its national FREL for reducing emissions from deforestation. Six individual FRELs, one for each of the six biomes (see Figure 2) in the Brazilian territory will be constructed and their subsequent sum will be the national FREL.

Figure 2. The Brazilian biomes

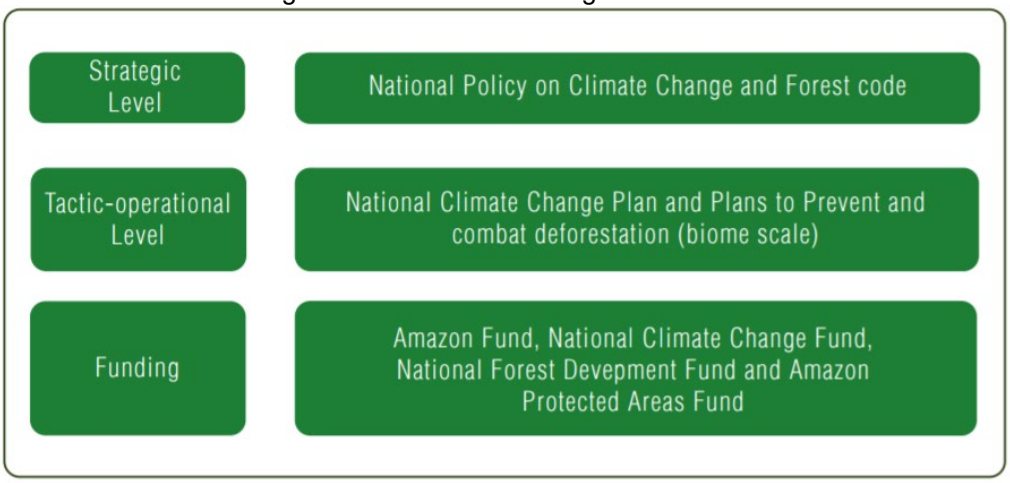
Source: FREL submission, 2014, Brazil.

In 2015, Brazil launched its National Strategy for REDD+ (ENREDD+) with the objective to scale up the implementation of policies to reduce deforestation and forest degradation from the Amazon and Cerrado biomes to the national level. To do that, the National REDD+ Committee (CONAREDD+) was established and representatives from all biomes were invited to participate in this governance structure. A series of policies, laws, regulations, actions and initiatives from various stakeholders contribute to REDD-plus implementation in Brazil, both at the national and local levels. Figure 3 presents a pictorial summary of the main policies, laws, regulations and funds that contribute to REDD-plus implementation in Brazil.

At the **strategic level**, the National Policy on Climate Change outlines the objectives and guidelines for addressing climate change in Brazil, providing the force of law to the national voluntary commitment of reducing GHG emissions by 36.1% to 38.9% in relation to the projected emissions until 2020. Regarding

specific REDD-plus actions, Brazil has the commitment to achieve, by 2020, a reduction of 80% in the rate of deforestation in the Amazon biome, to be measured against the historical average between 1996 and 2005 (19,625 km²), and 40% in the Cerrado biome, to be measured against the average between 1999 and 2008 (15,700 km²). For the other biomes, it seeks to stabilize emissions at 2005 levels.

Figure 3. The ENREDD+ legal framework



Source: Brazil's ENREDD+, 2015

Brazil's sovereign commitment to the protection of native vegetation and the integrity of the climate system for the well-being of present and future generations was reiterated by Law No. 12.651/2012 (Forest Code)[8]. The national law established restrictions to the use of certain areas of private properties, which should be covered by native vegetation. The Permanent Preservation Areas (APP) and Legal Reserve (RL), as defined by the law, must be maintained by the landholders. The proportion of RL depends on the region in which the rural properties are located. In the Amazon biome, the share of RL corresponds to 80% of the property located in forest covered regions, 35% of the ones situated in savanna-like regions and 20% of those in native grass covered regions. In all regions outside of the Amazon biome, the share of RL is 20%.

Promoting the environmental regularization of private rural areas is crucial for improving land use practices in the country and a key component of Brazil's strategy to keep deforestation under control. To this end, the Forest Code established mandatory registration on the Rural Environmental Registry (CAR) for all rural landholdings (Article. 29, Law No. 12.651/2012). The rural properties that have environmental liabilities relating to the insufficiency of APP and RL shall present a Degraded or Altered Area Recovery Project, which is an instrument of the Environmental Regularization Program, in accordance with Federal Decrees n. 7.830/2012 and n, 8.235/2014.

Faced with the challenge of implementing the Forest Code the Federal Government has instituted the National Policy for the Recovery of Native Vegetation, known as Proveg, through Federal Decree n. 8.972/2017. Proveg aims to articulate, integrate and promote policies, programs and actions that encourage the recovery of forests and other forms of native vegetation and to promote the environmental regularization of Brazilian rural properties, under the terms of the Forest Code, in a total area of at least 12 million hectares, by December 31, 2030. The main instrument of implementation of Proveg is the National Plan for the Recovery of Native Vegetation (Planaveg), launched through Inter-ministerial Ordinance No. 230, dated

[8] Beyond the revision of the Forest Code, in 2012, a series of advances in environmental policies and law occurred in the last twenty years, namely: the Law of Environmental Crimes (Federal Law n. 9.605/1998); the National System of Conservation Units (Federal Law n. 9.985/2000); the Law on Data and Information of the National Environment System (Federal Law n. 10.650/2003); the Priority Areas for Conservation, Sustainable Use and Biodiversity Benefits Sharing (Federal Decree n. 5.902/2004 and MMA's Ordinance n. 09/2007); Law on Public Forests Management (Federal Law n. 11.284/2006); the National Policy for Environmental and Territorial Management of Indigenous Lands (Federal Decree n. 7.747/2012); the Amazon Region Protected Areas Programme - ARPA (Federal Decree n. 8.505/2015),among others.

November 14, 2017. This funding proposal will support the continuation of the implementation of the Forest Code, by creating a program to incentivize forest conservation and restoration, providing positive incentives to smallholders, indigenous peoples and traditional communities, having as a basis the information from the National Rural Environmental Registry System (SICAR).

At the **tactical-operational level**, Brazil has developed biome-wide action plans for the prevention and control of deforestation, which are, at present, **the main instruments to promote integration and coordination of REDD+ initiatives**. The Amazon and the Cerrado are the biomes that have action plans under implementation. In addition to that, the nine states in the Legal Amazon region have similarly structured state plans.

The national and state plans feature analyses on land tenure issues, forest governance, the dynamics of deforestation and its main drivers, as well as about indigenous peoples and traditional communities. The plans also present a logical framework that guides the design and prioritization of actions to address the drivers identified; a detailed operational plan, assigning which body is responsible for each action, and the necessary resources for its implementation. The plans are reviewed and updated periodically.

Due to their relevance, the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm) and the Action Plan for the Prevention and Control of Deforestation and Forest Fires in the Cerrado (PPCerrado) were incorporated as instruments of the PNMC. They interface with the following Sectoral Plans: Climate Change Mitigation and Adaptation to Establish a Low-Carbon Economy in Agriculture (ABC Plan) and Steel Sector Emission Reductions (Charcoal Plan). Together, these plans form the pillars of the PNMC for mitigation in the LULUCF sector, contributing directly to REDD-plus.

The Action Plans will continue to be developed, as appropriate, at the biome level, to ensure that the particularities and the diversity of the different regions are considered in the definition of the policies and measures aimed at addressing the drivers at the local level. In other biomes, for example, the REDD-plus activities that will be prioritized may be different. Creating incentives for scaled up forest regrowth is key in the Atlantic Forest for example. At the same time, the national REDD+ scheme is in place to ensure that the same standards, principles and safeguards are followed by all biomes, and that the experience from the Amazon and the Cerrado biome could positively influence the other regions.

In 2015, to improve environmental monitoring at the national level, the Brazilian Biomes Environmental Monitoring Program was established, by the Ministry of the Environment of Brazil (MMA) Ordinance No. 365/2015. The strategy is to implement this program through partnerships between the MMA, MCTI through INPE, MAPA through Embrapa, and IBAMA, and other institutions, when appropriate. The funding will come from the Federal Budget, as well as from international cooperation and established funds, such as the Amazon Fund and the National Climate Change Fund. The Brazilian Biomes Environmental Monitoring Program is aligned with the objectives of the ENREDD+ and will deliver the enhancement and improvement of systems and monitoring protocols – particularly for the extra-Amazonian biomes – necessary for achieving the desired national scale. These initiatives will also provide important information to improve, at the national level, policies to combat deforestation and forest degradation and to foster forest recovery.

In 2017, as a sign of its commitment to the scaling up of REDD+ to the national level and using the data produced as part of the program detailed above, Brazil submitted to the UNFCCC a FREL for reducing emissions from deforestation in the Cerrado biome (FREL Cerrado). FREL Cerrado was technically assessed by two LULUCF experts selected from the UNFCCC roster. The results reducing emissions from deforestation in the Cerrado biome are expected to be submitted to the UNFCCC as part of the country's 3rd BUR in 2019.

Together, the **Amazon and the Cerrado biomes account for approximately 73% of the total national territory, an area of almost 6 million km^2**.

In 2018, following paragraph 12, of Decision 12/ CP.17, Brazil presented an updated version of its Amazon biome FREL (FREL C) for results achieved between 2016 and 2020. The FREL C is currently going through the UNFCCC technical assessment.

In FREL C Brazil indicated that its approach to scale up REDD-plus to the national level does not imply that the same pools and/or gases will be included in each individual FREL, due to the very different characteristics and dynamics of REDD+ activities in each biome. **Two important elements, in the view of Brazil, must be ensured: (i) the same reference period maintained for all the biome FRELs, and (ii) emission reduction results presented at biome level in the future are consistent with the corresponding biome FREL.**

Regarding the inclusion of other REDD-plus activities, Brazil will include reducing emissions from forest degradation in the biomes where this activity is considered by the Working Group of Technical Experts on REDD+ as a significant source of emissions. The same applies for pools and non-CO_2 gases. Until 2020, Brazil will focus its efforts to have a better understanding of and methods for accounting for the processes related to deforestation and forest degradation, including regrowth of secondary forests, which would result in a transition from gross to net emissions.

The AT commended Brazil for showing a strong commitment to continuous improvement of its FREL estimates, in line with the step-wise approach.

(iv) FREL/FRL transparency: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the transparency of the FREL/FRL and whether significant issues were raised and resolved. If applicable, provide a plan on how to address and overcome issues that were not material to the transparency of the FREL/FRL raised in TA Report that couldn't be resolved due to time and data restrictions.*

The AT noted that the data and information used by Brazil in constructing its FREL are transparent. Digital PRODES allowed INPE/ MCTIC to make available through the web the deforestation maps in vector format, as well as all the satellite images used, thus ensuring full transparency to the public in general. For Brazil, the most important elements, before accuracy, are ensuring consistency and transparency of the data submitted.

The AT also considered that the additional information provided by Brazil in the modified submission after the inputs from the LULUCF experts considerably increased the transparency of its FREL and clarified the difference between FREL and PRODES data, without the need to alter the approach used to construct the proposed FREL.

The information provided in the FREL, including through the data made available on websites and the examples on how CO_2 emissions from deforestation were estimated, **increased the reproducibility of FREL calculations**.

Below are details about where and how all the information used by Brazil in the construction of its FREL can be easily accessed from websites that are freely and openly available to the public:

- **Satellite Imagery.** Remotely sensed data is the major source of information used to map deforestation polygons every year. The availability of all satellite images used since 1988 allows for the verification and reproducibility of annual deforestation polygons over primary forest in the Amazon biome as well as the cloud covered areas. Since 2003, INPE adopted an innovative policy to make satellite data publicly available online. The first step in this regard was to make available all the satellite images from the China-Brazil Earth Resources Satellite (CBERS 2 and CBERS 2B) through INPE's website (http://www.dgi.inpe.br/CDSR/). Subsequently, data from the North American Landsat satellite and the Indian satellite ResourceSat 1 were also made available. With this policy INPE became the major distributor of remotely sensed data in the world.

- **Deforestation polygons.** All deforestation polygons mapped for the Amazon biome (i.e., aggregated until 2007; aggregated for years 1998, 1999 and 2000; and annual from 2001 until 2010) are available at http://www.mma.gov.br/redd/index.php/en/forest-reference-emission-levelsfrel/spatial-information. This information is a subset of that made available since 2003 by INPE for PRODES at http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes. At this website, for each satellite image, a vector map in shapefile format is generated and made available, along with all the previous deforestation polygons, the areas not deforested, the hydrology network

and the area of non-forest. For PRODES, this information is provided for each State of the Federation and for the Legal Amazon.

- **Deforestation polygons by forest type and RADAMBRASIL volume.** To ensure transparency in the calculation of the annual adjusted deforestation increment and associated emission, a file that associates each deforestation polygon with its forest type and corresponding RADAMBRASIL volume has been generated for each year since 2000. Since these files are large in size, the file for 2003, containing 402,176 deforestation polygons, was made available through the following link: http://www.mma.gov.br/redd/index.php/en/forest-reference-emission-levels-frel/spatialinformation, as ***tab "2003" in file "calculo_def_increment_emission_2003.xls"*.**

- **Information for the calculation of the adjusted deforestation increment.** The information used to calculate the annual adjusted deforestation increment is provided in the website http://www.mma.gov.br/redd/index.php/en/forest-reference-emission-levelsfrel/spatial-information for years 2001, 2002, 2003, 2004 and 2005 **(shapefiles *"SPAgregado2012_CO2AmazoniaCompleto_pol_split1", "SPAgregado2012_CO2AmazoniaCompleto_pol_split2" and "SPAgregado2012_CO2AmazoniaCompleto_pol").***

- **Carbon map.** The map with the biomass density of living biomass (including palms and vines) and litter mass used to estimate the CO_2 emissions from deforestation is the same as that used in the Second National GHG Inventory to estimate CO_2 emissions from conversion of forest land to other land-use categories. The data collected by RADAMBRASIL were documented in 38 volumes. RADAMBRASIL data is provided for the relevant volumes at: http://www.mma.gov.br/redd/index.php/en/forestreference-emission-levels-frel/spatial-information

- **RADAMBRASIL data.** RADAMBRASIL collected a significant amount of data for each one of the 2,292 sample units. The relevant RADAMBRASIL data is provided for the sample units in the 31 relevant RADAMBRASIL volumes at site http://www.mma.gov.br/redd/index.php/en/forest-reference-emission-levels-frel/spatialinformation, i.e., the volumes most affected by deforestation (volumes 4, 5, 16, 20, 22 and 26) and the information relevant for the FREL, particularly CBH.

(v) FREL/FRL completeness: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the understanding of the FREL/FRL and whether significant issues were raised and resolved. If applicable, provide a plan on how to address and overcome issues that were not material to the completeness of the FEL/FRL raised in TA Report that couldn't be resolved due to time and data restrictions. Include information that allows for the reconstruction of the FREL/FRL.*

Brazil's data is presented in a transparent and verifiable manner, allowing the reconstruction of all its technical REDD-plus submissions. **All the information was made available online and the sequence of steps to construct the FREL was presented in detail in section b.1 (p.26) of the modified submission developed during the TA, to allow for the full reconstruction of the results.** The following data and information were used in the construction of the FREL and are available for download at http://www.mma.gov.br/redd/index.php/en/forest-referenceemission-levels-frel/spatial-information:

(1) All the satellite images used to map deforestation polygons in the Amazon biome between 1996 and 2010;
(2) Accumulated deforestation polygons until 1997, inclusive;
(3) Accumulated deforestation polygons for years 1998, 1999 and 2000;
(4) Annual deforestation polygons for the period from 2001 to 2010, inclusive;
(5) Deforestation polygons by forest type attributes and RADAMBRASIL volume;
(6) Information that allow for the calculation of the adjusted deforestation increments for years 2001, 2002, 2003, 2004 and 2005 with a detailed example of the calculation done for year 2003 (see *"calculo_def_increment_emission_2003"* through the FTP link available on the website above);
(7) Map with the carbon densities of different forest types in Amazon biome (carbon map) consistent with the Second National GHG Inventory;
(8) Samples of relevant RADAMBRASIL data used as input for the allometric equation.

The AT noted that the emission factors used varied along the time series. To understand the reason behind this variation, the AT asked Brazil to provide information on annual deforestation area by forest type. In response to this request, Brazil provided a very detailed example for the year 2003 (in annex II of the modified FREL submission) showing how emissions from deforestation were calculated (item 6 listed above). This example included data on deforestation areas by forest type, RADAMBRASIL volume and the associated carbon densities.

The AT commended Brazil for this huge effort. The AT also noted that providing basic information on deforestation area (e.g. by forest type only) for all years would further improve the transparency and reproducibility of future FREL submissions. This recommendation was followed by Brazil and the basic information to allow for the re-calculation of the adjusted deforestation increments for years 2001 to 2005 (point 6 above) was included in the modified FREL and the REDD+ Brasil website.

The information provided in Brazil's FREL allows for the reconstruction of Brazil´s FREL. One should bear in mind that the exact value may not be necessarily reproduced due to rounding errors and the extensive amount of data in Annex II.1 of the revised FREL, as presented in the example of the independent reconstruction for year 2003.

The AT noted that the completeness of information improved significantly in the modified FREL submission and commends Brazil for the efforts made. **The AT considered that the information provided in the modified FREL submission on "verification activities" performed (e.g. comparison of the carbon map with data from the scientific literature) is useful, because it helps to build confidence in the estimated emissions.**

(vi) FREL/FRL consistency: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the consistency of the methodology used over the time series used for the construction of the FREL/FRL, and whether significant issues were raised in the report and resolved. If applicable, provide a plan to address and overcome issues that were not material to the consistency of the FREL/FRL raised in TA Report that couldn't be resolved due to time and data restrictions.*

In assessing the extent to which the FREL is consistent with the information and descriptions provided by Brazil, the AT compared the time series of deforestation in the FREL (for the Amazon biome) with PRODES/ INPE/ MCTIC deforestation rate data (for the Legal Amazon).

The consistency of the PRODES time series is ensured by using the same deforestation definition, same minimum mapping area, similar satellite spatial resolution, same Forest/Non-Forest vegetation boundaries, and same methodological approach to analyze the remotely sensed data at every new assessment.

Forest areas affected by forest degradation that do not have a clear-cut pattern in the satellite imagery are not included in PRODES. A separate project, named DEGRAD, is carried out by INPE/ MCTIC to address forest degradation. This ensures the consistency of the PRODES deforestation time series over time.

At the start of PRODES, deforestation polygons were identified by visual interpretation on false color composites of Landsat imagery at the scale of 1: 250,000 and mapped on overlays that contained the aggregated deforestation up to the previous year. Subsequently these deforestation polygons were manually digitized in a Geographic Information System (GIS) developed by INPE. This analogical approach to assess deforestation (Analog PRODES) was employed from 1988 until 2002.

Due to the increased computing capability built by INPE, it was possible to transition to digital annual assessments of deforestation (Digital PRODES) after 2000, which was preceded by a 1997 digital base map.

Digital PRODES maintains full consistency with the Analog PRODES data. This includes consistency with the forest boundaries in Analog PRODES and the aggregated deforestation polygons. Despite the evolution to a digital assessment, the identification of the deforestation polygons continued to be carried out

through visual interpretation in the screen and not through digital classification methods. This ensured even greater consistency between the Analog and Digital PRODES.

Due to the large volume of analog data when Digital PRODES started, INPE decided to map the deforestation polygons from years 1998 to 2000 on an aggregated deforestation map until 1997 (digital base map). Hence, the deforestation polygons for these years were lumped into a single digital database, with no discrimination of the specific year when deforestation occurred.

From year 2000 onwards, the deforestation polygons have been annually assessed and included in the Digital PRODES database. The Digital PRODES allows for the visualization of the deforestation polygons every year, in a single file. Thus, the geographical expansion of deforestation, as well as its spatial pattern, can be assessed and monitored.

In summary, the digital database does not have individual deforestation information for years prior to 1997, inclusive; it has information for years 1998 to 2000 in an aggregated format; and information (deforestation polygons) for all years since 2000 on an annual basis.

Digital PRODES allowed INPE to make available through the web the deforestation maps in vector format, as well as all the satellite images used, thus ensuring full transparency to the public in general. **Since 2003, INPE began to publish the annual deforestation rate on the web, together with all the satellite imagery used to generate the information, and the maps with the identification of deforestation polygons.** Annually INPE provides for the download of approximately 215 Landsat satellite images of Landsat5/7/8 (or similar data as CBERS/CCD, ResourceSat/LISS3 and DMC). Each image is accompanied by the associated map containing all past deforestation. INPE continuously improves its tools to better manage large-scale projects. A few non-governmental organizations, state level entities and research centers have reconstructed and independently verified parts of the database of PRODES. For more information on the efforts of INPE to make deforestation data more accessible please see: https://blog.globalforestwatch.org/data/official-deforestation-data-for-the-brazilian-amazon-now-available-on-global-forest-watch

Deforestation rates were not the basis for the FREL calculations. The FREL was constructed based on adjusted deforestation increments (see detailed differences in Box 3 in section B.1.1. (iia), above) and these are two different approaches.

PRODES maps up to 2001 were analogic and constrained the integration with the carbon map adopted in this FREL. As an exercise, the annual CO_2 emissions per year were calculated taking as a basis the deforestation rates from PRODES and applying the average carbon stock per unit area (tC ha-1). This was done to assess the average difference in CO_2 emissions using the annual rates of gross deforestation from PRODES and the emission estimates presented in this submission for years 1996 – 2010 based on the adjusted increments. The formula[9] used was:

Deforestation rate (ha)/year * 151.6 tC/ha * 44/12

Table 8. Comparing emission estimates: PRODES deforestation rates versus the adjusted deforestation increment used as a basis for the FREL

[9] 151.6 tC/ha was the average carbon content for the whole Amazon biome considering different forest types. The FREL used spatialized information for the yearly estimates, not the average.

Year	Deforestation Rates PRODES (ha)	Deforestation Increments FREL (ha)	Emission PRODES (tCO2e) using average 151.6tC/ha	Emission FREL (tCO2e)
1996	1,816,100.00	1,874,013.00	1,009,509,453.33	979,523,618.00
1997	1,322,700.00	1,874,013.00	735,244,840.00	979,523,618.00
1998	1,738,300.00	1,874,013.00	966,263,026.67	979,523,618.00
1999	1,725,900.00	1,874,013.00	959,370,280.00	979,523,618.00
2000	1,822,600.00	1,874,014.00	1,013,122,586.67	979,523,849.00
2001	1,816,500.00	1,949,332.00	1,009,731,800.00	908,964,575.00
2002	2,165,100.00	2,466,605.00	1,203,506,920.00	1,334,458,299.00
2003	2,539,600.00	2,558,848.00	1,411,678,986.67	1,375,224,078.00
2004	2,777,200.00	2,479,432.00	1,543,752,906.67	1,380,142,199.00
2005	1,901,400.00	2,176,233.00	1,056,924,880.00	1,163,879,135.00
2006	1,428,600.00	1,033,687.00	794,111,120.00	576,136,731.00
2007	1,165,100.00	1,088,546.00	647,640,253.33	609,101,478.00
2008	1,291,100.00	1,237,179.00	717,679,453.33	669,215,058.00
2009	746,400.00	608,155.00	414,898,880.00	373,066,457.00
2010	700,000.00	610,642.00	389,106,666.67	362,507,087.00
Average	1,663,773.33	1,705,248.33	924,836,136.89	910,020,894.53
Difference (%)		-2.492827549		1.601931603

Source: Section I, Annex I of Brazil's FREL submission, 2018, p.82.

The average emissions from deforestation between 1996 and 2010, using PRODES rates was 924,836,136.89 tCO_2. The average emissions from deforestation between 1996 and 2010 presented in the FREL was 910,020,894.53 tCO_2. Since the FREL uses the average emissions, these differences balance out, resulting in only **a 1.6 per cent difference**.

Area for future improvement: The AT noted that information provided for the years 1996 and 1997 is less accurate (as the data were not based on measured data) and less consistent over the time series compared to the time series constructed from 1998 onwards. Overall, the AT considers that a better estimation of deforestation estimates for the years 1996–1997 (i.e. through the digitalization of the deforestation maps) is an area for future technical improvement.

Brazil's response: In response to this observation, Brazil indicated to the AT that it was seeking finance to complete the annual digital time series with data from 1996 to 2000, and that this would improve the accuracy of the estimates provided in the submission for the years 1996 and 1997, as well as for the individual years 1998, 1999 and 2000.

Since then, Brazil received inputs from various international stakeholders, with the general understanding that historical information before year 2000 should not be used in a future national FREL submission from Brazil to the UNFCCC in 2020.

Brazil's efforts now are focused on building deforestation data for all Brazilian biomes to scale up REDD-plus to the national level, rather than improving the historical data before year 2000 for the Amazon biome.

(vii) FREL/FRL accuracy: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the accuracy of the FREL/FRL and whether significant issues were raised and resolved. This should include information on whether the data and methodologies used neither over- nor under-estimate emissions and/or removals during the reference period. If applicable, provide a plan to address and overcome issues raised in TA Report that were not material to the accuracy of the FREL/FRL and that couldn't be resolved due to time and data restrictions.*

The FREL accuracy can be estimated by assessing the accuracy of the activity data (adjusted deforestation increments) and of the emission factors (based on the RADAMBRASIL map and the allometric equation).

The REDD-plus decisions under the UNFCCC value the continuous update and improvement of relevant data and information over time. **Brazil is committed to continuously improve the accuracy of the estimates for all carbon pools included in the FREL. Work is underway as part of the process of development of Brazil's first NFI, to assess and reduce uncertainties and this process. This will contribute to improve the data for the construction of Brazil's national FREL.**

Accuracy of the activity data

Brazil uses the information from PRODES as a basis for its activity data. **The use of adjusted deforestation increments as activity data to estimate emissions from gross deforestation provides a more accurate, verifiable figure for the deforested area through time than the deforestation rate. As the analysis is carried out retrospectively, deforestation increments can be redistributed over time. See Box 3 for more details.**

Due to the characteristics of the time series data (e.g., annual wall-to-wall assessments, adjustment for different dates between annual assessments), the use of annual adjusted deforestation increments (instead of the data from the National GHG Inventories that do not present annual estimates but consider annual average estimates for periods of time) is **considered to be the most accurate for the purposes of the FREL construction for the Amazon biome**.

Brazil assumes that the biomass immediately after the forest conversion is zero and does not consider any subsequent CO_2 removals after deforestation (immediately after the conversion or thereafter). This assumption is made since Brazil has a consistent, credible, accurate, transparent, and verifiable time-series for gross deforestation for the Legal Amazon, PRODES (and hence, for the Amazon biome). A study conducted by Adami et al. (2017)[10] analyzed the accuracy of PRODES data, taking the data for the year of 2014 for the state of Mato Grosso as an example. Independent random samples from the 2014 satellite images were classified by independent evaluators as forest or deforestation in 2014.

Results show a global accuracy of 94.5% ± 2.05, consistent with the high-level accuracy estimated by expert judgment in the FREL. Adami et al. (2017), did not use the adjusted increments of deforestation, since the focus of their study was on the accuracy of the deforestation increment mapping using satellite imagery. Since the same class of satellite data was used for the FREL construction, as well as the same deforestation definition and minimum mapping area, it is expected that the accuracy of the deforestation increment mapping is very close to that which resulted from Adami et al. (2017) study (94.5 ±2.05%).

INPE is currently working on a plan to assess the accuracy of PRODES data for the whole Legal Amazon region. PRODES maps will be compared against remotely sensed satellite data with finer spatial resolution. Recently, satellite data with resolution of up to 3 meters and frequency and coverage that are suitable for this type of accuracy assessment has become available. A sampling design is being constructed to define the number of high resolution maps and information that will be required for this assessment. High resolution data are not freely available, so a cost estimate is currently underway to define the scope of the assessment. This accuracy assessment methods are being tested for robustness and functionality to grant full capacity to operationalize accuracy on a yearly basis starting with the 2019 PRODES map. The resources received through this proposal will be in part used to support this plan in the process of the development of the national FREL by 2020.

Accuracy of emission factors

[10] ADAMI, M.; GOMES, A. R.; BELLUZZO, A. P.; COELHO, A. S.; VALERIANO, D. M.; RAMOS, F. S.; NARVAES, I. S.; BROWN, I. F.; OLIVEIRA, I. D.; SANTOS, L. B.; EDUARDO, L. A confiabilidade do PRODES: estimativa da acurácia do mapeamento do desmatamento no estado Mato Grosso. In: SIMPÓSIO BRASILEIRO DE SENSORIAMENTO REMOTO, 18. (SBSR), 2017, Santos. Anais... São José dos Campos: INPE, 2017. p. 4189-4196. Internet. ISBN 978-85-17-00088-1. IBI: .

Estimating the emission factors accuracy in the Amazon region is a complex task. The emission factors were developed based on RADAMBRASIL, with data collected in the 1970's. Brazil's is currently working on its First National Forest Inventory. The data collected in this process will allow Brazil to construct a new carbon map for the Amazon region, which will include an accuracy assessment. This information should be available at the time of submission of the national FREL by 2020.

The methodology used in the Second National GHG Inventory, based on the RADAM data resulted in large differences in biomass with respect to the other maps, and large changes in biomass between adjacent surveyed areas and regions (corresponding to different RADAM data sheets) within the map. Nevertheless "the large apparent disparities in biomass calculated for the carbon map were not propagated into CO_2 emissions as the deforestation front in the analysis had not advanced to these areas." Indeed, the analysis of the deforestation polygons (per volume and forest type) for years 2002 to 2005 have consistently shown that deforestation concentrates mainly in the so called "Arc of Deforestation", corresponding to RADAM volumes 4, 5, 16, 20, 22 and 26. In addition, even within these volumes, the forest types affected by deforestation have been very consistent.

More details related to the uncertainty assessment of emission factors and the carbon map can be found in Section B.1.2 (xv) of this proposal.

(viii) Sources of emissions: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to whether all activities listed in paragraph 70 of UNFCCC decision 1/CP.16 ('REDD-plus activities') that are a significant source of emissions were included. If they were not, justify whether activities that are significant sources of emissions were not included due to lack of data and/or whether the omission overestimates emissions or underestimate removals. Provide also a plan to include all data on all REDD-plus activities that are significant sources of emissions in future FREL/FRL submissions.*

The TAR stated that Brazil included the most significant activity (reducing emissions from deforestation) of the five activities identified in paragraph 70 of decision 1/CP.16, in accordance with national capabilities and circumstances.

The AT noted that the current exclusion of degradation appears to be conservative in the context of constructing the FREL.

Brazil explained that other systems are in place to track forest degradation and logging in forest management plans in the Amazon biome. Brazil has, through INPE, implemented since 2008 a system to assess the areas affected by degradation in the Amazon biome, using satellite imagery of the same spatial resolution as that used to assess deforestation increments (Landsat, up to 30 meters). This system, referred to as DEGRAD, provides detailed maps of areas under a degradation process. **The time series is still too short to allow a better understanding of the degradation process (more details were presented in Section B.1.1 of this proposal).** Brazil explained at the time of the assessment that it intended to improve this understanding with time, as new data becomes available, allowing for the future inclusion of degradation in the national FREL.

The AT noted that, based on the data currently available, degradation trends are not uniform; but overall, for the Amazon biome, there has been a decreasing trend in forest degradation in recent years. Based on the available information, the AT noted that, so far, there is no evidence of displacement of emissions (i.e. decreased deforestation in the Amazonia biome resulting in increasing degradation).

The AT acknowledged the intention expressed by Brazil to: (i) continue monitoring forest degradation to assess whether the reduction of deforestation is leading to an increase in forest degradation activities (displacement of emissions) and (ii) include emissions from degradation in future FREL submissions when new, adequate data and better information become available.

(ix) Significant pools: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the inclusion of the most significant pools. If applicable, justify whether significant pools were not included due to lack of data and/or the omission does not*

overestimate emissions or underestimate removals. In addition, provide a plan to include all significant pools in future FREL/FRL submissions.

Brazil's FREL for the Amazon biome included the pools "above-ground biomass", "below-ground biomass" and "litter", while "dead wood" and "soil organic carbon" are not included. These were the pools included in the carbon map from the Second National GHG Inventory, using information from RADAMBRASIL.

In assessing the pools and the gases included in the FREL, pursuant to paragraph 2(f) of the annex to decision 13/CP.19, **the AT acknowledged that Brazil included in the FREL the most significant pools in terms of emissions from forests.** The AT noted that the current omissions of pools and gases is likely to be conservative in the context of the FREL.

Soil organic carbon

Brazil explained in its FREL C (2018) that it has limited information on subsequent land-use after deforestation and its dynamics for the period considered in the FREL. However, Brazil mentioned two sources of information that were used as proxies to estimate the fate of soil carbon of the conversion from forest to other uses. First, there is the Second National GHG Inventory (2010) – the latest one at the time of the submission of the FREL, which includes data from a spatially explicit database for conversion to other lands from 1994 to 2002 per biome, including the Amazon. This source shows clearly that the main conversion in this period was from forest land to grassland (88.5 per cent). The second source of information is TerraClass, which estimated forest transitions for 2008 and 2010, according to which, the dominant conversion for 2008 and 2010 is again from forest land to grassland (approximately 80 per cent).

Given this information, Brazil carried out a literature review to assess the impact of forest conversions to pasture on soil organic carbon stocks. **This literature review indicated that, while generally there is a loss of carbon after the first years of conversion, the subsequent trend is strongly influenced by pasture management, with carbon levels under pasture being lower, similar to or even higher than those under native forests**. The soil depth and the timespan considered also influence this analysis. The conclusion by Brazil is that the **available literature has limitations and may not be representative of many situations that might occur in the Amazon biome**.

Area for future improvement: The AT identified the improvement in the understanding of soil carbon dynamics after the conversion of forest to non-forest as an area for future improvement of Brazil's REDD+ submissions to the UNFCCC. **The AT considered that the exclusion of soil organic carbon was adequately justified by Brazil and commended the efforts to obtain better information on this pool in the future, with the aim of including it as part of the step-wise approach.**

Brazil's response: In its FREL C (2018), Brazil stated that it plans to intensify efforts to better understand the dynamics of carbon in soils after conversion, including expanding the literature review and stimulating new research, bearing in mind that changes may not occur rapidly after the conversion and that they are dependent on pasture management.

Dead wood

Regarding emissions from dead wood, the AT requested clarification on the reasons for the omission of this pool. Brazil explained that the rationale behind the non-inclusion was the consideration that emissions from dead wood are not avoided when deforestation is reduced, as they are part of the natural process of decomposition (i.e. "the issue is related only to the time when the emissions are released").

The AT considered that when deforestation occurs, there are emissions from dead wood to the atmosphere that would need to be estimated. Furthermore, the AT noted that the IPCC good practice guidance for LULUCF provides a method for estimating carbon stock changes in dead wood (refer to chapter 3.4.1.2.1 for forest land converted to grassland: dead wood "should be assumed oxidized following land conversion") and the corresponding default emission factor (refer to table 3.2.2: 18.2 t C/ha for dead wood stock in tropical forests).

Area for future improvement: The AT noted that the current omissions of pools and gases is likely to be conservative in the context of the FREL. Nevertheless, the AT identified the treatment of emissions from dead wood (i.e. the inclusion of this pool or the provision of more information on the justification of its omission) as an area for future technical improvement.

Brazil's response: Following this recommendation, Brazil explained in more details the justification for the omission of dead wood pool in its FREL C (2018) submission. The Third National GHG Inventory (2016) included dead wood pool. The emission factors used in the Third National GHG Inventory for the Amazon biome were applied to the deforestation data from 2002 and 2015.

The effect of the carbon map in the Second and Third National GHG Inventory is presented in Table 9. Since the carbon map in the Third National GHG Inventory includes living biomass, litter and dead wood, the effect was assessed as follows:

(i) maintain the same carbon pools, i.e., excluding the dead wood pool from the carbon map in the Third National GHG Inventory; and
(ii) maintain the carbon map from the Third National GHG Inventory, with the four carbon pools.

In the Third National GHG Inventory, the percent contribution of the dead wood pool to the total biomass per hectare was discriminated for dense and non-dense forests. The mean ratios of the carbon in the dead wood pool to the carbon in dry biomass were estimated as 7.1% and 8.6% for dense and non-dense forests, respectively. Since the dead wood pool was included in the carbon map, together with living biomass and litter, a preliminary evaluation was made of the effect of the use of the carbon map in the Second and the Third National GHG Inventories with consideration of the same pools (living biomass and litter), as well as with the addition of the dead wood pool. The emission estimates have been generated from the deforestation increments and not from the adjusted deforestation increments. The results can be found on directory "Other relevant information and data" http://redd.mma.gov.br/en/infohub, file "WORKSHEET_FREL_C", rows 36 - 55, columns B – L.

Table 9. Differences in estimates from the Second and the Third National GHG Inventory

	t CO_2 II Inventory (living biomass and litter)	t CO_2 III Inventory (living biomass and litter)	% difference (II – III)[38]	t CO_2 III Inventory (living biomass, litter and dead wood)	% difference (II – III) with dead wood included
2001	914,948,218	937,847,755	2.50	1,030,601,928	12.64
2002	1,206,821,066	1,219,576,620	1.06	1,340,194,088	11.05
2003	1,509,152,483	1,516,114,474	0,46	1,666,059,861	10.40
2004	1,339,437,300	1,330,016,121	-0.70	1,461,556,177	9.12
2005	1,145,213,623	1,140,289,111	-0.43	1,253,064,957	9.42
2006	563,497,470	571,609,609	1.44	628,142,427	11.47

2007	588,196,437	597,720,394	1.62	656,835,597	11.67
2008	657,188,945	665,213,444	1.22	731,003,785	11.23
2009	354,487,621	347,810,179	-1.88	382,208,988	7.82
2010	341,843,471	340,429,142	-0.41	374,097,959	9.44
2011	310,756,848	303,414,099	-2.36	333,422,087	7.29
2012	226,677,963	224,889,100	-0.79	247,130,880	9.02
2013	282,107,626	278,471,430	-1.29	306,012,561	8.47
2014	268,450,749	266,352,017	-0.78	292,694,524	9.03
2015	328,223,858	319,749,663	-2.58	351,373,256	7.05
Mean	**669,133,578**	**670,633,544**	**-0.22**	**736,959,938**	**-9.68**

Source: FREL C submission, 2018

With the mean difference of less than 10%, Brazil considers that the dead wood pool is not a significant source of emissions and hence, does not include it in the FREL. Furthermore, by not including this pool, Brazil is being conservative with its estimates for the FREL.

(x) Emissions from gases: *Please provide any additional information that supplements the information contained in the Technical Assessment Report in relation to the inclusion of all gases that are significant sources of emissions. If not all of the gases were included, justify whether gases that are significant sources of emissions were not included due to lack of data and/or whether the omission overestimates emissions or underestimates removals. Provide also a plan to include all significant pools in future FREL/FRL submissions.*

Brazil's FREL for the Amazon biome includes CO_2 emissions. Non-CO_2 emissions in the Amazon biome are normally associated with the recurrent burning of tree residues left on the ground after deforestation activities. **The exclusion of non-CO_2 gases is conservative because a decrease of deforestation is associated with a decrease of non-CO_2 gases**.

Area for technical improvement: The AT considers the treatment of non-CO_2 gases as an area for future technical improvement to maintain consistency with the GHG inventory included in the national communication.

Brazil's response: Following this recommendation, Brazil presented in FREL C (2018) an analysis of the impact of non-CO_2 emissions of carbon monoxide (CO), methane (CH4), nitrous oxide (N_2O) and NOx for year 2010, included in the Third National GHG Inventory indicates the following emissions: 8,400 Gg; 549 Gg; 16 Gg; and 129 Gg, respectively. **Non-CO_2 emissions from deforestation in the Amazon biome are not available for other years and hence, the recalculation of the emission estimates to include non-CO_2 emissions would not be possible at this point.**

Estimation of emissions from fire resulting from deforestation is expected to be improved in the next National GHG Inventory, and if possible, non-CO_2 emissions from fire will be included in the national FREL, for the biomes where this is a significant source of emissions if consistency of the time-series can be assured and if deemed relevant.

(xi) IPCC guidance for FREL/FRL: *Please indicate if the whether the construction of the FREL/FRL (data, methodologies and estimates) was guided by 2003 GPGs or 2006 GLs.*

For the construction of the FREL of the Amazon biome, Brazil followed the methodological guidance contained in the IPCC Good Practice Guidance for Land Use, Land-use Change and Forestry (IPCC, 2003) as a basis for estimating changes in carbon stocks in forest land converted to other land-use categories, the same methodology used in the Second National GHG Inventory.

For any land-use conversion occurring in a given year, GPG LULUCF considers both the carbon stocks in the biomass immediately before and immediately after the conversion.

Brazil adopted approach 3 for land representation, meaning that all the land conversions and lands remaining in a same land-use category between inventories are spatially explicit.

(xii) Issues related to applying IPCC guidance: *Please mention any significant issues related to the application of IPCC GLs/GPGs as raised in the TA report. Include any significant issues that are material to the alignment with the methodologies of the IPCC GLs/GPGs that were raised in the TA report and whether significant issues were raised and resolved. If applicable, provide a plan to address and overcome issues raised in TA Report that were not material to the application of IPCC guidance and that couldn't be resolved due to time and data restrictions.*

As detailed in section B.1.1, (ix) of this proposal, the AT noted that the IPCC good practice guidance for LULUCF provides a method for estimating carbon stock changes in dead wood (refer to chapter 3.4.1.2.1 for forest land converted to grassland: dead wood "should be assumed oxidized following land conversion") and the corresponding default emission factor (refer to table 3.2.2 18.2 t C/ha for dead wood stock in tropical forests).

Area for technical improvement: The TA report considered the treatment of emissions from dead wood (i.e. the inclusion of this pool or the provision of more information justifying its omission) as an area for future technical improvement of the FREL.

Brazil's response: Considering that the mean difference with the inclusion of deadwood is less than 10%, Brazil considers that this pool is not a significant source of emissions. Furthermore, by not including this pool, Brazil is being conservative on its estimates for the FREL.

B.1.2. Additional criteria related to FREL/FRL

(xiii) Reference period for the FREL/FRL: *Please indicate the reference period (number of years) applied for the construction of the FREL/FRL.*

The reference period used by Brazil in the construction of the FREL for the Amazon biome was 1996 to 2010, a total of 15 years.

(xiv) If previous reference level submitted: *Please indicate whether a previous reference level applying to the same area was submitted. If so, describe the difference between the emissions and removals used for the previous one and the current one. Describe any adjustments made to the current FREL/FRL compared to the previous one, if applicable.*

The FREL for the Amazon biome (FREL A and B) was the first reference level submitted to the UNFCCC in the context of results-based payments. This submission, in June of 2014, came right after the rules and procedures for the implementation of the Warsaw Framework for REDD-plus had been agreed upon by Parties in December of 2013 at COP 19. No previous reference levels had been submitted to the UNFCCC by any Party before that.

Even though REDD+ UNFCCC decisions do not require developing countries to be conservative in their approach to construct their FREL/FRL, Brazil's FREL for the Amazon biome included an adjustment downwards every five years. FREL B (object of this proposal) is lower than FREL A. This downwards adjustment was included in Brazil's FREL methodology to reflect the progress made in the implementation of policies and measures to reduce deforestation in the Amazon region since 2005.

In 2018, Brazil submitted to the UNFCCC an updated FREL (FREL C) for the Amazon biome so that results from 2016 to 2020 could be measured. FREL C includes new data for years up to 2015 and more detailed information about ongoing processes to continuously improve the REDD-plus technical submissions towards building a national FREL by 2020.

(xv) Uncertainties: *Please indicate whether the country has provided information on aggregated uncertainties of the emissions or removals estimate, considering national capabilities and circumstances, and if so, indicate the percentage of aggregate uncertainties and provide information on assumptions and sources. If applicable, indicate the process implemented to minimize systematic and random errors.*

The AT commended Brazil for the information provided in the revised FREL submission on ongoing efforts to estimate carbon densities, including detailed information on uncertainties.

There is a low level of uncertainty associated with the activity data used for the construction of the FREL for the Amazon biome. The definition of deforestation adopted for PRODES and maintained in the FREL (i.e., clear cut), in conjunction with the annual wall-to-wall assessment of deforestation based on satellite imagery of high spatial resolution (up to 30 meters) allows deforestation polygons to be identified and mapped with very high accuracy. No ground-truth is required for the Amazon biome since there is an unequivocal identification, based on visual interpretation, of the clear-cut patches in the Landsat imagery from one year to another. Only new polygons of deforestation are mapped each year on the aggregated deforestation map containing deforestation up to the previous year.
Brazil is working to develop a protocol for accuracy assessment of PRODES data, which will significantly reduce the uncertainties associated with the activity data estimates. These efforts are described in section B.1.1 (vii) of this proposal.

The literature on uncertainties indicates that the largest uncertainties for REDD+ activities relate to the spatial distribution of biomass and to the spatial pattern of forest cover change, rather than to total globally or nationally summed carbon density[11].

Uncertainties associated with the carbon map may arise from the allometric equation. It is recognized that the application of the allometric equation developed for a specific area of the Amazon biome may increase the uncertainties of the estimates when applied to other areas. In this sense, the work by Nogueira et al. (2008)[12] tested three allometric equations previously published and developed for dense forest in Central Amazon (CA): Higuchi et al. (1998), Chambers et al. (2001)[13] and Silva (2007). All three equations developed for CA tend to overestimate the biomass of the smaller trees in South Amazon and underestimate the biomass of the larger trees. Despite this, **the total biomass of the sampled trees estimated using the equations developed for CA was like those obtained in the field (-0,8%, -2,2% e 1,6% for the equations from Higuchi et al., 1998; Chambers et al., 2001 and Silva, 2007, respectively, due to the compensation of under and over-estimates for the small and larger trees.** However, when the biomass per unit area is estimated using the equations developed for the CA, the estimates were 6.0% larger for the equations from Higuchi et al. (1998); 8.3% larger for Chambers et al. (2001); and 18.7% for Silva (2007). More details on the choice of allometric equation were presented in Box 4 above.

Other sources of uncertainty in the REDD+ estimates include: (1) data collection, sampling design; (2) aggregated forest type; (3) rules used to estimate the carbon density of the forest types per RADAMBRASIL volume. **It is difficult to associate uncertainties to most of these elements.** RADAMBRASIL data, for instance, was collected under strenuous circumstances in the 1970s, by different teams. Also, by that time the technologies that exist today were not available or accessible (GPS, for example). The aggregation of the diverse forest types in the Amazon forest classes may also generate uncertainties, but these are difficult

[11] Edward TA Mitchard, Sassan S Saatchi, Alessandro Baccini, Gregory P Asner, Scott J Goetz, Nancy L Harris and Sandra Brown. Uncertainty in the spatial distribution of tropical forest biomass: a comparison of pan-tropical maps (2013).
[12] NOGUEIRA. E.M., FEARNSIDE, P.M., NELSON, B.W., BARBOSA, R.I., KEIZER, E.W.H., 2008. Estimates of forest biomass in the Brazilian Amazon: New allometric equations and adjustments to biomass from wood-volume inventories. Forest Ecology and Management 256, 1853-1867.
[13] CHAMBERS, J.Q., SANTOS, J., RIBEIRO, R.J., HIGUCHI, N., 2001. Tree damage, allometric relationship, and above-ground net primary production in central Amazon forest. Forest Ecology and Management 152, 73-84.

to access without a NFI. **This is one area where improvements may be expected in the medium term, with the completion of Brazil's first NFI. The new data will be used a basis for Brazil's national FREL submission by 2020.**

Estimating the uncertainty associated with the carbon map is extremely complex. There are several carbon maps for the Amazon biome published in the literature. Most of them constructed using satellite data, including the airborne LIDAR data and plot information. Some incorporate only aboveground biomass, whereas others include living biomass and other pools. The accuracy of the map can be assessed in case adequate and representative ground datasets for calibration are available. This may exist in some areas in Amazon but do not exist for the entire Amazon biome.

A paper (Ometto et al., 2014) [14] examines the influence of the use of different biomass maps for the Amazon biome on uncertainty in carbon emission calculations due to land cover change in recent years and in future scenarios. Five maps are compared (Saatchi et al. (2007; 2011); Nogueira et al. (2008); MCT (2010); and Baccini et al. (2012). Some results indicate that the map used in the FREL (MCT (2010) and that from Nogueira et al. (2008) have similar spatial distribution of the biomass density classes. The paper indicates that the methodology used in the Second National GHG Inventory, based on the RADAM data resulted in large differences in biomass with respect to the other maps, and large changes in biomass between adjacent surveyed areas and regions (corresponding to different RADAM data sheets) within the map.

It concludes that the methodology used to construct the carbon map, based on the RADAM data (1: 1,000,000) "resulted in large differences in biomass with respect to the other maps, and large changes in biomass between adjacent surveyed areas and regions (corresponding to different RADAM volumes) with the carbon map." And continues to say that "the large apparent disparities in biomass calculated for the carbon map were not propagated into CO_2 emissions as the deforestation front in the analysis had not advanced to these areas." Indeed, the analysis of the deforestation polygons (per volume and forest type) for years 2002 to 2005 have consistently shown that deforestation concentrates mainly in the so called "Arc of Deforestation", corresponding to RADAM volumes 4, 5, 16, 20, 22 and 26. In addition, even within these volumes, the forest types affected by deforestation have been very consistent.

The REDD-plus decisions under the UNFCCC value the continuous update and improvement of relevant data and information over time. **Work is underway as part of the process of development of Brazil's first NFI, to assess and reduce uncertainties. Brazil will contribute to improve the data for the construction of national FREL.**

[14] Ometto, J.P.; Aguiar, A.P.; Assis, T.; Soler, L.; Valle, P.; Tejada, G.; Lapola, D.M.; Meir, P. Amazon forest biomass density maps: tackling the uncertainty in carbon emission estimates. Climatic Change (2014) 124:545-560. DOI 10.1007/s10584-014-1058-7.

(xvi) Please indicate whether different FREL/FRLs have been used for different funding sources or other purposes, and if so, list and describe them.

The Amazon Fund Baseline (2008)

The Amazon Fund is a REDD-plus mechanism created by Brazil in 2008 (Federal Decree n 6527/ 2008) to raise donations for non-reimbursable investments in efforts to prevent, monitor and combat deforestation, as well as to promote the preservation and sustainable use in the Brazilian Amazon. The Amazon Fund is managed by BNDES, the Brazilian Development Bank, which is responsible for raising and investing funds, monitoring the projects supported, rendering accounts and communicating results obtained. The main donors of the Amazon Fund are the governments of Norway and Germany, and the Brazilian company Petrobras.

The Amazon Fund has a Guidance Committee − COFA, responsible for establishing guidelines and monitoring the results obtained; and a Technical Committee − CTFA, in charge of certifying the calculations made by the MMA concerning the reductions of carbon emissions from deforestation. Every year the MMA estimates these emissions using a **baseline and method** (see Table 10 for more information) that were bilaterally agreed upon and included in the Amazon Fund Project Document **before the UNFCCC rules for the MRV for REDD-plus were agreed upon in 2013 with the adoption of the Warsaw Framework for REDD+ in COP 19.**

The Amazon Fund baseline utilizes a conservative carbon content and does not correct for cloud coverage. It is based on an average carbon content rather than the emission factor being derived from the carbon map. The Amazon Fund baseline differs in terms of pools and carbon content to Brazil's Second National GHG Inventory and Brazil's REDD+ FREL to the UNFCCC. The Amazon Fund method to estimate results from reducing emissions from deforestation does not fulfill all the guidance and modalities established by the Warsaw Framework for REDD+ in 2013. This conservative approach adopted for the Amazon Fund through a bilateral agreement was justified by the need to more easily communicate and inform the public about the climate change mitigation impact of reducing deforestation.

The idea was to have a proof of concept of the potential impact that REDD-plus could have as a finance mechanism to incentivize forest conservation in developing countries. The Amazon Fund has been successful showing the world how effective REDD-plus can be. The general concept of this bilateral agreement was the basis for the logic that created the Warsaw Framework for REDD-plus.

Table 10 provides a detailed comparison of the elements used in the Amazon Fund baseline and Brazil's REDD+ reference level for the Amazon biome.

Table 10. Amazon Fund baseline vs Brazil's FREL to the UNFCCC

Elements	Amazon Fund Baseline	Brazil's FREL for REDD-plus under the UNFCCC
Area	Legal Amazon region 5,217,423 km^2	Amazon biome 4,197,000 km^2
REDD+ activity	Reducing emissions from deforestation	Reducing emissions from deforestation
Activity data	PRODES Annual deforestation rate[15]	PRODES Adjusted deforestation increments[16]

[15] See detailed explanation in Box 3 of this funding submission. The PRODES methodology to annualize observed deforestation and to consider unobserved areas due to cloud cover is not directly verifiable unless all the estimates are adjusted backwards.
[16] See detailed explanation in Box 3 of this funding proposal. The use of the adjusted deforestation increments to estimate the gross deforestation area and associated gross emissions is appropriate for the purposes of REDD-plus, since the areas covered by clouds in the Amazon biome were significant and non-consideration of deforestation under clouds could result in an underestimation of the annual emissions.

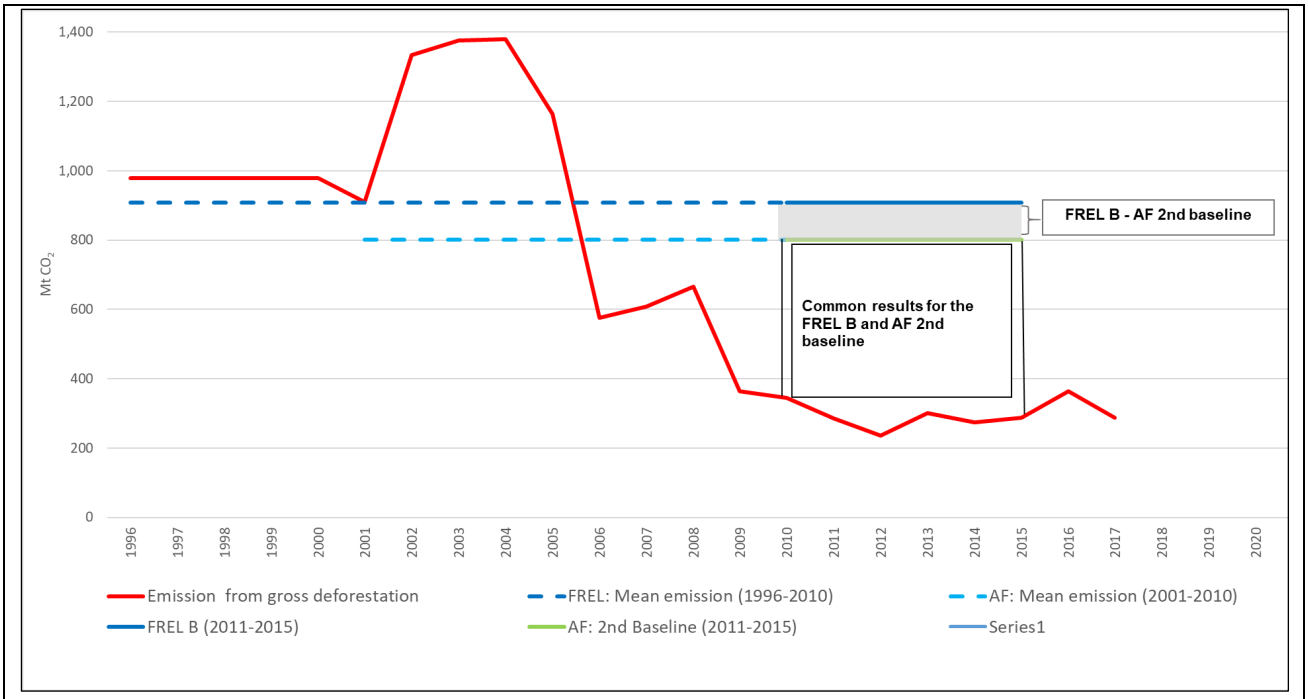
Emission factor	The carbon content was defined as an average for the whole Legal Amazon region. From 2006 to 2010: 100tC/ha[17] From 2011 to 2014: 132,3tC/ha[18] OBS: These are extremely conservative values considering the average carbon content presented in the literature for the Amazon region, which corresponds to 320 tC/ha.	Brazil adopted Approach 3 for land representation (spatially explicit) to increase the accuracy of its REDD-plus estimates. The carbon stocks of the different forest types in the Amazon biome was combined with sample-plot information from Brazil's carbon map (RADAMBRASIL), allometric equations and data from the Second National GHG Inventory. OBS: As a reference for comparing values, the FREL mean average carbon content for the Amazon biome is 151.6 tC/ ha. This average was not used for the FREL estimates.
Years included	Average of previous 10 years of deforestation rates (in ha), updated every five years, as follows: 1) 1996-2005, for results achieved between 2006 and 2010; 2) 2001-2010, for results achieved between 2011 and 2015. This is a moving 10-year average, with the base year changing every five years.	Dynamic mean of historical carbon dioxide emissions (in tCO_2) from gross deforestation in the Amazon biome since 1996, updated every five years, using data from the INPE/MCTIC, as follows: 1) 1996-2005, for results achieved between 2006 and 2010 (10 years); 2) 1996-2010, for results achieved between 2011 and 2015 (15 years).
Results estimate for 2014-2015	For year 2014 = 558,786,690.00 tCO_2e For year 2015 = 500,817,240.00 tCO_2e **Total = 1,059,603,930.00 tCO_2e**	For year 2014 = 634,367,865.74 tCO_2e For year 2015 = 620,295,262.00 tCO_2e **Total = 1,254,663,127.74 tCO_2e**
Difference (%)	For year 2014 = 11.9% For year 2015 = 19.2% Total (2014 – 2015) = 15.5%	
% offered to the GCF	**The total of 25,093,262.55 tCO_2e that will be offered by Brazil to the GCF in this proposal corresponds to 2.36% of the total results estimated using the baseline of the Amazon Fund and 2% of the total results estimated using the UNFCCC FREL for years 2014 and 2015.**	

Source: Amazon Fund project document and REDD+Brasil

The Figure 4 is a pictorial representation of the difference between the Amazon Fund baseline and the reference level for the results period included in this proposal.

The 2% of total REDD-plus results achieved by Brazil and offered to the GCF in this proposal (2014-2015) is very conservative, it falls well below both the Amazon Fund baseline and the reference level**. It corresponds to 2.36% of the total results attested by the Amazon Fund Technical Committee (CTFA) in years 2014 and 2015.** Figure 4. Pictorial representation of the differences between the Amazon Fund baseline and Brazil's FREL to the UNFCCC for years 2014 and 2015.

[17] As stated in the Amazon Fund project document this was extremely conservative value considering the average carbon content presented in the literature for the Amazon region, which corresponds to 320 tC/ha. This was defined bilaterally for the Amazon Fund to ease the computation method and understanding of the public.
[18] This change was recommended by the Technical Committee to the Amazon Fund (CTFA) to ensure some level of consistency between the Amazon Fund the Brazil's National Climate Change Policy.



Source: Amazon Fund project document and REDD+Brasil

After launching its ENREDD+ and establishing the CONAREDD+, responsible for coordinating and monitoring the implementation of ENREDD+, the Brazilian government started working with donors to fully integrate the Amazon Fund into Brazil's national REDD-plus scheme.

The eligibility of the BNDES/ Amazon Fund to access REDD-plus results-based payments achieved by the country and recognized by the United Nations Framework Convention on Climate Change was recognized in the Federal Decree n.8576/2015 that created the CONAREDD+.

All the results paid for through the Amazon Fund have already been recognized by the CONAREDD+ and inserted both into the Info Hub Brasil and the Lima REDD-plus Information Hub, independently of the methodological differences mentioned above, **but providing the information that were different methods**[19].

The CONAREDD+ is also working through its Thematic Advisory Body on Safeguards to include all information on safeguards from the Amazon Fund into Brazil's Safeguards Information System for REDD-plus (SISREDD+) and integrate the BNDES processes with the national process to address and respect all the Cancun safeguards.

Lastly, **the MMA, with the assistance from the Working Group of Technical Experts on REDD+, is also working to provide the conditions for the alignment of the Amazon Fund with Brazil's national MRV scheme for REDD-plus.**

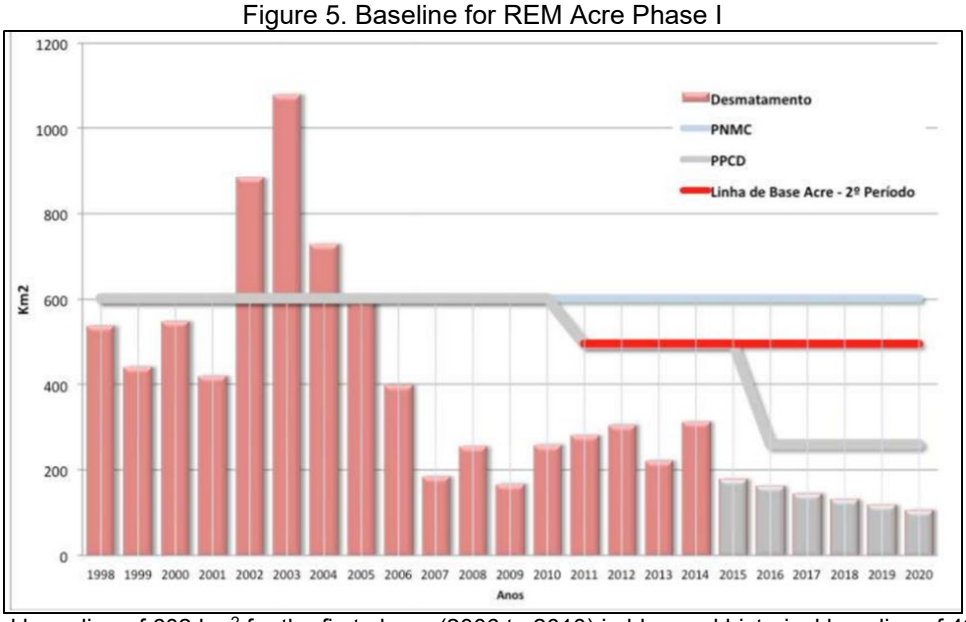
REDD+ for early movers (REM) and Acre (2012)

In 2012, the State of Acre developed its own methodology to account for reducing emissions from deforestation (see Figure 5). The Acre Carbon Standard - ACS was the tool used to guide the Phase I of the REM Acre Program. The ACS is considered conservative and has a historical baseline. Emission reductions

[19] See the explanatory note provided in Lima REDD+ Info Hub (https://redd.unfccc.int/files/explanatory_note_norways_payments_to_brazil-20180301.pdf).

were estimated using an average carbon biomass (123 tCO_2e / ha) and verified by the SISA Scientific Committee.

Figure 5. Baseline for REM Acre Phase I



Note: Historical base line of 602 km^2 for the first phase (2006 to 2010) in blue and historical baseline of 496 km^2 for the second phase (2011 to 2020) in red.
Source: Markit, 2018.

In 2014, Brazil submitted to the UNFCCC its FREL for the Amazon biome. After establishing the CONAREDD+, responsible for coordinating and monitoring the implementation of the ENREDD+, the federal government started working with Acre and donors to fully integrate the REM into Brazil's national REDD-plus scheme.

The eligibility of the State of Acre to access results-based payments has been approved by the CONAREDD+ through Resolution n.10 of December 7th, 2017. The CONAREDD+ allocated 2% of the total REDD-plus results achieved between 2011 and 2015 to the State of Acre for fundraising. The payments made through REM have been discounted from Acre's total limit. The GCF payments will be discounted from the federal government total limit (40% of the total results). Hence, there is no risk of double payment.

The FREL is the basis for accounting for the REM Acre Phase II Program. Similarly, the REM Acre Phase II Program will also be supported by the next REDD + safeguards summaries sent to the UNFCCC, in accordance with the Warsaw Framework for REDD-plus and other decisions under the UNFCCC, which will successively integrate the sub-national information generated by SISA with the support of the Program REM Acre Phase II.

B.2. REDD-plus Results reporting

Please provide link to the BUR technical annex containing REDD+ results:
https://unfccc.int/sites/default/files/resource/BUR2-ING-02032017_final.pdf

Please provide link to the UNFCCC Technical Analysis Report:
https://unfccc.int/resource/docs/2017/tatr/bra.pdf

B.2.1. UNFCCC Technical Analysis

(i) Consistency of results with FREL/FRL: *Please provide any additional information that supplements the information contained in the Technical Analysis Report in relation to the consistency of the reported results in the technical annex to the BUR with the FREL/FRL (including the inclusion of same pools, activities and gases).*

The LULUCF experts noted that Brazil has ensured overall consistency between the FREL and the estimation of results from the implementation of the activity reducing emissions from deforestation in the Amazon biome during the period 2011–2015. This includes:

(a) Using consistent methodologies and data to generate activity data on gross deforestation of primary forests, in particular the same forest monitoring system (the PRODES), which detects deforestation as areas with a clear-cut pattern; using the same approach (adjusted deforestation increments) to assess the deforestation area for each year; using the same minimum mapping unit (6.25 ha); and using a spatially explicit identification system for identifying deforestation;

(b) Using consistent methodologies and data to generate emission factors, the same carbon map and the same stratification of primary forest of the Brazilian Amazon biome into 22 different forest types with different carbon stocks depending on forest type and location;

(c) Including the same three carbon pools: above-ground biomass, below-ground biomass and litter;

(d) Including the same gases: CO_2 only;

(e) Covering the same area of primary forests: the Brazilian Amazon biome of approximately 4,197,000 km^2;

(f) Using the assumption that all carbon from the three carbon pools is lost in the year of the deforestation event and not including any subsequent removals of CO_2 in the area;

(g) Using a forest definition that is fully consistent with the forest definition used for the construction of the FREL.

In view of the above, the LULUCF experts concluded that the presentation of the results from the implementation of the activity reducing emissions from deforestation is consistent with the assessed FREL for the Amazon biome.

The LULUCF experts commended Brazil for ensuring full consistency of the data and methodologies described in the FREL for the years 1996–2010 and in the technical annex with the results from the implementation of the activity reducing emissions from deforestation for the years 2011– 2015.

(ii) Transparency of the data: *Please provide any additional information that supplements the information contained in the Technical Analysis Report in relation to the transparency of the data and information provided in the technical annex (i.e. whether information has been provided to provide an understanding of how UNFCCC guidance on results reporting has been addressed). Include information on significant issues raised in the Technical Analysis Report and whether these were raised and resolved. If applicable, provide a plan on how to address and overcome issues raised in the Technical Analysis Report, that were not material to the transparency of the data on results and that could not be resolved due to time and data restrictions.*

The TAR states that the data and information provided in Brazil's REDD+ Technical Annex to the 2nd BUR, containing results achieved reducing emissions from deforestation in the Amazon biome between 2011 and 2015, are transparent, consistent, complete and accurate to the extent possible.

The LULUCF experts commended Brazil for its efforts to increase the transparency of the data and information provided.

Brazil created a guide on its website (www.redd.mma.gov.br) to facilitate stakeholders' free access to the information and data used by REDD-plus technical submissions to the UNFCCC for the Amazon biome. The steps included in this guide for accessing information and data used for all REDD+ technical submission for the Amazon biome are detailed below.

Step 1. Submissions for download

Brazil's 1st submission of a forest reference emission level for deforestation in the Amazonia biome (FREL A and B)
1st Technical Annex pursuant to decision 14/CP.19 (1st Biennial Update Report of Brazil - submitted in December 2015)
2nd Technical Annex pursuant to decision 14/CP.19 (2nd Biennial Update Report of Brazil - submitted in February 2017)
Brazil's submission of a forest reference emission level for deforestation in the Amazonia biome for results achieved between 2016 and 2020 (FREL C – submitted in January 2018)

Step 2. Access to the data and information repository
The link http://geoweb.funcate.org.br/frelamazonia presents the data used in the calculation of emissions from gross deforestation year by year, components of the forest reference emission level. Use the following log in detail to access:

Username: frelamazonia
Password: fr3lr34d0nly

Step 3. Folders included
Click here for more details on data and information

Deforestation polygons
This folder presents items 1 to 7 of those listed under Section 6 of the REDD+ Technical Annex to the 2nd BUR "Necessary information that allows for the reconstruction of the results".

Deforestation under cloud cover
This folder presents information and data regarding deforestation under cloud cover and the calculation of the adjusted deforestation increment (WORKSHEET-PLANILHA-CALCULO.xlsx). The information presented also allows the calculation of the adjusted deforestation increment for years 2011, 2012, 2013, 2014 and 2015. The content of this folder covers the items 7 and 9 of Section 6 of the REDD+ Technical Annex "Necessary information that allows for the reconstruction of the results".

Other relevant information and data
This folder contains other relevant information, related to the process of developing the FRELs for the Amazon biome and the 1st and 2nd Technical Annexes, as well as **a simple guide to the calculation of the adjusted deforestation increment.**

Step 4. Complementary information on deforestation monitoring and the processing of images
TerraAmazon
A GIS tool developed by the National Institute for Space Research (INPE) to handle vectoral data using multi-temporal satellite images. It is the software used in the processing of images required for the calculation of the FREL.

Access TerraAmazon

Deforestation Monitoring System
Access the annual deforestation rates according to PRODES
Caveat: Only data referring exclusively to the Brazilian Amazon biome have been used to calculate the reference level submitted by Brazil. The limits of the biome and of the Legal Amazon region differ substantially. The Legal Amazon region covers three different biomes: the whole of the Brazilian Amazon biome, 37% of the Cerrado biome and 40% of the Pantanal.

CBERS images
The deforestation data for the Amazon, produced by PRODES, is based on information obtained from images by China-Brazil Earth Resources Satellite (CBERS) satellites.
Access the CBERS image bank

Beyond the transparency of information and data used in the construction of the FREL and of the REDD+ technical Annex to the BUR, the LULUCF experts also noted that Brazil provided a description of the forest monitoring system and a summary of the institutional roles in and responsibility for the measurement, reporting and verification of the results in the technical annex, together with weblinks for accessing further information. **The LULUCF experts found that the roles and responsibilities of the agencies and institutions involved were transparently reported.**

The LULUCF experts noted that the estimation of results from the implementation of the activity reducing emissions from deforestation of primary forests in the Amazon biome has been undertaken using well-established sources of data and a transparent and consistent methodological approach, as with the assessed FREL for 1996–2010.

Brazil has a consistent, reliable, credible, accurate, transparent and verifiable historical time series for annual gross deforestation in the Legal Amazon (and, consequently, for the Amazon biome). PRODES is part of a larger program (Amazon Program) developed at the INPE/ MCTIC to monitor gross deforestation in areas of primary (natural) forest in the Legal Amazon through use of satellite imagery**.** Since 2003, INPE began to publish the annual rate of deforestation online, together with all the satellite imagery used and the maps with the observed deforestation polygons, ensuring complete transparency of the deforestation estimates and access by the general public.

Approximately 215 Landsat 5/7/8 scenes (or similar data, as for instance, from CBERS/CCD, ResourceSat/LISS3 and DMC) are annually available and each scene is accompanied by the respective mapping of the observed deforestation in that year and previous one.

INPE continuously improves its tools to better manage large-scale projects such as PRODES. Its latest development, the TerraAmazon, is a system that manages the entire workflow of PRODES, annually storing approximately 600 images (e.g., Landsat, CBERS, DMC, ResourceSat). It performs geo-referencing, pre-processing and enhancement of images for subsequent analysis in a multi-task, multi-processing environment. The database stores and manages approximately 4 million polygons.

PRODES, which for decades has generated reliable deforestation data for the Amazon, is key in the context of expanding land cover monitoring to the other Brazilian biomes. The Project, open coded and evaluated by national and international experts, ensures the quality of the data used by Brazil on its REDD-plus submissions.

The LULUCF experts commended Brazil for its significant long-term efforts to build up a robust NFMS that can provide data for transparent estimation of emissions from deforestation.

(iii) Completeness of the data: *Please provide any additional information that supplements the information contained in the Technical Analysis Report in relation to the completeness of the data and information provided in the technical annex (i.e. whether information has been provided that allows for the reconstruction of the results). Include information on significant issues raised in the Technical Analysis Report and whether these were raised and resolved. If applicable, provide a plan on how to address and overcome issues raised in the Technical Analysis Report, that were not material to the completeness of the data on results and that could not be resolved due to time and data restrictions.*

For REDD-plus purposes, complete information means the provision of data that allows for the reconstruction of the FREL and the REDD-plus results.

The links to the database and the information that allows for the reconstruction of the results are listed in Section b.1 of the FREL for the Amazon biome and have been detailed in previous sections of this proposal.

A list with the 9 elements that allow for the reconstruction of Brazil's REDD+ results for years 2014 and 2015 is presented in the REDD+ Technical Annex (see below) and made available at Info Hub Brasil:

1. Satellite imagery used in the identification of deforestation polygons in the Amazon biome, from 1996 to 2015. The images (approximately 220 per year) are made publicly available by INPE.

2. Accumulated deforestation polygons until 1997 (inclusive) presented in a map hereinafter referred to as the digital base map (for more details, see Part I of Annex I of the FREL).

3. Accumulated deforestation polygons for years 1998, 1999 and 2000 are presented in the digital base map.

4. Annual deforestation polygons (annual maps) for the period from 2000 to 2005.

5. Annual deforestation polygons (annual maps) for the period 2006-2010.

6. Annual deforestation polygons for the period 2011 a 2015.

7. Information regarding deforestation under cloud cover and calculation of the adjusted deforestation increment.

8. Map with the carbon stocks for the different types of forest in the Amazon biome (Carbon Map), consistent with that used in the Second National GHG Inventory, the most recent at the time of the FREL was constructed.

   IMPORTANT NOTE 1: All the maps listed under (2), (3) and (4) above are available in shapefile format (.shp), ready to be incorporated in a Geographical Information System for analysis. All the satellite images cited in (1) above are available in full resolution in format GeoTIFF at INPE's site. Any specific deforestation polygon can be verified using the corresponding satellite image.

   IMPORTANT NOTE 2: The maps cited in (2), (3) and (4) above are a subset of the maps produced by INPE for PRODES (for more information access http://www.obt.inpe.br/prodes/index.php, Portuguese only) and refer only to the Amazon biome, object of this submission. The information in (2) and (3) above is available as a single file.

9. Information that allows the calculation of the adjusted deforestation increment for years 2011, 2012, 2013, 2014 and 2015.

The LULUCF experts noted that, as part of the TA process, Brazil provided additional information, on:

(1) adjusted increments of deforestation related to cloud-covered areas;
(2) territorial forest area covered;
(3) plans for continued improvements and potential future FREL submissions;
(4) how to reconstruct the results for 2011–2015;
(5) possible displacement of emissions; and
(6) uncertainty assessment.

The LULUCF experts commend Brazil for its efforts to increase the transparency of the data and information provided and **ensure the completeness of the data and information provided, allowing for the reconstruction of the results.**

The LULUCF experts consider that the data and information provided in the technical annex are transparent, consistent, complete and accurate to the extent possible.

(iv) Consistency of the data: *Please provide any additional information that supplements the information contained in the Technical Analysis Report in relation to the consistency of the data and information provided in the technical annex (i.e. data and methodologies were applied consistently over the results time series). Include information on significant issues raised in the Technical Analysis Report and whether these were raised and resolved. If applicable, provide a plan on how to address and overcome issues raised in the Technical Analysis Report, that were not material to the consistency of the data on results and that could not be resolved due to time and data restrictions.*

The LULUCF experts found that the data and information provided in the technical annex are consistent with the guidelines referred to in paragraph 11 of decision 14/CP.19.

Brazil provided data and information on all the elements according to the guidelines contained in the annex to decision 14/CP.19, namely: summary information from the final report containing the assessed FREL; results in tCO_2 per year, consistent with the assessed FREL; a demonstration that the methodologies used to produce the results are consistent with those used to establish the assessed FREL; a description of forest monitoring systems and the institutional roles in and responsibilities for measuring, reporting and verifying the results; necessary information that allows for the reconstruction of the results; and a description of how the elements contained in decision 4/CP.15, paragraph 1(c) and (d), have been taken into account.

In the TAR for the REDD-plus Technical Annex, the **LULUCF experts noted that the estimated results from the implementation of the activity reducing emissions from deforestation for the period 2011–2015 were consistent in terms of sources for the activity data and emission factors with the GHG inventory included in Brazil's SNC to the UNFCCC.** Additionally, the LULUCF experts noted that Brazil provided additional data for the years 1996–2010 on adjusted increments of deforestation to avoid overestimating or underestimating emissions due to the non-observation of potential deforestation polygons in areas covered by cloud.

In the technical annex, Brazil provided information on how the annual increments of deforestation in the period 2011– 2015 were adjusted, **consistent with the method adopted in the construction of the FREL**. Table 11 provides details about these small differences after the adjustment was applied.

Table 11. Difference between the emissions calculated from the observed increments of deforestation (emission) and from the adjusted increments of deforestation (adjusted emission) for the periods 1996-2010 and 1996-2015

	FREL (B) - MEAN 1996 - 2010			FREL (C) - MEAN 1996 - 2015	
	EMISSION (tCO_2)	ADJUSTED EMISSION (tCO_2)		EMISSION (tCO_2)	AJUSTED EMISSION (tCO_2)
1996	979,523,413.88	979,523,618.48	1996	979,523,413.88	979,523,618.48
1997	979,523,413.88	979,523,618.48	1997	979,523,413.88	979,523,618.48
1998	979,523,413.88	979,523,618.48	1998	979,523,413,88	979,523,618.48
1999	979,523,413.88	979,523,618.48	1999	979,523,413.88	979,523,618.48
2000	979,523,413.88	979,523,849.37	2000	979,523,413.88	979,523,849.37
2001	908,964,139.89	908,964,575.38	2001	908,964,139.89	908,964,575.38
2002	1,334,457,456.93	1,334,458,298.72	2002	1,334,457,456.93	1,334,458,298.72
2003	1,375,223,214.70	1,375,224,078.19	2003	1,375,223,214.70	1,375,224,078.19
2004	1,380,140,945.68	1,380,142,199.34	2004	1,380,140,945.68	1,380,142,199.34
2005	1,163,873,339.68	1,163,879,134.73	2005	1,163,873,339.68	1,163,879,134.73
2006	576,097,126.38	576,136,731.11	2006	576,097,126.38	576,136,731.11
2007	608,266,397.26	609,101,478.18	2007	608,266,397.26	609,101,478.18
2008	666,005,315.39	669,215,058.08	2008	666,005,315.39	669,215,058.08
2009	364,340,477.19	373,066,456.69	2009	364,340,477.19	373,066,456.69
2010	344,406,512.43	362,507,086.87	2010	344,406,512.43	362,507,086.87
TOTAL 1996 - 2010	13,619,391,994.9	13,650,313,420.55	2011	285,353,855.18	285,353,855.18
MEAN	907,959,466.33	910,020,894.70	2012	236,684,154.44	236,684,154.44
	DIFFERENCE	2,061,428.37	2013	301,847,850.91	301,847,850.91
	% DIFFERENCE	0.227039692	2014	273,591,600.59	273,591,600.59
			2015	287,664,204.33	287,664,204.33
			TOTAL 1996-2015	15,004,533,660.3	15,035,455,086.00
			MEAN	750,226,683.02	751,772,754.30
			DIFFERENCE		1,546,071.28
			% DIFFERENCE		0.206080551

Source: REDD+ Technical Annex to Brazil's 2nd BUR, 2014

(v) Accuracy of the data: *Please provide any additional information that supplements the information contained in the Technical Analysis Report in relation to the accuracy of the data and information provided in the technical annex (i.e. whether it neither over- nor under-estimates emissions and/or removals). Include information on significant issues raised in the Technical Analysis Report and whether these were raised and resolved. If applicable, provide a plan on how to address and overcome issues raised in the Technical Analysis Report, that were not material to the accuracy of the data on results and that could not be resolved due to time and data restrictions.*

The TATR of Brazil's REDD+ Technical Annex for results achieved in 2014 and 2015 concluded that these results are accurate to the extent possible, based on the activity data, emission factors, methodologies and assumptions used, which are consistent with the assessed FREL for the Amazon biome.

The LULUCF experts noted that Brazil uses a wall-to-wall approach for accurately tracking gross deforestation of primary forests over time. This ensures that only gross deforestation of primary forests is included in the estimates.

The increments of deforestation were adjusted to avoid the overestimation or underestimation of emissions from deforestation due to the non-observation of potential deforestation polygons in areas covered by cloud, enhancing the accuracy of the data.

Brazil explained that it is possible that the results for 2011–2015 will need some adjustment due to cloud-covered areas being detected in images after 2016. **The risk of such adjustments is nevertheless minimal because it now uses new technology with more images and with a longer observation window.** The LULUCF experts commended Brazil for the clarification provided and encourage Brazil to

provide such clarification on adjustment of estimates for cloud-covered areas in future FREL and results submissions.

The LULUCF experts noted that **Brazil has continued to develop its NFMS and made remarkable progress in the areas identified in the FREL assessment for future improvement**, including the development of new carbon maps, data on deadwood and non-CO2 gases and ongoing work on forest degradation.

The LULUCF experts commended Brazil on the progress reported in these areas identified for technical improvement. They encourage Brazil to use these improvements for its future FREL and results submissions to enhance transparency and improve the accuracy of the estimates.

More information on accuracy of data and information used on the REDD+ estimates for the Amazon biome can be found in Section B.1.1 (vii) of this funding proposal.

Area for future improvement: The LULUCF experts note that Brazil could consider the continuation of the ongoing efforts in developing the NFMS to improve estimates of forest degradation to improve the accuracy of the results as an area for future technical improvement.

Brazil's response: Brazil continues its efforts to progress discussions on the best tools to generate estimates of forest degradation that are as accurate as possible. The major challenge of monitoring and addressing forest degradation adequately (in relation to the anthropogenic contribution to the associated emissions) lies in the ability to accurately assess the changes of carbon stock in the areas affected by degradation, particularly aboveground biomass. Degradation may have different intensities, from very low (where few trees are removed) to very high (where, most likely, the land will be deforested at some point in time). As mentioned in the previous sections of this proposal, forest degradation is an area in which the Working Group of Technical Experts on REDD+ has worked intensively over the past few years and which will be included in Brazil's national FREL submission to the UNFCCC in the future.

The LULUCF experts concluded that the data and information provided in the technical annex are accurate to the extent possible.

(vi) Indicate the number of years that took place between the last year of the FREL/FRL period, and the year corresponding to the results being proposed for payments:

The last year of the FREL for the Amazon biome is 2010, and the years corresponding to REDD-plus results submitted to the GCF for payments are 2014 and 2015, respectively, 4 and 5 years from the last year of the FREL.

B.2.2. Additional criteria related to the achieved results

(vii) Uncertainties: *Explain whether the country has provided information on aggregate uncertainties of the results, taking into account national capabilities and circumstances. Include the percentage of aggregate uncertainties and provide information on assumptions and sources. If applicable, indicate the process implemented to minimize systematic and random errors.*

As part of the TA process, Brazil provided additional information related to uncertainty estimation considering decision 4/CP.15, paragraph 1(d).

Brazil clarified that the uncertainty analysis for its REDD-plus submissions related to the Amazon biome is undertaken during the mapping phase and for the biomass values. The deforestation data on the Amazon biome were subject to strict quality control by researchers from the INPE/ MCTIC to reduce uncertainties.

Uncertainties associated with the biomass values are usually related to the absence of studies for some phyto-physiognomies (entailing the use of values from other biomes and phyto-physiognomies with similar structure and composition) and to limitations in the spatial representativeness of the secondary data obtained from the scientific literature.

The LULUCF experts concluded that the REDD-plus results presented by Brazil on its 2nd BUR (including years 2014 and 2015) are accurate to the extent possible.

Area for future improvement: The LULUCF experts commended Brazil for sharing this information on ongoing work relating to uncertainty assessment and encouraged Brazil to continue its efforts to provide uncertainty estimates as encouraged in decision 17/CP.8, annex, paragraph 24.

Brazil's response: Work is underway to assess and reduce uncertainties and this process will contribute to the improvement of the data in future submissions. New and important information from secondary literature was added in Brazil's most recent FREL submission to the UNFCCC in "section b.4. Accurate information". A summary of this information and the plan to address and overcome issues raised regarding activity data were presented in the above sections of this proposal. Another important ongoing work that will contribute to reduce uncertainties associated with REDD-plus estimates is Brazil's first NFI. The forest inventory will provide important information on biomass values for all Brazilian biomes and will also result in reduce the uncertainties associated with the use of secondary data for REDD-plus technical submissions to the UNFCCC.

(viii) Preventing double payments:

- *Provide information on payments that have been, or are expected to be received from other sources of funding for results recognized by the country for the same area for the same period, for which the country is applying for payments from the GCF.*

- *Include relevant information regarding the payments paid or expected to be paid, including the year(s), results volume in tCO2e, quantities for which payments were received/are expected to be received, and entity/entities paying for the results as well as any type of agreement involved.*

- *Provide sufficient assurances that the results that have been paid, or are expected to be paid for by other sources (or are under any type of analogous agreement) been excluded from the volume offered to the GCF.*

- *Provide a description of measures to ensure that the results paid by the GCF will not be transferred, offered for future payment or otherwise used (for example for offsets) and information on how the results proposed for payment by the GCF will be treated or used.*

- *Provide information on how different financing contributed to the achieved results.*

Avoidance of double payments for the same REDD-plus results

Tables 12 and 13 provide detailed **information on payments** received by Brazil for results achieved reducing emissions from deforestation in the Amazon biome in 2014 and 2015. This information is available on Info Hub Brasil, an online tool developed for the *REDD+ Brasil* website to ensure full transparency of the information and prevent double counting of results and double payments for the same results. This tool is currently going through a revision to improve its security and accessibility.

Table 12 shows that only 4% and 4.5% of the total REDD-plus results achieved reducing emissions from deforestation in the Amazon biome in years 2014 and 2015 respectively have been paid for. About 95% of the total results achieved in these two years are still available for payments, a total of 1.2 billion tCO_2e.

The total amount of REDD-plus results that Brazil will offer to the GCF corresponds to only 2% of the total results achieved reducing emissions from deforestation in the Amazon biome in years 2014 and 2015.

These payments will be discounted from the 40% of total results allocated to the Federal Government by the CONAREDD+ Resolution n.6, of July 6th, 2017 (more details below) for fundraising.

The large amount of total REDD+ results achieved by Brazil assures that **there is no risk of double payments. Even after receiving payments from the GCF, Brazil would still have more than 90% of its total REDD+ results from 2014 and 2015 available for other payments.**

Table 12. REDD-plus results and results-based payments received for years 2014 and 2015[20]

Year of results	REDD+ results (tCO_2e)	Total REDD+ results paid for (tCO2e)	% of total REDD+ results that have already received payments	REDD+ results not paid for (tCO2e)	REDD+ results offered to the GCF (tCO2e) = 2% of total REDD+ results
2014	634,367,865.74	25,464,000.00	4.01	608,903,865.74	12,687,357.31
2015	620,295,262.00	28,194,763.27	4.55	592,100,498.73	12,405,905.24
Total (2014-2015)	1,254,663,127.74	53,658,763.27		1,201,004,364.47	25,093,262.55

Source: Info Hub Brasil, last accessed on July 18th, 2017.

The payments received by Brazil, were part of bilateral agreements (Amazon Fund and REM) signed with donors using methods to estimate the REDD+ results that are different from Brazil's FREL for REDD+ under the UNFCCC. This was done before the Warsaw Framework for REDD-plus was agreed upon under the UNFCCC. The details about these methods are presented in section B.1.2 (xvi) of this proposal. **To simplify the recognition of these payments, independently from the method used, all tonnes of CO_2e that have been paid for, have been included in the Info Hub Brasil, as 1 per 1, and discounted from the total amount available for new payments.**

The payments made to the Amazon Fund were discounted from the 40% limit assigned to the Federal Government for fundraising by CONAREDD+ Resolution n. 6/2017. The payments made to Acre as part of the REM program were discounted from the 2% limit assigned to this state by the same CONAREDD+ Resolution. Moving forward, technical adjustments are being made, in coordination with donors, to fully integrate these important bilateral REDD+ initiatives into Brazil's national REDD+ framework.

The new phase for REDD-plus results-based payments through the Amazon Fund (2016 to 2020) does not include new payments for years 2014 and 2015. Donors to the Amazon Fund only pay for the results achieved in the year before the payment, before the completion of the REDD+ MRV process under the UNFCCC.

In the case of the REM Program with the State of Acre, one more payment is scheduled for the results achieved in 2015 and the retirement of emission reductions from 2014 and 2015. This will be discounted from the 2% that were allocated to Acre by the CONAREDD+ Resolution n.6/ 2017, which is not part of this proposal.

For more details on REDD+ results-based payments and the bilateral agreements signed so far, see Table 13.

Table 13. Detailed information about REDD-plus results-based payments received by Brazil by 2018

[20] This funding proposal encompasses REDD+ results achieved in years 2014 and 2015 by Brazil in the Amazon biome which have already been fully MRVed under the UNFCCC. The information on payments presented here is limited to the years included in this funding proposal. For more information on different years, see Info Hub Brazil.

Year	REDD+ results (tCO_2e)	Total REDD+ results paid for (tCO_2e)	Entities that paid for REDD+ results achieved by Brazil	REDD+ results paid per entity (tCO_2e)	Donations (USD)/ Diplomas[21]	Entities that received REDD+ results-based payments/ Details of the agreements
2014	634,367,865.74	25,464,000.00	Government of Norway	24,000,000.00 [22]	120,000,000.00 http://www.fundoamazonia.gov.br/export/sites/default/pt/.galleries/documentos/diplomas/Noruega_11Doacao_Diploma_2015.pdf	Amazon Fund http://www.fundoamazonia.gov.br/en/amazon-fund/ http://www.fundoamazonia.gov.br/en/donations/
			Federal Republic of Germany/ KfW/REDD Early Movers Program – Phase One	1,464,000.00[23]	3,663,000.00	Acre Environment State Secretary https://www.kfw-entwicklungsbank.de/PDF/Entwicklungsfinanzierung/Themen-NEU/REDD-Early-Movers-Acre-Fact-Sheet.pdf
2015	620,295,262.00	28,194,763.27	Government of Norway	19,590,670.23	97,953,351.16 http://www.fundoamazonia.gov.br/export/sites/default/pt/.galleries/documentos/diplomas/Noruega_12Doacao_Diploma_2016.pdf	Amazon Fund http://www.fundoamazonia.gov.br/en/amazon-fund/ http://www.fundoamazonia.gov.br/en/donations/
			Federal Republic of Germany/ KfW	7,964,093.04	39,820,465.20 http://www.fundoamazonia.gov.br/export/sites/default/pt/.galleries/documentos/diplomas/Alemanha_05Doacao_Diploma_2017.pdf	Amazon Fund http://www.fundoamazonia.gov.br/en/amazon-fund/ http://www.fundoamazonia.gov.br/en/donations/

[21] BNDES issues diplomas recognizing the contribution of the donors to the Fund. All diplomas and details about the agreements with donors can be found in the Amazon Fund website and REDD+ Brasil website through the Info Hub Brasil.
[22] The payments received by the Amazon Fund was based on the Amazon Fund methodology. For more details see the explanatory note.
[23] As per REM agreement with the State of Acre, half of this total results have been effectively paid for and half have been retired as a management risk, so, for accounting purposes, the total amount of emission reductions is considered paid for and no longer available for new payments. For more information, see Detailed information on payments, risk management, etc.

			Federal Republic of Germany/ KfW/REDD Early Movers Program – Phase One	640,000.00[24]	1,590,000.00	Acre Environment State Secretary https://www.kfw-entwicklungsbank.de/PDF/Entwicklungsfinanzierung/Themen-NEU/REDD-Early-Movers-Acre-Fact-Sheet.pdf
Total (2014-2015)	1,254,663,127.74	53,658,763.27		53,658,763.27	143,026,816.36	

Source: Info Hub Brasil, 2018

Measures to ensure that the results paid by the GCF will not be transferred, offered for future payment or otherwise used (for example for offsets) and information on how the results proposed for payment by the GCF will be treated or used

The CONAREDD+ is responsible for authorizing eligible entities to access REDD-plus results-based payments achieved by Brazil and recognized by the UNFCCC. So far, only the States of Acre and Mato Grosso and the MMA have received approval from the CONAREDD+ to access resources from results-based payments for REDD-plus (Resolution n.10 of December 7th, 2017). The Brazilian development Bank (BNDES)/ Amazon Fund, by its turn, had its eligibility assured by Article 5 of the Federal Decree that created the CONAREDD+ (Federal Decree, n. 8576/2015). The Amazon Fund was already authorized to receive results-based payments donations by Federal Decree n. 6527/2008.

This means that according to national legislation on REDD+, only four entities may receive REDD-plus results-based payments in Brazil: the State of Acre, the State of Mato Grosso, the MMA and the Amazon Fund. The results paid for are registered in Brazil's national repository for REDD+, Info Hub Brasil and no longer available for payments. The Secretariat of the UNFCCC is also informed of these payments which are also registered into the Lima REDD-plus Information Hub.

Since there is no transfer of results/ emission reductions to the entities that paid for it, there is no need to track these results through serial numbers. The results that have been paid for, are simply discounted from the total amount of results achieved in a given year. The deduction will be done from the limit allocated to the entity that received such payment. This information per entity and per donor is presented in the Info Hub Brasil, together with the details of each agreement, and summarized here in this proposal.

The Amazon Fund compiles in a transparent and complete manner all the information about the donations received since 2009. BNDES issues diplomas recognizing the contribution of the donors to the Fund. The diplomas issued are nominal, nontransferable, nonnegotiable, and they shall grant no ownership rights or any kind of credit. All diplomas and details about the agreements with donors can be found in the Info Hub Brasil and in the Amazon Fund website.

In the near future, all diplomas recognizing payments received for REDD-plus results achieved by Brazil will be issued by the Executive Secretariat of the CONAREDD+. Article 4 of Federal Decree 85776/ 2015 establishes that the MMA, as the Executive Secretariat of the CONAREDD+, will (V) issue diplomas recognizing REDD+ results-based payments achieved by Brazil. Article 6 of this Federal Decree establishes that **REDD+ results-based payments and their respective diplomas may not be used, directly or indirectly, to fulfil mitigation commitments of other countries to the UNFCCC.** Article 7 also states that

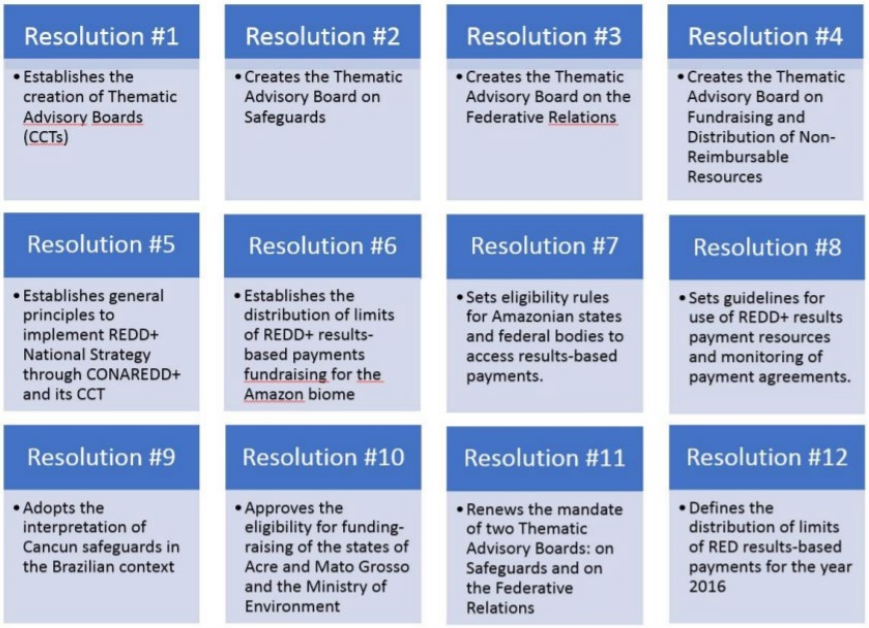
[24] As per REM agreement with the State of Acre, half of this total results have been effectively paid for and half have been retired as a management risk, so, for accounting purposes, the total amount of emission reductions is considered paid for and no longer available for new payments. For more information, see Detailed information on payments, risk management, etc.

the diploma referred to in item V of the caput of art. 4º **will be nominal and non-transferable, will not generate rights or credits of any nature**, will contain the amount equivalent to the payment by result and can be consulted on the MMA website.

Furthermore, Brazil emphasized in its Nationally Determined Contribution (NDC) to the UNFCCC and its Paris Agreement that "*any transfer of units resulting from mitigation outcomes achieved in the Brazilian territory will be subject to prior and formal consent by the Federal Government**. Brazil will not recognize the use by other Parties of any units resulting from mitigation outcomes achieved in the Brazilian territory** that have been acquired through any mechanism, instrument or arrangement established outside the Convention, its Kyoto Protocol or its Paris agreement*."

The CONAREDD+ has approved a few Resolutions that reinforce this understanding (Figure 6).

Figure 6. The CONAREDD+ resolutions



Source: Brazil's 2nd SoI, 2018

Below are key elements from each of these CONAREDD+ Resolutions.

Resolution n. 5, of December 16th, 2017: General principles for the implementation of the National REDD+ Strategy through the CONAREDD+ and its Thematic Advisory Boards
Article 1, V. The results paid for will be discounted from the fundraising limit allocated to the different eligible entities by the CONAREDD+.
Article 1, VI. Results-based payments do not constitute an international transfer for the fulfillment of mitigation commitments of other countries.
Article 1, VII. The mitigation benefits achieved through REDD+ activities implemented in Brazil will be reflected in the national accounting of emissions by sources and removals by sinks for demonstrating the fulfillment of Brazil's Nationally Determined Contribution to the Paris Agreement.

Resolution n.6, of July 6th, 2017: Defines the distribution of fundraising limits for REDD+ results achieved in the Amazon biome
Article 2. The fundraising limits for results achieved reducing emissions from deforestation in the Amazon biome will be distributed between the Federal Government and the States of Acre, Amapá, Amazonas, Maranhão, Mato Grosso, Pará, Rondônia, Roraima e Tocantins.
Article 3. The distribution of fundraising limits for results achieved reducing emissions from deforestation in the Amazon biome do not generate ownership or guarantee of income.

Article 5, paragraph 2. The Parties mentioned in Article 2 that have interest to raise resources using voluntary or regulated carbon offset schemes shall declare, when filling out the application Annex to this Resolution to apply for eligibility, that they are aware that this fundraising is limited to a modality of finance.
Article 5, paragraph 3.The payments for REDD+ results made based on the limits established in this Resolution do not generate, to the Parties mentioned in Article 2, the right to internationally transfer these results, for the fulfillment of international mitigation commitments, and will not affect the national accounting for demonstrating the fulfillment of Brazil's Nationally Determined Contribution to the Paris Agreement.
Article 5, paragraph 4. The Parties mentioned in Article 2 shall inform all the Parties involved in REDD+ results-based payments agreements of the term of this Resolution, and other norms established by the CONAREDD+.
Article 5, paragraph 5. In case of no compliance with the obligation established in the previous paragraph, the interested Party will be considered ineligible by the CONAREDD+ to access REDD+ results-based payments.

Resolution n. 7, of July 6th, 2017: Defines the eligibility rules for access to direct fundraising for results-based payments
Article 4. The Amazon States or federal entities eligible assume full legal responsibility for managing and investing the resources raised through results-based payments, respecting the REDD+ safeguards and providing accounting information.
Sole Paragraph. The Amazon States or federal entities eligible shall inform in a transparent manner the roles and attributions of all entities directly involved in fundraising and executing the results-based payments agreements signed by them.
According to the Annex of this Resolution, entities applying to receive the approval of the CONAREDD+ and be eligible to access results-based payments need to sign the following: "I declare to be aware that the fundraising for REDD+ results-based payments achieved by Brazil represent exclusively a modality of finance and that I will inform all the Parties involved in the REDD+ results-based agreements about the terms of the Resolution n.6 and other norms established by the CONAREDD+."

Resolution n.8 of December 7th, 2017: Defines the guidelines for use of resources and monitoring of REDD+ results-based payments.
Article 6. Results-based payments agreements shall be submitted to the CONAREDD+ after their formalization.

Finance that directly and indirectly may have contributed to the achievement of REDD+ results in years 2014 and 2015

It is impossible to attribute specific REDD+ results achieved in different years to specific sources of finance. A variety of finance sources, both national (federal, state and municipal level public budget, NGOs, private sector) and international (donor countries, multilateral organizations, non-governmental organizations, private sector) have contributed directly and indirectly to the Brazilian government efforts to reduce deforestation in the Amazon biome.

These resources are difficult to track since the sources do not always report this information to the Federal Government. Brazil has been working on accounting methodologies to estimate the total amount of climate finance received for its forestry sector, including REDD+ in the Amazon biome, as part of its national efforts to compile climate finance information for its BURs. Table 14 presents the relevant information extracted from Brazil's 2nd BUR.

Table 14. Climate finance received by Brazil for the forestry sector in 2014 and 2015

FINANCIAL SUPPORT RECEIVED THROUGH BILATERAL CHANNELS IN 2014								
Institution	Type of support (mitigation, adaptation, cross-cutting, other)	Sector (energy, transport, industry, agriculture, forestry, water and sanitation, cross-cutting, other, not applicable)	Project name	Total funding (USD)	Climate-specific component (%)	Climate-specific funding (USD)	Financial instrument (grant/ concessional loan)	Date of commitment/ receipt
Germany (KfW)	Mitigation	Forestry	Contribution to the Amazon Fund	11,120,181.53	100%	$11,120,181.53	Grant	Received in January/2014
Germany (KfW)	Mitigation	Forestry	Contribution to the Amazon Fund	$5,385,692.98	100%	$5,385,692.98	Grant	Received in July/2014
Japan (JBIC)	Cross-cutting	Energy	JBIC Green II	$300,000,000.00	100%	$300,000,000.00	Loan	Signed in March/2014
Norway	Mitigation	Forestry	Contribution to the Amazon Fund	$108,839,740.46	100%	$108,839,740.46	Grant	Received in December/2014
Norway	Mitigation	Forestry	Contribution to the Amazon Fund	$108,839,740.46	100%	$108,839,740.46	Grant	Received in December/2014

FINANCIAL SUPPORT RECEIVED THROUGH MULTILATERAL CHANNELS IN 2015							
Institution	Type of support (mitigation, adaptation, cross-cutting, other)	Sector (energy, transport, industry, agriculture, forestry, water and sanitation, cross-cutting, other, not applicable)	Project name	Climate-specific component (%)	Climate-specific funding (USD)	Financial instrument (grant/ concessional loan)	Date of commitment/ receipt
CAF	Adaptation	Forestry	Reunión de áreas protegidas de la OTCA	100.00%	$20,000.00	Grant	Approved in 2015

FINANCIAL SUPPORT RECEIVED THROUGH BILATERAL CHANNELS IN 2015							
Institution	Type of support (mitigation, adaptation, cross-cutting, other)	Sector (energy, transport, industry, agriculture, forestry, water and sanitation, cross-cutting, other, not applicable)	Project name	Climate-specific component (%)	Climate-specific funding (USD)	Financial instrument (grant/ concessional loan)	Date of commitment/ receipt
Germany (KfW)	Cross-cutting	Forestry	ARPA - Fundo de transição ARPA para a vida	50%	$17,584,026.50	Grant	Signed in August/2015
Germany (KfW)	Cross-cutting	Forestry / agriculture	Projeto CAR	50%	$12,756,516.92	Grant	Signed in August/2015
Norway	Mitigation	Forestry	Contribution to the Amazon Fund	100%	$14,893,881.10	Grant	Received in March/2015
Norway	Mitigation	Forestry	Contribution to the Amazon Fund	100%	$120,000,000.00	Grant	Received in December/2015

Source: Brazil's 2nd BUR, 2017, Section 4.2.

Since 2006, Brazil has invested large amounts of its own national budget to reduce deforestation in the Amazon biome. The PPCDAm is the key policy of the Federal Government for the implementation of REDD+ in the Amazon biome. Table 15 shows the detailed comparison of the various investments made in the prevention and control of deforestation in the Amazon biome between 2009 and 2017 from different sources.

Table 15. Investments in the prevention and control of deforestation in the Amazon biome (in R$)

Prevention and Control of Deforestation in the Amazon Financial resources received from RBP trought the Amazon Fund (not the year of results paid, but the year when these R$ was received) vs National budget allocated per year in R$										
Sources (R$/ year)	2009	2010	2011	2012	2013	2014	2015**	2016**	2017**	Total
NOR (RBP to AF)	36,448,350	49,600,536	0	118,253,646	1,449,642,401	288,991,279	501,984,780	330,161,565	139,272,703	2,914,355,262
GER (RBP to AF)	0	6,644,100	0	0	15,954,600	38,098,800	0	0	131,992,896	192,690,396
BRA (institutional)*2	919,833,396	975,216,618	993,113,908	871,746,443	884,084,762	886,208,555	880,679,920	883,657,746	883,515,407	8,178,056,756
BRA (PPCDAm actions)*1	905,029,671	972,489,465	770,500,125	888,179,818	1,025,753,028	1,145,442,843	1,064,574,578	998,464,497	768,817,663	8,539,251,689
F.A. (disbursed)	23,666,667	23,666,667	23,666,667	71,000,000	81,000,000	168,000,000	128,000,000	134,000,000	224,000,000	877,000,000
F.A. (disbursed to Fed Gov projects)										180,000,000

*1 18 PPCDAM related action funded by the national budget

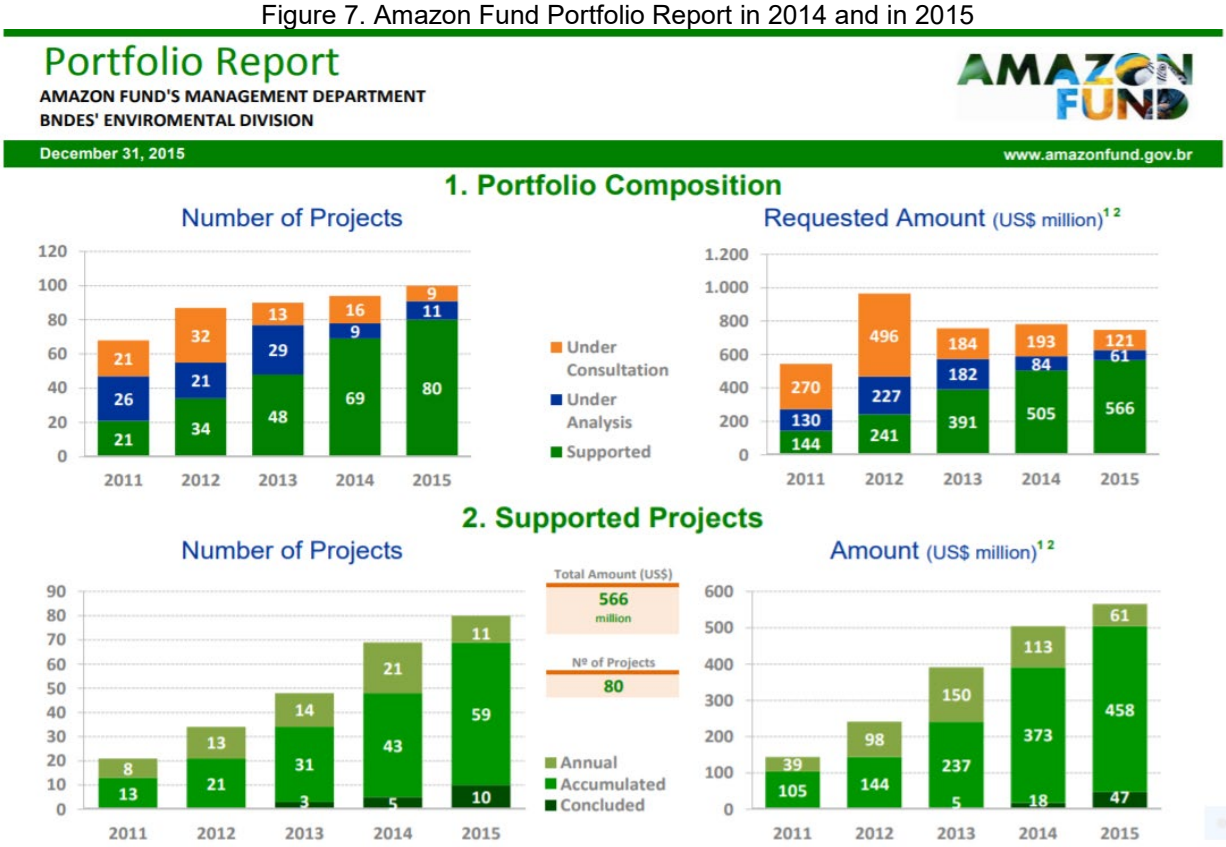
*2 total sum of administrative costs, with personnel and capacity building, for the main agencies involved in the implementation of PPCDAM, including soma de recursos administrativos, pessoal e capacitação de MMA, INCRA, ICMBio, IBAMA e Funai.

** the data from "BRA" 2015, 2016 e 2017 are projected values based on the budget cuts in MMA finalistic actions. The data was not verified in each institution but follow the tendency of reducing in a context of economic crisis and budget cuts in Brazil.

Source: MMA, 2018, based on the Ministry of Planning and Budget Multi-year Budget Plan/ PPA, 2017 and the Amazon Fund, 2017

The Amazon Fund also made significant investments that have directly and indirectly contributed to the achievement of REDD-plus results in Brazil in years 2014 and 2015. Figure 7 of the Amazon Fund Portfolio Report shows that in 2014, a total investment of USD 113 million and in 2015 a total investment of USD 61 million were made, aligned with PPCDAM.

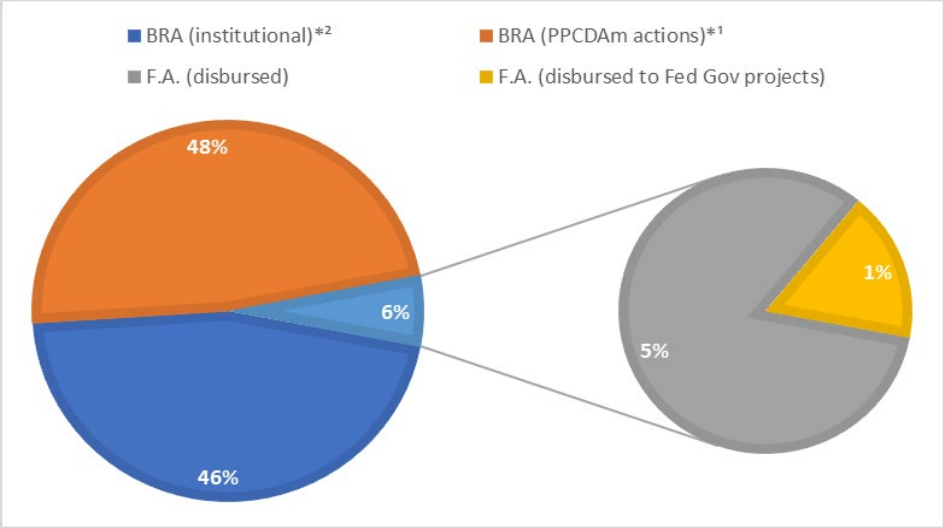
Figure 7. Amazon Fund Portfolio Report in 2014 and in 2015



Source: Amazon Fund, 2018

Figure 8 shows that 94% of the total investments made in the implementation of PPCDAM between 2009 and 2017 were financed through Brazil's national budget. This includes actions on the ground (PPCDAm actions) and institutional costs from the entities involved in the implementation of PPCDAm.

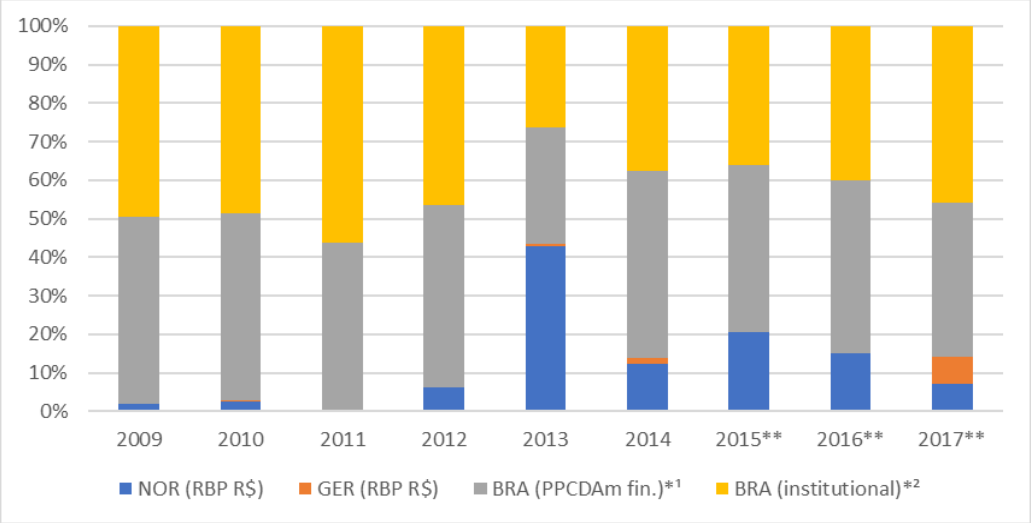
Figure 8. PPCDAm investments made with resources from the national budget vs international donations between 2009 and 2017



Source: MMA, 2018, based on the Ministry of Planning and Budget Multi-year Budget Plan/ PPA, 2017 and the Amazon Fund, 2017

As indicated in Figure 9, in the last five years, the relative contribution of international finance to combating deforestation in the Amazon biome has increased. This was due to an economic crisis that started in 2014 and that Brazil is still currently going through. This resulted in cuts in the budgets of entities directly involved in actions related to the prevention and control of deforestation in the Amazon biome, followed by an increase in deforestation rates (more details in the sections below).

Figure 9. Proportion of sources of investments allocated to combat deforestation in the Amazon biome



Source: MMA, 2018, based on the Ministry of Planning and Budget Multi-year Budget Plan/ PPA, 2017 and the Amazon Fund, 2017

To maintain the low rates of deforestation in Brazil, high and continuous investments are needed, to support command and control operations on the ground (including the teams, helicopters, vehicles, technology, etc.), the production of new and better data (INPE, Embrapa, etc.), and the implementation of positive incentives mechanisms created.

In this context of economic crisis and budget cuts in all areas of the federal budget spending, climate finance becomes even more essential. This nevertheless does not mean that Brazil has reduced its

commitment to invest its own resources in combating deforestation. In years 2014 and 2015 more than 80% of the total resources allocated for the prevention and control of deforestation in the Amazon biome (to support PPCDAm actions and cover institutional costs) came from the national budget (BRA).

(ix) Tracking emissions reductions: *Indicate whether the achieved results are included in a registry or similar system that tracks emissions reductions and corresponding payments, and ensures that there is no past or future double payment or use of such results, including information to identify the area where the results were achieved, the entity eligible to receive payment, year(s) generated, source(s) of payments received, and identifying code, where possible. Provide the link or information where to find the registry or similar system*

As mentioned in the previous sections of this funding proposal, Brazil tracks the emission reductions achieved reducing emission from deforestation in the Amazon biome through the Info Hub Brasil, a repository created in the REDD+Brasil website.

Below is a print screen that shows the relevant information for results achieved in 2014 and 2015 available in Info Hub Brasil at the time of the development of this funding proposal.

Figure 10. Print screen of Info Hub Brazil from REDD+ Brasil website

REDD+ Brasil
MINISTÉRIO DO MEIO AMBIENTE

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PÁGINA INICIAL > INFO HUB BRASIL

Info Hub Brasil

PERIOD (YEAR)	BIOME	RESULTS (TCO2)	ASSESSED FOREST REFERENCE LEVEL	LINKS TO ADDITIONAL DOCUMENTATION	QUANTITIES FOR WHICH PAYMENTS WERE RECEIVED	AVAILABLE RESULTS (TCO2)
2011-2015	Amazon	3,154,501,727.00 (access the technical assessment report) (access the file)	907,959,466.00 (access the technical assessment report) (access the file) (access the data)	Modified submission on proposed reference level (access the file) Summary of information on safeguards (access the file) Link to Bazil's National REDD+Strategy (acess the website)	**154,521,734.00** For detais of payments for results received, see tables below	2,999,979,993.00

BIOME	ENTITY	PERIOD (YEARS)	FUNDRAISING LIMIT OF RED RESULTS (TCO2)	QUANTITIES FOR WHICH PAYMENTS WERE RECIVED (TCO2/YEAR)	AVAILABLE FUNDRAISING LIMIT (TCO2)	ELECTIBLE ENTITIES

	Federal Government	2011	248,980,669.00	**33,363,022.00**	215,617,647.00	Amazon Fund
		2012	268,510,125.00	**32,733,224.00**	235,776,901.00	
		2013	242,444,646.00	**24,746,724.31**	217,697,922.00	
		2014	253,747,146.00	**24,000,000.00**	229,747,146.00	
		2015	248,980,669.00	**27,554,763.27**	220,563,341.53.	
		2016	144,752,092.08	**8,358,200.96**	136,393,891.12	
	State of Acre	2011	12,449,033.44	**0.00**	12,449,033.44	
		2012	13,425,506.24	**1,000,000.00**	12,425,506.24	
		2013	12,122,232.31	**9,020,000.00**	3,102,232.31	
		2014	12,687,357.32	**1,464,000.00**	11,223,357.32	
		2015	12,405,905.24	**640,000.00**	11,765,905.24	

ELECTIBLE ENTITIES	YEAR OF THE RESULT	DONOR ENTITIES	DONATION (USD)	RECEIVED RESULTS (TCO2)	INFORMATION ON THE RECEIVING
	2014	Government of Norway	120,000,000.00	**24,000,000.00**	Amazon Fund
	2015	Government of Norway	97,953,351.16	**19,590,670.23**	
	2015	Federal Republic of Germany - kfW	39,820,465.20	**7,964,093.04**	
Acre Environment State Secretary		Federal Republic of Germany/kfW/REDD Erly Movers Program	Associated with results-based payment for 2013 results*		ISA Carbono Program REM Program Fase I *Detailed information on payments, risk management, etc
			2,470,000.00		
			25,071,000.00		
	2014		3,663,000.00	**1,464,000.00***	
	2015		1,590,000.00	**640,000.00***	

Source: http://redd.mma.gov.br/en/infohub, last accessed on August 8th, 2018

Info Hub Brasil is currently going through technical improvements, but its temporary display already showcases all the information needed to track emission reductions (including year, biome, data and technical information, additional documentation), corresponding payments, results available for payments, fundraising limit per entity eligible to receive payments, information on results-based agreements already signed, and links to the diplomas issued by the Amazon Fund.

All results achieved by Brazil and respective payments are also displayed in the Lima Information Hub in the REDD+ Web Platform of the UNFCCC. Figure 11 is a print screen of this information.

Figure 11. Print screen of Lima Information Hub, UNFCCC

REDD+ WEB PLATFORM

HOME | FACT SHEETS | SUBMISSIONS | INFO HUB | FORUM | MEETINGS | CONTACT

Country	Date (Year)	Results (t CO2 eq/year)	Assessed forest reference level (t CO2 eq/year)	Quantities for which payments were received (t CO2 eq/year)	Entity paying for results	Links to documentation
Brazil	2006	529,930,490.25	1,106,027,616.63	23,911,039.60 1,388,636.02	Government of Norway (see explanatory note) Petróleo Brasileiro S.A.	FCCC/SBI/ICA/2015/TATR.1/BRA Biennial update report with submission of REDD+ results FCCC/TAR/2014/BRA Submission on proposed reference level Modified submission on proposed reference level 1st Safeguards information summary 2nd Safeguards information summary National REDD+ Strategy
	2007	497,761,219.37	1,106,027,616.63	-	-	
	2008	440,022,301.24	1,106,027,616.63	-	-	
	2009	741,687,139.44	1,106,027,616.63	28,347,560.00 3,188,874.00	Government of Norway (see explanatory note) Government of Germany - KfW	
	2010	761,621,104.20	1,106,027,616.63	33,363,022.00	Government of Norway (see explanatory note)	

Source: https://redd.unfccc.int/info-hub.html, last accessed on July 30th, 2018.

C. Non-carbon elements

Please provide link to the summary on information on safeguards:
https://redd.unfccc.int/files/2sumariosalv_br_final.pdf

C.1. Cancun safeguards

C.1.1. Compliance with Cancun safeguards. *Please provide any additional information that supplements the information included in the "summary of information on safeguards" that allows understanding how each of the safeguards below was addressed and respected in the full period during which results were generated in a way that ensures transparency, consistency, comprehensiveness and effectiveness:*

(i) That actions complement or are consistent with the objectives of national forest programs and relevant international conventions and agreements.

Comments:

From a strategic level, the National Policy on Climate Change and Brazil's Forest Code provide the overarching guidelines for Brazil's REDD+ actions. At the tactical-operational level the main instrument to coordinate REDD+ initiatives on the biome scale is the Action Plan for Prevention and Control of Deforestation in the Legal Amazon (PPCDAm is the acronym in Portuguese). The PPCDAm is an overarching suite of programs, policy measures and regulatory instruments that ensures consistency and complementarity of all REDD+ actions in the Amazon region with national and sub-national forest programs, international conventions and agreements. The actions which make up PPCDAm integrate the efforts of thirteen Brazilian ministries and work along 3 main axis, including land tenure regularization and land use planning, monitoring and control, as well as the promotion of sustainable productive activities. Each of the 9 states in the Legal Amazon also has their own state-level action plans, which are similar to the federal level plan to ensure further consistency. The PPCDAm at the federal level, as well as these state level plans, approach deforestation vectors through a range of thematic areas, which are coordinated with other relevant public polices, including the Low-Carbon Agriculture Plan (ABC), the Community and Family Forest Management Program (PMFC), the National Policy for Territorial and Environmental Management of Indigenous Lands (PNGATI), the Legal Land Program, the Environmental Conservation Support Program (Bolsa Verde or Green Grant), the Policy

to Guarantee Minimum Prices for Socio-biodiversity Products (PGPMBio) and the Amazon Protected Areas Program (ARPA), among others. The description of the full range of programs and activities, of which there are over 200, can be found at: http://combateaodesmatamento.mma.gov.br/.

Brazil's National REDD+ strategy (ENREDD+) is also structured along three main action lines, the first of which is "Coordinating Climate Change, Biodiversity and forest related Public Policies, including Safeguards" further cementing Brazil's commitment to a coherent and comprehensive deforestation policy, which supports broader international agreements, such as the United National Framework Convention on Climate Change (UNFCCC), the United Nations Convention on Biological Diversity (UNCBD) as well as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Furthermore, the National REDD+ Committee (CONAREDD+), established through the Presidential Decree 8.576 in 2015, was created with the purpose of coordinating, tracking and monitoring ENREDD+ implementation. In doing so, one of its principle roles is to promote, the integration and synergy among public policies on forests, biodiversity and climate change across administrative levels, which is further supported through the work of Thematic Consultative Chambers (CCT) or advisory boards. Accordingly, the stated objective of the Thematic Advisory Board on Safeguards (CCT-Safeguards) is to provide inputs for the accompaniment of how the Cancun safeguards are being addressed and respected by Brazil.

Through its work, the CCT-Safeguards advisory board has selected relevant policies, programs and international agreements to be assessed and provided examples of how processes were implemented to ensure consistency, coordination and complementarity at the various levels. The substantive challenges related to the implementation of this safeguard were also identified by CCT-Safeguards in Section 5 of the 2nd SOI, including the harmonization and compatibility of national and subnational policies related to REDD+. This is an ongoing process, currently under further revision and discussion in the Thematic Advisory Board on Federative Relations (CCT-Pact), which serves as an additional forum for debate, participation and transparency between the federal, state and local entities to align their policies.
For further information on the definition, objectives and details related to the interpretation of safeguard (a) by Brazil please refer to Section 4.1 of the 2nd Summary of Information on Safeguards (SOI). Section 5 of the 2nd SOI presents an in-depth overview of how safeguard (a) has been addressed and respected by the policies and initiatives aimed at reducing deforestation in the Amazon biome. Additional information on the complementarity and consistency with PLRs can be found in the Environmental and Social Assessment (ESA) of PPCDAm found in the Annex to this FP.

(ii) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty.

Comments:

The CCT-Safeguards advisory board considers the general objective of this safeguard as follows: Ensuring broad participation in the national REDD+ governance structure by society, compliance with the applicable laws, and the guarantee of rights and sustainability, according to the fundamentals and objectives of the Federal Constitution. Ensuring this broad participation, fundamental to the transparency and efficacy of forest governance structures, CONAREDD+ (the National REDD+ Committee) relies on coordination, discussion and information sharing between the Ministry of Environment (who chairs the committee) with the Ministry of Foreign Affairs, Ministry of Agriculture, Livestock and Food Supply, Ministry of Finance, Ministry of Science, Technology Innovation and Communications, Ministry of Agrarian Development (current the Special Secretariat for Family Farming and Agrarian Development/Chief of Staff), Government Secretariat and the Office of the Chief of Staff of the Presidency. In addition to ensuring the transparency and efficacy of REDD+ actions at the federal level, CONAREDD+ also involves participation of state and local governments, and Brazilian civil society. In addition, the composition of the CONAREDD+ is currently being revised to enlarge participation to guest members to further enhance transparency and participation. Brazil's interpretation of this safeguard also explicitly recognizes the importance of indigenous people, traditional peoples and communities, and traditional and family farmers in the processes of planning, implementing, monitoring and assessing polices. This is accomplished by ensuring the CCT-Safeguards advisory board not only includes experts on biodiversity, environmental monitoring, transparency and forest governance, and public policy

among other key topics, but also representatives from indigenous peoples, traditional peoples and communities and family farmers. One of the main tasks of ENREDD+ is the development of a public policies impact matrix, to continuously monitor and report on the effectiveness of the implementation of policies and measures for REDD+. A tool for assessing impact of state level policies has also been developed by civil society and the integration with the national level tools has being discussed.
The consolidation of Brazil's overarching National REDD+ strategy (ENREDD+) has also greatly enhanced the transparent and effective implementation of forest policies, by producing and organizing additional information and data and making these data sets and analysis more widely available to the public. The REDD+ Brazil website consolidates and presents information on the latest REDD+ related news, CONAREDD+ resolutions, as well as producing a monthly newsletter. Additionally, all minutes of meeting are available for the various thematic advisory boards. To further promote transparency, ENREDD+ information is distributed via the following entities: REDD+ Brazil Portal (http://redd.mma.gov.br/en), which includes SISREDD+ (http://redd.mma.gov.br/pt/salvaguardas) and its ombudsman, Info Hub Brazil (http://redd.mma.gov.br/en/infohub) and in the future also via the Matrix of Public Policies Impact.
As stated above, PPCDAm is the guiding plan for controlling deforestation in the Amazon biome, and the results achieved in 2014 and 2015 were part of the 3rd Phase of PPCDAm (2012-2015). Previous phases of the implementation of PPCDAm are subject to both the annual monitoring of actions, as well as general evaluations, including an independent assessment of the second phase of implementation, which is publicly available and directly informed the design of the third phase. A key recommendation in regards to governance was to facilitate the exchange of information, and resolution of conflict that may arise between federal and state agencies, which has become a focus of the fourth phase of PPCDAm implementation. PPCDAm Phase 4 will focus on transparency and coordination, including more regular meetings, and as well as state representatives from existing technical boards such as law enforcement and sustainable forest management, among other actions.

It should also be noted that the Amazon Fund is also subject to regular assessment and audit, with annual accounting and compliance audits publicly available, and an Amazon Fund Activity Report produced annually (as noted in the Second SOI). Compliance audits conducted by independent consultants assess whether BNDES has met the requirements listed in Decree # 6,527 / 2008 regarding the supporting actions, guidelines and criteria established by the Amazon Fund Steering Committee (COFA). This transparency is extended to the project level, by which evaluations reports of individual projects carried out under the Amazon Fund are also publicly available, in additional to an overarching evaluation of the effectiveness of completed projects, which is available at: http://www.fundoamazonia.gov.br/en/monitoramento-e-avaliacao/independent-evaluations/.

Finally, in addition to the transparency and information sharing promoted through the platforms of ENREDD+, the thematic boards, Info Hub Brazil, SISREDD+ and the evaluations of PPCDAm and the Amazon Fund, in 2011 Brazil has enacted a Federal Law to promote Access to Information Law (Law n. 12,527/2011). This law regulates access to information, as established in Item XXXIII of Art. 5, Item II in Paragraph 3 of Art. 37, and Paragraph 2 of Art. 216 of the Federal Constitution. Request for access to information can be made on the Access to Information Law website: http://www.acessoainformacao.gov.br/ . According to this law, requests for public information must be responded by the GOB within 20 days. The federal government of Brazil has also created a website (Transparency Portal) in which all information on public spending, public policies, public servants and others can be found: http://www.portaltransparencia.gov.br/

For further information on the definition, objectives and details related to the interpretation of safeguard (b) by Brazil please refer to Section 4.1 of the 2nd SOI. Section 5 of the 2nd SOI presents details about how safeguard (b) has been addressed and respected by the policies and initiatives aimed at reducing deforestation in the Amazon biome. Figure 9 of Brazil's 2nd SOI shows the detailed information about social participation and revision cycles of PPCDAm, highlighting transparency in participation as well continuous improvement of governance structures. Section 5 of the 2nd SOI also discusses the main challenges related to the implementation of this safeguard as identified by the CCT-Safeguards advisory board. Additional information on transparency and national forest governance structures can also be found in the ESA of PPCDAm found in the Annex.

(iii)	Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national

circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples.

Comments:

Approximately 450,000 Indigenous Peoples live in the Brazilian Amazon, making up 60% of Brazil's indigenous population and covering over 400 indigenous lands over an expanse of 115 million hectares (over 98% of the indigenous lands nationally and representing over a fifth of the Amazon Region)[25]. In addition, Brazil has its own definition of local communities, established in Federal Decree 6040/2007, which includes traditional peoples and communities as well as traditional and family farmers. Given the staggering diversity, scale and central importance of these groups in accomplishing Brazil's National Deforestation Plan (PPCDAm) and ENREDD+, ensuring that the plurality of traditional knowledge and rights of these groups is respected in the context of implementing REDD+ actions in Brazil, is of central importance. Accordingly Brazil not only recognizes the critical importance of traditional knowledge, including the management of genetic heritage and territories, as well as the local knowledge associated with the sustainable use of biodiversity, it also takes an expansive definition of the rights of these groups. That is, Brazil's interpretation of this safeguard includes prohibition of restrictions on the use of management of territories, emphasis on the right to self-determination, recognizing rights to collective tenure and benefit-sharing, as well procedural rights such as the right to Free, Prior and Informed Consent (FPIC). Furthermore, Incorporating this knowledge into national level safeguards system (SISREDD+) is a focus of the CCT-Safeguards advisory board and is further supported by an array of national laws and international agreements. The knowledge and rights of indigenous peoples, traditional peoples and communities, and traditional and family farmers, are acknowledged by the following international and national instruments: Articles 231 and 48 of ADCT of the Federal Constitution; Legislative Decree # 2/1994; Decrees # 5,051/2004, 6,040/2007, 6,476/2008, 7,747/2012; Laws # 11,326/06, 13,123/15; and the United Nations Declaration on the Rights of Indigenous Peoples.

The National Policy for Territorial and Environmental Management of Indigenous Lands (PNGATI) and The National Council of Traditional Peoples and Communities – CNPCT, are particularly relevant for addressing and respecting this safeguard, and contributed to the implementation of the 3rd Phase of PPCDAm (2012-2015). PNGATI aims to guarantee and promote protection, recovery, conservation and sustainable use of the natural resources found in indigenous lands and territories, ensure integrity indigenous heritage, improvement of quality of life and respect of sociocultural autonomy. Another important initiative is Terra Legal, which aims to legalize the use of 55 million hectares of state-owned land by granting land titles to some 160,000-smallholder families. It should be noted however that these ongoing processes of land demarcation, including the ongoing Indigenous Land Titling process, and other efforts to improve land tenure (such as the registration of populations living in Sustainable Conservation Units) is an enormously complex and challenging undertaking, not least because of the spatial scale of the Legal Amazon, and the isolation of many communities. More information regarding the governance structures for the implementation of PNGATI and CNPCT can be found on the table of Section 5 of the 2nd SOI. The main challenges related to the implementation of this safeguard identified by the CCT-Safeguards group are the increasing land conflicts in the Amazon region. Brazil therefore recognizes the need to governance systems in this regard and to create an ombudsman to report the violation of safeguards in REDD+ initiatives.

Finally, it is worth noting that knowledge and rights of IPs and traditional communities is also integrated in a crosscutting manner in other relevant national laws and policies. Particularly relevant is the National Biodiversity Policy, Decree # 4,339/2002, which aims to promote, in an integrated manner, the conservation of biodiversity and the sustainable use of its components, with the fair and equitable sharing of benefits derived from the use of genetic resources, components of genetic heritage and traditional knowledge associated with these resources. Also relevant is the Access and Distribution of Biodiversity Benefits Act, Law # 13,123/2015, which establishes rules to access genetic heritage, access the corresponding traditional knowledge, and share benefits. It sets the national definition of associated traditional knowledge, incorporating indigenous peoples, traditional communities and traditional farmers and sets the terms for access, with the definition of parameters for prior and informed consent, and the fair and equitable sharing of benefits.

[25] Amazon Sustainable Landscapes Project Document, 2017

For further information, please refer to the definition, objectives and details related to the interpretation of safeguard (c) by Brazil as presented in section 4.1 of the 2nd SOI as well as Section 5 of the 2nd SOI, which presents details about how safeguard (c) has been addressed and respected by the policies and initiatives aimed at reducing deforestation in the Amazon biome. Additional information on the respect for the rights of indigenous peoples and local communities in the implementation of the activities eligible for results-based payments can also be found in the ESA of PPCDAm found in the Annex, which includes a project-level review of the "Catalyzing the Contribution of Indigenous Lands to the Conservation of Brazil's Forest Ecosystems" drawing the traditional knowledge of IPs.

(iv) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of 1/CP.16.

Comments:

Ensuring the full and effective participation, voice and leading role of stakeholders, including the public and private sectors and the third sector, especially indigenous peoples, traditional peoples and communities, and traditional and family farmers, to promote shared management and social control in the implementation of REDD+ actions and their safeguards, is the principle objective of this safeguards as defined by Brazil in the 2nd SOI. The governance of the CONAREDD+ and the creation of Thematic Advisory Boards (including the CCT-Safeguards advisory board) by the CONAREDD+ are primary indications of progress in this direction. The ENREDD+ interactions with both the Climate Change Technical Chamber of the Management Committee of PNGATI and with the Indigenous Committee on Climate Change is particularly strong, as noted in the 2nd SOI. Furthermore CONAREDD+ more broadly, as well as CCT-Safeguards advisory board itself, include representatives from state and local governments, indigenous peoples and traditional peoples and communities. Civil society representatives have also been elected by the Brazilian Forum of Climate Change (FBMC; https://www.fbmc.com.br/), which also appointed the representatives from indigenous peoples and traditional peoples and communities to be part of CONAREDD+.

In regards to Free, Prior and Informed Consent, Brazil legislation has provisions that support these instruments, including the Federal Constitution, Art. 231; Decree n. 5051/2004 promulgating ILO Convention 169, Decree n. 6040/2007, Act n. 13.123/15 and Decree n. 8772/16, the last two specific for access to traditional knowledge associated with biodiversity. Of particular interest in this regard is Chart 6 of Brazil's 2nd SOI, which presents consultation protocols developed since 2014 by indigenous peoples and traditional peoples and communities in Brazil.

A groundbreaking initiative in Brazil, that also supports full and effective participation of stakeholders, in particular indigenous peoples, is the practice of creating Indigenous Environmental and Territorial Management Plans (PGTAs). The National Policy on Territorial and Environmental Management of Indigenous Lands (PNGATI), mentioned above, was developed by a collation including 150 indigenous groups and other institutions to endorse indigenous-led conservation, natural resource management and environmental restoration, while officially recognizing the PGTAs. The PGTAs reflect the specific visions Indigenous Peoples' for their lands, covering three main priorities: 1) Territorial control and protection, including indigenous-led surveillance and monitoring practices 2) Sustainable management of natural resources for the promotion of food security and income generation, as well as conservation, restoration and sustainable land use and 3) Capacity building and institutional strengthening for local organizations. To implement the policy and plans, the Ministry of Environment (MMA) and the Brazilian Foundation for Indigenous Affairs (FUNAI), along with the Global Environment Facility (GEF), the Nature Conservancy and UNDP implemented PGTAs in 32 indigenous lands, serving as a pilot phase for policy implementation to be shared throughout the almost 700 indigenous lands in Brazil[26]

[26] Indigenous Lands Developing Environmental and Territorial Management Plans, The Nature Conservancy: https://www.nature.org/.../land.../indigenous-environmental-and-territorial-plans.pdf

For further information, please refer to the definition objectives and details related to the interpretation of safeguard (d) by Brazil are presented in section 4.1 of the 2nd SOI. The CCT-Safeguards advisory board has also defined in more detail in section 4.1 of the 2nd SOI actions to ensure the full and effective participation of all relevant stakeholders including determining specific criteria for representativeness (e.g. regional distribution, gender and different forms of knowledge). Section 5 of the 2nd SOI presents details about how safeguard (d) has been addressed and respected by the policies and initiatives aimed at reducing deforestation in the Amazon biome. The main challenges related to the implementation of this safeguard identified by the CCT-Safeguards advisory board are also presented in the table in Section 5 of the 2nd SOI. Finally, additional information on this safeguard is also provided in the ESA found in the Annex.

(v) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits.

Comments:

Ensuring that REDD+ actions are not implemented to convert natural ecosystems into systems with low levels of biodiversity (although they may represent a high potential for GHG mitigation), nor into activities that could compromise the provision of ecosystem services or the guarantee of rights, is recognized as the principle objective of this safeguard, as defined by the CCT-Safeguards advisory board. It is also important to note that Brazil expands its definition not only to what may be considered standing forest, but also considers other natural vegetation, which provides key ecosystem services. That is, Brazil's definition explicitly values the standing forest, its multiple functions and benefits, and the livelihoods associated with it and interprets the term "natural forests" as "encompassing natural ecosystems, their structures, functions and dynamics that contribute to environmental and social benefits."

Significantly, subnational REDD+ innitiatives, notably in the state of Acre that has established a State System of Incentives for Environmental Services of Acre (SISA/AC), and the development of the pilot Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation (Floresta+), as presented in this FP, are also pivotal to furthering a approach which incentivizes the conservation of natural forests and their ecosystem services. The SISA/AC, which was established by State Law # 2,308/2010, comprises seven different programs of incentives to environmental services, which work together to reduce deforestation rates and forest fires in Acre, forest conservation and sustainable management, paving the way for environmental and social for those who live in the forest. In addition to 1) Carbon benefits, the incentives program also recognizes social and environmental benefits such as the 2) Conservation of Natural Scenic Beauty, 2) Conservation of Sociobiodiversity, 3) Conservation of Water and Water Services, 4) Climate Regulation, 5) Traditional Ecosystem Knowledge and Cultural Valuation and 6) Soil Conservation and Enhancement. Another wide-ranging policy that fostered conservation and sustainable use during the results period, was the Green Grant (Bolsa Verde) program that supported the conservation of more than 33 million hectares in Sustainable Use Conservation Units and Rural Settlements Projects, over 90% of which were in the Legal Amazon.

Brazil has a host of other policies and programs, which incentivize the protection, and conservation of natural forests as described in the 2nd SOI, including the creation of Protected Areas in the Amazon, encompassing 1) Integral Protection Conservation Units, 2) Sustainable Use Conservation Units: 3 Conservation Units, 3) Private Reserve of Natural Heritage and 4) Indigenous Lands.

In regards to the conservation of biological diversity, in addition to the recommendations made by CBD Decision XI/19, the coherence of REDD+ and biodiversity actions is further ensured through the integration of actions of the National Biodiversity Policy, the National Biodiversity Strategy and Action Plan (NBSAP) and the guidelines from the National Commission for Biodiversity (with information provided by the Brazilian Biodiversity Information System – SiBBr,), programs and policies that have as objectives the identification, monitoring and conservation of endemic, rare or endangered and high biodiversity value species or ecosystems.

Policies and programs that guarantee livelihoods associated with natural ecosystems are also included in the 2nd SOI. For example, the Amazon Fund supports, among other action: (1) creating and consolidating the management of protected areas; (2) recovering deforestation areas; and (3) conserving and sustainably using biodiversity. The ARPA (Amazon Protected Areas Program), also support actions in conservation units that encourage the balance between forest conservation and sustainable use of part of the natural resources.

For further information of the definition, objectives and details related to the interpretation of safeguard (e) by Brazil please refer to Section 4.1 of the 2nd SOI. This section also includes more details about this approach and determines that analyses of synergies and potential conflicts between REDD+ actions and programs and impacts on biodiversity and socio-environmental rights which will be part of the SISREDD+. Section 5 of the 2nd SOI presents information about how safeguard (e) has been addressed and respected by the policies and initiatives aimed at reducing deforestation in the Amazon biome. Data on the creation of protected areas, implementation of conservation units and development of policies to support biodiversity conservation are some of the indicators presented in this analysis. The information mentioned in the tables of Section 5 of the SOI demonstrates Brazil's efforts to increase the conserved and reforested areas. Section 5 of the 2nd SOI also presents the main challenges related to the implementation of this safeguard, which include unifying the systematization of data regarding the creation and homologation of territories of traditional peoples and communities amongst the various institutions responsible for managing these areas. Other challenges include the legal suits initiated by certain sectors operating in the Legal Amazon who goals are contrary to conservation, and whose actions aim to reverse the demarcation of protected areas in the Amazon region. Further information on this matter is also described in the ESA of the PPCDAm found in the Annex, which includes a project-level review of the "Going Green" project designed to strengthen institutional capacity to promote environmental adjustment of rural properties through adhesion to the Rural Environmental Registry (CAR).

(vi) Actions to address the risks of reversals.

Comments:

Promoting the long-term reduction of GHG emissions within the scope of REDD+ actions, and ensuring consistent and continuous results is considered the principle objective of this safeguard, as defined by the CCT-Safeguards advisory board. Several federal laws and instruments promote and support activities to ensure that the results of REDD+ actions endure, including the Atlantic Forest Law (Lei da Mata Atlântica), which has provisions to protect recovered and restored forests, and the Forest Code (which applies to the Amazon Biome) stipulating that rural landholdings must conserve 80% of their area with native vegetation cover, as a legal reserve, applying to landholdings located in originally forested areas. Furthermore, the PPCDAm includes a host of actions to monitor, analyze and improve the coordinated actions for maintaining reduced deforestation rates. Each phase of PPCDAm serves as an opportunity to analyze both the main causes of deforestation and the risks of reversals, which leads to iterative improvement of the action plan, and targeting of activities in new phases.

It should be noted that Brazil has one of the most advanced systems for satellite forest monitoring in the world, the Amazon Deforestation Monitoring Program (PRODES), which is described above as used in the construction of the FREL. PRODES historically used Landsat 5 images, but now also incorporates imagery from Landsat 7 and 8, CBERS-2, CBERS-2B, Resourcesat-1, and UK2-DMC, with all PRODES data is publicly available online. Furthermore, Brazil has a Real Time System for Detection of Deforestation (DETER), a satellite-based system that enables frequent and quick identification of deforestation hot spots, greatly enhanced monitoring and targeting capacity, making it easier for law enforcers to act upon areas with illegal deforestation activity. The Environmental Control and Monitoring pillar of PPCDAm was principally responsible for the marked deforestation reduction observed in the first phases of the plan. Recently, Assunção et al (2017) evaluated the effects of the monitoring and law enforcement between 2007 and 2011, showing that monitoring and enforcement efforts avoided an average of 22,000 km^2 of deforestation per year between 2007 and 2011.

The deforestation data (presented in Figure 12 of the 2nd SOI) is the main indicator to assess potential risks of reversal, confirming that the four lowest deforestation rates in Brazilian history were observed in the 3rd PPCDAm phase (2012, 2013, 2014 and 2015). The recent increase in the deforestation rate observed in 2016 marks a deviation from this trend, however it should also be noted that an increase in deforestation in

one single year does not necessarily present a trend of reversal, given the complexity of economic and political drivers influencing deforestation rates, which may be related to temporally limited and atypical circumstances, such as budget, the approval of specific rules or even commodities prices. After a slight increase in 2015 (still the fourth lowest deforestation rate since 1988), deforestation rates were higher again in 2016, but reduced in 2017. This reduction was in part a result of changes implemented after the 4th Phase of PPCDAm as explained in Section 5 of the 2nd SOI. Regardless, possible causes of identified in the 2nd SOI include the possibility that deforesters are adjusting their practices to monitoring strategies. Assunção et al (2017) performed an experiment that reinforces this hypothesis, with study results indicating an increase in the relative participation of areas smaller than 25 ha (limit of DETER detection) in small, medium and large properties in Mato Grosso and Para States between 2005 and 2012. As a result, Brazil is taking action to further improve monitoring systems and strategies. Finally, operationalizing REDD+ results-based payments through the Floresta+ program will be a central strategy to address the risk of reversal.

For further information of the definition, objectives and details related to the interpretation of safeguard (f) by Brazil are presented in section 4.1 of the 2nd SOI, which also provides details about the approach defined by the CCT-Safeguards advisory board to address and respect this safeguard, including the effective, comprehensive, frequent and accurate monitoring of all relevant areas and promoting complementary and synergistic action of the SISREDD+, Matrix of Public Policies Impact, and Info Hub Brazil, as established in the ENREDD+. Section 5 of the 2nd SOI presents information about how safeguard (f) has been addressed and respected by the policies and initiatives aimed at reducing deforestation in the Amazon biome. The main challenges related to the implementation of this safeguard identified by the CCT-Safeguards advisory board and presented in the table in Section 5 of the 2nd SOI are maintaining the high level of investments in law enforcement activities and other initiatives to reduce deforestation, including through the support received from results-based payments.

(vii) Actions to reduce displacement of emissions.

Comments:

The CCT-Safeguards advisory recognizes that the principle objective of this safeguard is promoting legislation and actions, which prevent the implementation of REDD+ activities in one area, having the opposite effect in another, more vulnerable, area. Given that almost 60% of the Brazilian territory is covered by natural and planted forests, accounting for the second largest forested area in the world, and that Brazilian forests are distributed throughout six biomes, with distinct characteristics, land use dynamics and deforestation trends, presenting unique technical challenges, Brazil is currently implementing REDD+ per biome as an interim measure. Biome boundaries are therefore the territorial unit used to assess emission displacement. In order to address and reduce the displacement of emission to other biomes, Brazil is committed to expanding the implementation of REDD+ activities to all biomes in the future, with the scaling-up of the REDD+ implementation to the national level following a step-wise approach, noting the importance of adequate and predictable support. The implementation of the Action Plan for the Control of Deforestation in the Cerrado biome (PPCerrado), the engagement of stakeholders beyond the Amazon in the ENREDD+, the establishment of the Rural Environmental Registry (CAR) and the creation of a national forest monitoring system (NFMS) are some of the elements detailed in Section 5 of the 2nd SOI that demonstrate how Brazil is expanding its policies and initiatives beyond the Amazon biome.

To address both the risk of displacement between biomes, as well as potential trans boundary displacement to adjacent national territories not yet as advanced in the operationalization of REDD+, Brazil has also invested in south-south cooperation initiatives for forests and climate change, through results-based payments received by the Amazon Fund. Just over 20% of the total resources received through results-based payments by the Amazon Fund can now be used to support the development of deforestation monitoring and control systems in other Brazilian biomes and other countries. In this regards, Brazil has invested USD 12 million in the development of the capacity to monitor deforestation, changes in the use of land and forests of other countries in the Amazon basin[27].

[27] For more information see: http://www.amazonfund.gov.br/en/projeto/Monitoring-Forest-Coverage-in-the-Regional-Amazon/ and http://www.otca-oficial.info/assets/documents/20170508/70c7925ed598a0813cc675a434b5746b.pdf, last accessed on July 25th, 2018.

Section 4.1 of the 2nd SOI presents more details about the approach defined by the CCT-Safeguards advisory board to address and respect this safeguard, including the scaling up of the implementation of REDD+ from the biome to the national level, in a stepwise manner. Section 5 of the 2nd SOI presents information about how safeguard (g) has been addressed and respected by the policies and initiatives aimed at reducing deforestation in the Amazon biome. The main challenges related to the implementation of this safeguard identified by the CCT-Safeguards advisory board are also presented in the table in Section 5 of the 2nd SOI. Key challenges are related to the availability of resources to support the national implementation of REDD+ and reconciling production and environmental protection in the Cerrado biome.

C.1.2. Stakeholder involvement.

Please describe and provide evidence that the Cancun safeguards information was made transparently available to stakeholders.

Stakeholder engagement and discussions regarding REDD+ safeguards in Brazil began in 2009, before safeguards were formally defined under the UNFCCC, in December 2010. This process was initiated by non-governmental organizations, engaging social movements, smallholders, private sector actors, environmental NGOs and research institutions in workshops, meetings and a public consultation, and produced the report "REDD+ Social and Environmental Principles and Criteria".

In 2011, the MMA promoted the workshop "Implementing Social and Environmental Safeguards in the National REDD+ Strategy", with the participation of several civil society organizations. In 2012, the MMA and the National Indigenous Peoples Foundation (FUNAI) held a seminar to discuss the indigenous peoples' issues related to the implementation of REDD+ in Brazil. The workshop resulted in the drafting of the document "Set of principles and premises for the implementation of REDD+ in Indigenous Lands". In 2012, the MMA also coordinated a Technical Panel with experts from civil society organizations. The Panel conducted a survey of information and gaps related to the implementation of safeguards and the development of the SISREDD+. In 2014, Brazil submitted to the UNFCCC its 1st SOI as a compilation of the outcomes from all the discussions held up to then.

After that, in 2016, the CONAREDD+ established the CCT-Safeguards advisory board to coordinate a participatory process for the systematic implementation of REDD+ safeguards in Brazil. This includes the conceptualizing the safeguards in the Brazilian context (Section 4 of the 2nd SOI), developing the SISREDD+ and reviewing the summary of information on the safeguards, among other activities.

The CCT-Safeguards advisory board when summarizing past consultations and discussions, considered the work previously conducted on the topic and updated it. The first step in the consultation process was the participatory definition of the safeguards in the Brazilian context by the CCT. This exercise is the basis for all the systematization of the safeguards implementation in Brazil. Brazil's understanding is that the implementation of the safeguards encompasses a large set of laws, policies and programs established in the national context, and the rationale is that all those laws, policies and programs implemented together ensure addressing and respecting the safeguards. As suggested by the CCT-Safeguards advisory board, the interpretation of Cancun safeguards in the Brazilian context presents a "Definition", "Objectives" and "Further details" for each of the safeguards, aiming at providing a clear scope for the implementation and monitoring of the safeguards by Brazil. It should be mentioned that the three sections (definition, objective and further details) are equally important and complementary.

Brazil's 2nd SOI, submitted to the UNFCCC in 2018, is equally the result of a participative process, guided by the CCT-Safeguards advisory board. In addition to ordinary meetings, a specific workshop about the content of the summary on the safeguards was conducted with the CCT members and other stakeholders. The document was made available on the Internet for contribution for two months, making use of social media and REDD+ Brazil monthly newsletter (which has over 900 subscribers) as means to communicate the collection of face-to-face and virtual contributions. It is also important to mention through this process relevant stakeholders would provide inputs and suggestions to both interpretation of the safeguards (section 4) and their implementation (section 5). The CCT-Safeguards advisory board members were also encouraged to consult with their peers and to take a proactive role as multipliers of information throughout the process.
Brazil's 2nd SOI was developed in a progressive manner, enhancing information and processes used to elaborate the 1st SOI, while acknowledging that further enhancements are yet to come along with awareness

about the topic in the country and with the full implementation of the SISREDD+. The methodology for the development of Brazil's 2nd SOI was created by the CCT-Salv and is described in section 3.2 of the 2nd SOI. This section details how the information from actions and initiatives that contribute to the achievement of the results (PPCDAm, ENREDD+, etc.) and the investments made through payments received for these results (Amazon Fund) were assessed to determine how the Cancun Safeguards had been addressed and respected by Brazil for results achieved from 2011.

With the conclusion of the conceptualization of safeguards in the Brazilian context and the contributions to the 2nd SOI, the CCT-Safeguards advisory board is now entirely dedicated in the SISREDD+ improvement. To assist the CCT and to ensure a broad and participatory process for the definition of indicators for the SISREDD+, a series of workshops has been conducted, bringing together a range of stakeholders from the national to local level, and including representatives of Indigenous People, traditional communities, state governments, NGOs, academia and the private secot. Table 16 presents the number of representatives per sector that participate in these workshops.

Table 16. REDD+ safeguards representatives per sector/ group

Sector/Group	Number of representatives
Indigenous people	21
State government	49
Federal government	8
Traditional people and communities and family farmers	31
University	17
Private sector	8
Grassroots movements	4
NGOs	20
Total	158

Source: MMA, 2018

These 158 representatives mentioned above came from eighteen different states[28] of Brazil, with 80 female and 78 male stakeholders, ensuring regional and gender balance. Further information on stakeholder involvement and information sharing with stakeholders can be found in the ESA found in the Annex.

C.2. Use of proceeds and non-carbon benefits

C.2.1. General description:

Provide a description on how the proceeds will be reinvested in activities consistent with the country's NDC, national REDD-plus strategy and/or low carbon development plans and policies. The description should also include how the proceeds will be used in a manner that contributes to the long-term sustainability of REDD-plus activities, including non-carbon benefits.

The ENREDD+ was approved in the end of 2015 with the overall objective to contribute to climate change mitigation by eliminating illegal deforestation, promoting conservation and restoration of forest ecosystems and fostering a low-carbon and sustainable forest economy, while delivering environmental, social and economic benefits. This will be done through three specific objectives: (i) improving the monitoring and impact assessment of public policies for REDD+; (ii) integrating governance structures for climate change, forests and biodiversity in all levels; (iii) contributing to the mobilization of resources at the scale compatible with Brazil's commitments to mitigate climate change in accordance with Brazil's NAMAs by 2020.

[28] Brazil has 26 states and the Federal District. The Amazon region comprises 9 states.

Also, in 2015, Brazil submitted its NDC to the UNFCCC. Brazil's NDC intends to reduce GHG emissions by 37% below 2005 levels in 2025 and a subsequent reduction of GHG emissions by 43% below 2005 levels in 2030[29].

Brazil's NDC is economy-wide, based on flexible pathways to achieve its objectives. In the annex of its NDC Brazil presented additional information **meant only for clarification purposes** – **these are not sectorial targets**. With regards to the forest sector, the following measures have been preliminarily identified for the implementation of Brazil's NDC:

- strengthening and enforcing the implementation of Brazil's Forest Code (Law 12.651/2012), at federal, state and municipal levels;
- strengthening policies and measures with a view to achieve, in the Brazilian Amazon, zero illegal deforestation by 2030 and compensating for GHG emissions from legal suppression of vegetation by 2030;
- restoring and reforesting 12 million hectares of forests by 2030, for multiple purposes;
- enhancing sustainable native forest management systems, through georeferencing and tracking systems applicable to native forest management, with a view to curbing illegal and unsustainable practices.

Eliminating illegal deforestation, promoting the enhancement of forest carbon stocks and fostering a sustainable forest economy are common objectives of both Brazil's ENREDD+ and the NDC. Both the ENREDD+ and the NDC also have the implementation of the Forest Code as a strategic element. REDD+ is considered by Brazil as means for the implementation of its NDC. Brazil's NDC states that "the implementation of REDD+ activities and the permanence of results achieved require the provision, on a continuous basis, of adequate and predictable results-based payments in accordance with the relevant COP decisions".

The results-based payments received by Brazil from the GCF will contributed to the implementation of the forest sector actions of Brazil's NDC. This project proposal has two main outputs:

1. Development of a pilot of an Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation (Floresta+); and

2. Strengthen the implementation of Brazil's ENREDD+ through improvements in its governance structure and systems.

These two outputs will contribute to the achievement of the ENREDD+ overall objective and the country's NDC. More details are provided below.

Output 1: Floresta+ Pilot Program

The Floresta+ is a new and innovative pilot program that aims to provide incentives for environmental services (IES) in the Legal Amazon region, in accordance with Brazil's Forest Code, the ENREDD+ and Brazil's NDC. This IES pilot program will have the following specific objectives:

1. provide monetary compensation to incentivize native vegetation conservation and recovery and improvement of ecosystems that generate environmental services (including but not limited to carbon);
2. prevent the occurrence of deforestation, forest degradation and forest fires through financial incentives;
3. incentivize the conservation and recovery of native vegetation of rural properties, conservation areas, indigenous lands, land settlements and traditional people and community lands;
4. promote compliance with the environmental legislation, especially that related to the protection and recovery of native vegetation (Forest Code);

[29] These estimates are based on Brazil's Second National GHG Inventory which was part of the SNC to the UNFCCC.

5. offer a financial mechanism to foster the development and implementation of public policies aimed at conservation and recovery of native vegetation.

The target audience for the Floresta+ Pilot Program is comprised of:

1. small farmers, according to art. 3º, V, of the Forest Code (Law nº 12.651/2012), up to 4 fiscal modules[30]
2. indigenous peoples;
3. traditional peoples and communities according to I, do art. 3º, of decree nº 6.040/2007 (that use their territory collectively); and
4. public institutions or agencies (including States and municipalities), civil associations, cooperatives and private law foundations that act in topics related to conservation and recovery of native vegetation.

The prioritization of areas to be selected as beneficiaries for the Floresta+ pilot program will consider:

a) regions with high pressure from deforestation, forest degradation and forest fires;
b) priority areas for biodiversity conservation and for the recovery of native vegetation, according to norms defined by the MMA;
c) buffer zones around protected areas;
d) regions with higher density of small farmers;
e) regions with higher concentration of traditional peoples and communities;
f) integration with other public policies related to the conservation and recovery of native vegetation.

The Floresta+ Pilot Program will operate through resource distribution modalities such as:

1. **Modality 1 (Floresta+ Conservation):** incentives to landowners and land users of rural properties according to the classification of item V, of article 3º, of the Forest Code (Law nº 12.651/2012), with the objective of conserving native vegetation remnants additional to the legal requirements;
2. **Modality 2 (Floresta+ Recovery):** incentives to landowners and land users of rural properties according to the classification of item V, of article 3º, of the Forest Code (Law nº 12.651/2012), with the objective of recovering Permanent Preservation Areas (e.g. riparian forests, mountain tops and steep inclines);
3. **Modality 3 (Floresta+ Communities):** support to associations and representative entities of indigenous peoples and traditional peoples and communities;
4. **Modality 4 (Floresta+ Innovation):** support innovative actions and arrangements to develop, implement and leverage public policies for conservation and recovery of native vegetation.

Additional criteria and priority areas will be developed and refined in consultation with the relevant stakeholders, including indigenous peoples and traditional peoples and communities, civil associations, state government representatives, federal agencies, non-governmental organizations, among others.

Direct payments will be calculated based on the area of native vegetation remnants and environmental liabilities to be recovered, in hectares, according to the data in the National Rural Environmental Registry System (SICAR). Amount of payment per hectare will be defined in norms to be published by the Project Advisory Committee and should consider:

a) the relationship between the preserved native vegetation area and the area of deforested, degraded or burnt native vegetation within the rural property limits;
b) the opportunity cost of land use in areas with alternative land use;
c) the reference values of other programs of incentives for environmental services, when applicable.

[30] A fiscal module is an agrarian unit used in each municipality in Brazil, defined according to the terms of article 50, section 2, of Law No. 6,746 of December 10, 1979. (Law No. 6.746/1979) This measure is meant to ensure Floresta+ is focused on small and medium households instead of larger land owners. Indeed 90% of farms have up to four fiscal modules according to INCRA.

Modalities 1, 2 and 3 of the Floresta+ Pilot Program should represent about 80% of the program funding allocation.

Floresta+ Pilot Program alignment with the ENREDD+, and Brazil's NDC
As of the time of the submission of this proposal, policies and measures to reduce deforestation in the Amazon region have heavily focused on command and control actions. Studies suggest that enforcement actions are very effective but also have an intrinsic limit on the fight against illegal deforestation. A high degree of continuous investments is needed, to support command and control operations on the ground while also providing positive incentives to the people that contribute to forest conservation and enhancement of forest carbon stocks. Investments in positive incentives are key to maintain and further expand the REDD-plus results achieved in the Amazon region. This will be the core of this GCF proposal.

The Floresta+ Pilot Program will incentivize conservation and the recovery of native vegetation in accordance with Brazil's Forest Code and Proveg. This will contribute to reduce the pressure on native forests therefore consistent with the ongoing efforts to eliminate illegal deforestation and promote the restoration/ recovery of ecosystems, which are part of the general objective of Brazil's ENREDD+ and are listed as potential activities in the forest sector for the achievement of Brazil's NDC and national policies.

Output 2: The implementation of Brazil's ENREDD+

About 43 developing countries have signed and in part already received a total of USD 400 million from readiness funds from the Forest Carbon Partnership Facility (FCPF) from the World Bank[31] and other readiness initiatives to develop all the elements for REDD+ including a national REDD+ strategy (NRS), FREL/FRL, NFMS and SISREDD+.

Brazil was not part of any international REDD+ readiness fund or initiative. All REDD+ elements were developed by the country itself, using its own limited national budget (details presented in section B.2.2 (viii) of this proposal) and human resources. With a small part of the resources to be received from the GCF through REDD+ results-based payments, Brazil intends to improve its REDD+ elements to strengthen the implementation of the ENREDD+ and contribute to a more effective and transparent implementation of its NDC.

The resources received by Brazil from the GCF through REDD+ payments will be in part directed to support the:

1) Expansion of the forest monitoring system and MRV to include additional REDD+ activities, pools and gases, considering the mapping products produced under the Brazilian Biomes Environmental Monitoring Program, for all biomes, as appropriate, following the guidance from the Working Group of Technical Experts on REDD+. The aim is to submit a national FREL to the UNFCCC by 2020.
2) Development of a tool to monitor and measure the impacts of REDD-plus policies and investments and inform decision-making regarding the forest component of Brazil´s NDC.
3) Improvement Brazil's Safeguards Information System for REDD+ (SISREDD+) and its ombudsman, making it more complete, transparent and accessible.
4) Enhancement of the capacities and access of the various stakeholders for participating in the CONAREDD+ and its Consultative Chambers, including the revision of the National REDD+ Strategy in 2020.
5) South-south Cooperation Program in Forests and Climate Change designed by the MMA and the Brazilian Agency of Cooperation of the Ministry of Foreign Affairs (ABC/MRE)

A stronger governance structure and more transparent data and information systems will contribute to the long-term sustainability of these investments. **It will also contribute for the effective implementation of the measures needed in the forest sector for the achievement of the national target indicated in Brazil's NDC.**

The REDD-plus results-based payments from the GCF will also fund a South-south Cooperation Program in Forests and Climate Change designed by the MMA and the Brazilian Agency of Cooperation of the Ministry

[31] For more information see: https://www.forestcarbonpartnership.org/about-fcpf-0, last accessed on August 1st, 2018.

of Foreign Affairs (ABC/MRE). This Program has as its overall objective contributing to the reduction of global GHG emissions and the achievement of Parties commitments under the UNFCCC and its Paris Agreement, through their NDCs, by strengthening the technical and institutional capacities of developing countries to achieve REDD-plus results. The Program is aligned with Brazil's NDC and ENREDD+. Brazil's NDC recognizes the complementary role of South-South cooperation, based on solidarity and common sustainable development priorities, for the achievement of the ultimate objective of the Convention.

The GCF resources will allow the MMA and the ABC to develop knowledge materials in English, Spanish and French to share with other developing countries the Brazilian experience developing and implementing effective public policies to protect its forests and curb deforestation and in forest monitoring and MRV systems for REDD+. Regional workshops and exchanges, including site visits, will also be promoted.

The implementation of Brazil's ENREDD+ should represent less than 10% of the total funding allocation.

C.2.2. Expected outputs and outcomes:

Please provide the following information:

Component(s)	Outputs	Outcomes
Forest sector actions to contribute to the implementation of Brazil's Nationally Determined Contribution	Output 1 Implementation of the Floresta+ Pilot Program Output 2 Implementation of the National REDD+ Strategy (ENREDD+) Output 3 Program management*	M5.0 Strengthened institutional and regulatory systems • Projects supporting local and indigenous organizations in the implementation of the National Policy on Environmental and Territorial Management of Indigenous Land. • Projects supporting local and indigenous organizations in the strengthening of socioenvironmental management, housing and green infrastructure, cultural manifestations and economic sustainability to local and traditional communities. • Projects supporting the improvement and the adoption of innovative instruments for public policies related to forest conservation and restoration (e.g. PPCDAm, Planaveg, Forest Concessions, National Forest Inventory, SICAR, Sinaflor, etc.). • REDD+ systems and tools improved (SISREDD+, Public Policy Matrix) • ENREDD+ revised. • Representatives actively engaged in the CONAREDD+ and CCTs meetings and activities. • Information and lesson learnt materials produced in different languages. M9.0 Improved management of land and forest • Increased area of forests supported with Incentives for Ecosystem Services for conservation. • Increased area of land supported with Incentives for Ecosystem Services for restoration. • Mapping products produced.

		• Estimates of GHG from REDD+ activities carried out.

** Project Management is described in section G below.*

C.2.3. Timeframe of implementation (for monitoring and reporting purposes):

Please provide the following information:

Outputs	Expected year to be achieved
Output 1 Implementation of the Floresta+ Pilot Program	Year 6
Output 2 Implementation of the National REDD+ Strategy (ENREDD+)	Year 6
Output 3 Program Management	Year 6

If needed, provide any additional comments/explanations:

Output 1:
The first 12 months of implementation of Floresta+ will be used to conduct extensive stakeholder consultations and social and environmental impact assessments in line with the ESMF, in order to establish detailed and operational safeguards management plans and to inform the broader design of Floresta+, including the selection of the beneficiaries in the Modalities 1, 2, 3 and 4. It includes the establishment and operation of a governance structure; the definition of values and priority areas for direct payments; upgrades in SICAR for registering and monitoring processes; the development of a simplified online platform to register the proposals for direct payments; the selection process of the beneficiaries and projects; the establishment of the contracts.

The direct payments for each household in Modalities 1 and 2 will be made up to four years during the project, considering the period between the admission and the end of the project. From that, annual payments will be based in the monitoring results of forest conservation and restoration. The projects' duration in Modalities 3 and 4 will be determined in the specific criteria and guidelines for each public.

Output 2:
The activities in this output will follow the calendar established in the ENREDD+ and CONAREDD+. The activities are currently underway, and the project will support to enhance the products and processes. The focus of the first year is to support the preparation of the national FREL and to improve the implementation of SISREDD+, including exploring synergies with the Grievance Redress Mechanism and safeguards requirements for GCF. After that, the Public Policy Matrix and the revision of the National REDD+ Strategy will be conducted taking into consideration the Brazil's NDC. The enhancement of the capacities and access of the various stakeholders for participating in the CONAREDD+ and its Consultative Chambers and the South-South Cooperation initiatives are cross-cutting issues and will be implemented during all the project.

C.2.4. Budget estimate (for monitoring and reporting purposes):

Following the procedures of the Terms of Reference for the REDD+ pilot programme for Results-Based payments, the iTAP recommended that the Board consider the following:

(a) Total score achieved **36/48**
(b) GCF volume of ERs: **18,819,946.91 tCO_2 eq;** and
(c) Additional 2.5 per cent for use of proceeds and non-carbon elements
(d) Proposed REDD-plus results-based payments (USD 5/tCO_2eq): **USD96,452,228**

Based on this, the budget for the proposal was finalized as described below.

Output	Indicative cost (USD)	GCF proceeds	Co-financing (if any)	
		Amount	Amount	Source
Output 1 Floresta+ Incentives	79.7 million	79.7 million	0	0
Output 2 Implementation of the National REDD+ Strategy (ENREDD+)	7 million	7 million	0	0
Output 3 Program Management	9.7 million	9.7 million	0	0
Indicative total cost and currency (USD or EUR)	96.4 million	96.4 million	0	

As agreed by the Recipient of the REDD+ RBP Proceeds, an additional line item is included in the project management output of the Funding Proposal budget (as detailed in table 17) for an amount equivalent to 3.5% of the proceeds, to be utilized by UNDP for the provision of supervision services to the project.

Table 17 below provides a detailed budget for the project at the activity level.

Table 17. Detailed Budget at the activit level

Output	Activity		GCF amount (USD)
Output 1 Floresta+ Incentives	1.1	Refinement of Floresta+ Pilot Programme and selection of implementing partners	2,320,000
	1.2	Operation of Floresta + Modality 1	48,400,000
	1.3	Operations of Floresta + Modality 2	12,375,000
	1.4	Operation of Floresta + Modality 3	7,500,000
	1.5	Operation of Floresta + Modality 4	5,000,000
	1.6	Technical Monitoring of Floresta+	3,620,000
	1.7	Implementation of an outreach strategy for Floresta+	510,000
	Total Output 1		79,725,000
Output 2 Implementation of the National REDD+ Strategy (ENREDD+)	2.1	Expansion of the forest monitoring system and improvement of the Measurement, Reporting and Verifying process for REDD+	3,443,964
	2.2	Development of Public Policies Impact Matrix	190,000
	2.3	Improvement of REDD+ Safeguards Information System (SISREDD+)	1,400,200
	2.4	Strengthening ENREDD participatory mechanisms	1,329,600
	2.5	Promoting knowleadge management and exchanges in CC and Forests for South-South cooperation	620,069
	Total Output 2		6,983,833
Output 3 Programme Management	3.1	Project Management	3,474,000
	3.2	Direct Project Costs	2,893,566
	3.3	Provision of supervision services to the project	3,375,827
	Total Output 3		9,743,395
Total Budget			96,452,228

As per the Terms of reference for the pilot programme for REDD+ results-based payments (section 4.5), the GCF will transfer funds through the accredited entity to the recipient defined in the funding proposal in a single disbursement after approval by the Board. Given this, the interest income from the proceeds will be reinvested in the activities of Outputs 1 and 2. Table 18 below present the planned disbursements that UNDP will make towards the implementation of programme activities.

Table 18. Disbursement Schedule for the Implementation of Programme Activities

Description	GCF Project Funds
For Year 1 Activities	3,599,827
For Year 2 Activities	23,051,829
For Year 3 Activities	22,286,078
For Year 4 Activities	22,400,709
For Year 5 Activities	22,101,448
For Year 6 Activities	3,012,336
Total	96,452,228

C.2.5. Implementation arrangements:

List and describe the institutions involved in the activities that will be funded with proceeds from this pilot program, and explain their anticipated roles and interactions with one another, including the flow of funds.

The Government of Brazil (GOB), through MMA, has requested UNDP's assistance for the design and implementation of this Project after a selection process, which showed UNDP's comparative advantage, including vast experience in supporting the Government in project implementation in Brazil, its in-country presence, its large portfolio of biodiversity, climate change and REDD-plus, both nationally and globally, and its role as GCF Accredited Entity (AE). The selection process conducted by MMA is described in the section E.1.3.

At the request of the GoB UNDP will therefore serve as both Accredited Entity (AE) and Executing Entity (EE) for this project. In line with UNDP Internal Control Framework (ICF) there will be a clear division between UNDP oversight function as GCF AE and its role as EE. A firewall will be created between execution and oversight functions to avoid any conflict of interest.

As an Accredited Entity to GCF, UNDP's overall role is to provide oversight and quality assurance through its Headquarter, Panama Regional Hub and Brazil Country Office. This role includes: (i) project preparation oversight; (ii) project implementation oversight and supervision, including financial management; and (iii) project completion and evaluation oversight. It also includes oversight roles in relation to reporting and knowledge-management. The '**project assurance**' function of UNDP is to support the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project assurance is independent of the Project Manager and Project Management Unit; therefore, the Project Board cannot delegate any of its assurance responsibilities to the Project Manager or other members of the PMU. A UNDP Programme Officer, or M&E Officer, at the Country Office with support from the UNDP's Global Environmental Finance Unit, will hold the Project Assurance role on behalf of UNDP.

The project will be implemented under UNDP's Direct Implementation modality (DIM). UNDP will be the Executing Entity/ Implementing Partner. The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of the project resources.

As Executing Entity, UNDP offices will carry out operational and administrative support activities which include the provision of the following services:

- Payments, disbursements and other financial transactions.
- Recruitment of staff, project personnel, and consultants.
- Procurement of services and equipment, including disposal.
- Organization of training activities, conferences, and workshops, including fellowships.
- Travel authorization, visa requests, ticketing, and travel arrangements.
- Shipment, custom clearance, vehicle registration, and accreditation, among others.

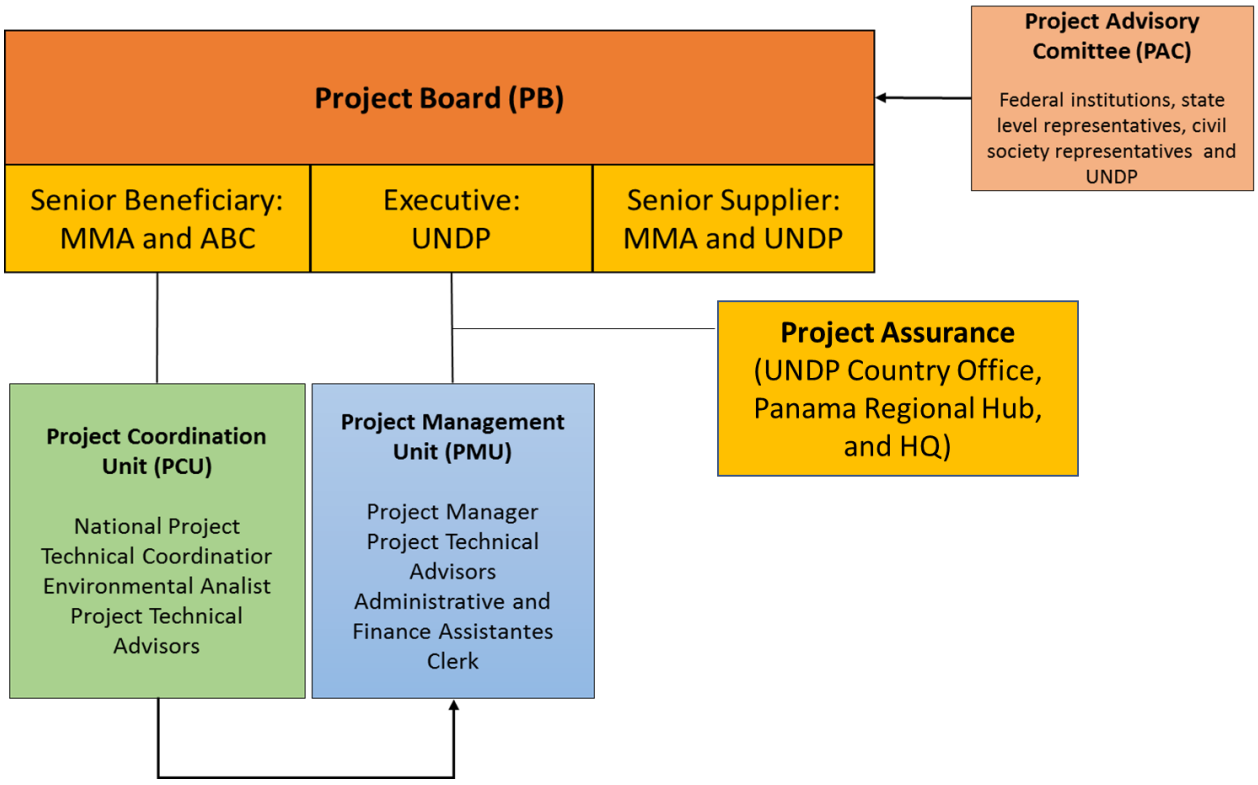
In addition to the provision of the above services, UNDP will be responsible for establishing a Project Management Unit which will execute the project and coordinate the management, reporting, and promote inter-institutional linkages of this project with other initiatives, disseminating its results. Inputs related to Project Execution have been costed and budgeted in the Project Management Costs.

UNDP will act in close consultation with MMA as the technical entity responsible for forest public policies. MMA will also support technical oversight and management through its role on the Project Board; in chairing the Project Advisory Committee; and in designating a wide range of staff for delivery of different project activities and coordination of technical outputs.

In addition, UNDP may enter into agreements with other organizations or entities, known as “Responsible Parties”, which may carry out project activities and produce project outputs on behalf of the Implementing Partner. Responsible Parties are accountable directly to the Implementing Partner. Given the nature of this project, appropriate responsible parties will be selected and indicated by MMA and UNDP, as per UNDP rules and regulations.

The management arrangements, described below and summarized in Figure 12, constitute the Project Board; Project Coordination Unit, Project Management Unit, and a Project Advisory Committee.

Figure 12. Project management arrangements



Project Board (PB)

Project Board is responsible for making by consensus or majority, management decisions when guidance is required by the Project Manager, including recommendations for UNDP/Implementing Partner approval of project plans and revisions, and addressing any project level grievances. To ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager.Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Agree on project manager's tolerances as required;
- Analyze and discuss the development of the Project activities and recommend changes as required based on project monitoring and evaluation processes and products and in line with UNDP policies;
- Discuss and approve the Annual Work Plans ensuring that required resources are committed;
- Appraise the annual project implementation report, including the quality assessment rating report; make recommendations for the workplan;
- Provide ad hoc direction and advice for exceptional situations when the project manager's tolerances are exceeded; and
- Discuss and approve the Progress Reports and Final Report of the Project;
- Analyze Project achievements and assure these are used for performance improvement, accountability and learning; and
- Settle controversies arbitrating on any conflicts within the project or negotiating a solution to any problems with external bodies.

The PB will be composed of UNDP, the Brazilian Agency for Cooperation (ABC) and the MMA and their respective alternate members. The Board can be expanded, upon agreement between the Parties. UNDP will represent the main Executing Agency for the project, chairing the PB and organizing its meetings at least once a year or upon request of either of the Parties. The ABC is the institution responsible, within the government, for following up on the activities for this Project; and the MMA is responsible for the provision of technical expertise and guidance for the project. For this, the MMA will appoint a National Project Technical Director (NPTD) who will be a senior staff member and will be responsible at the highest level for providing guidance on the technical feasibility of the project and ensuring its implementation leads to the achievement of project's results. He/she will represent the MMA on the PB; will chair the Project Advisory Committee (PAC); will keep the MMA updated on Project advances and challenges as needed and will represent the Project at high-level national and international meetings. This is a part-time contribution continuing for the duration of the Project. The Project Board's role in project management will be complemented by inputs and recommendations from a Project Advisory Committee (PAC) (see below). In addition, the PB will approve the appointment and responsibilities of a Project Manager who will be responsible for the daily project execution.

The composition of the Project Board will include the following roles:

Executive: The Executive is an individual who represents the main Executing Agency of the project who will chair the Project Board. The Executive for this project is UNDP. The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive must ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and supplier.

Specific Responsibilities (as part of the above responsibilities for the Project Board):

- Ensure that there is a coherent project organization structure and logical set of plans;
- Set tolerances in the AWP and other plans as required for the Project Manager;

- Monitor and control the progress of the project at a strategic level;
- Ensure that risks are being tracked and mitigated as effectively as possible;
- Brief relevant stakeholders about project progress;
- Organize and chair Project Board meetings.

Senior Supplier: The Senior Supplier is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. However, considering it to be a project of REDD-plus results-based payments, MMA will also perform this role.

Specific Responsibilities (as part of the above responsibilities for the Project Board):

- Make sure that progress towards the outputs remains consistent from the supplier perspective;
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management;
- Ensure that the supplier resources required for the project are made available;
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

Senior Beneficiary: The Senior Beneficiary is an individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society.

The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. The Senior Beneficiary for this project are the MMA and the ABC. Specific Responsibilities (as part of the above responsibilities for the Project Board):

- Prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Specification of the Beneficiary's needs is accurate, complete and unambiguous;
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target;
- Impact of potential changes is evaluated from the beneficiary point of view;
- Risks to the beneficiaries are frequently monitored.

Project Assurance

UNDP provides a three – tiered supervision, oversight and quality assurance role involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of the Project Management function. The quality assurance role supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed.

Project Advisory Committee (PAC)

The MMA through its NPTD in the PB; and the Project Technical Advisors (PTAs), in collaboration with the Project Manager (PM), in the PMU will take the lead regarding technical responsibilities during the execution of the project and ensure alignment with relevant national policies and programs. In this role, the MMA, as chair of the PAC, will closely coordinate the Committee composed by: Brazilian Forest Service, FUNAI, ICMBio, state level representatives, civil society representatives and UNDP. The Committee can be

expanded, upon agreement between the Parties. The vehicle for this coordination will be a Project Advisory Committee (PAC) to be constituted at Project inception as the highest level for supporting technical coordination of the project. The PAC will play a critical role in facilitating inter-institutional coordination and ensuring complementarity of actions among different stakeholders and co-financiers. The main responsibility of the PAC is to see that the project's activities lead to the required outcomes as defined in the Project Document. The Technical Committee will also advise the PM on ensuring coordination between the project and other related initiatives and current and emerging projects.

The PAC will meet, at least, twice a year to review progress and obstacles and to advise on strategic and critical Project issues. Matters of institutional concern (i.e., going beyond the Project's scope and contents) will be addressed at the appropriate levels of dialogue between UNDP and the GOB. The PAC will provide recommendations to the PB on progress and on any changes that may be required for improving efficiency and effectiveness. The NPTD will instruct the PTAs to provide detailed project information to the PAC as needed, to convene meetings and to prepare PAC minutes. He/ she will be assisted by the PM in these. Extraordinary PAC meetings can be held if deemed necessary by one of the PAC members. If appropriate, the PAC can invite external consultants to assist in the monitoring process.

Project Coordination Unit (PCU)

A Project Coordination Unit (PCU), created within the administrative structure of the MMA, will be responsible for the strategic orientation and overall technical coordination of the project, ensuring that progress, implementation and results are agreed in a timely and consistent manner and contribute to compliance strategic objectives of the project.

The MMA will be a Technical Coordinator of the Project and will have responsibility for, among others: (i) general strategic guiding and technical coordinating of the project; (ii) preparing the Annual Operational Plans (AOP) and work plans, in agreement with the UNDP; (iii) approving a terms of reference for consultants hiring and acquisitions; (iv) analyzing and approving the products and services contracted by UNDP; and (v) reviewing the final version of the progress reports.

The PCU will be led by the National Project Technical Coordinator (NPTC) and composed of an environmental analyst and two project technical advisors. The coordinator and the environmental analyst will be MMA staff, while the two project technical advisors will collaborate with the MMA in project technical coordination.

The PCU will be responsible for the overall management and implementation of the project's activities and requesting disbursement of the Project´s resources for their execution. The PCU will collaborate with the PMU in project implementation, offering technical inputs and guidance into the planning and execution of project activities

Project Management Unit (PMU)

A Project Management Unit (PMU) will be responsible for overseeing the day-to-day execution of Project activities. The PMU will have responsibility for, among others: (i) operational planning, managing and executing the project including the direct supervision of project activities subcontracted to specialists and other institutions, as well as those that are to be implemented through the MMA, if applicable; (ii) coordinating the management of financial resources and procurement; (iii) reporting on the application of resources and results achieved; (iv) preparing management reports for the PCU, PAC, PB, GCF, Brazil's DNA to the GCF and UNDP including annual reports and any proposals for the adaptive management of the Project, if required and based on inputs from the Project M&E plan; (v) promoting inter-institutional linkages; and (vi) disseminating project results.

The PMU will consist of one Project Manager, Project Technical Advisors (PTAs), Administrative Financial Assistants, clerks, and technical consultants responsible for specific deliverables and hired with GCF resources. The PTA will collaborate with the PMU in project implementation, channeling PCU's technical inputs and guidance into the planning and execution of project activities. The PTA will hold internal meetings in the MMA as needed to integrate the MMA specialists´ guidance into project implementation and ensure consistency between the various project elements and activities provided or funded by other donors.

Upon request of the MMA implementation will be through the DIM modality with UNDP providing direct project services, such as procurement and hiring of consultants following best value for money, transparency and effective competition. These will follow current UNDP policies and procedures including those for cost recovery. Upon request of the MMA, UNDP will also provide technical backstopping during the implementation of the project. The costs corresponding to this technical support towards project execution will be recovered following UNDP's policy.

The PMU will be led by the Project Manager (PM) and will be responsible for the overall management and implementation of the project's activities and requesting disbursement of the Project´s resources for their execution, according with the PCU's technical inputs and guidance into the planning and execution of project activities.

Under the PM's lead and guidance the PMU team will support the PCU in the preparation of the Annual Operational Plans (AOP) for the effective and efficient implementation of the project activities to achieve stated objectives; will be responsible for all substantive reports from the Project, to be submitted to approval of the PCU; will prepare and/or oversee the development of Terms of Reference for consultants, subcontractors and partnerships hired for specific technical assignments and their close monitoring, in accordance with the PCU guidance, ensure consistency between the various project elements and activities provided or funded by other donors; and develop reports on project progress on the project for the PB and technical meetings, and other appropriate fora. This is a full-time position continuing for the duration of the Project, reporting directly to UNDP.

The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board and in accordance the guidelines of the PCU. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

Property of Equipment and Goods: Goods and equipment purchased as part of this project will be purchased by the UNDP Country Office and transferred to national beneficiaries during the implementation phase in accordance with UNDP procedures and policies. This will be subject to prior agreement with the PCU (which includes MMA). Only national organizations will be considered as beneficiaries.

Audit: Financial reporting and auditing standards for the programme will follow international financial reporting and auditing standards. According to UNDP's general corporate audit regulations, internal and external audits will be carried out and these costs will be covered by the project. The audit will be performed in accordance with UNDP financial regulations and rules and applicable to audit policies on UNDP and GCF projects. UNDP will be responsible for making audit arrangements for the project in communication with the PCU. UNDP and the PCU will provide audit management responses and the National Project Manager and project support team will address audit recommendations, as applicable.

Learning and knowledge-sharing: Results from the project will be disseminated within and beyond the project intervention zone through existing information-sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze and share lessons-learned that might be beneficial in the design and implementation of similar future projects. There will also be a two-way flow of information between this project and other projects/programs of a similar focus.

Communications and Visibility Requirements: The project will comply with UNDP's (see http://intra.undp.org/coa/ branding.shtml), the MMA and GCF Branding Guidelines: Specific guidelines on UNDP logo use can be accessed at: http://intra.undp.org/branding/useOfLogo.html. Amongst other requirements, these guidelines describe when and how the UNDP and the logos of donors to UNDP projects are used. Specific guidelines on the MMA logo use can be accessed at http://www.secom.gov.br/atuacao/publicidade/orientacoes-para-uso-da-marca-do-governo-federal. Full compliance will also be observed with the GCF's Communication and Visibility Guidelines. To accord proper acknowledgement to the GCF for providing funding, a GCF logo will appear on all relevant project

publications, including, among others, project hardware and equipment purchased with GCF funds. Any citation on publications stemming from the project will also accord proper acknowledgment to the GCF.

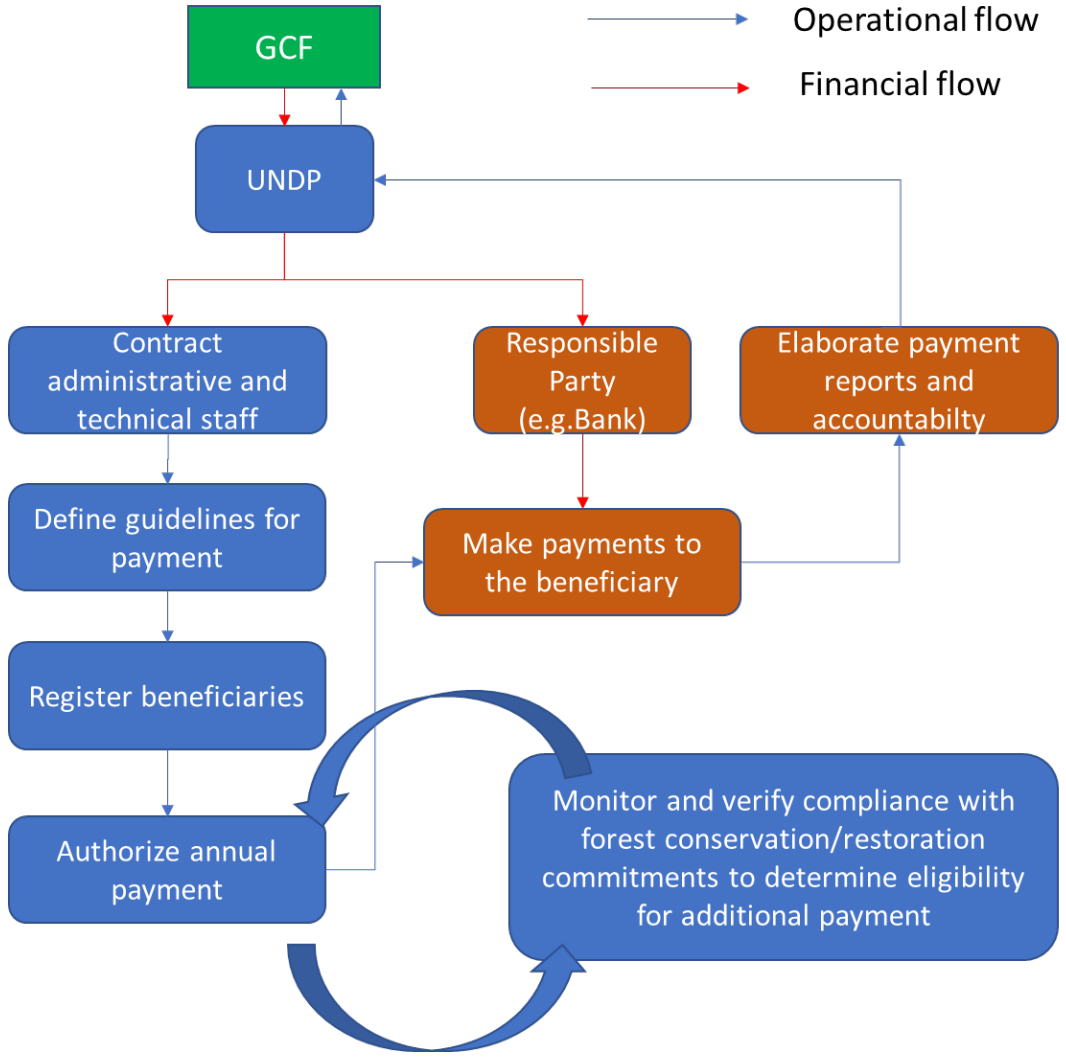
For an entity to be engaged as an implementing partner or responsible party on a UNDP project, a capacity assessment must be performed. Parties concerned with project formulation and design, particularly the UNDP office, the government and the institution that will manage the project, must review needed capacities. They first determine which tasks apply to the project. For each applicable task, the parties define any additional measures to ensure that tasks can be performed. The measures must be documented for follow-up action. This may be done, for example, through an action plan, an annex to the project document or through minutes of a design meeting or workshop. Additionally, UNDP assures that its partners are screened against UN Sanctions and Eligibility through a UN Security Council online system that contains a wide database of possible violators. In addition, UNDP has access to the United Nations Global Marketplace to verify if any supplier has been involved in terrorism and corruption. Moreover, UNDP has a policy on Due Diligence and Partnerships with Private Sectors in which a Risk Assessment Tool is applied before any agreement is made. This tool includes the following exclusionary criteria:

- Controversial weapons or their components;
- Armaments and/or weapons or their components, including military supplies;
- Replica weapons;
- Tobacco or tobacco products;
- Violations of UN sanctions, UN ineligibility lists or UNDP vendor sanctions list;
- Pornography;
- Substances subject to international bans or phase-outs, and wildlife or products regulated under the CITES;
- Gambling (excluding lotteries with charitable objectives);
- Violation of human rights or complicity in human rights violations;
- Forced or compulsory labor;
- Child labor.

Disbursement arrangements and funding flows

For Implementation of the National REDD+ Strategy (output 2), UNDP will directly procure goods,services and equipment for beneficiaries. For the Floresta+ Incentives programme (output 1), UNDP will contract administrative and technical staff that will manage the operational aspects of the programme and transfer resources to a responsible parties in order for it to make payments to the local beneficiaries. Figure 13 below provides a summary visual overview of disbursement arrangements and funding flows for the Floresta + Incentives Programme.

Figure 13. Disbursement Arrangement and Funding flows for the Floresta+ Incentives Programme



C.2.6. Non-carbon benefits:

Provide information on the non-carbon benefits associated with the implementation of REDD+ activities, explaining their nature, scale and importance for the long-term sustainability of REDD-plus activities and providing evidence to this regard.

The main objective of Brazil's ENREDD+ is to contribute to climate change mitigation by eliminating illegal deforestation, promoting conservation and restoration of forest ecosystems and fostering a low-carbon and sustainable forest economy, delivering environmental, social and economic benefits. The REDD-plus policies and measures implemented by Brazil to reduce deforestation in the Amazon biome since 2004 have produced important results in the three pillars of sustainability: economic, environmental and social. These benefits are further detailed below. Most of the information on economic and social indicators were extracted from the 2016 SUDAM summary report.

Environmental benefits

Implementation of REDD-plus activities in Brazil have contributed to the Aichi biodiversity targets including:

- National objective 5: Brazil has reduced deforestation in the Amazon well over the aim to achieve 50% reduction compared to the 2009 rate.
- National objective 11: Conservation of 30% of lands in the Amazon through protected areas.

For additional information on environmental benefits of REDD+ implementation please refer to Annex XIIIh.

Beyond biodiversity conservation, PPCDAm has also contributed to the enhancement of forest carbon stocks in previously deforested areas. The TerraClass data indicates that on average 22% of the total deforested area before 2004, has been replaced by secondary vegetation in the subsequent years (see Table 18). This enhancement of forest carbon stocks, due to reduced pressure on forests since the establishment of PPCDAm, represents an important contribution beyond climate change mitigation, to enhance resilience and produce multiple environmental benefits to local, regional and the global community.

Economic benefits

The regional economic growth of the last decade was based on the production and export of raw materials. In 2014, more than 28% of the raw materials exported by Brazil came from the Amazon region, especially soybeans, iron ore and wood. In this context, PPCDAm initiatives and other related ones, such as the sustainable roundtable for soy, had a key role to ensure that production and protection were reconciled in the Amazon region during that period.

The reduction in deforestation was combined with an increase in agricultural production in the northern region of Brazil. Decoupling the production of agricultural commodities from deforestation is a major challenge faced by most developing countries with tropical forests. The forests are often seen as opportunity cost rather than a resource. The value of the forests standing is lower than the cleared land. By increasing the costs associated with conducting illegal activities in the Amazon region (through command and control actions, restrictions to access credits in public banks, etc.) the GOB has significantly increased the transaction costs associated with opening new forest areas for agriculture.

Social benefits

The large reduction in deforestation in the Amazon region through the implementation of REDD-plus policies and measures have not negatively affect the social development in the region. **Since 2000, the HDI for the Amazon region has improved faster than the rest of Brazil.** Three states had a variation of more than 30% between 2000 and 2010, and Roraima was the only state in which the increase was the same as the national level. For all other states this variation was much higher than the national average.

Education levels have improved in the whole Amazon region since 2000 but remained lower than the national average in 2010. The variation/ improvement was higher in the Amazon region than in the national average (in four states above 70%, while the national average was about 40%). Since 2000, longevity has also increased on average in the Amazon region more than the national average. The income indicator has also seen important progress during that decade. The increase in income in the municipalities of the Amazon region between 2000 and 2010 was higher than the national average, except for two states, which had similar results to the national average.

Governance benefits

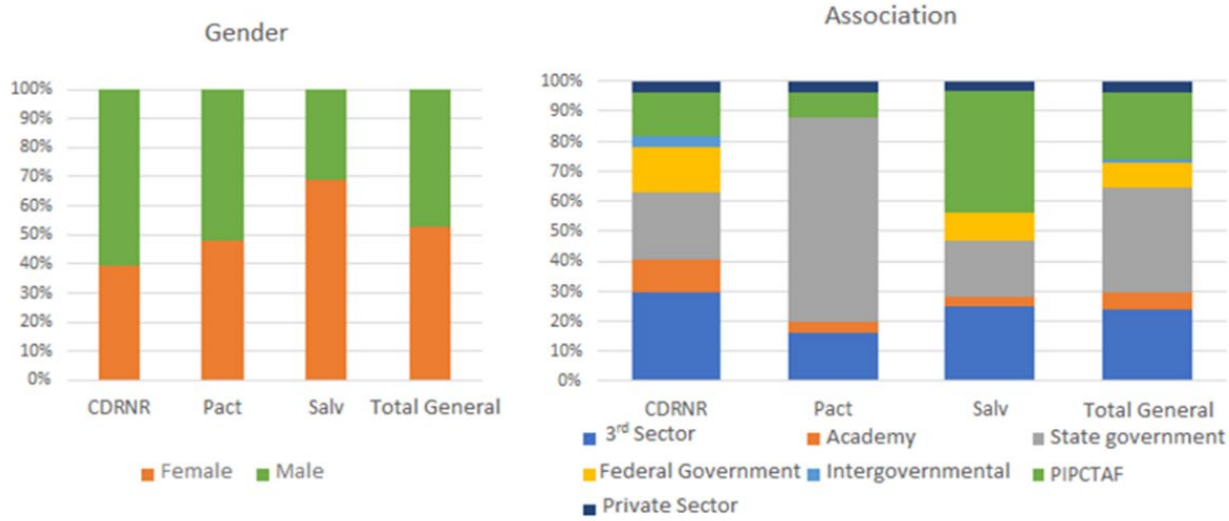
REDD-plus has contributed to better integrate the governance structures of climate change, forest and biodiversity related policies, seeking to promote consistency and synergies among them at the federal, state and municipal levels. These efforts are ongoing and will be reinforced through the implementation of this proposal, with the aim to contribute to the implementation of Brazil's NDC in the forest sector.

PPCDAm 3rd phase (2012-2015) revised this policy governance structure to promote greater integration and coordination among the agencies and entities participating in the actions. The PPCDAm 3rd phase governance model was divided into three spheres: Executive, Consultative and Transparency. This sought to facilitate the exchange of information, adjustments of paths, decision-making by the MMA as a coordinating body and the solution of problems and conflicts that may arise between federal agencies and even between federal and state agencies.

The governance for the implementation of REDD-plus, by its turn, is one of the most participative structures created by the Brazilian government for implementing policies in the forest sector. Figure 14 presents the profile of participants in the CCTs created by the CONAREDD+ in 2016.

Strengthen existing governance instances of indigenous peoples and traditional peoples and communities, CNPCT, CNPI and CG PNGATI, has been a key element of REDD+ implementation in indigenous territories. The increased participation of indigenous representatives in the governance for REDD+ implementation indicates progress in that direction.

Figure 14. Profile of the CCT participants



Source: Brazil's 2nd SoI, 2018

D. Investment Framework

Describe in this section how the proposed REDD-plus results-based program aligns with each of the criteria of the Investment Framework for the activities that lead to the achieved results for the full period over which the results being submitted in this proposal were achieved.

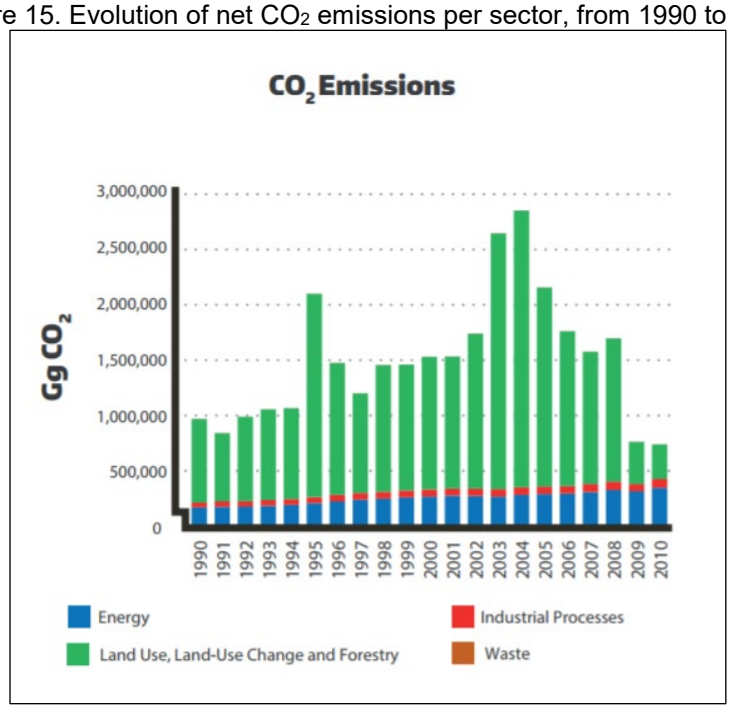
D.1. Impact potential

Describe the potential of the program to contribute to the achievement of the Fund's objectives and results areas.

Since 2006, Brazil has achieved significant results through reducing emissions from deforestation in the Amazon biome. **Between 2006 and 2015, Brazil reduced a total of 6,125,501,727.00 tCO_2e of emissions from deforestation in the Amazon biome.** This total result, achieved by Brazil in 10 years, corresponds to half of the total CO_2 emissions from all Annex I countries in 2012 (UNFCCC, 2018).

According to data from the Third National GHG Inventory, the LULUCF sector represented 83% of Brazil's total CO_2 emissions in 2005 and 42% in 2010. The implementation of REDD+ policies and measures in the Amazon biome had an important impact in Brazil's national GHG emission profile, as shown in Figure 15. Because of the policies and measures implemented by Brazil to reduce deforestation in the Amazon biome, the forest sector is no longer the highest emitting sector in Brazil.

Figure 15. Evolution of net CO_2 emissions per sector, from 1990 to 2010



Source: Brazil's TNC to the UNFCCC, 2016

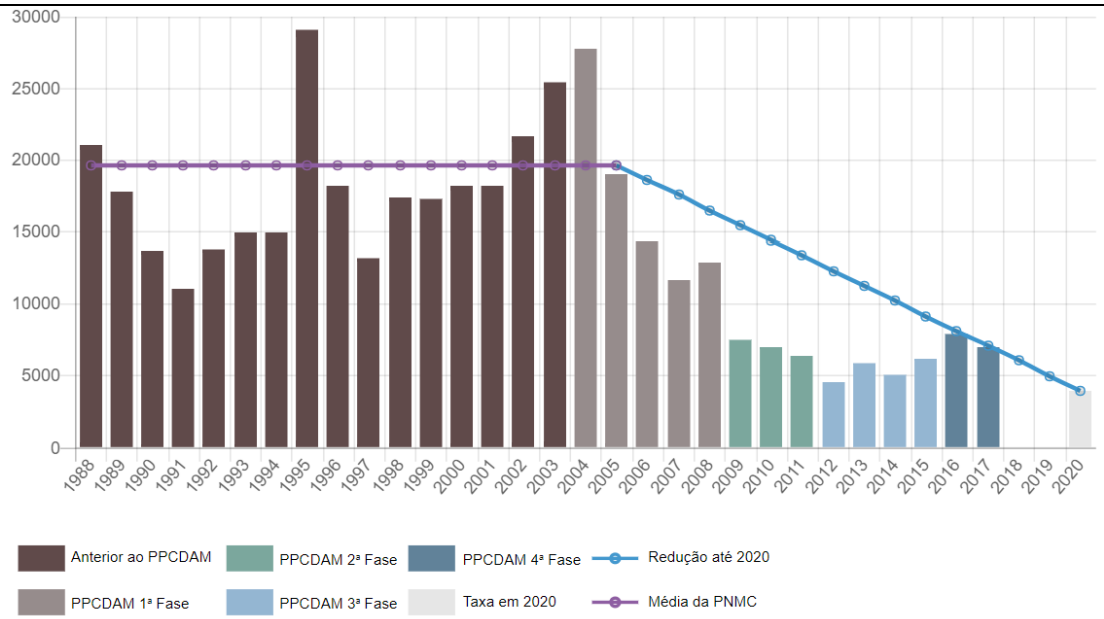
The PPCDAm, launched in March 2004, has the objective of reducing the rates of deforestation in the Amazon, by implementing actions related to land use and territorial planning, fostering sustainable production activities and environmental monitoring, control and enforcement. The PPCDAm is reviewed periodically to reflect the changes in the dynamics of the drivers of deforestation in the Amazon, the lessons learned from the actions being implemented and the progress made.

Although PPCDAm 3rd phase made important progress (2012-2015), the maintenance of low rates of deforestation will continue to depend on the improvement of integrated actions related to the identification and repression of illegal activities and organized crime, the promotion of a forest-based economy and land-use planning of the territory that allows for better land-use planning and management.

For its 4th phase (2016-2020), a new Action Axis was included in PPCDAm aimed to create regulation and economic acts to combat deforestation. In addition to the reduction of gross deforestation, one of the major challenges for this 4th phase of PPCDAm is to distinguish between illegal and legal deforestation, so that the illegal deforestation can be effectively eliminated, and policies promoted to reduce legal suppression of native vegetation, without undermining regional development. Figure 16, presents the PRODES deforestation rates for the Amazon region considering the different phases of the implementation of PPCDAm.

It is important to note that REDD+ results cannot be directly attributed to a single policy or measure for multiple reasons. From a conceptual standpoint, there is not always a direct and linear relationship between a specific project component and emission reductions. Rather emission reductions result from a series of interrelationships of different enabling policies (e.g. inter-institutional coordination) and direct investments made in the field (e.g. subsidies to farmer).

Figure 16. Deforestation rate in the Amazon region



Source: MMA, 2018

REDD-plus results-based payments received by Brazil from the GCF will be used to create a pilot Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation that will be key in the implementation of Forest Code and PPCDAm 4th phase, therefore contributing to achieve the objective of the ENREDD+ and Brazil's NDC. This will also contribute to the sustainability of the results already achieved by Brazil in the long-run.

D.2. Paradigm shift potential

Describe the degree to which the REDD-plus activity catalysed impact beyond a one-off program investment.

The Brazilian Amazon is home to about 27 million people (PNAD, 2013)[32]. Several regional developing programs and the global demand for agricultural commodities have increased the pressure on natural forests over the years, leading to the expansion of cattle ranching, agriculture and urbanization into forest areas. Table 18 presents data from TerraClass, a program created by INPE/ MCTIC and Embrapa/ MAPA to track the subsequent use of deforested areas to improve the understanding of the dynamic of drivers of deforestation in the Amazon region.

Through TerraClass it is possible to understand the dynamics of land use and coverage in the Brazilian Amazon. Five years of land use and coverage have already been mapped (2004, 2008, 2010, 2012 and 2014). With these results it is possible to make an evaluation of the dynamics of the land use and occupation of the deforested areas in the 10 years of the implementation of the PPCDAm.

Table 18. Evolution of areas mapped by TerraClass between 2004 and 2014

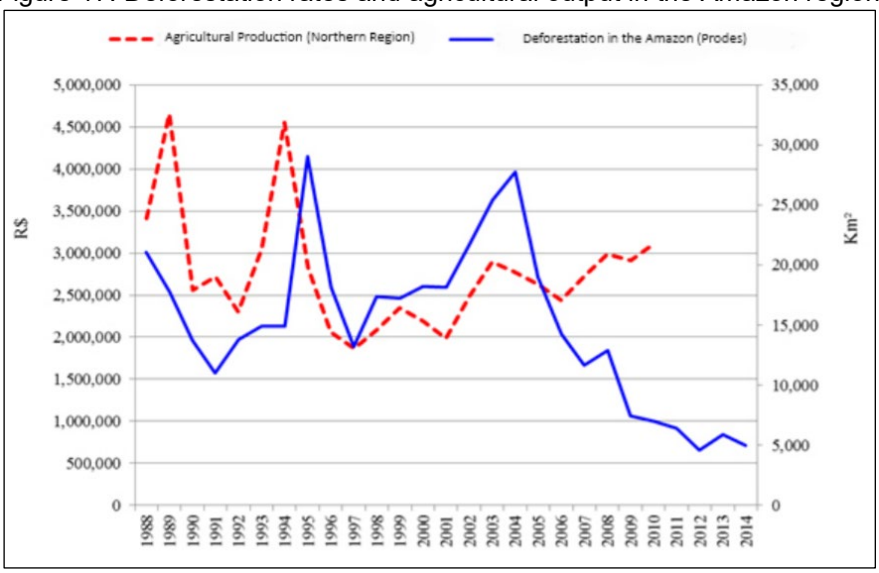
[32] For more information see: http://www.sudam.gov.br/conteudo/destaques/arquivos/boletim-amazonia-n02-2016.pdf

Classes	Area (km2)					Proportions (%)				
	2004	2008	2010	2012	2014	2004	2008	2010	2012	2014
Perenial crops	18,354	34,927	39,978	42,346	45,050	3.0	4.9	5.4	5.6	5.9
Non-observed area	48,566	45,406	45,849	69,132	30,056	7.9	6.4	6.2	9.2	4.0
Setlements	2,579	3,818	4,474	5,341	6,010	0.4	0.5	0.6	0.7	0.8
Mining	799	731	967	1,049	1,272	0.1	0.1	0.1	0.1	0.2
Mosaic	16,284	24,417	17,963	9,590	16,256	2.7	3.4	2.4	1.3	2.1
Other	4,637	478	2,731	6,113	7,752	0.8	0.1	0.4	0.8	1.0
Pasture	422,036	447,160	459,467	442,403	479,760	69	63	62	59	63
Pastures with bare soil	106	594	373	43	63	0.0	0.1	0.1	0.0	0.0
Pastures clean	306,039	335,715	339,852	345,420	377,470	49.8	47.4	45.9	46.0	49.6
Pastures dirty	55,250	62,824	56,077	50,472	60,199	9.0	8.9	7.6	6.7	7.9
Pastures with regeneration	60,641	48,027	63,165	46,468	42,028	9.9	6.8	8.5	6.2	5.5
Reforestation	0	0	3,015	3,176	2,922	0.0	0.0	0.4	0.4	0.4
Secondary vegetation	100,674	150,815	165,229	172,190	173,387	16.4	21.3	22.3	22.9	22.8
Total	613,928	707,752	739,673	751,340	762,464	100.0	100.0	100.0	100.0	100.0

Source: INPE, 2018, available at: http://www.inpe.br/cra/projetos_pesquisas/arquivos/TerraClass_2014_v3.pdf

The greatest challenge faced by the Amazon region is to maintain the ecosystem services provided by the natural forest while also supporting the needs and priorities of the growing human population and the economy of the region. The REDD-plus policies and measures, specially PPCDAm for the Amazon region, had an important paradigm shift impact, making the case for reconciling protection of natural forests with production, maintaining the upward trend in agricultural output in States in the northern region of Brazil in years of lower deforestation rates. This shift is presented in Figure 17, where clearly in 2004, there is a change in pattern, agricultural output trends are no longer following deforestation trends.

Figure 17. Deforestation rates and agricultural output in the Amazon region

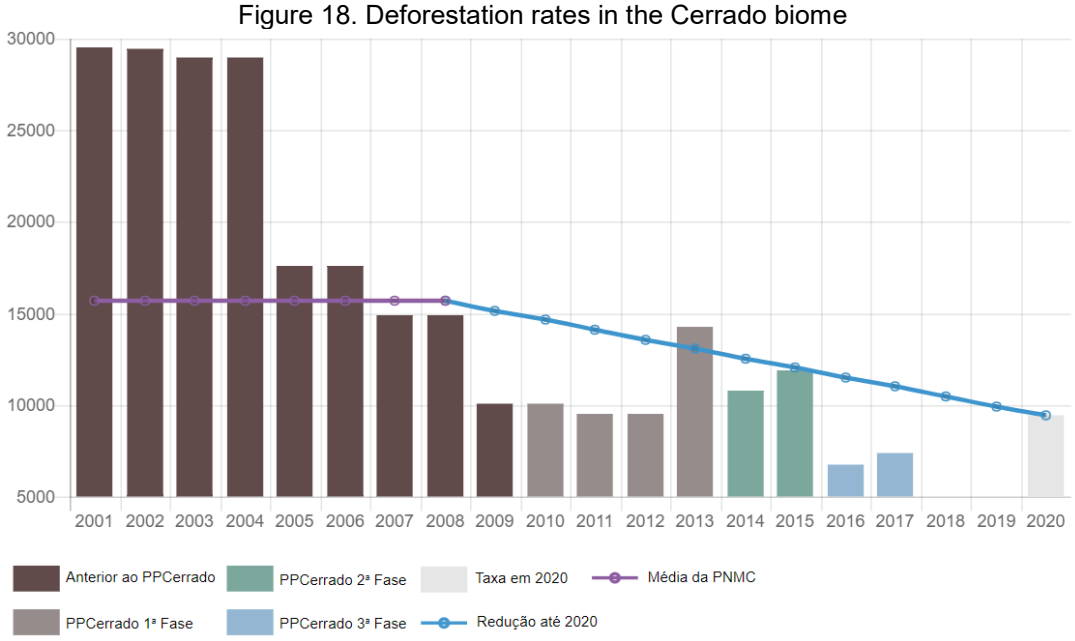


Source: Brazil's ENREDD+, 2015

The success story of the Amazon biome led to emission reductions in the Cerrado biome even before the PPCerrado was created in 2010. Figure 18 shows the deforestation rates in the Cerrado biome from 2001 to 2017. The values are biennial averages of deforestation measured by INPE.

In 2004, deforestation rates started to decrease in the Cerrado biome, in the absence of a specific policy to combat deforestation. According to experts, it can be inferred that PPCDAm had a positive impact or positive leakage to the Cerrado biome, the paradigm shift went beyond the Brazilian Amazon.

Figure 18. Deforestation rates in the Cerrado biome



Source: MMA, 2018

The paradigm shift triggered by Brazil's experience with the implementation of the REDD+ policies and measures in the Amazon biome goes beyond the national boundaries. INPE/ MCTIC has worked with countries in Africa, Latin America and Asia since the 1990's to assist them in the development of their own forest monitoring data using TerraAmazon. This information served as a basis for many countries REDD+ policies and their technical REDD+ submissions to the UNFCCC.

Brazil has also invested in south-south cooperation initiatives for forests and climate change through results-based payments received by the Amazon Fund. 20% of the total resources received through results-based payments by the Amazon Fund can be used to support the development of deforestation monitoring and control systems in other Brazilian biomes and other countries. Brazil has invested USD 12 million in the development of the capacity to monitor deforestation, changes in the use of land and forests of other countries in the Amazon basin[33]. One of the main outcomes of this project was the production of a regional deforestation map for the Amazon basin, which allows for the understanding of potential regional displacement trends.

Beyond that, the MMA and the Brazilian Agency of Cooperation of the Ministry of Foreign Affairs of Brazil have worked on the development of a South-south Cooperation Program in Forests and Climate Change. The Program has as its overall objective to contribute to the reduction of global GHG emissions and the achievement of Parties commitments under the UNFCCC and its Paris Agreement, through their NDCs, by strengthening the technical and institutional capacities of developing countries to achieve REDD+ results. This proposal includes support to finance this south-south cooperation program and ensure that this impact beyond the national boundaries is maintained in the long-run.

D.3. Sustainable development potential

Describe the wider benefits and priorities, including environmental, social and economic.

[33] For more information see: http://www.amazonfund.gov.br/en/projeto/Monitoring-Forest-Coverage-in-the-Regional-Amazon/ and http://www.otca-oficial.info/assets/documents/20170508/70c7925ed598a0813cc675a434b5746b.pdf, last accessed on July 25th, 2018.

Sustainable development impact of the implementation of REDD-plus policies that lead to emission reductions were discussed in section C.2.6. Those results are summarized further here. For more information please refer to the Annex XIIIh.

The main objective of Brazil's ENREDD+ is to contribute to climate change mitigation by eliminating illegal deforestation, promoting conservation and restoration of forest ecosystems and fostering a low-carbon and sustainable forest economy, delivering environmental, social and economic benefits. The REDD-plus policies and measures implemented by Brazil to reduce deforestation in the Amazon biome since 2006 have produced important results in the three pillars of sustainability: economic, environmental and social. These benefits are further detailed below. The information on economic and social indicators was extracted from the 2016 SUDAM summary report.

Economic benefits

The Gross Domestic Product (GDP) of the states in the Amazon region grew 100% between 2005 and 2012 (Table 18). The relative share of the Amazon states in the national´s GDP had an increase from 7,8% to 8,4%. This process needs to be further fostered so that the Amazon can increase its economic potential in a sustainable way. This economic growth should not be sought at any cost. Reconciling the needs of the local Amazonian population for a better quality of life while respecting the environment and protecting the Amazon forest is the key challenge that the REDD-plus policies and measures aim to address. Furthermore, the economic potential of the Amazon region includes activities that are not yet adequately accounted if observing only the GDP, such as extractivism, payment for ecosystem services, and part of the family´s agricultural production.

Table 18. Gross Domestic Product (GDP) of the states in the Amazon region from 2005 to 2012

Unidade da Federação	2005	2006	2007	2008	2009	2010	2011	2012
Acre	4.482.920	4.834.620	5.760.501	6.730.108	7.386.436	8.476.515	8.794.362	9.629.239
Amapá	4.361.255	5.260.017	6.022.132	6.764.834	7.404.389	8.265.965	8.968.032	10.419.539
Amazonas	33.352.137	39.156.902	42.023.218	46.822.569	49.614.251	59.779.292	64.555.404	64.119.836
Maranhão	25.334.591	28.620.246	31.606.026	38.486.010	39.854.677	45.255.942	52.187.204	58.819.683
Mato Grosso	37.465.937	35.257.614	42.687.119	53.386.488	57.294.192	59.599.990	71.417.805	80.830.108
Pará	39.121.138	44.369.675	49.507.144	58.518.557	58.401.830	77.847.597	88.370.610	91.009.014
Rondônia	12.884.047	13.107.441	15.002.734	17.887.799	20.236.194	23.560.644	27.839.144	29.361.936
Roraima	3.179.287	3.660.083	4.168.599	4.889.301	5.593.491	6.340.601	6.951.190	7.313.836
Tocantins	9.060.926	9.604.690	11.094.063	13.090.266	14.571.366	17.240.135	18.059.159	19.529.689
Amazônia (1)	**169.242.238**	**183.871.288**	**207.871.536**	**246.575.932**	**260.356.826**	**306.366.681**	**347.142.910**	**371.032.880**
Brasil (2)	**2.147.239.292**	**2.369.483.546**	**2.661.344.525**	**3.032.203.490**	**3.239.404.053**	**3.770.084.872**	**4.143.013.337**	**4.392.093.997**
(1)/(2) - %	**7,88%**	**7,76%**	**7,81%**	**8,13%**	**8,04%**	**8,13%**	**8,38%**	**8,45%**

Fonte: IBGE (2012)

Source: SUDAM, 2016

In addition, about 200 jobs are created for every 1,000 hectares recovered, most of them for low-income people (Planaveg, 2017). Besides that, 92% of landslides occur in areas with ecosystem change, so forest recovery would bring greater security to the population by avoiding natural disaster.

Environmental benefits

In 2015, the country presented its 5th National Report to the CBD. The information in section C.2.6 above highlighted the relationship between the progress made by Brazil for the achievement of Aichi Targets and the reduction of deforestation in the Amazon biome promoted by policies such as PPCDAm. Maintaining these REDD-plus results through new and additional investments in positive incentives for forest conservation is the core of this GCF proposal.

Social benefits

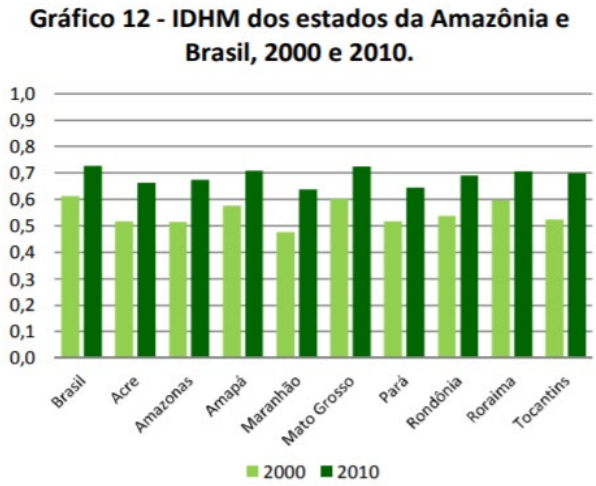
The large reduction in deforestation in the Amazon region through the implementation of REDD-plus policies and measures have not negatively affect the social development in the region. The information in section C.2.6 above highlighted that **since 2000, the HDI for the Amazon region has improved faster than the rest of Brazil.** Education levels have also improved in the whole Amazon region since 2000 but remained lower than the national average in 2010. The variation/ improvement was higher in the Amazon region than in the national average (in four states above 70%, while the national average was about 40%). Since 2000, longevity has also increased on average in the Amazon region more than the national average. The income indicator has also seen important progress during that decade. The increase in income in the municipalities of the Amazon region between 2000 and 2010 was higher than the national average. The Figure 19 presents this information in more details.

Since 2004, a series of programs, plans and funds, including the PPCDAm and the Sustainable Amazon Plan (PAS), were created observing the social context in the Amazon region, helping the improvements in the social area also attributed to social programs developed by the federal government that lead to the increase of the national minimum wage.

Figure 19. Human Development Index (HDI) in the states of the Amazon region vs the national average from 2000 to 2010, and its income component.

Unidades da Federação	IDHM		
	2000	2010	Variação (%)
Acre	0,517	0,663	28,24%
Amazonas	0,515	0,674	30,87%
Amapá	0,577	0,708	22,70%
Maranhão	0,476	0,639	34,24%
Mato Grosso	0,601	0,725	20,63%
Pará	0,518	0,646	24,71%
Rondônia	0,537	0,690	28,49%
Roraima	0,598	0,707	18,23%
Tocantins	0,525	0,699	33,14%
Brasil	**0,612**	**0,727**	**18,79%**

Fonte: Atlas do Desenvolvimento Humano no Brasil 2015.



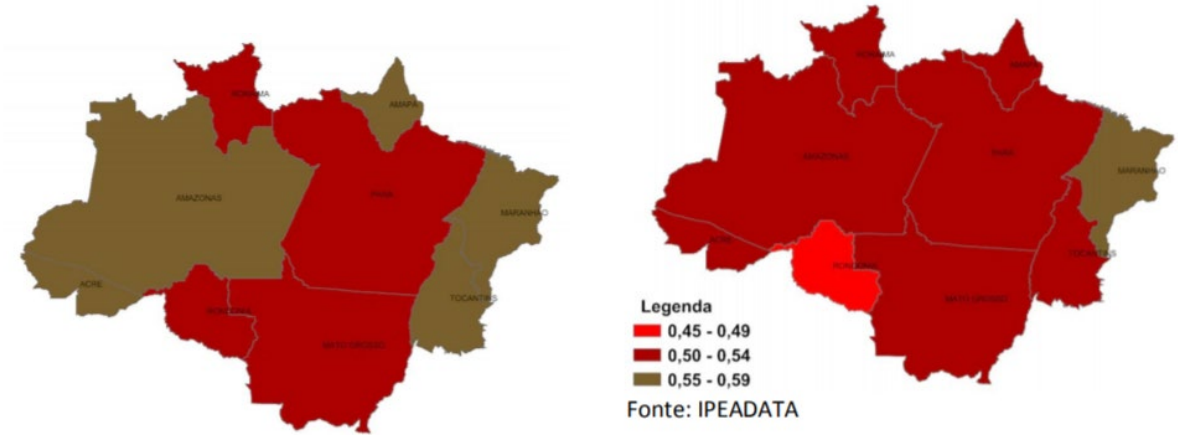
Fonte: Atlas do Desenvolvimento Humano no Brasil.

Source: SUDAM, 2016

Beyond average income, it is also important to access inequality, using the Gini coefficient (Figure 19). Even though some improvements were made both at the national level and in the Amazon region since 2003, this remains an important challenge for Brazil. Comparing the 2003 and the 2013 data, less states in the Amazon region now have levels above 0.55. But the Gini for the state of Maranhão remained high.

PPCDAm has contributed to bring more attention to the people from the Amazon region, through the implementation of social policies and projects aimed to provide alternative livelihoods to poor communities who still rely on illegal activities in forested areas. This is an ongoing process that will be further strengthened through the implementation of this project with the support from the results-based payments to be received by Brazil from the GCF.

Figure 20. Gini coefficient in states of the Amazon region, 2003 vs 2013



Source: SUDAM, 2016

D.4. Needs of the recipient

Describe the vulnerability and financing needs of the beneficiary country and population.

Maintaining and further expanding the results achieved reducing emissions from deforestation in the Amazon biome requires large scale investments as presented in section B.2.2 of this proposal. A study shows that the net present value of the net marginal cost of the command and control actions to reduce deforestation in the Amazon biome between 2014 and 2017 was R$ 4.3 billion (USD 2.9 billion).

As in all countries around the globe, the budget assigned by the Brazilian Government to the MMA has always been small if compared with the total expenditure. Most of the national budget is spent on social security, health and education (BRASIL, 2018). The total budget executed by the MMA from 2014 to 2017 was on average R$ 2.5 billion (USD 750 million) per year, which corresponds on average to 0.11% of the total yearly public expenditures. A large proportion of this budget is spent on activities related to forest protection, especially in the Amazon biome.

Brazil is currently going through an economic crisis that resulted in significant reductions in government spending. Government cuts have been imposed on most ministries to reduce a growing deficit. Some Ministries lost up to 30 per cent of their budgets in 2017, including the MMA.

Studies point to the role of command and control actions carried out by the environmental enforcement agency, the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA/ MMA) in reducing deforestation in the Amazon region between 2008 and 2015. Figure 21 shows the relationship between the command and control actions and the reduction in deforestation in the Amazon region. The IBAMA/ MMA relies on teams of inspectors on the ground to monitor and tackle illegal activities in the vast Amazon region.

Although these studies suggest a linear relationship between fines and reduction in deforestation, there is also evidence that enforcement actions have an intrinsic limit on the fight against illegal deforestation. Investments in positive incentives are key to maintain and further expand low deforestation rates. High and continuous investments are needed, to support command and control operations on the ground (including the teams, helicopters, vehicles, technology, etc.) but also the production of new and better data (INPE, Embrapa, etc.) and the provision of positive incentives to forest conservation.

Figure 21. Illegal Deforestation Offenses in the Legal Amazon (solid line) and Percentage of the Area Gross by IBAMA in relation to Deforestation Measured by PRODES (dotted line)

Source: Rajão, et. al. 2015

The national budget cuts from 2014 onwards were followed by an increase in deforestation rates in 2016. This nevertheless does not mean that Brazil has reduced its commitment to invest its own resources in combating deforestation. In years 2014 and 2015 more than 80% of the total resources allocated to the federal government for the prevention and control of deforestation in the Amazon biome (to support PPCDAm actions and cover institutional costs) came from the national budget (BRA in Figure 9). Still, in this context of economic crisis and budget cuts in all areas of the federal budget spending, climate finance becomes even more essential.

The Amazon Fund resources were extremely important in this scenario of contingency. Considering the budget difficulties and the urgency of the matter, in April 2016 COFA exceptionally reassessed the rule of additionality of the resources from the Amazon Fund to allow for the support of public agencies in projects that aim to continue or improve environmental and deforestation control[34]. This allowed for investments to be made in IBAMA and other command and control/ law enforcement activities at the federal and state levels. Thanks in part to this support from the donors and the fast reaction from the government to maintain the level of investments, deforestation rates went down again in 2017.

Brazil's fiscal scenario for 2018/ 2019/ 2020 is very challenging and the government will have to cut expenses again in all areas to meet the spending limit set by law. At the same time, meeting the ambitious targets set by Brazil's NDC will require large scale investments, including in the forest sector. In this scenario, the USD 150 million that Brazil can receive from the GCF through REDD-plus results-based payments for reducing emissions from deforestation in the Amazon biome is essential for the effective implementation of Brazil's ENREDD+ and NDC.

D.5. Country ownership

[34] COFA approved a new focus of the Amazon Fund in the 2016/2017 biennium in the following terms: "projects aimed at continuing or improving environmental monitoring and control of deforestation, presented by federal or state public bodies or institutions with a legal mandate to carry out under the National Environmental System - SISNAMA, may exceptionally be exempted from the minimum condition of additionality of resources, mentioned in item B8. For this purpose, a technical justification formally presented by the Ministry of Environment will be required, as well as a statement from the said proponent body / institution that there is no source of funds available for the financial support requested. The technical justification and statement are mandatory and joint documents to the proposal formally filed with BNDES. " For more information see: http://www.fundoamazonia.gov.br/export/sites/default/pt/.galleries/documentos/cofa/RET_20a._Reuniao_COFA.pdf, last accessed on July 25th, 2018.

Describe the beneficiary country ownership of, and capacity to implement a funded project or program (policies, climate strategies and institutions).

REDD-plus was created to encourage **developing country Parties** to contribute to mitigation actions in the forest sector (Decision 1/ CP.16 para 70). **REDD-plus implementation should be country-driven and implemented at the national level.** The subnational scale is accepted as an interim measure. Developing countries should aim to scale-up their activities in accordance with their national circumstances and the support received, on a stepwise manner. REDD+ is implemented by developing countries, through policies and programs, not projects. For developing country Parties undertaking the REDD+ activities with the aim to obtain and receive results-based finance, these actions should be fully measured, reported and verified and countries should have in place all REDD+ elements (Decision 2/ CP.17).

The PPCDAm, Brazil's core REDD+ policy for the Amazon region, was first launched in 2004 by the Brazilian government. This initiative, was led by the Chief of Staff of the Presidency and it involved the various ministries and entities that had direct or indirect competencies that affected forest conservation in the Amazon region. Hence, it has full country ownership. Overtime, the governance of PPCDAm has been revised and streamlined to make it more efficient. The MMA has been responsible for coordinating the implementation of PPCDAm and PPCerrado since 2014. PPCDAm is now on its 4th phase.

The PPCDAm is in full consistency with the ENREDD+ and Brazil's NDC to the UNFCCC and its Paris Agreement. REDD-plus is a means for the implementation of Brazil's NDC in the forest sector. The resources from REDD-plus results-based payments already received by Brazil through the Amazon Fund are reinvested in initiatives and projects that are in alignment with PPCDAM and the ENREDD+. The same will be done for the Floresta+ Pilot Program, to be funded with the GCF payments that Brazil will receive for its REDD-plus results.

This project proposal is fully aligned with the ENREDD+, Brazil's NDC, the resolutions approved so far by the CONAREDD+ and will be implemented by the MMA with the support from UNDP. The MMA received approval from the CONAREDD+ to access resources from results-based payments for REDD+ (Resolution n.10 of December 7th, 2017). The MMA has been fully involved in the preparation of this funding proposal, leading the discussions on use of proceeds as well as providing all input necessary to inform sections on policies and actions implemented which lead to emission reductions.

It is worth mentioning that this proposal is in full alignment with the strategic areas of investment of the Brazil's Country Program to the GCF, developed by the National Designated Authority in consultation with the Brazilian society, and the proposal is also included in the Project Pipeline of the referred Country Program.

D.6. Efficiency and effectiveness

Describe the economic and, if appropriate, financial soundness of the program.

REDD-plus is implemented by developing countries, through policies and programs, not projects. Assurance that mitigation results have indeed been achieved is a fundamental element for a results-based payment scheme and is done before the resources are disbursed.

Result-based payments are a new modality of climate finance through which resources are received ex-post for mitigation results achieved in the past, like payments for environmental services. Developing countries willing to receive payments for REDD-plus results must submit their FRL/ FREL to undergo an assessment by two LULUCF experts appointed by the UNFCCC. This evaluation process is conducted annually, following the procedures set out by decision 13/CP.19. The mitigation results will be measured against this reference level and reported on a Technical Annex to the BUR. This Technical Annex also includes the REDD+ activities selected by the developing country, the calculation of results, information on the national forest monitoring system, institutional roles, among other information.

The processes for assessing the FRL/FREL (decision 13/CP.19) and for Measuring, Reporting and Verifying (MRV) of REDD+ results (decision 14/CP.19) are essential to reduce uncertainties and to provide an adequate level of confidence in the system, with a view to attract scaled-up investments. This approach

assures the highest level of efficiency and effectiveness to forest initiatives. Countries will aim to achieve the highest possible level of results, so that they can receive more payments/ financial resources, therefore efficient. Because payments will only be made for fully MRVed results, the mitigation impact is guaranteed before the resources are disbursed, and, therefore, effective.

E. Compliance with GCF policies

Describe how the REDD-plus results-based program that generated the results submitted in this proposal or will be supported with the proceeds earned by them aligns with GCF policies for the activities that led to the achieved results and for the use of proceeds.

E.1. Environmental and social safeguards

E.1.1. For the period of the achieved results

Summarize the main findings of the environmental and social assessment (ESA) report describing the extent to which the measures undertaken to identify, assess, and manage environmental and social risks and impacts, in the context of the REDD-plus proposal, were consistent with the requirements of the applicable GCF ESS standards. This supplements information about the country's own assessment as to how the Cancun safeguards were addressed and respected in the REDD-plus activities.

The environmental and social assessment (ESA) report, which is included as an Annex to this FP, describes the extent to which the measures undertaken to identify, assess, and manage environmental and social risks and impacts, in the context of the REDD-plus proposal, were consistent with the requirements of the applicable GCF ESS standards. To be accredited to the GCF, accredited entities (AEs) must demonstrate that their entity-level environmental and social safeguards are consistent with the GCF's safeguard framework.[35] UNDP, as an AE to the GCF, therefore applies its own environmental and social safeguards to GCF-supported activities. Accordingly, the annexed ESA reviews retroactive compliance, with a focus on policy alignment, with the UNDP SES. In order to ensure a robust approach, which reflects the importance of the Cancun safeguards in the achievement of results, the ESA provides a PLR analysis matrix, which maps to Cancun safeguards, with indicators developed to encompass the UNDP Social and Environmental Standards. Further evidence of the alignment with UNDP SES is shown by considering a sample of representative projects, carried out under the Amazon Fund as one of the main financial instruments of national REDD+ implementation, by assessing project activities and achievements against UNDP's principles and project-level standards. The ESA found general consistency with the UNDP SES, and hence with the GCF ESS standards. Potential areas of improvement are highlighted in the ESA, and used to guide the measures recommended in the development of a comprehensive Environmental and Social Management Framework (ESMF).

E.1.2. For the use of proceeds

Provide adequate and sufficient information describing how environmental and social risks and impacts will be identified, screened, assessed and managed in a manner consistent with the GCF's ESS standards, including the determination of the relevant environmental and social risk category of the proposed activities and the appropriate environmental and social assessment tools and management plans.

As an accredited entity of the GCF, UNDP's Social and Environmental Standards (SES) were reviewed by the GCF accreditation panel and deemed sufficient to accredit UNDP to submit 'low' and 'moderate' risks projects. The overall social and environmental risk category for this project has been deemed to be Moderate. A preliminary ESMF has been prepared for this FP, which includes an indicative assessment of potential social and environmental risks, as well as their associated mitigation measures based on UNDP's Social and Environmental Screening Procedure (SESP). It also provides guidelines for additional consultations, and assessments that will be necessary to complete in the first phase of implementation.

[35] GCF's Environmental and Social Policy is available at https://www.greenclimate.fund/safeguards/environment-social and the GCF's interim environmental and social safeguards are available at https://www.greenclimate.fund/documents/20182/818273/1.7_-_Environmental_and_Social_Safeguards.pdf/e4419923-4c2d-450c-a714-0d4ad3cc77e6. GCF's Indigenous Peoples Policy is available at https://www.greenclimate.fund/safeguards/indigenous-peoples.

Guidance from key national stakeholders and UNDP's SES provided the basis for the draft Environmental and Social Management Framework (ESMF). As a Moderate Risk Project, further impact assessment and management measures are required to assess and manage risks effectively at an early stage of project implementation, as well as throughout the project cycle. The first steps during project inception will be to conduct a comprehensive environmental and social impact assessment (ESIA). The ESIA will be carried out by qualified experts and will involve desk-based and field-based data collection and extensive stakeholder consultations and engagement, with a range of stakeholder including direct beneficiaries of the project. The ESIA will cover the activities planned by the project as described in the FP, including all relevant aspects of the Floresta+ pilot program as listed above, and assess the social and environmental risks and benefits around the intended activities. Benefits and risks will be assessed pertaining to, among other things: biodiversity conservation and natural resource use, forest restoration and avoided deforestation efforts, overall land use planning, management of land rights over resources and potential land conflicts, benefit sharing and governance matters affecting all stakeholders including state and municipal governments, as well as indigenous peoples, traditional communities, family farmers and private actors such as small business enterprises, as well as impacts on cultural heritage. The ESIA will also screen for gender sensitivity at the various stages of the project's activities, and aim to implement gender responsive actions based on a completed and updated gender assessment. An indicative outline of the intended content of the ESMF report, including outlines of management plans, can be found in the Annex. It will be modified accordingly before being attached to the experts' Terms of Reference.

The draft ESMF also includes an indicative approach to stakeholder engagement, including the stakeholder consultations that much occur at an early stage to validate key elements of the Floresta+ pilot program, ongoing consultation with stakeholders the consultations required for the Gender Assessment and Action Plan, which is in accordance with the GCF's Gender Policy. A project Grievance Redress Mechanism, as described within the ESMF, will also be established and will complement the traditional grievance redress mechanisms already in place and being developed under the SISREDD+.

The ESMF implementation will be overseen by UNDP. The project team will include a senior environmental and social safeguards expert, as well as local level safeguards officers, responsible for monitoring and implementation of the ESMF as well as ensure that a working mechanism for receiving and handling complaints is in place and for coordination with the SISREDD+, and a gender expert responsible for the implementation of the Gender Action Plan. This team, as well as other experts as required, will be dedicated to the formulation and follow-up of these frameworks and to the bi-yearly evaluation these actions with oversight from the Project Board. Roles will be designated across stakeholder groups such as indigenous communities' organization, traditional community organizations as well as Federal, State and Municipal level governments. Furthermore, the implementation of the Environmental and Social Management Framework for the use of proceeds will contribute directly to the SISREDD+, with information generation from the implementation of the ESMF. The project will also be called upon to produce reports for summaries of information on safeguards that will be included in Brazil's future communications to the UNFCCC.

The preliminary findings and conclusions of the annexed ESMF will be reviewed again based on the findings of the ESIA and as appropriate, modifications will be made to the ESMF and its associated management plans. At present, the preliminary findings of the ESMF concludes that the following management plans will be needed: A Stakeholder Engagement Plan, a Biodiversity Action Plan, a Gender Action Plan, a Cultural Heritage Management Plan, and an Indigenous Peoples Plan. A preliminary Gender Assessment and Action Plan has also been prepared as part of the proposal submission, that will be updated through gender-specific consultations.. Consistent with UNDP SESP requirements, no activities that may cause adverse social and environmental impacts will proceed until the ESIA has been completed and per the revised ESMF, adoption of appropriate mitigation and management measures are completed. Additionally, as evidenced by the ESMF, budget disbursements are scheduled to incentivize and ensure timely completion of all social and environmental risk measures –including the prompt completion of the ESIA, the review and modification (as needed) of the ESMF and associated management plans, and the adoption and readiness of all recommended mitigation measures. Close coordination will be required with the national participative process, held through the CCT-Safeguards advisory board, in deciding SISREDD+ indicators, so that there is not a duplication in efforts and that monitoring and mitigation measures are coherent and complementary to existing national, state and local level systems. To ensure inclusive stakeholder participation in the design and implementation of the project going forward, roles will be designated across stakeholder groups, with particular emphasis on the inclusion of primary beneficiaries,

including indigenous peoples, traditional communities (and their representative organizations) and family farmers. Representatives of non-UNDP and MMA stakeholders (especially the primary beneficiaries and partners) will be incorporated into the Project Board and Technical Advisory Committee and other "working groups" in order to strengthen project governance.

E.1.3. Consultations with stakeholders

Provide adequate and sufficient information on the consultations undertaken with all the relevant stakeholders, describing who are the identified stakeholders, what the issues and concerns raised and how these are responded to and considered in the proposed activities. Information on the stakeholder engagement plan or framework will also need to be provided, describing how the activities will continue to engage the stakeholders, further consultations, communication and outreach, and process for grievance redress.

National REDD+ Strategy development in Brazil, as well as pioneering jurisdictional REDD+ programs, have had a long history of broad stakeholder engagement since their inception, as shown in Appendix A of the 2nd SoI. The Federal Decree 8576/ 2015 created the National REDD+ committee (CONAREDD+) for coordinating and monitoring the implementation of the ENREDD+ in Brazil. The governance for the implementation of REDD+, including regular meetings of CONAREDD+ and the thematic advisory boards, is one of the most participative structures created by the Brazilian government for the implementation of policies in the forest sector. As explained above, the CONAREDD+ and the CCTs participants are numerous, diverse and strive to be representative of Brazilian society. Furthermore, the strengthening of existing governance structures of indigenous peoples, traditional communities and local populations has been a key element of REDD+ implementation. Consultative processes have also increasingly prioritized the participation of indigenous representatives and traditional community representatives in the governance for REDD+ implementation, particularly in regards to the activities in indigenous territories and sustainable conservation units throughout the Legal Amazon.

Through CONAREDD+ and its CCTs, a participatory process was conducted to create the rules for decentralizing the fundraising of payments for REDD-plus results. This process lasted a few months and actively involved more than 30 stakeholders from various sectors, through a Consultative Chamber on Fundraising and Distribution of Non-Reimbursable Resources (CCT-CDRNR). The principles and rules for access to direct fundraising (i.e. having the appropriate policies in place, presenting results, etc.), as well as rules regarding fundraising (that is, after having been authorized by CONAREDD+, and without the transfer of results, etc.) and how investments should be made with these resources (reinvested in initiatives that lead to more results, contribute to the implementation of ENREDD+ and NDC, in compliance with safeguards, etc.) were defined through CONAREDD+ Resolutions 6 to 8. The driving force behind these consultations was to create a coherent but decentralized process, with a set of common rules and principles, in order to enhance effectiveness, with the participation of all the States in the Amazon region, for raising new and additional large-scale resources to support Brazil's efforts in the forest sector.

This funding proposal is fully aligned with CONAREDD+ principles and guidelines and it directly contributes to the implementation of the ENREDD+ and Brazil's NDC. The MMA began consultations regarding the access of resources for this pilot program through CONAREDD+, in parallel to obtaining eligibility approval through CONAREDD+ Resolution n.10 of December 7th, 2017. The discussions continued in the following CONAREDD+ meeting, which was held April 2018. The final concept of the proposal will once again presented to the CONAREDD+ on its VI ordinary meeting on September 27th, 2018. In parallel, the meetings of the CCT advisory boards have been ongoing, including the CCT-Safeguards advisory board, which has been developing indicators for the SISREDD+ system in a participatory manner, in order to incorporate local knowledge, identify gaps and strengthen existing systems.

Prior to submission of this FP, and according to discussions held through the CONAREDD+ meetings, CONAREDD+ has approved the development and submission of a single funding proposal by the MMA to the GCF for REDD+ results-based payments. As the submission of a proposal to the GCF must be performed by an Accredited Entity, the, MMA invited 13 Accredited Entities to the GCF to participate in the selection process. The invited entities were already accredited to the Fund, or at an advanced stage of accreditation. The simplified selection process was based on technical parameters and divided into two stages as follows:

1.Completion of an on-line form and 2. An Interview. As result of on-line form stage, MMA received 7 filled out forms. After the analysis of the forms, the MMA invited the top 4 Accredited Entities that best met the evaluation criteria. As result of the process, the United Nations Development Programme (UNDP) was identified as the entity to submit the funding proposal from Brazil for the pilot programme for REDD-plus results-based payments of GCF. In addition to the consultation with CONAREDD+, the plans to submit a proposal to the GCF were discussed with the environmental state secretaries in the Legal Amazon states. Likewise, the proposal was presented and discussed with the relevant technical divisions of MMA and with representatives of the National Indigenous People Foundation (FUNAI) and some representatives of civil society. The Management Committee of the National Policy for Territorial and Environmental Management of Indigenous Land also had the opportunity to discuss the process and the proposal in the meeting held on August 16th. All stakeholders consulted were in agreement with the principles of the proposal and indicated their interest in continued participation in the design and implementation of the project after GCF approval. These established national processes and forums will act as the foundation for stakeholder participation going forward.

A critical factor in the success of the Floresta+ pilot program and other activities as described in the FP will be the full and effective participation of stakeholders in the design and implementation of the program. This will involve additional consultations with state governments, NGOs and CSOs, academia and other relevant stakeholders. A focus of the stakeholder consultations for the design of the Floresta+ pilot program, as well as the establishment of the ESMF, will be the consultations of direct beneficiaries of the Floresta+ pilot, including representative consultations which each of the beneficiary groups identified in the initial design of the program, which includes Indigenous Peoples, Traditional Communities, Family Farmers and local institutions (NGOs, CSOs and private sector actors that may also be eligible for results –based payments), throughout the Legal Amazon. An indicative plan for the Stakeholder Engagement is provided as part of the preliminary ESMF, submitted as an Annex to this proposal. The Stakeholder Engagement Plan will be initiated immediately upon project approval. Consultations with primary beneficiaries are planned in the first year of project implementation, in order to receive inputs for Floresta+ design, as well as to ensure engagement and the establishment of necessary mitigation measures for the operationalization of management plans.

E.2. Risk assessment

E.2.1. For the period of the achieved results

Provide adequate and sufficient information that allows for an assessment of the historical performance of the activities undertaken and their track record against the risk tolerance levels specified in the Risk Appetite Statement and the criteria outlined in the Risk Guidelines for Funding Proposals.
Please note that you should consider only the applicable and relevant parts of the two above documents to the feedback you provide.

Brazil has a comprehensive Anti-Money Laundering (AML) regulatory regime in place. In 1998, the GOB enacted Federal Law n. 9.613 criminalizing money laundering related to drug trafficking, terrorism, arms trafficking, extortion, and organized crime. Federal Law n. 9.613/ 1998 also created a Financial Intelligence Unit (FIU), the Financial Activities Control Board (COAF), which is housed within the Ministry of Finance.

The COAF consists of representatives from regulatory and law enforcement agencies, including the Central Bank and Federal Police. The COAF regulates those financial sectors that are not under the jurisdiction of another supervising entity. This law was updated in 2002. Then, Federal Law 12.683 was amended in July of 2012, providing a more wide-ranging definition of the types of illicit activity that fall under the category of "harmful acts."

Federal Law n. 10,701/ 2003 criminalizes terrorist financing as a predicate offense for money laundering. This law also establishes crimes against foreign governments as predicate offenses, requires the Central Bank to create and maintain a registry of information on all bank account holders, and enables the Brazilian FIU to request from all government entities financial information on any subject suspected of involvement in criminal activity. On October 16, 2015, Federal Law 13.170 which provides procedures for freezing assets relating to UNSCRs and for information provided bilaterally, was signed, closing a longstanding gap in Brazil’s ability to confront terrorist financing.

Besides the Criminal Code, the Brazilian Legal System also have several instruments against corruption, such as Law n. 8,429/1992 (Administrative Improbability Act), the laws that define so-called crimes of responsibility (Law n. 1,079/1950 and Decree - Lei nº 201/1967), LC nº 135/2010 ("Clean Sheet Law"), which amended LC No. 64/1990 to establish new hypotheses of ineligibility, among other legal instruments.

Achievement of target impact

Through the application of several policies, notably the PPCDAm, Brazil dramatically reduced deforestation in the Legal Amazon region. The total volume of REDD+ results achieved by Brazil in the Amazon biome that are eligible to the GCF pilot program (from 2014 to 2015) is 1,254,663,127.74 tCO_2e, or 1.25 billion tCO_2e, which represents a substantial contribution to the GCF's mitigation objectives at a global scale.

Policy and regulatory support

The PPCDAm is fully anchored in Brazil's policy and regulatory framework, the Brazilian federal government created a Permanent Inter-Ministerial Working Group, established by a Presidential Decree as of July 3rd, 2003. The measures proposed by that Working Group were gathered in the PPCDAm. Throughout three execution phases (2004 to 2008; 2009 to 2011; and 2012 to 2015), the PPCDAm has played a significant role in dramatically reducing deforestation in the Amazon. Besides the PPCDAm, in 2010 the PPCerrado was launched. These two plans are considered the main instruments, on an operational level, to coordinate existing REDD+ initiatives and stop deforestation on the ground in the Amazon and Cerrado biomes.

The PPCDAm and the PPCerrado provided for the participation of more than 15 ministries (unnumbered Decrees of 3 July 2003 and 15 September 2010, respectively). Initially under the coordination of the Office of the Chief of Staff of the Presidency, the Decree No. 7.957/2013 assigned the MMA as the coordinator for the plans, serving as Chair of the respective Executive Committees. The Committees functioned as the governing body of the plans, monitoring progress and seeking to promote coordination and synergies among the different activities being implemented. The PPCDAm was monitored through a monitoring framework that monitored

Institutional capabilities to implement the program were reflected by the number of Brazilian institutions involved (each with specialized technical teams and established institutional capacities), and ultimately reflected in the achieved results.

Execution and country specific risks

Execution and country-specific risks were identified for the period of the achieved results through the analytical work conducted by the inter-ministerial working group that designed the PPCDAm and oversaw its execution.

E.2.2. For the use of proceeds

Provide adequate and sufficient information that details how the plan for the use of proceeds does not violate the risk tolerance levels specified in the Risk Appetite Statement and allows for performance monitoring and evaluation against the criteria outlined in the Risk Guidelines for Funding Proposals. Please note that you should consider only the applicable and relevant parts of the two above documents to the feedback you provide.

The results-based payments received by Brazil through this proposal will be used to fund a pilot of the Floresta+ program (Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation) and to strength both implementation and governance of the ENREDD+.

Floresta+ is a pilot program managed by the MMA, while the funds will be managed by a national bank for Modalities 1 and 2 and by institutions which best suits the needs of Modalities 3 and 4, that will be better known after the consultations to implement this proposal.

Regulation of engagement in prohibited practices is described in section E4.

UNDP as accredited entity, will support the implementation of this project following its program and operations policies and procedures, which include provisions for procurement, monitoring, evaluation and auditing.

Below is a summary of the main project's identified risks and proposed mitigation measures

1	Risk category	Execution risks: Operations
	Description	Slow start of project given decentralized mechanisms that need to be in place for execution
	Probability/Impact/Priority	Somewhat Unlikely/Somewhat Disruptive/Medium
	Mitigation	Preparation of detailed plans and agreements with responsible parties as soon as the project is approved by GCF
2	Risk category	Country specific execution risks: Political
	Description	With upcoming elections, political scenario will bring some turnover at institutions that might affect project implementation in the first months, mostly at the local level.
	Probability/Impact/Priority	Somewhat likely/ Somewhat Disruptive/High
	Mitigation	Project strategy is based on pre-tested mechanisms for implementation. In the first months of implementation, the project shall have an inception phase for wider consultation that will enable the dissemination of project's strategy and strengthen the participation of local community-based organizations in the project. As for federal level involvement, MMA team is mostly composed by technical civil servants, who are usually not affected by changes at political level.

E.3. Gender considerations

E.3.1. For the period of the achieved results

Provide adequate and sufficient information in the assessment describing the extent to which the measures undertaken complied with the GCF gender policy.

Brazil is signatory to various international conventions focused on gender equality and women's empowerment, including the CEDAW, a convention by the United Nations that aims to eliminate all forms of discrimination against women. In addition, there are various national laws and legislation governing its work in promoting gender equality and women's empowerment. These include of Brazil's 1988 Constitution by which women enjoy the same legal rights and duties as men, which is clearly expressed in Article 5. In 2003, the Federal Government created the National Secretary for Women's Policies (SPM), which is now hosted at the Ministry of Human Rights. An overview of relevant Gender legislation and institutions is provided in the preliminary Gender Assessment provided as an Annex to this FP.

Gender equality is has also been recognized as relevant to environmental governance and forest governance. Since 2012, the Ministry of Environment has a Gender Committee, which oversees discussing and proposing actions to ensure gender equality in programs and policies, specifically those as they relate to Sustainable Development Goal 5 (SDG 5). Promoting gender equality in rural and forest areas is a priority action for Brazil, considering more than 14 million Brazilian women live in rural or forest areas. In recent decades, several fundamental programs focused on mainstreaming gender were executed, among them the social welfare program known as Bolsa Família, which targeted women as preferred beneficiaries. Bolsa Familia has contributed to keeping millions of Brazilian women (who account for almost 90% of all the beneficiaries) and their families out of poverty. The Program has 2.9 million beneficiary families in Amazonian States, of which 630,000 are in rural or forest areas. Lessons learned from this extensive program will thus be incorporated into the design of the Floresta+ pilot program and other components of the project. Another important programme from the Federal Government in forested areas is the Bolsa Verde, which provides conditional cash transfers in return for the maintenance of forest cover. Bolsa Verde shares targeting and cash transfer channels with Bolsa Família. Launched in 2011, the programme aims to promote conservation of the ecosystems while also improving the livelihoods of people living in extreme poverty – the condition of nearly

17% of the population in the Amazon region. As part of this program, traditional communities such as "babaçu" coconut breakers (which are largely constituted by women), are important groups that have benefited from this important initiative. Lessons from Bolsa Verde in regards to gender responsiveness will also be incorporated into the design of Floresta+. Another important national initiative is the federal land distribution program of (Programa de Reforma Agrária in Portuguese) which has also highly improved the women's access to land titles by means of prioritizing the access for women who are householders.

The level of organization of among women groups, who live in rural and forest areas, has also increased since 2006. As an important example, in 2010, the Brazilian indigenous movement founded the Union of the Indigenous Women from the Legal Amazon (UMIAB). Another important group has been the Women's Secretariat of Extractivist Communities (CNS), which has built on strengths of forest-reliant women by strategically mobilizing support across sectors and scales, helping to shift the paradigm in development, environment and health in Brazil.

It is the above international and national legal frameworks, as well as national efforts and movements related to gender, that have informed the integration of gender considerations into the PPCDAm. In the establishment of the governance for REDD+ in Brazil gender balance was a key consideration. Most representatives from the Ministries, states and civil society in CONAREDD+ are female and in the CCTs, as indicated in Figure 14, more than 50% of the representatives are female. Some CCTs, including the one dealing with safeguards, also have equal representation of female participants.

E.3.2. For the use of proceeds

Provide adequate and sufficient information on how the AE will undertake activity-level gender assessments and action plans once the details of the activities become known.

UNDP is committed to avoiding climate change-exacerbated gender inequality, promoting gender equality and the empowerment of women, reducing gender disparities and inequalities in climate funding and overall access to and control over resources and development benefits, encouraging and facilitating gender-responsiveness in its design and implementation, and more generally, mainstreaming the gender focus into the REDD+ activities described in this funding proposal. Thus, it will ensure the FP proposed activities will not discriminate against women or girls or reinforce gender-based discrimination and/or inequalities as well as take affirmative steps, consistent with applicable law and the Gender Action Plan, to ensure both women and men are able to participate meaningfully and equitably, have equitable access to training, capacity building, technical assistance and resources, and receive comparable social and economic benefits and opportunities.

Regardless of the positive experiences in regards to gender balance in REDD+ processes described above, as well as the significant experience gained with gender-responsive programs such as Bolsa Familia, it is recognized that significant gender inequalities remain in regards to political participation, access to land and resources, the collection of gender disaggregated data to better inform decision making and interventions, and additional issues in regards to livelihoods, health, and gender-based violence. There is also growing recognition that more affirmative and special measures could be taken to mainstream the gender focus in ENREDD+ programming. In order to capture the gender context in which ENREDD+ implementation occurs as well as in the rollout of the Floresta+ pilot program, UNDP will identify and assess the different needs, constraints, contributions and priorities of women, men, girls and boys within the activity sites, as part of the completion of a comprehensive Gender Analysis and Action Plan (GAAP). It will then incorporate corresponding measures within the action plans to ensure 1) any possible adverse gender impacts are avoided; 2) and that women, men and youth can equitably participate in, inform and benefit from the activities being proposed. Gender budget and indicators will be also assigned within the action plans to ensure the gender activities identified have accountability mechanisms in place to ensure their implementation. This analysis and planning will be undertaken and then validated equitably with affected women, men and youth stakeholders before implementation of the activities.

As a first step in completing this GAAP, a forward-looking desk-based Gender Assessment was completed in anticipation of this FP (see Annex). The Assessment examined the proposed activities in the context of

the GCF's policy on Gender, Principle 2 of UNDP's SES (Gender Equality and Women's Empowerment) and Brazil's national gender strategy. The Assessment also considered the findings and recommendations of several studies commissioned by the REDD+ programme earlier (including three studies in 2015, and a gender report in 2017 financed by GIZ titled "Mainstreaming the gender approach in measures and actions in the face of Climate Change with emphasis on REDD + - Situational analysis and Recommendations"). Based on the Gender Assessment findings, a preliminary Gender Action Plan was developed, which is included as an Annex to the FP. Upon completion of the participatory ESIA referred to above, further consultation with affected stakeholders will take place and the Gender Action Plan will be modified and supplemented as necessary.

E.4. Interim policy on prohibited practices

E.4.1. For the period of the achieved results

Provide appropriate and sufficient information to demonstrate that no Prohibited Practices occurred during the implementation of the activities that lead to the REDD-plus results, such as: undisclosed Prohibited Practices, including money laundering and the financing of terrorism, which occurred during the implementation of results-based actions; and double payment or financing for the same results achieved.

Brazil has a comprehensive Anti-Money Laundering (AML) regulatory regime in place. In 1998, the GOB enacted Federal Law n. 9.613 criminalizing money laundering related to drug trafficking, terrorism, arms trafficking, extortion, and organized crime. Federal Law n. 9.613/ 1998 also created a Financial Intelligence Unit (FIU), the Conselho de Controle de Atividades Financeiras (COAF), which is housed within the Ministry of Finance.

The COAF consists of representatives from regulatory and law enforcement agencies, including the Central Bank and Federal Police. The COAF regulates those financial sectors that are not under the jurisdiction of another supervising entity. This law was updated in 2002. Then, Federal Law 12.683 was amended in July of 2012, providing a more wide-ranging definition of the types of illicit activity that fall under the category of "harmful acts."

Federal Law n. 10,701/ 2003 criminalizes terrorist financing as a predicate offense for money laundering. This law also establishes crimes against foreign governments as predicate offenses, requires the Central Bank to create and maintain a registry of information on all bank account holders, and enables the Brazilian FIU to request from all government entities financial information on any subject suspected of involvement in criminal activity. On October 16, 2015, Federal Law 13.170 which provides procedures for freezing assets relating to UNSCRs and for information provided bilaterally, was signed, closing a longstanding gap in Brazil's ability to confront terrorist financing.

The Brazilian Central Bank's (BACEN) AML unit (DECIF) supervises compliance for AML regulations.
AML Training in Brazil

Brazil's Law 9.613 provides information for crimes related to money laundering or the concealment of assets, rights, and valuables. This and other laws require financial institutions to train their employees on how to recognize suspicious activity that may be tied to money laundering or terrorist financing activities.
In 2012, following the publication of the Financial Action Task Force's (FATF's) executive summary of the mutual evaluation report summarizing AML/CFT measures in place in Brazil, the Central Bank amended the rules applicable to procedures that must be adopted by financial institutions to prevent and combat money laundering and terrorist financing.

All the information about REDD+ results-based payments received are available at http://redd.mma.gov.br/en/infohub as described in previous sessions of this proposal and they assure that Brazil has not received any payment for the results stated in this proposal.

The federal government of Brazil has also created a website (Transparency Portal) in which all information on public expenditure from can be found: http://www.portaltransparencia.gov.br/

E.4.2. For the use of proceeds

Provide appropriate and sufficient information including on control measures that assures that the proceeds will be used in a manner compliant with the Interim Policy on Prohibited Practices, such as: undisclosed Prohibited Practices, including money laundering and the financing of terrorism; improper subsequent use of GCF proceeds in the Prohibited Practices; and double payment or financing for the same results achieved, etc.

As per article 9.03 par. (a), of the Accreditation Master Agreement between UNDP and GCF, UNDP will apply its own fiduciary principles and standards relating to any 'know your customer' checks, anti-corruption, AML/CFT, fraud, financial sanctions and embargoes to comply with the Policy on Prohibited Practices.

E.5. Indigenous peoples

Provide adequate and sufficient information on how the activities to be implemented with the use of proceeds, will meet the requirements of the GCF environmental and social safeguards standards and policies relevant to indigenous peoples and guided by the prevailing relevant national laws and/or obligations of the countries directly applicable to the activities under relevant international treaties and agreements.

The application of UNDP's Social and Environmental Standards ensure that the program will protect and foster full respect for human rights of Indigenous Peoples under international and national law. These standards are also fully aligned with the GCF environmental and social safeguards standards and policies relevant to indigenous peoples and the constitutional protections affirmed for these populations. Brazil's national legislation in regards to the rights and protections of Indigenous Peoples will also be respected. Brazil is signatory of the Convention 169 - Indigenous and Tribal People Convention (OIT) and signatory of the Declaration on the Rights of Indigenous Peoples (UNDRIP). Furthermore, the Brazilian Constitution ensures the Indigenous rights to their traditional land, culture and their rights for political organization (Art 231).

In the Amazon biome, more than 108 million hectares are legally protected as indigenous lands, with further lands being delineated in an ongoing land titling process. In 2007, the Brazil published the National Policy for the Sustainable Development of Traditional Peoples and Communities and in 2016, the government also created the National Commission for Traditional Peoples and Communities, where government and communities are equally represented. In 2012, the National Policy for Territorial and Environmental Management of Indigenous Land (PNGATI) was launched, which was constructed in a participatory and consultation process with representatives of 186 Brazilian Indigenous Peoples (more information can be found in the Second SOI). In the Management Committee of the PNGATI indigenous and government are equally represented and the Presidency of the Committee is regularly alternated between government and indigenous representatives. Key objectives of the PNGATI include: 1) governance and participation; 2) territorial protection; 3) prevention and recovering of environmental damage; 4) sustainable use of natural resources. The PNGATI, as well as the policies mentioned above in regards to traditional communities will therefore provide the basis for the support of indigenous peoples and traditional communities in this proposal. The National REDD+ Strategy, in its Annex I also contains further guidance on REDD+ implementation in indigenous lands, which will shape the design of the Floresta+ pilot program.

Consultations with Indigenous Peoples and traditional communities will take place in the context of the proposal, in respect of GCF policy on IPs, UNDP SES standards and relevant national and international guidelines, including those of Free, Prior and Informed Consent. As a preliminary step, MMA has held dialogues with indigenous leaderships through a meeting of the Technical Chamber of Climate Change of the Management Committee of the National Policy of Environmental and Territorial Management in Indigenous Territories (CT-MC/CG-PNGATI). In this forum, the concept of this proposal was considered as an opportunity for indigenous people to effectively access resources through their own organizations, to meeting their climate change adaptation and mitigation needs, as well as for improving the management of their territories, according to the guidelines of PNGATI. Indigenous stakeholders have emphasized and reinforced the need of effective participation in developing and implementing the project. Further discussions in regards to access to REDD+ GCF funds were also held on August 16th, 2018 with the Management Committee of PNGATI. All future consultations and management plans, will also account for ongoing processes of indigenous consultations and autonomous development, including incorporation of the use of Indigenous Environmental

and Territorial Management plans (PGTAs for the acronym in Portuguese), and support of this process. An Indigenous Peoples Plan will be completed in order to ensure that indigenous perspectives, traditional knowledge and autonomy are respected throughout planning and implementation. This Indigenous Peoples Plan and the Cultural Heritage Plan recommended by the ESMF will serve as the cornerstones in guiding the above efforts and ensure that sufficient indicators of progress related to indigenous peoples are incorporated into the monitoring systems and SISREDD+.

E.6. Monitoring and evaluation

Provide information on the monitoring arrangements that will take place for providing annual monitoring reports based on the information provided for the use of proceeds in sections C.2.3 and C.2.4.

Project-level monitoring and evaluation will be undertaken in compliance with the UNDP POPP and the UNDP Evaluation Policy. The M&E Plan will be conducted in accordance with UNDP and GCF procedures by the project team and the UNDP Country Office (UNDP CO). Section C.2 provides outcome indicators for project implementation. The UNDP project document will also include additional information such as corresponding means of verification. The M&E plan includes: an inception report, annual APR reports to GCF, project implementation reviews, a mid-term review and final evaluation. This information will be made available online via Info Hub Brasil (http://redd.mma.gov.br/en/infohub).

The following sections outline the principal components of this plan. The project's M&E plan will be presented and finalized at the project's Inception Meeting following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Project start

1. A Project Inception Workshop will be held within the first 2 months of project start, involving those with assigned roles in the project organization structure, the UNDP Country Office and, where appropriate/feasible, UNDP regional technical policy and technical advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership of the project results and to plan the first-year annual work plan. The Inception Workshop will address several key issues including:

    - To assist all partners to fully understand and take ownership of the project.
    - To detail the roles, support services and complementary responsibilities of UNDP Country Office (CO) and Regional staff vis à vis the project team.
    - Discussion on the roles, functions and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms.
    - Based on the project results framework, finalization of the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
    - Provision of a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The M&E work plan and budget will be agreed and scheduled.
    - Discussion of financial reporting procedures and obligations, and arrangements for annual audit.
    - Planning and scheduling of project Board meetings. Roles and responsibilities of all project organization structures will be clarified, and meetings planned. The first project Board meeting will be held within the first 12 months following the inception workshop.
    - An Inception Workshop Report will be a key reference document and will be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Annual Project Report

This key report is prepared by the Project Technical Advisors, consolidated by the Project Manager, validated by the Project Coordination Unit (PCU) and final approved by the Project Board to monitor progress made since project start and for the previous reporting period.

The format and content of the annual report will be adjusted based on the simplified reporting regime which will be established for RBP by the GCF.

Near real time Monitoring using a geographically explicit cloud-based M&E system associated with and site visits as needed.

Using traditional post-facto, paper-based, descriptive M&E and reporting methods it is very challenging to consolidate the large quantity of geographically explicit information, verify it, analyze progress towards policy milestones or compliance with land-use commitments and report on it in an accurate, transparent and interactive manner.

New tools and technologies exist that respond to this problem and drastically change the paradigm in land use monitoring, allowing for user-friendly, effective and efficient monitoring and adaptive management, even in a context as challenging as the Amazon. Once operational, the marginal cost of using these tools is close to zero. This allow for a quick uptake by many projects, financial institutions and even governments at very low cost. As such, the use of these tools greatly benefits impact investments and related monitoring and reporting. Lastly, by increasing transparency, these tools have the potential to significantly enhance the effectiveness of implementation of projects, especially if the various actors involved (beneficiaries, government, banks) know that their actions will be monitored this way in real time (as opposed to post-facto, paper-based, descriptive monitoring).

UNDP will use an open source turn key M&E solution to do the following:

- Collect, transfer, consolidate, backup and analyze spatial and non-spatial data to facilitate the tracking of progress `and impacts of projects;
- Transparently track and demonstrate progress against beneficiary performance milestones;
- Enable data sharing between stakeholders (e.g. for data collection and verification)
- Monitor compliance towards land-use commitments made by stakeholders, collectively or individually (private sector, political & administrative authorities, local communities).

In addition, and as needed, the UNDP will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report will be prepared by the CO and UNDP Regional Office and will be circulated no less than one month after the visit to the project team and Project Board members. In addition, the MMA will conduct visits to project sites periodically and field visit reports will be prepared.

Mid-term of project cycle
The project will undergo an independent mid-term review at the mid-point of project implementation. The mid-term review will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The final MTR report will be available in English and Portuguese.

End of Project
An independent Final Evaluation will take place three months prior to the closure of the project, undertaken in accordance with UNDP and GCF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term review, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits.

The Final Evaluation will also provide recommendations for follow-up activities and requires a management response. The final report will be cleared by the UNDP CO, the UNDP Regional Technical Advisor and the Project Coordination Unit (PCU) and will be approved by the Project Board. The UNDP CO will include the planned project terminal evaluation in the UNDP CO evaluation plan and will upload the final terminal evaluation report in English and Portuguese and the management response to the public UNDP Evaluation Resource Centre and the MMA.

During the final three months, the project team will prepare the Project Terminal Report. This comprehensive report will be made available to the public through the Info Hub Brasil (http://redd.mma.gov.br/en/infohub). It will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and

areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

The UNDP CO will support the Project Manager as needed, including through annual supervision missions. The UNDP CO is responsible for complying with UNDP project-level M&E requirements as outlined in the UNDP POPP. Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP Regional Technical Advisor as needed. The project target groups and stakeholders, including the National Designed Authority, will be involved as much as possible in project-level M&E. The UNDP CO will retain all M&E records for this project for up to seven years after project financial closure to support ex-post evaluations.

F. Legal arrangements

E.6.1. Legal title to REDD-plus results

- *Provide an analysis with respect to legal title to REDD-plus results in the country. This should include an analysis of entitlement to claim for the results to be paid for by the GCF.*

- *Covenant that no other party has a competing claim to the results proposed to the GCF in accordance with national policy, legal or regulatory frameworks.*

As presented in section B.2.2 (viii) of this proposal, REDD-plus results achieved in the Brazilian territory will be used by the country to fulfill its NDC to the UNFCCC and its Paris Agreement. Below is the relevant regulation regarding REDD+ results.

The Federal Decree 85776/ 2015 created the CONAREDD+ for coordinating and monitoring the implementation of the ENREDD+ in Brazil. Article 4 of this Federal Decree established that the MMA, as the Executive Secretariat of the CONAREDD+, will (V) *issue diplomas recognizing REDD+ results-based payments achieved by Brazil. Article 6 of this Federal Decree establishes that* ***REDD+ results-based payments and their respective diplomas may not be used, directly or indirectly, to fulfil mitigation commitments of other countries to UNFCCC.*** Article 7 also states that the diploma referred to in item V of the caput of art. 4º ***will be nominal and non-transferable, will not generate rights or credits of any nature****, will contain the amount equivalent to the payment by result and can be consulted on the website of the MMA*.

Furthermore, Brazil emphasized in its NDC to the UNFCCC and its Paris Agreement that "*any transfer of units resulting from mitigation outcomes achieved in the Brazilian territory will be subject to prior and formal consent by the Federal Government****. Brazil will not recognize the use by other Parties of any units resulting from mitigation outcomes achieved in the Brazilian territory*** *that have been acquired through any mechanism, instrument or arrangement established outside the Convention, its Kyoto Protocol or its Paris agreement*."

The CONAREDD+ has approved a few Resolutions that reinforce the understanding that there is no formal legal title to REDD+ results in Brazil and that these results cannot be transferred. Below are key elements from each of these decisions.

Resolution n. 5, of December 16th, 2017: General principles for the implementation of the National REDD+ Strategy through the CONAREDD+ and its Thematic Advisory Boards
Article 1, VI. Results-based payments ***do not constitute an international transfer*** *for the fulfillment of mitigation commitments of other countries.*
Article 1, VII. The mitigation benefits achieved through REDD+ activities implemented in Brazil will be reflected in the national accounting of emissions by sources and removals by sinks for demonstrating the fulfillment of Brazil's Nationally Determined Contribution to the Paris Agreement.

Resolution n.6, of July 6th, 2017: Defines the distribution of fundraising limits for REDD+ results achieved in the Amazon biome
Article 3. The distribution of fundraising limits for results achieved reducing emissions from deforestation in the Amazon biome ***do not generate ownership*** *or guarantee of income.*

Article 5, paragraph 2. The Parties mentioned in Article 2 that have interest to raise resources using voluntary or regulated carbon offset schemes shall declare, when filling out the application Annex to this Resolution to apply for eligibility, that they are aware that this ***fundraising is limited to a modality of finance****.*
Article 5, paragraph 3.The payments for REDD+ results made based on the limits established in this Resolution ***do not generate, to the Parties mentioned in Article 2, the right to internationally transfer these results, for the fulfillment of international mitigation commitments, and will not affect the national accounting for demonstrating the fulfillment of Brazil's Nationally Determined Contribution to the Paris Agreement.***
Article 5, paragraph 4. The Parties mentioned in Article 2 shall inform all the Parties involved in REDD+ results-based payments agreements of the term of this Resolution, and other norms established by the CONAREDD+.
Article 5, paragraph 5. In case of no compliance with the obligation established in the previous paragraph, the interested Party will be considered ineligible by the CONAREDD+ to access REDD+ results-based payments.

Resolution n. 7, of July 6th, 2017: Defines the eligibility rules for access to direct fundraising for results-based payments
Article 4. The Amazon States or federal entities eligible assume ***full legal responsibility for managing and investing the resources raised through results-based payments, respecting the REDD+ safeguards and providing accounting information.***
According to the Annex of this Resolution, entities applying to receive the approval of the CONAREDD+ and be eligible to access results-based payments need to sign the following: "I declare to be aware that the fundraising for REDD+ results-based payments achieved by Brazil represent ***exclusively a modality of finance and that I will inform all the Parties involved in the REDD+ results-based agreements about the terms of the Resolution n.6 and other norms established by the CONAREDD+****."*

G. Accredited entity fee and project management costs

Provide a list of the activities that are expected to be conducted using the AE fees and project management cost with corresponding costs as follows:

Accredited entity fee: table 19 below provides information on the activities to be conducted and the budget.

Table 19. Accredited Entity Fee Request Budget

Accredited Entity Fee Request Budget						
Accredited entity: UNDP **Project: REDD+ Results Based Payments for 2014-2015** **Country: Brazil** **Duration (years): 6 years**	**GCF Total Financing:** **96,452,228** GCF RBP : **96,452,228**			**Total Proj. Financing (incl. GCF):** **96,452,228** Total RBP: **96,452,228**		
Year:	1	2	3	4	5	6
Currency:	USD					
1. Project/Program Implementation and Supervision						
1.1 Use of Proceeds Reporting and Oversight	**240**	**7,454**	**9,689**	**10,214**	**10,214**	**4,939**
Overseeing the preparation of the required reports for submission to the GCF Secretariat	240	7,454	9,689	10,214	10,214	4,939
1.2 Environmental and social management risk and impact oversight**	**16,011**	**497,106**	**646,162**	**681,193**	**681,193**	**329,384**

Provide review and oversight to project implementation teams to ensure project quality and compliance with UNDP's SES and associated procedures and frameworks (SESP, ESIA, ESMP, management plans, M&E).	4,868	131,789	171,306	180,593	180,593	87,324
Provide review and oversight in addressing critical safeguard-related implementation issues, including e.g. related to grievances and/or non-compliance with UNDP's SES.	5,835	181,168	235,490	248,257	248,257	120,042
Provide review and oversight to maintenance of administrative and environmental records, especially procedures related to stakeholder engagement, FPIC and a log of complaints together with records of any measures taken to mitigate the cause of the complaints.	5,931	184,149	239,366	252,343	252,343	122,018
2. Project/Program Completion and Evaluation						
2.1 Program closure	-	-	-	-	-	42,675
Preparing project closing documents for submission to GCF Secretariat	-	-	-	-	-	33,650
Preparing the financial closure of the project for submission to GCF Secretariat	-	-	-	-	-	9,025
Other (please specify):						
3 Reporting, as required under AMA & FAA						
3.1 Reporting requirements as agreed in the AMA and FAAs	**54,450**	**54,450**	**54,450**	**54,450**	**54,450**	**54,450**
3.2 Oversight of the ownership and legal title to the ERs and actions to avoid double payment ***	**32,000**	**16,000**	**16,000**	**16,000**	**16,000**	**16,000**
Ensure GCF Volume of ERs and the REDD+ RBP paid by the GCF for those ERs are recorded in the Info Hub and host country registry	16,000	-	-	-	-	-
Audit of the Host Country's national registry to asses if (A)GCF Volume of ERs and the REDD+ RBP paid by the GCF for those ERs remain properly recorded (B) the GCF Volume of ERs are no longer eligible for RBPs under the GCF or in any other arrangement, and (C) the Host Country will retire the GCF Volume of ERs and will not transfer or otherwise use them (e.g. offsetting);	16,000	16,000	16,000	16,000	16,000	16,000
Total	**102,702**	**575,010**	**726,301**	**761,857**	**761,857**	**447,448**
GRAND TOTAL						**3,375,828**
Fee Percentage						**3.5%**

The agreed fee will be disbursed to the Accredited Entity in addition to the REDD+ RBP. The Accredited Entity's fee will be disbursed in six (6) equal annual disbursements. The first instalment of the fee will be

disbursed together with the disbursement of the REDD+ RBP. The table 20 below provide the AE fee disbursement schedule.

Table 20. AE fee disbursement schedule

Description	GCF Accredited Entity (AE) Fee
For Year 1 Activities	562,638
For Year 2 Activities	562,638
For Year 3 Activities	562,638
For Year 4 Activities	562,638
For Year 5 Activities	562,638
For Year 6 Activities	562,638
Total	3,375,828

Project management costs for the full implementation period are presented in table 21.

Table 21. Project management costs for the full implementation period

List of Activities	Costs	Explanation
Preparation of the annual project work plans/programmes and budgets, including analysis and reporting	430,200	10% of Project Manager, 25% Project Assistant, 50% Administrative Assistant and 50% Financial Assistant
Preparation of procurement plans	105,000	50% Procurement Associate
Preparation of TOR and preparation of procurement packages	213,000	50% Procurement Associate, 25% Project Manager
Provide Legal Advice for project management	360,000	100% Technical legal adviser
Tracking and monitoring of project costs and deliverables to plan	459,000	50% Project Assistant, 50% Administrative Assistant and 50% Financial Assistant
Preparation of progress reports and financial management reports	136,800	15% of Project Manager, 25% Project Assistant
Support to programmatic visits, workshops, and field missions	210,000	100% Logistics Assistant
Support to the project board and project advisory committee	216,000	50% Project Manager
Project Audits	88,500	Annual audits
Evaluations	60,981	International consultants
Financial Monitoring Missions (Spot checks)	360,000	Travel
Office maintenance	834,519	Office Space , Basic Services for 16 people @ 6 years, Computers, Printers, Furniture, Communication (phone, mail, etc), Transportation, Supplies
Direct project costs	2,893,567	UNDP direct project costs relates to cost recovery for processes and transactions to implement the project. This referential cost has been calculated based on the Universal Price List that provides specific costs for every specific transaction.

UNDP provision of supervision services to the project	3,375,828	
Total	**9,743,395**	

H. Annexes

- Non-objection Letter
- Environmental and social assessment (ESA)
- ….

No-objection letter issued by the national designated authority(ies) or focal point(s)

MINISTRY OF FINANCE
Secretariat for International Affairs
National Designated Authority for the Green Climate Fund
Esplanada dos Ministérios, Bloco P, 2º andar, sala 219-B
CEP 70048-900 - Brasília/DF - (61) 3412-2296 - e-mail and.gcf@fazenda.gov.br

Ofício SEI nº 10/2018/CODIN/SUEFI/SAIN-MF

Brasília, 10 de agosto de 2018.

Mr. Javier Manzanares
Deputy Executive Director
Green Climate Fund
G-Tower, 24-4 Songdo-dong, Yeonsu-gu
Incheon City, Republic of Korea

Re: **Funding proposal for the GCF by UNDP regarding REDD+ results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015.**

Referência: If you answer this letter, please indicate the Process n.º 12120.101170/2018-61.

Dear Mr. Manzanares,

1. We refer to the program "*REDD+ results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015*" as included in the funding proposal submitted by UNDP to us on August 3 2018.

2. The undersigned is the duly authorized representative of the Secretariat for International Affairs, Ministry of Finance, the National Designated Authority/focal point of Brazil.

3. Pursuant to GCF decision B.08/10, the content of which we acknowledge to have reviewed, we hereby communicate our no-objection to the Program as included in the funding proposal.

4. By communicating our no-objection, it is implied that:

a) The government of Brazil has no-objection to the Program as included in the funding proposal;

b) The Program as included in the funding proposal is in conformity with Brazil's national priorities, strategies and plans;

c) In accordance with the GCF's environmental and social safeguards, the Program as included in the funding proposal is in conformity with relevant national laws and regulations.

5. We also confirm that our national process for ascertaining no-objection to the Program as included in the funding proposal has been duly followed. In addition, considering that the funding proposal refers to REDD-plus results-based payments, written consent has been provided by the REDD-plus entity/focal point to the UNFCCC, the Ministry of Environment of Brazil (Ofício n.º 5013/2018-MMA, July 19, 2018).

6. We acknowledge that this letter will be made publicly available on the GCF website.

Best regards,

Documento assinado eletronicamente

ERIVALDO ALFREDO GOMES

Acting Secretary for International Affairs

Documento assinado eletronicamente por **Erivaldo Alfredo Gomes**, **Subsecretário(a) para Instituições Econômico-Financeiras e Cooperação Internacional**, em 10/08/2018, às 12:06, conforme horário oficial de Brasília, com fundamento no art. 6º, § 1º, do Decreto nº 8.539, de 8 de outubro de 2015.

A autenticidade deste documento pode ser conferida no site http://sei.fazenda.gov.br/sei/controlador_externo.php?acao=documento_conferir&id_orgao_acesso_externo=0, informando o código verificador **0994670** e o código CRC **9A4E2580**.

Processo nº 12120.101170/2018-61. SEI nº 0994670

No-objection letter issued by the national designated authority(ies) or focal point(s)

MINISTRY OF THE ENVIRONMENT OF BRASIL
SECRETARY OF CLIMATE CHANGE AND FORESTS
DEPARTMENT FOR FORESTS AND FIGHTING DEFORESTATION
Esplanada dos Ministérios, Bloco B, Brasília/DF, Zip code 70068-901
Fone number: (+55) 61 2028-2140

Ofício nº 5013/2018-MMA

Brasília, 19 July 2018

Mr. Javier Manzanares
Deputy Executive Director
Green Climate Fund
G-Tower, 24-4 Songdo-dong, Yeonsu-gu
Incheon City, Republic of Korea

Assunto: **Written consent for participation in the Pilot Programme for REDD+ Results-based Payments Request for Proposals.**

Reference: If you answer this letter, please indicate the Process nº 02000.000934/2018-12.

Dear Mr. Manzanares,

1. Firstly, I would like to express Brazil's appreciation for the approval of the Green Climate Fund's Pilot Programme for REDD+ results-based payments (RBP). Brazil has taken significant steps to materialize the UNFCCC Warsaw Framework for REDD+ at the domestic level and thus further advance national REDD+ efforts. I therefore very much look forward to being able to engage with the GCF on the pilot programme.

2. The National REDD+ Committee has set the rules for national entities to access results-based payments. The Committee's Resolution nº 06 defines the distribution of REDD+ RBP fundraising limits between federal entities and Amazonian states. According to this Resolution, the federal government can raise payments for 40% of the total results achieved and verified under the UNFCCC process, while the Amazonian states are entitled to 60%. It is worth to mention that according to National Decree nº8.576/2015, which established the National REDD+ Committee, results-based payments received by Brazil cannot be used, direct or indirectly, to fulfil mitigation commitments of other Parties to the United Nations Framework Convention on Climate Change.

3. In accordance with decisions by the National REDD+ Committee, the Ministry of the Environment is one of the entities eligible to raise REDD+ results-based payments. The Government of Brazil sees the GCF Pilot Programme as an important source of funding to boost Brazil`s successful policies to reduce deforestation and sustain results in the long term.

4. In order to access GCF funds, we conducted a prospection process to identify the accredited entity to submit the Brazilian funding proposal. Based on Brazil`s priorities and criteria established, the United Nations Development Programme (UNDP) was identified as the best suitable institution.

5. In my capacity as the REDD+ national focal point to the UNFCCC duly designated pursuant to the National Decree nº8.576/2015 and the Ministerial Ordinance nº 209/2017, I hereby express my consent for UNDP as the accredited entity to submit a funding proposal entitled "Brazil REDD+ Results-

Based Payments (RBP) for results period 2014-2015" under the Green Climate Fund's Pilot Programme for REDD+ RBP.

6. The funding proposal to be submitted through UNDP will be based on the National REDD+ Strategy and resources will be used towards achievement of Brazil's Nationally Determined Contribution (NDC), in a manner that will contribute to the long-term sustainability of REDD+ activities, including non-carbon benefits.

7. The Government of Brazil counts on the GCF's Secretariat efforts and support in order to fully and successfully operationalize the Pilot Programme.

Sincerely,

Mr. Jair Schmitt

CONAREDD+ Chairman – REDD+ focal point to the UNFCCC

Director of Department for Forests and Fighting Deforestation

Ministry of the Environment of Brazil

Documento assinado eletronicamente por **Jair Schmitt**, **Diretor(a)**, em 19/07/2018, às 16:02, conforme horário oficial de Brasília, com fundamento no art. 6º, § 1º, do Decreto nº 8.539, de 8 de outubro de 2015.

A autenticidade deste documento pode ser conferida no site http://sei.mma.gov.br/sei/controlador_externo.php?acao=documento_conferir&id_orgao_acesso_externo=0, informando o código verificador **0244995** e o código CRC **16FF27F5**.

Environmental and social report(s) disclosure

Basic project/programme information	
Project/programme title	Brazil REDD-plus RBP for results period 2014-2015
Accredited entity	UNDP
Environmental and social safeguards (ESS) category	Category B
Specific project location or target country/ies of the programme, as the case may be	Brazil
Environmental and Social Impact Assessment (ESIA) (if applicable)	
Date of disclosure on accredited entity's website	2018-09-13
Language(s) of disclosure	English and Portuguese
Link to disclosure	English ESMF – http://www.br.undp.org/content/dam/brazil/docs/ODS/Brazil%20ESMF%20REDD+%20RBP%20Final.pdf ESA – http://www.br.undp.org/content/dam/brazil/docs/ODS/ESA%20Brasil%20Final.pdf Portuguese ESMF – http://www.br.undp.org/content/dam/brazil/docs/ODS/FP-UNDP-140918-PIMS6121-Annex%20VI_POR_final%20(1).pdf ESA – http://www.br.undp.org/content/dam/brazil/docs/ODS/FP-UNDP-140918-PIMS6121-Annex%20XIII(i)_POR%20(1).pdf An ESIA consistent with the requirements for a category B project is contained in the Environmental and Social Management Framework and Environmental and Social Assessment
Other link(s)	http://www.br.undp.org/content/brazil/pt/home/library/planeta/p.html

Environmental and Social Management Plan (ESMP) (if applicable)	
Date of disclosure on accredited entity's website	2018-09-13
Language(s) of disclosure	English and Portuguese
Link to disclosure	English ESMF – http://www.br.undp.org/content/dam/brazil/docs/ODS/Brazil%20ESMF%20REDD+%20RBP%20Final.pdf ESA – http://www.br.undp.org/content/dam/brazil/docs/ODS/ESA%20Brasil%20Final.pdf Portuguese ESMF – http://www.br.undp.org/content/dam/brazil/docs/ODS/FP-UNDP-140918-PIMS6121-Annex%20VI_POR_final%20(1).pdf ESA – http://www.br.undp.org/content/dam/brazil/docs/ODS/FP-UNDP-140918-PIMS6121-Annex%20XIII(i)_POR%20(1).pdf An ESMP consistent with the requirements for a category B project is contained in the Environmental and Social Management Framework and Environmental and Social Assessment
Other link(s)	http://www.br.undp.org/content/brazil/pt/home/library/planeta/p.html
Resettlement Action Plan (RAP) (if applicable)	
Date of disclosure on accredited entity's website	
Any other relevant ESS reports and/or disclosures (if applicable)	
Description of report/disclosure	The ESA provides the assessment by the Accredited Entity on the extent to which the REDD+ actions and the relevant policies, laws and regulations for which the results-based payments are requested were consistent with the applicable ESS standards.
Language(s) of disclosure	English and Portuguese
Link to disclosure	See links above
Other link(s)	http://redd.mma.gov.br/pt/financiamento/fundo-verde-para-o-clima-gcf
Disclosure in locations convenient to affected peoples	
Date	2018-09-14
Place	Federal Ministry of Environment website

Note: This form was prepared by the accredited entity stated above.

_____

Secretariat's assessment of FP100

Proposal name:	REDD-PLUS results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015
Accredited entity:	United Nations Development Programme (UNDP)
Country/(ies):	Brazil
Project/programme size:	Medium

I. Overall assessment of the Secretariat

1.1 Project background

1. The project presents Brazil's REDD-PLUS results for the years 2014 and 2015 derived from reducing emissions from deforestation in the Amazon region which have subsequently been reported to the UNFCCC, undergone technical assessment and published on the UNFCCC REDD-PLUS information hub: https://redd.unfccc.int/info-hub.html. These results are presented to GCF for Results Based Payments as part of the REDD-plus results-based payments pilot programme and are fully compliant with the eligibility criteria set out in the Terms of Reference (ToR) for the pilot program. The detailed assessment of the proposed REDD-PLUS results is provided in annex 1.

2. The ToR states that countries receiving REDD-plus RBPs should reinvest the proceeds in activities in line with their current or next nationally determined contribution (NDC) as established under the UNFCCC Paris Agreement, REDD-plus strategies, or low-carbon development plans consistent with the objectives of the GCF.

3. Brazil will use the proceeds from the results-based payments for the following two outputs:

(a) Development of a pilot of an Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation (Floresta+); and

(b) Strengthen the implementation of Brazil's REDD-plus Strategy through improvements in its governance structure and systems.

1.2 Scorecard results

4. As per decision B.18/07, the proposal was assessed using the scorecard for REDD-plus RBP. This assessment was conducted by the secretariat with support of LULUCF experts and the preliminary results were discussed with the independent technical advisor panel (TAP). The final score was discussed and agreed with the independent TAP.

Table 1. Scorecard results (see annex 1 for details)

Scorecard Section		**Results**	
Carbon elements		Score: 36	All criteria "pass"
Non-carbon elements	Cancun safeguards:	All criteria "pass"	
	Use of proceeds and non-carbon benefits	Score: 2	

GCF investment framework[1]	All criteria "high"
GCF policies	All criteria "pass"

1.3 Proposed payments

5. Following the procedure defined in the ToR, the following equation was applied in order to estimate the volume of results to be translated into payments:

$$\text{Volume of ERs offered (x)} \frac{\text{Total score achieved}}{\text{Maximum score}} = \text{GCF volume of ERs}$$

6. The resulting GCF volume of results and the proposed amount for payments are provided below:

Values	**Results**
- Volume of ERs offered: 25,093,262.55 tCO2eq - Total score achieved: 36 - Maximum score: 48 - Valuation of results: USD 5/ tCO_2eq - Non-carbon benefits score: 2	**GCF volume of ERs**: 18,819,946.9 tCO_2eq Additional 2.5 % of payments for non-carbon benefits
	Proposed results-based payments: USD 96,452,228

1.4 Strengths and points of caution

7. The funding proposal is presented to the Board for consideration with the following remarks:

Strengths	Points of caution
The project is part of the first batch of projects submitted under the REDD-plus results-based payments pilot programme. The project will help build the basis future projects providing best practices and lessons learned.	As the results paid are related to past activities from 2014 and 2015, the accredited entity should ensure the legitimacy of the results and the proper implementation of safeguards during the period in which the results were achieved as well as close monitoring for the use of proceeds consistent with the REDD+ strategy and Brazil's NDC.
The use of proceeds will be reinvested to pilot an environmental services incentive program and furthermore part of the proceeds will help implement the national REDD-plus strategy focusing on governance issues.	Deforestation trends have increased in the Brazilian Amazon in recent years which should be accounted in future submissions requesting payments for results.

[1] Although not applicable for small size proposals, it was applied for this proposal considering that this is the first time for the GCF to assess this type of REDD+ results-based payments proposals.

The REDD-plus results presented to GCF have already undergone quality control through the technical assessments carried out by the UNFCCC roster of experts.	Although estimates were found in overall accordance with the UNFCCC decisions. Areas for improvement on the estimates where identified, including the estimation of uncertainties.
	Acknowledging that the host country is sovereign to decide on the use of the proceeds as long as they are aligned to the country's NDC and REDD+ strategy, the transaction costs to implement these payments seem to be high in comparison with other similar investments.

8. The Board may wish to consider approving this funding proposal with the terms and conditions listed in the respective term sheet and addendum XVI, titled "List of proposed conditions and recommendations".

II. Assessment of performance against the investment criteria

2.1 Impact potential *Scale: High*

9. Brazil's continuous work on improving their forest monitoring have led to in combination with the implementation of various policies and measures to the remarkable result of reducing 6.1 billion t CO2 eq of emission from deforestation for the period of 2006-2015. This high volume of results matches approximately 50% of all CO2 emissions from all Annex I countries in 2012 alone. Because of the implementation of policies and measures in the Amazon biome, the LULUCF sector is no longer the highest emitting sector in Brazil.

10. Brazil's Action plan for the prevention and control of deforestation in the legal Amazon (PPCDAm) has served as the main vehicle since 2004 in achieving these results. The plan is now entering its 4th phase operating until 2020. The PPCDAm has through its innovative approach of focusing on land use, territorial planning, fostering sustainable production, environmental monitoring, control and enforcement managed to support Brazil's efforts in combatting deforestation, and as a result, Brazil has reported the most ambitious results in the history of the UNFCCC. In parallel to all this, Brazil y has managed to combat and manage leakage

11. The total volume of emissions reductions achieved by Brazil in this period, including those proposed to the REDD-PLUS results-based payments pilot programme (2014-2015), are all included in the technical annexes to the two biennial update reports submitted to the UNFCCC. These results were technically assessed and verified in accordance with COP decisions on REDD-PLUS.

12. It is therefore considered that the results achieved provide significant global benefits in mitigating climate change.

2.2 Paradigm shift potential *Scale: High*

13. The implementation of REDD-plus policies and measures has furthermore had an important paradigm shift impact by contributing to the protection of forests but maintaining an upward trend in agricultural production within years of lower deforestation rates. Although deforestation trends have increased in recent years, the project will reinvest in important areas such as governance structures and a forest policy which are expected to further help the Amazon region to continue reducing emissions from deforestation in the Amazon biome. It is expected that the payments provided through the pilot programme for REDD+ results-based payments as well as the

contributions from several donors may incentivize the public and private sector to return to the path taken over more than a decade of increasing rural economy, securing indigenous rights and reducing deforestation.

2.3 Sustainable development potential *Scale: High*

14. REDD-PLUS policies in Brazil have since 2006 contributed strongly to economic, environmental and social sustainability. The proceeds paid for by the GCF are expected to contribute directly to continue these efforts. The use of proceeds for piloting the forest policy and implement the national REDD-PLUS strategy on governance issues should fully lead to sustainable development through better protection and conservation of forests, improved governance structures, improved engagement of local communities and thereby improved livelihoods. In addition, the proposed project is expected to engage and improve the livelihoods of women who are mostly in disadvantaged positions.

15. The implementation of the PPCDAm has over the years brought more attention to the communities of the Amazon region through its many social policies and projects. This proposal will support this through implementation of the PPCDAm.

16. Brazil has progressed its gender agenda significantly over the years. Programmes such as Bolsa Familia, Bolsa Verde target sustainable development with gender issues playing a central role. Many of these lessons learned will be incorporated into the Floresta+ which will be supported through this project.

17. Brazil will use its proceeds to continue its investments and strong commitment to combat and reduce deforestation in strengthening its governance and providing incentives to the stakeholders. This is reflected by its commitment to invest in an Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation and through the support the National REDD-plus Strategy, Brazil continues to commit to combat deforestation. And that reinvestment of the proceeds will continue to support Brazil's PPCDAm and in achieving continuous results from reducing emissions from deforestation.

2.4 Needs of the recipient *Scale: High*

18. There are large number of indigenous peoples from several different ethnic groups and rural population living in the Brazilian Amazon, which also includes some of the most vulnerable population with little or none contact with modern societies. Several reports and published literature make reference to the improvement of economic growth in the Brazilian Amazon, while at the same time notice increased inequality and poverty of original settlers[2].

19. GCF's support will allow Brazil to distribute the payments directly to the rural population living in the Amazon as part of the implementation of the Floresta + program. Not to mention that the project will help Brazil pilot new innovative approaches for results-based payments that has the potential to attract and catalyse the private sector and other donors and investors with the objective to reduce the current deforestation trends.

2.5 Country ownership *Scale: High*

20. The project is in full alignment with Brazil's NDC, REDD-PLUS strategy as well as national policies and strategies. The project is furthermore in full alignment with the strategic areas of

[2] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3426830/

investment of the Brazil's country program to the GCF. The PPCDAm has since 2004 been the main vehicle to combat deforestation and continues to lead the way.

21. Stakeholder engagement has been embedded in REDD-PLUS in Brazil since 2009, before safeguards were formally defined by the UNFCCC in 2010. Since then there has been numerous seminars, meetings and workshops to discuss the role and participation of indigenous peoples. In 2016 a national safeguards advisory board was established to oversee safeguards in the Brazilian context.

22. The Ministry of Environment has played a key role in the preparation of the funding proposal, leading the discussions on use of proceeds and with regards to policy issues. The Ministry is the responsible entity for coordinating the implementation of the PPCDAm since it was launched in 2004. The proposal is therefore fully aligned with national priorities.

2.6 Efficiency and effectiveness *Scale: High*

23. The REDD-plus results for 2014 and 2015 presented to GCF and the suggested budget clearly highlight that a fixed price of USD 5 per tCO_2eq will be applied to the project, which is cost effective and in accordance with the terms of reference of the pilot programme. Furthermore, the payment for these past results is reinvested into a transformation of the forest sector, which will allow Brazil to continue combatting deforestation.

24. The reinvestment of the use of proceeds has the potential to attract other financial support through its innovative approach and opportunities for piloting the incentivizing forest policy. This will not only help support the Amazon biome but be applicable to the entire country and other countries in the amazon basin.

25. The numerous lessons learned can furthermore help Brazil combat deforestation in other regions and continue to inspire and share lessons learned with other countries in the Amazon Basin through the south-south collaboration set up by the Amazon Fund.

III. Assessment of consistency with GCF safeguards and policies

3.1 Environmental and social safeguards

26. The Government of Brazil through the accredited entity (AE) is submitting a proposal for the payment of REDD-plus actions undertaken in 2014 and 2015 as part of Brazil's Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm). In meeting the requirements of GCF's pilot programme for the REDD-plus results-based payments, the AE has conducted a review of the safeguards implementation of the period for which payment is requested and an environmental and social due diligence on the plans for the use of results-based payments. An Environmental and Social Assessment (ESA) was prepared that describes the extent to which the actions that generated the results were undertaken in a manner consistent with the ESS standard of GCF. The AE also provided an Environmental and Social Screening Report identifying the environmental and social risks and potential impacts of activities that will be supported by the payment of results and an Environmental and Social Management Framework (ESMF) that describes the due diligence and management of these risks and impacts.

27. The PPCDAm started in 2004 and is among the key programs of Brazil to reduce deforestation in the country. As a multiagency and multisectoral programme, the programme is coordinated by the Ministry of Environment and has a three-pillared strategy: (i) territorial and land use planning; (ii) environmental control and monitoring; and (iii) fostering sustainable production activities. The PPCDAm is implemented in a phased approach with the results period implemented in the third phase. The Amazon Fund was established in 2008 to mobilize resources

to support efforts prevent, monitor and address deforestation as well as promote the conservation and sustainable management of the Amazon biome. The Amazon Fund is one of the key financial instruments supporting the implementation of the PPCDAm. The Amazon Fund follows the REDD-PLUS Social and Environmental Safeguards, with specifications developed for Brazil through stakeholder consultations and is also subject to the environmental and social due diligence of the fund manager *Banco Nacional de Desenvolvimento Economico e Social* (BNDES).

28. Developing and implementing REDD-plus activities in Brazil requires, among others, that the activities address and respect the UNFCCC safeguards (Cancun safeguards) as described in Decision 1/CP.16. For Brazil, this also entailed interpreting the Cancun safeguards according to the country's context and based on the interpretation formed the basis of the assessment oh how each safeguard was addressed and respected throughout the implementation of the activities. The elaboration of the interpretation and the report on how the safeguards were addressed and respected is contained in the country's Summary of Information (SOI).

29. The ESA presents the review of the PPCDAm focusing on the extent of consistency or alignment with the GCF ESS standards, particularly of the following: (i) policies, laws and regulations (PLRs); (ii) the application of the PLRs at the project or activity level; and (iii) stakeholder engagement and grievance redress in relation to the PPCDAm and the activities supported. The analytical framework for the ESA developed by the AE is underpinned by an alignment study of the policies and actions to establish consistency with the AE's Social and Environmental Standards (SES), considered by the AE to be coherent with the GCF ESS standards. The alignment study utilized specific screening questions and standards covering various thematic safeguards issues. The screening questions included those related to the following SES principles: (i) human rights, encompassing risks and benefits related to indigenous peoples, property and land tenure, benefits sharing, access to information, and grievance redress; (ii) gender equality and women's empowerment; and (iii) environmental sustainability. The review concludes that during the period of 2014 to 2015 for which the results were generated, and payment is sought, the PPCDAm indicates a good level of alignment with the AE's SES and in particular found consistency with the key objectives of the SES without significant shortcomings. The ESA identified aspects of the PLR that can benefit from future improvements or from other elements of the national REDD-plus strategy. However, even with such aspects, the ESA concludes positive alignment with the AE's SES.

30. In terms of stakeholder engagement, the ESA indicates a good level of stakeholder participation in REDD-plus activities. This is expected given the previous efforts of the government and stakeholders in developing the national REDD-plus strategy and other REDD-plus activities. Furthermore, the governance structure of the PPCDAm provides for representation of various stakeholders including indigenous peoples and other vulnerable population. However, the ESA notes that the development of a grievance redress system associated with the national REDD-plus strategy is ongoing with consideration being given to establishing an Ombudsman function that would advocate for the REDD-plus safeguards.

31. The ESA also reviewed how the policies were applied at the project level with the view to understand how the implementation of the project activities was consistent with the AE's SES. Three projects were considered in the ESA representing the projects supported by the Amazon Fund during the third phase of the PPCDAm and include (i) Going Green Project; (ii) Catalyzing the Contribution of Indigenous Lands to the Conservation of Brazil's Forest Ecosystems; and (iii) Amazon Portal Seeds Project. The review utilized indicators aligned with the SES overarching policy and standards. The ESA concludes that the project safeguards, aligned with regulatory, policy and institutional framework contributed to the effective implementation of the PPCDAm and showed consistency with the AE's SES. There are however identified aspects of project safeguard implementation that would need to be improved such as (i) gender mainstreaming including gender analysis and gender action plan of projects; (ii) establishment of project feedback and grievance redress mechanism; (iii) broadening the scope of environmental and social assessment

and due diligence; and (iv) strengthening the capacity of implementing entities to promote and improve participation and engagement of indigenous peoples and other vulnerable populations.

32. *E&S risk category.* The Accredited Entity has classified the RBP project as having likely moderate environmental and social (E&S) risks and impacts, equivalent to Category B of the GCF project safeguard categorization. Preliminary screening undertaken by the Accredited Entity shows that the E&S risks from activities related to incentives that will be provided to conserve native vegetation and prevent deforestation for output 1 may be moderate. Further screening will be undertaken after defining and designing the project's activities. Activities or components identified as having high E&S risks will be excluded from the project.

33. *Safeguard instruments prepared for the project (including their disclosure).* The Accredited Entity has submitted an environmental and social management framework (ESMF) as the main safeguards document for the project. The activities of the project are yet to be specified fully in terms of specific locations and components, and therefore the ESMF has been prepared to set out the guidelines and procedures for screening, assessing, and managing the potential E&S impacts particularly those related to output 1. Clarification is needed the type of safeguard activity or documents that will be required at each stage of the subprojects or activities and the agencies responsible. Once the activities or components are finalized and with details, the ESMF will need to be updated to include a subproject or activity screening checklist. The checklist will need to be developed to assess the eligibility of the proposed subproject or activity, and if eligible, to determine the commensurate level of E&S due diligence (for example, environmental and social impact assessment (ESIA), environmental and social management plan (ESMP), codes of practice, etc.), the required plans (resettlement action plans, indigenous peoples plan, biodiversity action plan, etc.), as well as other safeguard instruments.

34. *Information disclosure.* The overall E&S risk level of the programme is moderate risk which warrants disclosure of the ESMF document. Both the English and local language (Portuguese) versions of the ESMF document have been disclosed on the Accredited Entity's website. Furthermore, the Accredited Entity commits to disclosing information about the project's activities including E&S screening results, assessments, management plans, and monitoring reports in a timely manner and in local languages as much as possible.

35. *Key impacts and mitigation measures (citing requirements of triggered PS 2 - 8)* Impacts and risks that may potentially result from the project are diverse in nature. The project may have environmental impacts on biodiversity due to project activities in or next to critical habitats or environmentally sensitive areas, use of natural resources and those resulting from the potential use of pesticides. Additionally, potential social impacts include land tenure, physical and/or economic displacement, cultural heritage and indigenous peoples. Management measures are included in the ESMF for potential risks and outlines for documents related to due diligence and management of E&S risks and impacts are included as annexes of the ESMF such as ESIA, ESMP and indigenous peoples plan.

36. *Capacity of executing entities.* Implementation arrangements include a project team with E&S safeguards experts, responsible for monitoring and implementation of safeguards for the project. Capacity building and technical assistance, including training for project personnel, will be provided where required to ensure implementation of management plans. The Accredited Entity will maintain oversight on safeguards related matters.

37. *Monitoring and evaluation.* The E&S monitoring, review and reporting requirements are presented in the ESMF. The indicative cost of $17 million related to ESMF implementation was also provided which seems to be high cost, reducing the amount of effective payments to the final beneficiaries.

38. *Stakeholders engagement process (consultations undertaken and plan for continuing engagement).* Stakeholder consultations have been undertaken during the course of developing the project. These include engagement with the national REDD-PLUS committee which represents

diverse stakeholder groups. A stakeholder engagement plan will be prepared describing consultations and engagements that will be undertaken throughout the project implementation in alignment with the national requirements and guidelines.

39. *Project-level or institutional-level grievance redress mechanism.* The project will employ a 2-tier grievance redress mechanism consisting of a project-level grievance redress mechanism, and the Accredited Entity's institutional-level grievance redress mechanism which can be used when complainants are not satisfied with the response from the former. Information on the grievance redress mechanism will be communicated in stakeholder engagement activities planned for the project.

3.2 Gender policy

40. The AE has analysed gender equality and women's empowerment issues in the period of the achievement of results by comparing its social and environmental standards against diagnostic questions and review indicators. Three projects which contributed to the results achieved, that is, the going green, catalysing the contribution of indigenous lands to the conservation of Brazil's forest ecosystems (GEF project) and amazon portal seeds projects were reviewed for alignment against these indicators. The alignment review points out that these projects did not directly address gender equality and women's empowerment, though women participated in the some of the projects' activities. For example, in the amazon portal seeds project women participated in seed collection and in project's management councils. Further, stakeholder engagements encourage female representation in the thematic advisory chamber on safeguards established by CONAREDD-PLUS. However, while the stakeholder engagement report included in the proposal indicates that consultative processes have increasingly prioritized the participation of local communities it is not clear whether equitable representation of both men and women was ensured and how participation contributed to the implementation of these projects for the benefit of both men and women.

41. Having seen that there are caveats in addressing the concerns and needs of women in the REDD-PLUS projects, the AE recommended the integration of gender issues in REDD-PLUS project design, implementation, monitoring and evaluation including conducting gender analyses, collection of sex-disaggregated baseline data, and defining relevant gender and social inclusion indicators and targets. The assessment by the AE determined the alignment of the projects (undertaken for the achieved results) and national policies and regulations with its Social and Environmental Standards (SES). The (SES) includes an overarching principle of gender equality and women's empowerment.

42. Recommendations on gender-related issues have been taken up in the preparation of the proposal for the use of proceeds. The proposal contains a gender assessment; therefore, it complies with the operational guidelines of the GCF Gender Policy and Action Plan. The AE prepared a gender assessment based on desk review of available information which has gathered evidence on gender issues in the context of the country, the forestry sector and REDD-PLUS. The gender assessment also highlights the need to empower women through the implementation REDD-PLUS by mainstreaming gender in the design, monitoring and evaluation of activities. Some of the entry points presented by the project to promote equal participation and access of project benefits include, representation of men and women in project governance arrangements and identifying and addressing gender inequalities in the country's land tenure system. Findings in the gender assessment will be re-assessed and revised as needed as part of the environmental and social impact assessment (ESIA) of the project.

43. The AE has provided a preliminary gender action plan which translates some of the recommendations in the gender assessment into actions corresponding to the project's outputs, indicators with sex-disaggregated targets, and institutions responsible for implementing the actions

are also included. The AE will collect sex-disaggregated baseline data during the ESIA process. Baseline information collected on gender-related issues will be used to inform the gender action plan and rationalise sex-disaggregated targets contained therein. The project's cost for implementing the activities listed in gender action plan will be based on resources allocated to the project by GCF – the AE is recommended to avail sufficient financial resources for the implementation of these activities. Additionally, the AE is strongly recommended to incorporate timelines in the gender action plan based on the duration of implementation of subprojects. The project will engage the services of a gender specialist who will be responsible for gender mainstreaming and ensuring the implementation of the gender action plan.

3.3 Risks

44. **Overall Program assessment (medium risk):**

(a) Under the Pilot Programme for REDD-plus results-based payments, GCF is requested to provide a payment of USD 96,452,228 for the emission reductions achieved by Brazil in 2014 - 2015. The volume of ERs for which GCF funding is sought is within 30% of the total payable volume as required under the ToR. The proceeds will be used to strengthen the implementation of Brazil's ENREDD-plus and reinvest in the pilot for environmental services incentive programme, as permitted under the ToR.

45. **AE / EE capability to execute the current programme (low risk):**

(a) The project will be implemented under UNDP's Direct Implementation modality (DIM). Therefore, UNDP will be an AE and EE for this project. UNDP is an accredited entity and has an extensive track record in implementation of the projects in developing countries. As an EE for the project, UNDP is responsible and accountable for managing this project, including monitoring and evaluation, M&E of project interventions and achieving project outcomes. The Ministry of Environment of Brazil (MMA) will be UNDP's government partner and support technical oversight and participate in the Project Board.

46. **Program specific execution risks (medium risk):**

(a) Risk of double payments: The FP indicates that 'Info Hub Brasil', an online tool for national repository, has been developed to ensure full transparency of the information and avoid double payments for the same result. The government issued a Federal Decree for coordinating and monitoring the implementation of the ENREDD-PLUS in Brazil. According to the national legislation, only four entities may receive REDD-plus RBP and the results paid for are registered in the national repository (Info Hub Brasil).

(b) Use of proceeds: Brazil will use the proceeds from results-based payments to pilot an environmental services incentive programme (Floresta+) and strengthen the implementation of Brazil's ENREDD-PLUS strategy focusing on the governance system. Thus, the end use of proceeds is as permitted in the ToR. The proposed activities will be implemented over six years and thus need to be adequately monitored to achieve the desired impact.

(c) Operation modality: The Output 1 of the project aims to provide incentives for environmental services in accordance with Brazil's Forest Code, ENREDD-PLUS and Brazil's NDC. It will use direct payments and operate through 4 modalities. However, the guidelines, duration, and institutions that will manage funds for Modality 3 and 4 need to be determined during the project implementation. Also, the operation of a governance structure and the definition of values and priority areas for direct payments are yet to be finalized. Given that more than 85% of the budget is going to Output 1 according to the indicative project financing, it is recommended that AE closely coordinate with relevant

implementing partners for timely decision making on the currently undetermined areas mentioned earlier and monitor the progress on the use of proceeds.

(d) Disbursement plan: The project implementation will be over 6 years and the FP provided information that how AE fee and Project Management Cost (PMC) will be used over such period. The AE has identified a political risk that may impact the implementation during initial months. It is recommended that the disbursement of GCF's financing is done over the six years period corresponding to the implementation of the activities.

47. **Compliance risk (medium risk):**

(a) UNDP is the AE on this program and is well aware of the contractual obligations placed upon it as AE to ensure that appropriate AML/CFT and due diligence processes are implemented. Nevertheless, Brazil has experienced major incidents of corruption in recent years, including its energy sector, so it is especially important that appropriate safeguards be implemented. Brazil prosecutors have instituted a number of high profile anti-corruption cases which evidences some serious attempts to rein in corruption and address money laundering. Based on these experiences, Compliance assigns this a Medium risk rating.

48. **GCF's portfolio concentration risk (low risk):**

(a) In case of approval, the impact of this proposal on the GCF portfolio risk remains non-material and within the risk appetite in terms of concentration level, results area or single proposal.

49. **Conclusion (medium risk):**

(a) It is recommended that any approval by the Board is made by considering the above points.

Summary Risk Assessment		Rationale
Overall Programme	Medium	The proposed payment is for ERs already achieved by Brazil. The proceeds will be used for implementing national REDD-PLUS strategy and environmental services. The activities will be implemented over six years. GCF is relying on AE for monitoring of the activities.
AE / EE capability	Low	
Project specific execution	Medium	
Compliance	Medium	
GCF's portfolio concentration	Low	

3.4 Results monitoring and reporting

50. Following the requirements of the ToR, the proposal will follow a simplified reporting for which a specific template was developed by the secretariat. The frequency of reporting will be annually following the AMA.

51. The monitoring of the use of proceeds will be conducted at the main activity level according to the description provided in the funding proposal.

3.5 Legal assessment

52. The Accreditation Master Agreement was signed with the Accredited Entity on 5 August 2016, and it became effective on 23 November 2016.

53. The Accredited Entity has provided a legal opinion/certificate confirming that it has obtained all internal approvals and it has the capacity and authority to implement the project.

54. The proposed project will be implemented in the Federative Republic of Brazil, country in which GCF is not provided with privileges and immunities. This means that, amongst other things, GCF is not protected against litigation or expropriation in this country, which risks need to be further assessed. The Secretariat submitted a draft of the privileges and immunities agreement to the Government of Brazil on 8 December 2017.

55. The Heads of the Independent Redress Mechanism (IRM) and Independent Integrity Unit (IIU) have both expressed that it would not be legally feasible to undertake their redress activities and/or investigations, as appropriate, in countries where the GCF is not provided with relevant privileges and immunities. Therefore, it is recommended that disbursements by the GCF are made only after the GCF has obtained satisfactory protection against litigation and expropriation in the country, or has been provided with appropriate privileges and immunities.

IV. List of proposed conditions (including legal)

56. In order to mitigate risk, it is recommended that any approval by the Board is made subject to the following conditions:

i. Signature of the funded activity agreement in a form and substance satisfactory to the Secretariat within 180 days from the date of Board approval; and

ii. Completion of legal due diligence to the satisfaction of the Secretariat.

Annex 1. Scorecard (following the funding proposal template structure)

Section A: Proposed and projected REDD-plus results		
Criteria	**Status (Yes/No)**	**Remarks**
Does the total volume of achieved results indicated in the proposal matches the results indicated in the BUR during the results period (31 December 2013 to 31 December 2018)?	Yes	The total volume of results including the results offered to the GCF are 25,093,263 tCO2eq from the period 2014-2015.
Is the volume of achieved results offered to the pilot-programme equal or less than the total volume of achieved results indicated in the BUR during the results period?	Yes	The volume of achieved results offered is less than the total volume of results achieved indicated in the 2nd BUR Annex amounting to 3 billion t CO2eq (corresponding to 2% of the total volume from the 2nd BUR Annex).
Is the expected volume of REDD-plus results to be achieved significant compared to the overall level of REDD-plus results achieved in the current funding proposal being submitted?	Yes	The expected volume of results to be achieved in the Amazon biome between 2014-2018 is 2.39 billion t CO2 eq. The expected volume of REDD-plus results to be achieved as estimated in the FP is significant and the total expected volume of 1,1 billion tonnes for the period 2016-2018 is comparable with the 1.2 billion achieved in the period 2014-2015. It is noted that if comparing on an annual basis, the expected volume in the period 2016-2018 varies from 361 million to 390 million while for the period 2014-2015 it varied between 620 million and 634 million.
Is the total volume expected to be submitted to the pilot programme within the available allocation of funding for the pilot programme?	No	The expected volume of results to be offered to GCF for the entire period of the pilot programme is 47.979,631 t CO2 eq. This volume exceeds the cap established to 30 million t CO2eq. For purposes of portfolio management the cap will be considered.

Section B: Carbon elements		
B.1. Forest Reference Emission Level / Forest Reference Level (FREL/FRL)		
Criteria	**Score**	**Remarks**
(i) Is the FREL/FRL consistent with the GHG inventory, including the definition of forest used?	1	The AT notes that, overall, the FREL maintains consistency, in terms of sources for the activity data and the emission factors, with the GHG inventory included in Brazil's national communication. The AT considers the treatment of non-CO2 gases as an area for future technical improvement to maintain consistency with the GHG inventory included in the national communication.
(ii) Is the FREL/FRL based on historical data and is it equal to or below the average annual historical emissions during the reference period, unless a country is an HFLD country?	2	The FREL is based entirely on historical data and represents the mean annual emissions from gross deforestation in the Amazonia biome for the period 1996–2010.
(iii) Is the FREL/FRL in accordance with the guidelines in Decision 12/CP.17?	2	The AT concluded that the information used by Brazil in constructing its FREL for deforestation in the Amazonia biome is transparent and complete and is in overall accordance with the guidelines for submission of information on FRELs (as contained in the annex to decision 12/CP.17).
(iv) Is the data and information provided for the FREL/FRL transparent? (has information been provided to allow an understanding of how UNFCCC guidance on submission of information on reference levels has been addressed?)	2	The assessment team notes that the data and information used by Brazil in constructing its FREL are transparent and complete
(v) Is the FREL/FRL complete? (has information been provided that allows for the reconstruction of the FREL/FRL?)	2	The AT considers that the information used by Brazil in constructing its FREL for deforestation in the Amazonia biome is transparent and complete. And allows the reconstruction of the FREL. The AT noted that the transparency and completeness of information improved significantly in the modified FREL submission, without the need to alter the approach or values used to construct the FREL and

		commends Brazil for the efforts made. The new information provided in the modified submission, including through the data made available on websites and the examples on how estimates of CO2 emissions from deforestation were calculated, increased the reproducibility of FREL calculations.
(vi) Is the FREL/FRL consistent? (were data and methodologies applied consistently over the time series used for the construction of the FREL/FRL?)	1	The AT indicated that information provided for the years 1996 and 1997 is less accurate (as the data were not based on measured data) and less consistent over the time series compared to the time series constructed from 1998 onwards. This is because digital information on deforestation was available only from 1998 onwards (aggregated for the period 1998–2000, and on a yearly basis thereafter), while data for 1996 and 1997 are only available in analogue format. In response to this observation, Brazil indicated that it is seeking to complete the annual digital time series with data from 1996 to 2000, and that this will improve the accuracy of the estimates provided in the submission for the years 1996 and 1997 as well as for the individual years 1998, 1999 and 2000. Overall, the AT considered that a better estimation of deforestation estimates for the years 1996–1997 (i.e. through the digitalization of the deforestation maps) is an area for future technical improvement. In the FP, Brazil indicates that since the assessment of the FREL, Brazil received inputs from various international stakeholders, with the general understanding that historical information before year 2000 should not be used in a future national FREL submission from Brazil to the UNFCCC in 2020. The FP indicates that Brazil's efforts now are focused on building deforestation data for all Brazilian biomes to scale up REDD-plus to the national level, rather than improving the historical data before year 2000 for the Amazon biome.
(vii) Is the FREL/FRL accurate? (The data and methodologies used neither over- nor under-estimate emissions and/or removals during the reference period, so far as can be judged)	1	As discussed above, the AT noted that estimates of deforestation for the years 1996–1997 are less accurate than the rest of the time series. The AT considers that a better estimation of estimates for the years 1996–1997 may be achieved through digitalization of the deforestation

		maps. In addition, the AT recommended continuation of the improvements of the carbon map and note the already ongoing effort the ongoing effort on monitoring complex forest cover change dynamics and small deforestation events.
(viii) Have all REDD-PLUS activities that are a significant source of emissions been included?	1	The AT acknowledges that Brazil included the most significant activity in the FREL (reducing emissions from deforestation). The AT notes that other activities could also be significant in the Amazonia biome, in particular degradation. The AT notes that the current exclusion of degradation from the FREL appears to be conservative and acknowledges the intention expressed by Brazil to: (i) continue monitoring forest degradation to assess whether the reduction of deforestation is leading to an increase in forest degradation activities and (ii) include emissions from degradation in future FREL submissions when new, adequate data and better information become available. The AT considered the exclusion of degraded areas conservative in the context of constructing the FREL.
(ix) Have all of the most significant pools been included?	1	The AT acknowledges that Brazil included in the FREL the most significant pools in terms of emissions from forests. However, the AT noted that changes in soil carbon can be significant when forest land is converted to grassland or cropland. Brazil explained in its submission that it does not have data on the dynamics of forest conversion for all years in the period considered in the REL. However, Brazil mentioned two sources of information that were used as proxies to estimate the fate of soil carbon during forest conversion to other uses. The AT considers that the exclusion of soil organic carbon is adequately justified by Brazil and commends the efforts to obtain better information on this pool in the future with the aim of including it as part of the step-wise approach. The AT also requested clarification on the reasons for the omission of the dead wood pool. The AT considers that when deforestation occurs, there are emissions from dead wood to the atmosphere that would need to be estimated. The AT considers the treatment of emissions from dead wood (i.e. the inclusion of this pool or the provision of more

		information justifying its omission) as an area for future technical improvement of the FREL. The AT noted that the current omissions of pools and gases is likely to be conservative in the context of the FREL.
(x) Have all gases that are a significant source of emissions been included?	1	The FREL includes CO2 emissions The AT notes that the exclusion of non-CO2 gases is justified by Brazil and is likely to be conservative in the context of the FREL. Nevertheless, the AT identified the treatment of non-CO2 gases as an area for future technical improvement.
(xi) Is the information provided in the construction of the FREL/FRL (data, methodologies and estimates) guided by the most recent applicable IPCC guidance and guidelines as adopted by the COP?	1	For the construction of the FREL of the Amazonia biome, Brazil used the methodology provided in the 2003 IPCC good practice guidance for LULUCF.
(xii) Have any significant issues related to the application of IPCC GLs/GPGs been raised in the TA report?	2	No significant issues that are material to the alignment with the methodologies of the IPCC GLs/GPGs were raised. The AT referred to the IPCC good practice guidance for LULUCF as an approach to address the exclusion of de dead wood pool (see ix).
(xiii) What is the ref period for the FREL/FRL?	2	Reference period is 14 years (1996-2010).
(xiv) How does the reference level for the results included in the proposal compare to the previous ref level that applies to the same area?	2	Brazil has submitted FREL A and FREL B to the UNFCCC. FREL B was used for this result period. FREL B is lower than FREL A.
(xv) Has the country provided information on aggregate uncertainties, taking into account national capabilities and circumstances?	0	Although detailed information was provided on for example the uncertainties of the efforts to estimate carbon densities, no aggregate uncertainties were provided.
B.2. REDD-plus Results reporting		
Criteria	**Score**	**Remarks**
(i) Are the reported results in the technical annex to the BUR consistent with the FREL/FRL? (including the inclusion of same pools, activities and gases)	2	The LULUCF experts concluded that the presentation of the results from the implementation of the activity reducing emissions from deforestation is consistent with the assessed FREL for the Amazon biome.

(ii) Is the data and information provided in the technical annex transparent? (has information been provided to allow an understanding of how UNFCCC guidance on results reporting has been addressed?)	2	The LULUCF experts considered the data and information provided in the technical annex to be transparent, consistent, complete and accurate to the extent possible. The LULUCF experts noted that as part of the TA process, Brazil provided additional information. This information is reproduced in the FP including weblinks. The LULUCF experts commend Brazil for its efforts to increase the transparency of the data and information provided.
(iii) Is the data and information provided in the technical annex complete? (has information been provided that allows for the reconstruction of the results?)	2	The LULUCF experts considered the data and information provided in the technical annex to be transparent, consistent, complete and accurate to the extent possible The LULUCF experts commend Brazil for its efforts to increase the transparency and ensure the completeness of the data and information provided, allowing for the reconstruction of the results
(iv) Is the data and information provided in the technical annex consistent? (were data and methodologies applied consistently over the results time series?)	2	The LULUCF experts considered the data and information provided in the technical annex to be transparent, consistent, complete and accurate to the extent possible.
(v) Is the data and information provided in the technical annex accurate? (does it neither over- nor under-estimate emissions and/or removals?)	1	The LULUCF experts conclude that the results are accurate to the extent possible, however, the information on uncertainties was not used in the emissions estimate.
(vi) What is the number of years between the last year of the FREL period, and the year corresponding to the results being proposed for payments?	2	4 and 5 years from the last year of the FREL.
(vii) Has the country provided information on aggregate uncertainties, taking into account national capabilities and circumstances?	0	The uncertainty analysis for Brazil's REDD-plus submissions related to the Amazon biome is undertaken during the mapping phase and for the biomass values. The LULUCF experts reviewed this and concluded that the REDD-plus results presented by Brazil on its 2nd BUR (including years 2014 and 2015) are accurate to the extent possible. However, no information on aggregate uncertainties was provided.
(viii) Has information been provided on payments that have been (or are expected to be) received from other sources for results recognized by the	2	The funding proposal provides a detailed overview of additional sources of payments.

country[3] from the same national or subnational area during the period for which a country is proposing to receive payments from the GCF? And has the country provided sufficient assurance that results that have been paid for by other sources have been excluded from the total volume offered to the GCF?		
(ix) Are the results proposed to the GCF for payment included in a registry or similar system, that tracks emission reductions and corresponding payments[4] to ensure there is no past or future double payment [or use] of such ERs?	2	Yes, the results are included in the Info Hub Brasil.
Total score section B	**36**	
Any fails	☐ Yes ☒ No	

[3] Through the REDD+ national entity or focal point, where appointed.

[4] Tracking information should at a minimum identify for each of these results the corresponding national or subnational area, the entity eligible to receive payment, the year generated, and the source of results-based payments received and, where possible, the identifying number.

Section C: Non-carbon elements

C.1. Cancun Safeguards

Does the "summary of information on safeguards" provide information on how each of the safeguards below were addressed and respected in a way that ensures transparency, consistency, comprehensiveness and effectiveness:

Criteria	Evaluation (Pass/fail)	Remarks
(i) That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements.	Pass	The SOI indicated how actions complemented and are consistent with national programmes and international conventions and agreements. The Working Group on Safeguards listed applicable policies, programmes and international agreements. Synergies were created between the policies by engaging common actors to manage the REDD-plus strategy, the PPCDAm, and the Amazon Fund. Recommendations were identified to improve complementarity, and consistency, and implementation of the policies.
(ii) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty.	Pass	The information on transparency and social participation during the PPCDAm planning cycle was provided. Information pertaining to accounting and compliance, evaluation of effectiveness of completed projects, and activity monitoring reports were utilized in determining transparency and participation.

(iii) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples.	Pass	The elaboration and implementation of specific policies related to indigenous peoples and local communities promoted and enabled the promotion of rights and knowledge of indigenous peoples, traditional peoples and communities. The SOI provided information related to the various policies such as the National Policy for Territorial and Environmental Management of Indigenous Lands (PNGATI) as well as institutional structures like the National Council of Traditional People and Communities. These resulted to projects that have actions targeting indigenous peoples as beneficiaries while 63% of the area of all indigenous lands in the Amazon region have projects that are supported by the Amazon Fund. The SOI noted that some challenges and provided recommendations to address the challenges for example, improving access to dispute resolution, improving demarcation and regularizing tenure, enhancing capacities, and promoting empowerment and participation.
(iv) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of this decision.	Pass	The governance structure of the PPCDAm involves representation of civil society, indigenous peoples, traditional peoples and communities in the CONAREDD+. The thematic advisory boards serve as fora and platform for social participation on the ENREDD+ with specific criteria of participation and representation. This is complemented at the project level with the guidelines from BNDES related to involvement of indigenous and traditional communities, requirement for consent, land acquisition and resettlement and conservation areas. Promoting direct access to benefits was an identified challenge related to this safeguard which is addressed by mobilizing resources from other projects that support the communities.
(v) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the 12 protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits.	Pass	Information in the SOI indicated the establishment of various protected areas from 2011 to 2015 including support to the implementation of 114 conservation units. There were also policies that were implemented that fostered conservation and sustainable use of biodiversity and natural resources. The SOI identified several challenges in addressing and respecting this safeguard that would need to be addressed in succeeding actions.

(vi) Actions to address the risks of reversals.	Pass	The SOI identified the environmental control and monitoring pillar in the PPCDAm as mainly responsible for the marked reduction in deforestation observed in its initial phase. Improvement in the monitoring systems and strategies were described in the SOI, for example noting the contribution of increased resolution or detection limit of DETER in improving the monitoring. Further, the REDD-plus RBP is considered as a key incentive to address risk of reversal and can significantly contribute to permanence and expansion of emission reduction results.
(vii) Actions to reduce displacement of emissions.	Pass	Improvement in the monitoring systems and strategies were described in the SOI. Several programs are in place that contribute to the monitoring efforts of the country. The Amazon Fund allocates 20% of its resources to support deforestation monitoring and control systems. Key challenges described in the SOI however should be noted with respect to future actions.
Has evidence been provided that the Cancun Safeguards information was made transparently available to stakeholders?	Yes	The information was made available through several workshops for which reports were made available and described in the published SOI.
C.2. Use of proceeds and non-carbon benefits		
Criteria	**Evaluation (Pass/fail)**	**Remarks**
Has information been provided on how proceeds will be used consistent with GCF policies? Has information been provided on how the proceeds will be used in a manner consistent with the country's NDC, national REDD-PLUS strategy and/or low carbon development plans and policies? Has information been provided on how the proceeds used in a manner that contributes to the long-term sustainability of REDD-plus activities, including non-carbon benefits?	2	There is a clear description of how the use of proceeds will be used.
Total score section C	**2**	
Any fails	☐ Yes ☒ No	

Section D: Investment Framework		
Criteria	**Evaluation (High/Medium/Low)**	**Remarks**
Impact potential	High	☒ The relevant mitigation and/or adaptation impact is specified. ☒ The GCF core indicators (and other indicators) are provided with specific values. ☒ Methodologies provided for calculating non-GHG indicators are clear and robust. ☒ The proposal compares the indicator values against appropriate benchmarks to demonstrate the impact potential.
Paradigm shift potential	High	The proposal clearly: ☒ describes the potential for scaling up to the country's NDC, national REDD-plus strategy and/or low carbon development plans and policies. ☒ explains how the programme contributes to strengthening knowledge and learning. ☒ describes how proposed measures will create an enabling environment and contribute to innovation, market development and transformation. ☒ explains how the programme strengthens the regulatory framework and policies. ☒ demonstrates paradigm shift potential for catalyzing impact beyond a one-off payment
Sustainable development potential	High	☒ The proposal demonstrates environmental, social and economic impact, including the gender sensitive development impact.
Needs of the recipient	High	The proposal clearly: ☒ describes the degree of vulnerability of country/population, and demonstrates that the programme addresses the issues. ☒ explains in detail how the programme addresses financial, economic, social and institutional needs.
Country ownership	High	The proposal: ☒ sufficiently explains how the programme contributes to a national climate strategy and/or policies. ☒ specifies in detail how the multi-stakeholder consultation was conducted.

Efficiency and effectiveness	High	☐ The proposal clearly describes adequateness of the financial structure for cost-effectiveness and efficiency. ☒ Information is provided on financial viability in the long run. ☐ The proposal explains in detail the application of best practices and the degree of innovation.
Section E: GCF policies		
For the period of the results considered in the RFP		
Criteria	**Evaluation (Pass/fail)**	**Remarks**
Environmental and Social Safeguards (ESS)	Pass	☒ Adequate and sufficient information provided in an environmental and social assessment (ESA) report describing the extent to which the measures undertaken to identify, assess, and manage environmental and social risks and impacts, in the context of the REDD-PLUS proposal, were consistent with the requirements of the applicable GCF ESS standards.
Risk Assessment	Pass	☒ Adequate and sufficient information provided that allows for an assessment of the historical performance of the activities undertaken (track record) against the risk tolerance levels specified in the Risk Appetite Statement and the criteria (where applicable) outlined in the Risk Guidelines for Funding Proposals.
Gender	Pass	☒ Adequate and sufficient information provided in the assessment describing the extent to which the measures undertaken complied with the GCF gender policy.
Interim policy on prohibited practices	Pass	☒ Appropriate and sufficient information provided in a due diligence report to demonstrate that no prohibited practices occurred during the implementation of the activities that lead to the REDD-PLUS results, such as: undisclosed prohibited practices, including money laundering and the financing of terrorism, occurred during the implementation of results-based actions; and double payment or financing for the same results achieved.
For the use of proceeds		
Criteria	**Evaluation (Pass/fail)**	**Remarks**

Environmental and Social Safeguards (ESS)	Pass	☒ Adequate and sufficient information provided in an environmental and social management framework (ESMF) that will describe how environmental and social risks and impacts will be identified, assessed and managed in a manner consistent with the GCF's ESS standards, including the determination of the relevant environmental and social risk category of the proposed activities.
Risk Assessment	Pass	☒ Adequate and sufficient information provided that details how the plan for the use of proceeds does not violate the risk tolerance levels specified in the Risk Appetite Statement and allows for performance monitoring and evaluation against the criteria (where applicable) outlined in the Risk Guidelines for Funding Proposals.
Gender	Pass	☒ Adequate and sufficient information provided on how the AE will undertake activity-level gender assessment and action plan once the details of the activities become known.
Monitoring and Evaluation	Pass	☒ Adequate and sufficient information provided on how the activities to be undertaken with the GCF proceeds comply with the GCF Monitoring and Accountability Framework.
Interim policy on prohibited practices	Pass	☒ Appropriate and sufficient information provided that assures that the activities with use of proceeds will follow the interim policy on prohibited practices, such as: undisclosed prohibited practices, including money laundering and the financing of terrorism; improper subsequent use of GCF proceeds in the prohibited practices; and double payment or financing for the same results achieved, etc.
Indigenous Peoples' Policy	Pass	☒ Adequate and sufficient information provided on how the activities will meet the requirements of the policy and guided by the prevailing relevant national laws and/or obligations of the countries directly applicable to the activities under relevant international treaties and agreements.

Section F: GCF Legal arrangements		
E.6.1. Legal title to REDD-plus results		
Requirement	**Remarks**	**Status (complete/pending)**
☒ Analysis with respect to legal title to REDD-plus results in the country is provided. It includes an analysis of entitlement to claim for the results to be paid for by the GCF.	Under Brazilian legislation, the National REDD+ Committee (CONAREDD+) is responsible for authorizing eligible entities to access REDD+ RBP achieved by Brazil and recognized by the UNFCCC. Only four entities may receive REDD+ results-based payments: the States of Acre and Mato Grosso, the Ministry of Environment and the Amazon Fund (Resolution n.10 of December 7th, 2017, Federal Decree, n. 8576/2015 and Federal Decree n. 6527/2008).	Complete
☒ Covenant provided that no other party has a competing claim to the results proposed to the GCF in accordance with national policy, legal or regulatory frameworks.	A covenant is included in the term sheet.	Complete

Section G: Accredited entity fee		
Requirement	**Remarks**	**Status (complete/pending)**
Is the proposed list of activities clearly specified and justifiable as part of the AE fee?	Yes, the accredited entity fee includes properly justified information on the use of the expected fees by the AE.	Complete

Is the fee amount considered reasonable and justifiable?	The agreed amount was 3.5% which is reasonable considering the nature of this results-based payments proposal which requires less responsibilities from the AE to the GCF and a simplified reporting. Although it is also acknowledged that the AE will need to implement additional activities specific to REDD-plus.	Complete
Is the proposed list of activities justifiable as part of the PMC?	The proposed activities included in the PMC seem reasonable.	Complete
Is the PMC amount considered adequate and justifiable?	Although the PMC costs seem significantly high compared to other projects with similar activities, the amount was defined in agreement between the host country and the AE, considering that the PMC costs are included within the payments provided to the host country.	Complete

Independent Technical Advisory Panel's assessment of FP100

Proposal name:	REDD+ results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015
Accredited entity:	United Nations Development Programme
Project/programme size:	Medium

I. Scorecard application

1. The independent Technical Advisory Panel (TAP), with the support of a land use, land-use change and forestry (LULUCF) expert selected from the United Nations Framework Convention on Climate Change (UNFCCC) roster of experts and with experience in REDD-plus assessment and analysis, assessed the proposal "REDD+ results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015" using the scorecard included in the terms of reference for the REDD-plus results-based payments (RBP) pilot programme.

1.1 Summary of scorecard results

Scorecard section		**Results**	
Carbon elements		Score: 36	All criteria "pass"
Non-carbon elements	Cancun safeguards	All criteria "pass"	
	Use of proceeds and non-carbon benefits	Score: 2	

2. Based on the above results and following the terms of reference procedures, the TAP recommends that the Board consider the following:

(a) GCF volume of emissions reductions: 18,819,946.91 tonnes of carbon dioxide equivalent (tCO_2eq);

(b) Additional 2.5 per cent for use of proceeds and non-carbon elements; and

(c) Proposed REDD-plus RBP (USD 5/tCO_2eq): USD 96,452,228.

II. Main findings

3. The following paragraphs describe the main findings on those sections of the scorecard where the assessment was found to be lower than the maximum score for each criterion (see details in annex):

(a) **B.1.(i) Consistency between the Forest Reference Emissions Level/Forest Reference Level- FREL/FRL and the greenhouse gas (GHG) inventory**: the Assessment Team (AT) considered the treatment of non-CO_2 gases as an area for future technical improvement to maintain consistency with the GHG inventory, since the GHG

inventory included in the second national communication reports non-CO_2 GHG emissions from biomass burning after forest conversion to agricultural uses for the period 1990–2005 and the FREL excludes emissions from non-CO_2 GHG (see paragraph 29 of Brazil's FREL Technical Assessment Report-TAR). In its funding proposal, Brazil further states that the estimation of non-CO_2 emissions from fire resulting from deforestation is expected to be improved in the next national GHG inventories. These estimates will be included in the national FREL to be submitted by Brazil to the UNFCCC in 2020 if consistency of the time-series can be assured and if deemed significant. Consequently, the score is 1. There is evidence that inconsistencies will be resolved in the next GHG inventory or FREL/FRL or justified;

(b) **B.1.(vi) Consistency of the FREL/FRL**: the AT noted that the information provided for the years 1996 and 1997 is less accurate (as the data were not based on measured data) and less consistent over the time series compared to the time series from 1998 onwards. Overall, the AT considers that a better estimation of deforestation estimates for the years 1996–1997 (i.e. through the digitalization of the deforestation maps) is an area for future technical improvement (see paragraph 17 of Brazil's TAR). In its funding proposal, Brazil responded to this observation by informing the AT that it was seeking financing to complete the annual digital time series with data from 1996 to 2000, and that this would improve the accuracy of the estimates provided in the submission for the years 1996 and 1997 as well as for the individual years 1998, 1999 and 2000. Since then, Brazil received inputs from various international stakeholders, with the general understanding that historical information before year 2000 should not be used in a future national FREL submission from Brazil to the UNFCCC in 2020. The score is 1. "Significant issues were raised and were resolved; or issues that were not resolved due to the limitation of time and data but were not material to the consistency of the FREL/FRL, and the country has provided a plan on how it will seek to overcome the limitation";

(c) **B.1.(vii) Accuracy of the FREL/FRL**: some issues were raised during the UNFCCC FREL Technical Assessment-TA that negatively affect the accuracy of Brazil's FREL regarding the deforestation maps for 1996–1997, the "carbon map" used in the FREL, and the assumption of zero biomass after deforestation (paragraphs 17 and 37 (a), 19 and 13 of Brazil's TAR). Brazil proposed measures to address these issues. The score is 1. "Significant issues were raised and were resolved; or issues that were not resolved due to the limitation of time and data but were not material to the accuracy of the FREL/FRL, and the country has provided a plan on how it will seek to overcome them";

(d) **B.1.(viii) Inclusion of the most significant activities**: in assessing the activities included in the FREL, the AT considered that degradation is a significant activity based on the estimates provided by Brazil (paragraph 39 of the TAR). The AT acknowledged (paragraph 31 of the TAR) the intention expressed by Brazil to: (i) continue monitoring forest degradation to assess whether the reduction of deforestation is leading to an increase in forest degradation activities (displacement of emissions); and (ii) include emissions from degradation in future FREL submissions when new, adequate data and better information become available. The score is therefore 1, meaning that not all REDD-plus activities that are a significant source of emissions have been included "but this is justified due to lack of data, and/or the omission does not overestimate emissions or underestimate removals, noting that countries should indicate a plan to include data in the future";

(e) **B.1.(ix) Inclusion of the most significant pools**: the AT identified the treatment of emissions from dead wood (i.e. the inclusion of this pool or the provision of more information on the justification of its omission) as an area for future technical improvement (paragraph 38 (a) of the TAR). In the funding proposal, Brazil presents an

assessment of the significance of the wood pool based on its FREL C (2018) submission and the comparison of its second and third national GHG inventories, concluding that Brazil considers that the dead wood pool is not a significant source of emissions and hence does not include it in the FREL. The score is 1 "No, but justified due to lack of data and/or the omission does not overestimate emissions or underestimate removals, noting that countries should indicate a plan to include data in the future";

(f) **B.1.(x) Inclusion of all significant sources of emissions**: the AT considered the treatment of non-CO_2 gases as an area for future technical improvement to maintain consistency with the GHG inventory included in the national communication (see paragraph 31 of the TAR). In the funding proposal, Brazil points out that non-CO_2 emissions from deforestation in the Amazon biome are not available for other years, and hence the recalculation of the emissions estimates to include non-CO_2 emissions would not be possible at this point. Brazil further noted that the estimation of emissions from fire resulting from deforestation is expected to be improved in by next national GHG inventory, and if possible, non-CO_2 emissions from fire will be included in the national FREL for the biomes where this is a significant source of emissions if the consistency of the time series can be assured and if deemed relevant. The corresponding score is 1. "No, but justified due to lack of data and/or the omission does not overestimate emissions, noting that countries should indicate a plan to include data in the future";

(g) **B.1.(xi) Intergovernmental Panel on Climate Change guidance applied**: for the development of the FREL of the Amazon biome, Brazil used the methodology provided in the 2003 Intergovernmental Panel on Climate Change Good Practice Guidance for Land Use, Land-Use Change and Forestry (hereinafter referred to as the IPCC good practice guidance for LULUCF) as a basis for estimating changes in carbon stocks in forest land converted to other land-use categories (see paragraph 11 of the TAR). The score is therefore 1;

(h) **B.1.(xv) Aggregate FREL/FRL uncertainties**: Aggregate uncertainties estimates were not included in the FREL submission. The score is therefore zero: "No information on uncertainties provided or > 50%";

(i) **B.2.(v) Accuracy of data and information provided in the technical annex:** The LULUCF experts noted that Brazil provided some information related to the uncertainties, although this information was not used in assessing the uncertainties of the emissions estimates. Thus, the effect of these uncertainties on the accuracy of the results from the implementation of the activity on reducing emissions from deforestation could not be assessed. Some accuracy issues were also raised regarding the assumption that forests are intact (based on the figures provided in the "carbon map") before being deforested, which may imply a potential overestimation of emissions from deforestation. Despite this, and based on the assumptions used, the LULUCF experts concluded that the results are accurate to the extent possible (paragraph 33 of the Technical report on the technical analysis of the technical annex to the biennial update report (TATR)). The score is 1. "Significant issues were raised and were resolved; or issues that were not resolved due to the limitation of time and data but were not material to the accuracy of the results, and the country has provided a plan on how it will seek to overcome them"; and

(j) **B.2.(vii) Aggregate uncertainties for results**: Brazil did not provide information on aggregate uncertainties. The score is zero. "No information on uncertainties provided or > 50%. Note: 0 = FAIL for REDD-plus results submitted for assessment from 2019 if no information on uncertainties has been provided".

2.1 Impact potential *Scale: High*

4. Brazil reduced emissions from deforestation in the Amazon biome in the order of 6,125,501,727.00 tCO_2eq between 2006 and 2016 through different effective policies and measures. The Amazon biome comprises approximately 4,197,000 km^2 and corresponds to 49.29 per cent of the national territory (IBGE[1], 2011). Brazil has six biomes, but the Government has concentrated its actions towards reducing deforestation in the Amazon and Cerrado Biomes. In 2006 the LULUCF sector represented 83 per cent of Brazil's total CO_2 emissions. In 2016 that number was reduced to 47.7 per cent. (Second national communication, MCTI[2], 2016). Despite the absolute and relative reductions, the LULUFC sector still represents a significant source of emissions.

5. In June 2014, Brazil submitted a dynamic FREL to be applied to emissions reduction results achieved in the period 2006–2010 (FREL A) and 2011–2015 (FREL B). Later in December 2014, Brazil submitted its first biennial update report (BUR) to the UNFCCC that contained an annex with REDD-plus results for the period 2006 to 2010, inclusive. The second BUR was submitted in February 2017 and included an annex with the emissions reduction results achieved in the Amazon biome in the period 2011 to 2015, based on FREL B, estimated as the mean in CO_2 emissions from gross deforestation from the period 1996 to 2010. The current proposal accounts for only 2 per cent of the total volume of REDD-plus results between 2014 and 2015 (measured against FREL B), equivalent to a total of 25,093,262.55 tCO_2eq or 25 $MtCO_2eq$.

6. The third BUR is expected to be submitted to the UNFCCC in 2019 and should include REDD-plus results up to 2017, measured against FREL C. After 2014 Brazil has continued its efforts to avoid deforestation mainly through command and control efforts. Over the past eight years, the average annual deforestation rate for the Legal Amazon region was around 6,300 km^2, with a variation of around 1,000 km^2. Brazil understands the importance of addressing the risk of reversal and has been doing that through various policies and initiatives.

7. The FREL included only CO_2 emissions. In the FREL submitted by Brazil to UNFCCC, the country recognizes the treatment of emissions of non-CO_2 gases as an area for future technical improvement of the FREL. Further improvement is also needed in understanding the difference between deforestation and forest degradation, which is increasingly being considered as an important source of emissions. There is a recognition of the need to continuously improve the GHG emissions estimates associated with REDD-plus activities, pools and gases.

8. As noted in the scorecard, Brazil has not submitted the aggregate uncertainty estimates or a justification for not submitting them. Therefore, TAP is recommending further work in justifying aggregate uncertainty estimates. On the other hand, and as stated above, Brazil is placing an emphasis on the Cerrado and Amazon biomes, and the intention is to extend the REDD+ efforts at the national level. However, there is a need to provide further information on the activities Brazil is undertaking, other than monitoring, to avoid the displacement of emissions while the national level is reached.

9. From a strategic level, Brazil's National Policy on Climate Change and Forest Code provide the overarching guidelines for Brazil's REDD-plus actions. The federal Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm) has been a very important policy to pave the way for avoiding deforestation. The plan is in its fourth phase of implementation and is expected to last until 2020.

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[1] Instituto Brasileiro de Geografia e Estatistica- National Institute of Geography and statistics

[2] Ministério da Ciência, Tecnologia, Inovações e Comunicações - Ministry of Science, Technology, Innovation and Communication.

10. The methodologies provided for calculating emissions reductions are clear and robust, and the payment for 2014 results seem accurate according to the scorecard. The Government of Brazil is transitioning from a command and control strategy to promoting a strategy that involves incentives for conservation. In this context, the use of the proceeds will need to be revisited in the future, understanding that there is a possibility of changes to the policies that could potentially affect the drivers of deforestation in a complex political dynamic. However, in the view of TAP, Brazil has shown a strong willingness to reduce deforestation in the past and has robust policies and strategies as well as institutions in place as to continue its positive trend to reduce deforestation.

2.2 Paradigm shift potential *Scale: High*

11. Gains in forest conservation from 2006 to 2015 in Brazil have been recognized as a success in a country that could change the global levels of CO_2 emissions due to land-use change and deforestation. The different policies, the information systems that the country has put in place and the command and control strategies have demonstrated their success. In the last four years the deforetation rates have started to increase as per the National Institute for Space Research-INPE estimates, as follows:

(a) August 2013 to July 2014: 5,012 km^2;

(b) August 2014 to July 2015: 6,207 km^2;

(c) August 2015 to July 2016: 7,893 km^2;

(d) August 2016 to July 2017: 6,947 km^2; and

(e) August 2017 to July 2018: 7,900 km^2.

12. Brazil understands the importance of addressing the risk of reversal and is promoting a long-term reduction of GHG emissions within the scope of REDD-plus actions, thus ensuring consistent and continuous results. To this end, several federal laws and instruments are in place including the Forest Code (which applies to the Amazon biome), which stipulates that rural landholdings must conserve 80 per cent of their area with native vegetation cover as a legal reserve; this applyies to landholdings located in originally forested areas. Furthermore, the PPCDAm includes a host of actions to monitor, analyse and improve coordinated actions for maintaining reduced deforestation rates.

13. The use of the proceeds of the RBP received by Brazil from the GCF will be used to ensure the national REDD-plus strategy (ENREDD+) objective to contribute to climate change mitigation by eliminating illegal deforestation, promoting conservation and restoration of forest ecosystems, and fostering a low-carbon and sustainable forest economy, while delivering environmental, social and economic benefits as well as supporting the implementation of the nationally determined contribution (NDC).

14. Particularly, the use of the proceeds will be used to support the development of a pilot Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation (Floresta+) and strengthen the implementation of Brazil's ENREDD+ through improvements in its governance structure and systems.

15. The rationale to start supporting incentives derives from different studies that suggest that command and control measures have a limit and that there is a need to give positive incentives to people that contribute to forest conservation.

16. Floresta+ is a new and innovative pilot programme that aims to provide incentives for environmental services in the Legal Amazon region, in accordance with Brazil's Forest Code, the ENREDD+ and Brazil's NDC. The programme targets small farmers, indigenous communities, traditional peoples and communities and public institutions/agencies (including states and

municipalities), civil associations, cooperatives and private law foundations that act on topics related to conservation and the recovery of native vegetation.

17. The programme will work in priority areas based on a selected criterion and has the following specific objectives:

(a) Provide monetary compensation to incentivize native vegetation conservation and recovery and improvement of ecosystems that generate environmental services (including but not limited to carbon);

(b) Prevent the occurrence of deforestation, forest degradation and forest fires through financial incentives;

(c) Incentivize the conservation and recovery of native vegetation of rural properties, conservation areas, indigenous lands, land settlements, and lands of traditional people and communities;

(d) Promote compliance with the environmental legislation, especially that related to the protection and recovery of native vegetation (Forest Code); and

(e) Offer a financial mechanism to foster the development and implementation of public policies aimed at conservation and the recovery of native vegetation.

18. The Floresta+ pilot program will operate through resource distribution modalities to promote conservation actions, recovery of areas, support to associations and indigenous peoples and innovative actions for conservation and recovery of native vegetation. Additional criteria and priority areas will be developed and refined in consultation with relevant stakeholders, including indigenous peoples and traditional peoples and communities, civil associations, state government representatives, federal agencies and non-governmental organizations, among other things.

19. Ten percent of the resources will be used to improve the REDD-plus elements to strengthen the implementation of ENREDD+, with a stronger governance structure and more transparent data and information systems, supporting the following activities:

(a) Expansion of the forest monitoring system and measurement, reporting and verification (MRV) to include additional REDD-plus activities, pools and gases, considering the mapping products produced under the Brazilian Biomes Environmental Monitoring Program, for all biomes, as appropriate, following the guidance from the Working Group of Technical Experts on REDD+. The aim is to submit a national FREL to the UNFCCC by 2020;

(b) Development of a tool to monitor and measure the impacts of REDD-plus policies and investments and inform decision-making regarding the forest component of Brazil's NDC;

(c) Improvement of Brazil's Safeguards Information System for REDD+ (SISREDD+) and its ombudsman, making it more complete, transparent and accessible;

(d) Enhancement of the capacities and access of the various stakeholders for participating in the National REDD+ Committee (CONAREDD+) and its Consultative Chambers, including the revision of the National REDD+ Strategy in 2020; and

(e) South-South Cooperation Program in Forests and Climate Change designed by the Ministry of the Environment (MMA) and the Brazilian Cooperation Agency of the Ministry of Foreign Affairs. (ABC/MRE)

20. The activities selected to be funded with the use of the proceeds are well thought-out. The strategy to use both command and control measures and to give conservation incentives through programmes like Floresta + is perceived by TAP as a paradigm shift. TAP understands

that there could be a risk in change in policies under the new government, but is confident that the use of the proceeds as proposed will continue to support Brazil's conservation objectives.

21. The development of the National REDD+ Strategy in Brazil has had a long history of broad stakeholder engagement. The Federal Decree 8576/ 2015 created CONAREDD+ for coordinating and monitoring the implementation of ENREDD+. The development of ENREDD+ included broad stakeholder engagement, including strong interactions between ENREDD+ and the Indigenous Committee on Climate Change. In 2016, CONAREDD+ established the Thematic Advisory Chamber on Safeguards (CCT Safeguards), which develops inputs to support the decision-making of the CONAREDD+ on issues related to monitoring how the Cancun Safeguards (decision 1/CP.16) are being addressed and respected in Brazil's implementation of REDD-plus. CCT-Safeguards is coordinated by the Ministry of Foreign Affairs and the National Council of Extractive Populations and is composed of 30 members. Participants in CONAREDD+ and the Advisory Chamber of Safeguards are numerous, diverse and seek to be representative of stakeholders.

22. The proposal presents a preliminary gender analysis including relevant policies that are in place in Brazil, as well as gender gaps and challenges. Based on the analysis, the proposal also presents a preliminary action plan with suggested entry points and indicators to measure and track progress on these actions.

2.3 Sustainable development potential *Scale: High*

23. The Amazon biome is the largest repository of biodiversity in the world. Conserving its vast biodiversity contributes to the Aichi Biodiversity Targets in several ways. After 2004, the Amazon biome has also recovered secondary forests, which enhanced carbon stocks due to the reduction of forest pressure with additional environmental benefits to the local and global communities. The TerraClass data indicates that on average, 22 per cent of the total deforested area before 2004 had been replaced by secondary vegetation in the subsequent years.

24. The Amazon biome also supports the water cycle in Brazil and the South American continent with "aerial rivers". Through the process of transpiration, trees ensure water enters our atmosphere and in turn produces clouds and rain. The planet's land vegetation recycles 48 cubic millilitres of water each day. A tenth of that is released by the Amazon rainforest alone – more than the daily discharge of the Amazon River.[3]

25. The economic value of the ecosystems services provided by the Amazon forests have not been fully estimated. For example, regulating rain for a country and therefore ensuring water provision for consumption and agriculture is by itself a huge economic value that surpasses traditional estimates like gross domestic product. The value of the "standing forest" needs to be valued in a much more comprenhensive manner. Accounting for traditional economic measures will innevitably imply transaction costs associated with opening new areas for agriculture. Brazil has significantly increased these transations costs through command and control measures, including the restriction of access to credits and other measures that have worked effectively. However, decoupling the production of agricultural commodities from deforestation is still a major challenge.

26. Moreover, according to the project proposal in annex VIII, the large reduction in deforestation in the Amazon region through the implementation of REDD-plus policies and measures has had a positive impact in the region. Since 2000, the Human Development Index for the Amazon region has improved faster than for the rest of Brazil.

[3] Wright, Fu et all. Rainforest-initiated wet season onset over the Southern Amazon. Proceedings from the National Academy of Sciences of the United States of America. July 2017.

27. PPCDAm and REDD-plus policies have helped provide alternative livelihoods for forest-dependent people. The use of the proceeds in the Floresta+ programme will be used to create an Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation that targets indigenous peoples and traditional peoples and communities. This will allow for a win-win situation by supporting livelihoods and protecting environmental services at the local and regional levels.

2.4 Needs of the recipient *Scale: High*

28. Brazil has taken leadership in REDD-plus activities under the forestry-related opportunities created by the UNFCCC and the Warsaw Framework for REDD-plus. The NDC of Brazil plays a major role in policies at country level and is also a game changer for global carbon emission.

29. Maintaining the Amazon biome requires large-scale investment. According to the project proposal, a variety of finance sources, both national (federal, state and municipal-level public budgets, non-governmental organizations (NGOs), private sector) and international (donor countries, multilateral organizations, NGOs, private sector) have contributed directly and indirectly to the Brazilian Government's efforts to reduce deforestation in the Amazon biome. Since 2006, Brazil has invested large amounts of its own national budget for this purpose. The Amazon Fund also made significant investments that have directly and indirectly contributed to the achievement of REDD-plus results in Brazil.

30. The current economic crisis of Brazil has significanlty reduced government expenditure. The total budget executed by MMA from 2014 to 2017 was on average BRL 2.5 billion (USD 750 million) per year, which corresponds on average to 0.11 per cent of total yearly public expenditure. A large proportion of this budget is spent on activities related to forest protection, especially in the Amazon biome. The national budget cuts from 2014 onwards were followed by an increase in deforestation rates in 2016. The economic crisis and budget allocations require innovative forms of climate finance both internally and with the support of the intenational cooperation.

31. The task to support command and control activities in such a vast area requires lots of investments, including for on-the-ground teams, helicopters, vehicles and better information systems and data. Moreover, studies have shown that the linear relationship between fines and reductions in deforestation have an intrinsic limit on the fight against illegal deforestation. Investments in positive incentives are key to maintaining and further expanding upon low deforestation rates.

32. The Floresta+ pilot programme is well designed to test a new approach that combines both carrots and sticks. Therefore, the use of the proceeds to test the combibed model and to advance in the fight against deforestation is essential, especially in the light of the economic crisis and the need to support the continuation of policies to avoid deforestation under the new government.

33. This funding proposal came to GCF Secretariat as a response to the Board's call for projects under the REDD-plus pilot programme. Brazil is presenting an accurate plan to invest the proceeds that are much needed.

2.5 Country ownership *Scale: High*

34. In the case of Brazil, REDD-plus implementation has been country-driven. The PPCDAm has been Brazil's core REDD-plus policy for the Amazon region and has been revised in 4 ocassions to make it more efficient. The MMA has been responsible for the coordination of the PPCDAm.

35. The PPCDAm is in full consistency with the ENREDD+ and Brazil's NDC to the UNFCCC and the Paris Agreement. REDD-plus is a means for the implementation of Brazil's NDC in the forest sector. The resources from GCF REDD-plus payments though the Floresta+ pilot programme are in alignment with PPCDAm and ENREDD+.

36. This project proposal has had the approval by CONAREDD+ and will be implemented by theMMA with support from the United Nations Development Programme. The MMA has been fully involved in the preparation of this funding proposal, leading discussions on the use of proceeds as well as providing all input necessary to inform sections on policies and actions implemented that lead to emissions reductions.

37. At project inception, a comprehensive and participatory Environmental Social Impact Assessment (ESIA) will be conducted once the design of the four modalities of the Floresta+ pilot programme is finalized. A series of modality-specific management plans will be developed with stakeholders and as necessary, such that all appropriate mitigation measures are put in place before commencing any activity that has the possibility of causing adverse impacts.

38. Brazil has been a pioneer in regulatory and institutional arrangements for the monitoring and conservation of the Legal Amazon's tropical rainforests. The Forest Code of 2012 demonstrates Brazil's sovereign commitment to the protection of native vegetation and the integrity of the climate system for the well-being of present and future generations. This law establishes administrative restrictions on the use of certain areas of native vegetation within private properties. In the Legal Amazon the law estipulates that rural landholdings must conserve 80% of their area with native vegetation cover, as a legal reserve, applying to landholdings located in originally forested areas.

39. The National Policy on Climate Change (PNMC) (Law No. 12.187/2009) outlines the objectives and guidelines for addressing climate change in Brazil, using the force of law to pursue the national voluntary commitment of reducing GHG emissions by 36.1 to 38.9 per cent in relation to projected emissions by 2020. With regard to specific REDD-plus actions, Brazil has made a commitment to achieve, by 2020, a reduction of 80 per cent in the rate of deforestation in the Amazon biome and 40 per cent in the Cerrado biome.

40. At state level, the nine states in the Legal Amazon have structured plans for forest conservation and the recuperation of degraded land in alignment with the PPCDAm and the PNMC.

41. Brazil has demonstrated experience in managing the REDD-plus programme with resources from the donor community and specifically the programme with the Norwegian Government. The GCF payment will build on these experiences with the new modality of the Floresta+ pilot programme.

2.6 Efficiency and effectiveness *Scale: Medium*

42. Brazil has presented the payment for results, accounting for only 2 per cent of the total volume of REDD-plus results between 2014 and 2015 (measured against FREL B), equivalent to a total of 25,093,262.55 tCO_2eq or 25 $MtCO_2eq$. The evaluation of the scorecard has reduced this amount to USD 96,452,228 using the relevant criteria.

43. The effectiness of the use of proceeds could only be evaluated in the future, as the Floresta+ pilot programme is still under design. Floresta+ pilot programme funds will be managed by a national bank for modalities 1 and 2, and by institutions that best suit the needs of Modalities 3 and 4. These will be selected as part of the design of the Floresta+ programme.

44. Direct payments under Foresta+ will be calculated based on the area (hectares) of native vegetation remnants and environmental liabilities to be recovered, according to the data in the National Rural Environmental Registry System (SICAR). The amount of payment per hectare

will be defined in norms to be published by the Project Advisory Committee and should consider:

(a) The relationship between the preserved native vegetation area and the area of deforested, degraded or burnt native vegetation within the rural property limits;

(b) The opportunity cost of land use in areas with alternative land use; and

(c) The reference values of other programmes using incentives for environmental services, when applicable.

45. The effectiveness of these incentives will depend on several factors, including the selection of grantees and the ability to scale up the programme.

46. With regard to the question from TAP about the sustainability of Floresta+ after project completion, the answer was that the programme is rooted on financial and legal elements. UNDP argues that there are other sources of funding that could be used to support its implementation after the GCF project, including: (i) budgetary resources from the MMA and the Ministry of Agriculture; (ii) resources from the National Fund for the Environment, Climate Fund or the Amazon Fund; (iii) resources from environmental compensation and conversion of fines from IBAMA[4], ICMBio[5] and other environmental state agencies; and (iv) resources from private initiatives that benefit from environmental services, such as sanitation and energy companies. However, these estimates have not been presented to GCF, and therefore it is not possible to judge if they will be effective.

47. With regard to legal elements, Brazil's Forest Code (Law 12,651/2012) establishes that rural properties in the Amazon region shall preserve at least 80 per cent of its native vegetation. This law also foresees the creation of a programme of payments for environmental services in its article 41 (Forest Code). In December 2018, a decree was issued that regulates the quotas for environmental reserves (Decree 9,640/2018); this aims at easing the identification and transaction of forest activities on rural properties. This will facilitate the process of identification of areas of intervention, creating a basis for the expansion of the program in the whole country.

48. Moreover, Floresta+ will be supported by the development and application of information technology for addressing the issue of deforestation over recent years. In 2010 the Brazilian Government made it mandatory for all rural properties to be mapped and registered through a government system known as CAR (Cadastro Ambiental Rural). This environmental registry of rural properties is now fully operational and has over 4 million properties registered. It is a powerful tool to support enforcement of environmental laws that is fully transparent. This tool will form the basis for the monitoring and evaluation of the Floresta+ Programme.

49. In terms of efficiency, GCF does not dictate terms for RBP under REDD-plus, since it is at the discretion of the recipient of the RBP system to make best use of the proceeds. For future transactions to be properly assessed by the TAP, it would be important to receive better guidelines from the Board on the types of actions and indicators they would like to see on the use of proceeds for consolidating REDD-plus goals and achievements.

50. The efficiency of this REDD-plus process strongly depends on preventing ongoing forest degradation in Brazil. As stated in the scorecard, Brazil needs to work on understanding uncertainties, forest degradation processes and the displacement of emissions. These three elements will be critical in accounting for a real estimate of emissions in the future.

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[4] Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais- Brazilian Institute of Environment and Renewable Natural Resourcesfor Biodiversity Conservation

[5] Instituto Chico Mendes de Conservação da Biodiversidade – Chico Mendes Institute

III. Overall remarks from the independent Technical Advisory Panel

51. The Brazil REDD-plus project proposal presents a good case for financing under the GCF REDD-plus pilot programme. However, because of its nature, the project proposal lacks sufficient information on the efficacy of the utilization of the proceeds for the TAP to make specific and decisive remarks.

52. The iTAP recommends this project be approved by the Board.

53. The iTAP recommends that Brazil and the AE give special attention to the following:

(a) Consider further analysis on how aggregated uncertainties affect the results and means to improve the FRELs and reporting;

(b) Taking into account that there could be significant emissions caused by forest degradation, consider the continuation of efforts to understand the effects of forest degradation in emissions reporting;

(c) Consider including information for the future submission to UNFCCC on the actions that the country is taking to prevent or minimize the displacement of emissions; and

(d) Ensure the sustainability of the Floresta+ pilot programme with a plan around scalability, financing and expected outcomes and indicators that goes beyond the initial six-year period.

Annex: Scorecard

Section A: Proposed and projected REDD-plus results		
Criteria	**Status (Yes/No)**	**Remarks**
Does the total volume of achieved results indicated in the proposal match the results indicated in BUR during the results period (31 December 2013 to 31 December 2018)?	Yes	The technical annex of Brazil's second BUR indicates that annual REDD-plus results for the period 2011–2015 amounts to 3,154,501,726.77 tCO_2eq (table 2 of the BUR). Specifically, for the years 2014–2015, the technical annex of the BUR indicates an amount of 1,254,663,127.74 tCO_2eq. This amount matches the total volume of REDD-plus results achieved by Brazil in the Amazon biome reported in section A of the funding proposal.
Is the volume of achieved results offered to the pilot programme equal or less than the total volume of achieved results indicated in the BUR during the results period?	Yes	As pointed out in the funding proposal, only 2 per cent of the total volume of REDD-plus results achieved between 2014 and 2015 (measured against FREL B) will be offered to the Green Climate Fund (GCF) in this proposal, a total of 25,093,262.55 tCO_2eq or 25 $MtCO_2eq$.
Is the expected volume of REDD-plus results to be achieved significant compared with the overall level of REDD-plus results achieved in the current funding proposal being submitted?	Yes	The REDD-plus results to be achieved by Brazil in the Amazon biome between 2016 and 2018 is a total of 1,122,289,619.33 tCO_2eq or 1.1 billion tCO_2eq, which is similar to the level achieved during the 2014–2015 period (1,254,663,127.74 tCO_2eq) and significantly higher than the volume that will be offered to GCF in the funding proposal (25,093,262.55 tCO_2eq).
Is the total volume expected to be submitted to the pilot programme within the available allocation of funding for the pilot programme and below the cap per country?	No	As noted in Brazil's funding proposal, between 2014 and 2018, the expected volume of REDD-plus results to be achieved by Brazil in the Amazon biome was 2,398,980,660.93 tCO_2eq, or 2.39 billion tCO_2eq. The total volume expected to be submitted to the pilot programme for payments is 47,979,613.22 tCO_2eq. This is 2 per cent of the expected volume of REDD-plus results to be achieved by Brazil in the Amazon biome between 2014 and 2018. This amount greatly exceeds the limit established by the GCF pilot programme for REDD-plus results-based payments (RBP) per country, which is USD 150 million or 30 million tCO_2eq.

Section B: Carbon elements		
B.1. Forest reference emission level/forest reference level		
Criteria	**Score**	**Remarks**
(i) Is the FREL/FRL consistent with GHG inventory, including the definition of forest used?	1	The AT noted that, overall, the FREL maintains consistency, in terms of sources for the activity data and the emission factors, with the GHG inventory included in Brazil's national communication. The AT considered the treatment of non-CO_2 gases as an area for future technical improvement to maintain consistency with the GHG inventory, since the GHG inventory included in the second national communication reports non-CO_2 GHG emissions from biomass burning after forest conversion to agricultural uses for the period 1990–2005, and the FREL excludes emissions from non-CO_2 GHG (see paragraph 29 of Brazil's TAR). The definition of forest used in the construction of the FREL is the same as the one that the Party uses in its national GHG inventory (i.e. minimum area of 0.5 hectares (ha), height of 5 m or more and at least 10 per cent canopy cover) (see paragraph 32 of Brazil's TAR). In the funding proposal, Brazil notes that the FREL included only CO_2 emissions, consistent with the second national GHG inventory, and that the third national GHG inventory, submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2016, two years after Brazil's submission of a FREL for results achieved between 2014–2015, included estimates of non-CO_2 emissions from biomass burning resulting from deforestation in the Amazon biome, but only for a single year (2010). Brazil further states that the estimation of non-CO_2 emissions from fire resulting from deforestation is expected to be improved for the next national GHG inventories. These estimates will be included in the national FREL to be submitted by Brazil to the UNFCCC in 2020 if consistency of the time-series can be assured and if deemed significant.
(ii) Is the FREL/FRL based on historical data and is it equal to or below the average annual historical emissions during the reference period, unless a country is an HFLD country?	2	As noted in Brazil's TAR (paragraph 23), the proposed FREL is based entirely on historical data, thus no assumptions about future changes to domestic policies have been included in the FREL submission. The FREL presented in the modified submission, with the aim of accessing

		payments for REDD-plus results from 2006 to 2010, is the mean annual emissions from gross deforestation in the Amazon biome for the period 1996–2005 and corresponds to 1,106,027,617 tCO_2. For results in the period 2011–2015, the FREL is the mean annual emissions from gross deforestation in the Amazon biome for the period 1996–2010, and corresponds to 907,959,466 tCO_2.
(iii) Is the FREL/FRL in accordance with the guidelines in decision 12/CP.17?	2	The AT noted (in paragraph 33 of Brazil's TAR) that the information used by Brazil in constructing its FREL for deforestation in the Amazon biome is transparent and complete and is in overall accordance with the guidelines for submission of information on FRELs (as contained in the annex to decision 12/CP.17).
(iv) Is the data and information provided for the FREL/FRL transparent? (Has information been provided to allow an understanding of how UNFCCC guidance on submission of information on reference levels has been addressed?)	2	The AT noted that the data and information used by Brazil in constructing its FREL are transparent and complete, and in overall accordance with the guidelines contained in the annex to decision 12/CP.17 (paragraph 33 of Brazil's TAR). The AT also noted that providing basic information on deforestation area (e.g. by forest type only) for all years would further improve the transparency and reproducibility of future FREL submissions (paragraph 21 of Brazil's TAR), although it did not raise this as an area for future technical improvement.
(v) Is the FREL/FRL complete? (Has information been provided that allows for the reconstruction of the FREL/FRL?)	2	The AT noted that the data and information used by Brazil in constructing its FREL are transparent and complete, and are in overall accordance with the guidelines contained in the annex to decision 12/CP.17 (paragraph 33 of Brazil's TAR).
(vi) Is the FREL/FRL consistent? (Were data and methodologies applied consistently over the time series used for the construction of the FREL/FRL?)	1	The AT noted that information provided for the years 1996 and 1997 is less accurate (as the data were not based on measured data) and less consistent over the time series compared to the time series constructed from 1998 onwards. Overall, the AT considers that a better estimation of deforestation estimates for the years 1996–1997 (i.e. through the digitalization of the deforestation maps) is an area for future technical improvement (see paragraph 17 of Brazil's TAR). In its funding proposal, Brazil noted that, in response to this observation, Brazil indicated to the AT that it was seeking finance to complete the annual digital time series with data from 1996 to 2000, and that this would improve the accuracy of the estimates provided in

		the submission for the years 1996 and 1997, as well as for the individual years 1998, 1999 and 2000. Since then, Brazil received inputs from various international stakeholders, with the general understanding that historical information before 2000 should not be used in a future national FREL submission from Brazil to the UNFCCC in 2020. Brazil's efforts now are focused on building deforestation data for all Brazilian biomes to scale up REDD-plus to the national level, rather than improving the historical data before year 2000 for the Amazon biome
(vii) Is the FREL/FRL accurate? (The data and methodologies used neither over- nor underestimate emissions and/or removals during the reference period, so far as can be judged.)	1	Some issues were raised during the TA that negatively affect the accuracy of Brazil's FREL. Regarding the digitalization of deforestation maps, the AT noted that estimates of deforestation for the years 1996–1997 are less accurate than the rest of the time series (as the data were not based on measured data). The AT considered that a better estimation of estimates for the years 1996–1997 may be achieved through digitalization of the deforestation maps (paragraphs 17 and 37 (a) of Brazil's TAR)). In its funding proposal, Brazil noted that, in response to this observation, Brazil indicated to the AT that it was seeking finance to complete the annual digital time series with data from 1996 to 2000, and that this would improve the accuracy of the estimates provided in the submission for the years 1996 and 1997, as well as for the individual years 1998, 1999 and 2000. Since then, Brazil received inputs from various international stakeholders, with the general understanding that historical information before year 2000 should not be used in a future national FREL submission from Brazil to the UNFCCC in 2020. The AT also noted (paragraph 19 of Brazil's TAR) that the "carbon map" used in the FREL, based on the RADAMBRASIL database combined with an allometric equation (to relate above-ground fresh biomass to carbon densities), represents a significant effort aimed at recognizing the heterogeneity in carbon densities within the Amazon biome, and commends Brazil for this. Nevertheless, the AT noted that: (i) table 4 of the FREL submission (i.e. carbon densities in different forest types and

		volumes) shows some apparent inconsistencies; (ii) the allometric equation used was not developed for the entire Amazon, and hence it could not be completely representative of all areas. In response to these observations, Brazil explained (paragraph 20 of the TAR) that the apparent inconsistencies in the carbon map are partly associated with the specific circumstances of the region (e.g. soil types, climatic conditions and flood regimes), and noted that the widely used RADAMBRASIL database is the best information available. Furthermore, Brazil indicated that the carbon map can be expected to improve in the future (e.g. with the new data from the first national forest inventory of Brazil, estimated to be finalized by 2017). Overall, the AT commended Brazil for the information provided in the revised FREL submission on ongoing efforts to estimate carbon densities, including detailed information on uncertainties. The AT commended Brazil for continuing to work on updating and improving the carbon map, noting it as an area for future technical improvement. Additionally, Brazil assumed that the biomass immediately after forest conversion was zero and did not consider any subsequent CO2 removal after deforestation (paragraph 13 of the TAR).
(viii) Have all REDD-plus activities that are a significant source of emissions been included?	1	In assessing the activities included in the FREL, the AT considered that degradation is a significant activity based on the estimates provided by Brazil (paragraph 39 of the TAR). Brazil provided information on forest degradation in annex 2 of the original FREL submission for information purposes, as degradation was not included in the FREL. It showed that for the period 2007–2010, the emissions associated with degradation in the Amazon biome in the modified submission correspond to approximately 59 per cent of the emissions from deforestation (paragraph 30 of the TAR). The justification provided by Brazil to omit this activity is that the time series available is too short to allow an adequate understanding of the degradation process. Based on the available information, the AT noted that so far, there is no evidence of displacement of emissions (i.e. decreased deforestation in the Amazon

		biome resulting in increasing degradation). In addition, the AT noted that the current exclusion of degradation appears to be conservative in the context of constructing the FREL. Overall, the AT considers better understanding of the relationship between degradation and deforestation as an area for future technical improvement of the FREL. The AT acknowledged (paragraph 31 of the TAR) the intention expressed by Brazil to: (i) continue monitoring forest degradation to assess whether the reduction of deforestation is leading to an increase in forest degradation activities (displacement of emissions); and (ii) include emissions from degradation in future FREL submissions when new, adequate data and better information become available.
(ix) Have all of the most significant pools been included?	1	In assessing the pools and the gases included in the FREL, pursuant to paragraph 2(f) of the annex to decision 13/CP.19, the AT noted (paragraph 38 of the TAR) that the current omissions of pools is likely to be conservative in the context of the FREL. Nevertheless, the AT identified the treatment of emissions from dead wood (i.e. the inclusion of this pool or the provision of more information on the justification of its omission) as an area for future technical improvement (paragraph 38 (a)). In the funding proposal, Brazil presents an assessment of the significance of the wood pool based on its FREL C (2018) submission and the comparison of its second and third national GHG inventories, concluding that Brazil considers that the dead wood pool is not a significant source of emissions and hence does not include it in the FREL.
(x) Have all gases that are a significant source of emissions been included?	1	Brazil explained in its submission that emissions from gases other than CO_2 (non-CO_2 gases) in the Amazon biome are normally associated with the recurrent burning of tree residues left on the ground after deforestation activities. The exclusion of non-CO_2 gases is justified by Brazil as a means to be conservative, because a decrease of deforestation is associated with a decrease of non-CO_2 gases. Brazil indicated that it may revisit this approach if it considers that the data available are reliable and consistent. In addition, in box 7 of the modified FREL submission, Brazil provides information on available estimates of non-CO_2 gases associated with pasture establishment. The information in box 7 shows that there is activity data on burned pastures at least for

		the period 2002–2008 and emissions estimates for the period 2003–2008. In addition, the GHG inventory included in the second national communication reports non-CO_2 GHG emissions from biomass burning after forest conversion to agricultural uses for the period 1990–2005 The AT considered the treatment of non-CO_2 gases as an area for future technical improvement to maintain consistency with the GHG inventory included in the national communication (see paragraph 31 of the TAR) In the funding proposal, Brazil noted that following this recommendation, Brazil presented in FREL C (2018) an analysis of the impact of non-CO_2 emissions of carbon monoxide (CO), methane (CH_4), nitrous oxide (N_2O) and nitrogen oxides (NOx) for year 2010, which was included in the third national GHG inventory. It indicated the following emissions: 8,400 Gg; 549 Gg; 16 Gg; and 129 Gg, respectively. Non-CO_2 emissions from deforestation in the Amazon biome are not available for other years and hence, the recalculation of the emissions estimates to include non-CO_2 emissions would not be possible at this point. Estimation of emissions from fire resulting from deforestation is expected to be improved in the next national GHG inventory, and if possible, non-CO_2 emissions from fire will be included in the national FREL for the biomes where this is a significant source of emissions, if consistency of the time-series can be assured and if deemed relevant.
(xi) Is the information provided in the construction of the FREL/FRL (data, methodologies and estimates) guided by the most recent applicable IPCC guidance and guidelines as adopted by the Conference of the Parties?	1	For the development of the FREL for the Amazonia biome, Brazil used the methodology provided in the 2003 Intergovernmental Panel on Climate Change Good Practice Guidance for Land Use, Land-Use Change and Forestry (hereinafter referred to as the IPCC good practice guidance for LULUCF) as a basis for estimating changes in carbon stocks in forest land converted to other land-use categories (see paragraph 11 of the TAR)
(xii) Have any significant issues related to the application of IPCC guidelines/good practice guidance been raised in the TA report?	2	No significant issues were raised.
(xiii) What is the reference period for the FREL/FRL?	2	The FREL presented in the modified submission, with the aim of accessing payments for REDD-plus10 results from 2006 to 2010, is the mean annual emissions from gross deforestation in the Amazonia biome for the period 1996–2005 and corresponds to 1,106,027,617 tonnes of

		carbon dioxide (t CO2). For results in the period 2011–2015, the FREL is the mean annual emissions from gross deforestation in the Amazonia biome for the period 1996–2010 and corresponds to 907,959,466 t CO2. The entire time series 1996–2010 and the mean emissions from gross deforestation in the Amazonia biome are presented in table 1 of the modified submission and were considered in the TA (see paragraph 7 of the TAR).
(xiv) How does the reference level for the results included in the proposal compare with the previous reference level that applies to the same area?	2	The FREL for the Amazon biome (FREL A and B) was the first reference level submitted to the UNFCCC in the context of RBP. This submission in June of 2014 came right after the rules and procedures for the implementation of the Warsaw Framework for REDD-plus had been agreed upon by Parties in December of 2013 at COP 19. No previous reference levels had been submitted to the UNFCCC by any Party before that.
(xv) Has the country provided information on aggregate uncertainties, taking into account national capabilities and circumstances?	0	Aggregate uncertainties estimates were not included in the FREL submission.
B.2. REDD-plus results reporting		
Criteria	**Score**	**Remarks**
(i) Are the reported results in the technical annex to the BUR consistent with the FREL/FRL (including the inclusion of the same pools, activities and gases)?	2	The LULUCF experts concluded that the results of the activity were reported using consistent methodologies, definitions, assumptions and information as used for the assessed FREL (paragraph 37 of the TATR)
(ii) Is the data and information provided in the technical annex transparent? (Has information been provided to allow an understanding of how UNFCCC guidance on results reporting has been addressed?)	2	The LULUCF experts considered that the data and information provided in the technical annex are transparent, consistent, complete and accurate (see paragraph 38 of the TATR). The LULUCF experts noted that in its submission, Brazil provided weblinks to additional information, in particular to sources of activity data and carbon densities of different forest types. In addition, Brazil provided links to the website for the programme for deforestation assessment in the Brazilian Legal Amazonia (PRODES), which uses remote-sensing images and digital image-processing techniques for monitoring deforestation areas. Additional information for each of the years between 2006 and 2010 can be accessed on this website. The LULUCF experts commended Brazil for these efforts to increase the transparency and ensure the

		completeness provided, allowing for the reconstruction of the results (see paragraph 16 of the TATR).
(iii) Is the data and information provided in the technical annex complete? (Has information been provided that allows for the reconstruction of the results?)	2	The LULUCF experts considered that the data and information provided in the technical annex are transparent, consistent, complete and accurate (see paragraph 38 of the TATR). The LULUCF experts noted that in its submission, Brazil provided weblinks to additional information, in particular to sources of activity data and carbon densities of different forest types. In addition, Brazil provided links to the website for the programme for deforestation assessment in the Brazilian Legal Amazonia (PRODES), which uses remote-sensing images and digital image-processing techniques for monitoring deforestation areas. Additional information for each of the years between 2006 and 2010 can be accessed on this website. The LULUCF experts commended Brazil for these efforts to increase the transparency and ensure the completeness provided, allowing for the reconstruction of the results (see paragraph 16 of the TATR).
(iv) Is the data and information provided in the technical annex consistent? (Were data and methodologies applied consistently over the results time series?)	2	The LULUCF experts noted that the estimation of results from the implementation of the activity on reducing emissions from deforestation in the Brazilian Amazon biome has been undertaken using a transparent and consistent approach (paragraph 31 of the TATR). The LULUCF experts concluded (paragraph 21 of the TATR) that the data and information provided in the technical annex are considered to be transparent, consistent, complete and accurate to the extent possible.
(v) Is the data and information provided in the technical annex accurate? (Does it neither over- nor underestimate emissions and/or removals?)	1	The LULUCF experts noted that Brazil provided some information related to the uncertainties, although this information was not used in assessing the uncertainties of the emissions estimates. Thus, the effect of these uncertainties on the accuracy of the results from the implementation of the activity on reducing emissions from deforestation could not be assessed. Despite this, and based on the assumptions used, the LULUCF experts concluded that the results are accurate to the extent possible (paragraph 33 of the TATR). Moreover, the LULUCF experts also noted that both the established FREL and the results obtained in the period 2006–2010 from the implementation of the activity on reducing emissions from deforestation are based on the assumption that deforestation takes place in areas with intact forests that have carbon content as determined by the carbon

		density map. The LULUCF experts note that if the carbon densities in these areas have been lowered before a clear-cut event, for example, due to human activities or forest fires, then emissions from deforestation are most likely overestimated. They also noted that, because Brazil has used a consistent methodology for estimating emissions in the establishment of the FREL and the results during the period 2006–2010, the net effect will partially cancel out. Furthermore, Brazil clarified that the extent of the degraded area that is subsequently deforested is small (see table B.1 in annex III of the modified FREL submission) (see paragraph 32 of the TATR).
(vi) What is the number of years between the last year of the FREL period, and the year corresponding to the results being proposed for payments?	2	Four and five years from the last year of the reference period of the FREL.
(vii) Has the country provided information on aggregate uncertainties, taking into account national capabilities and circumstances?	0	The LULUCF experts note that Brazil already provided information on uncertainties in its FREL submission in October 2014, and that this remains valid also for the estimated results from the implementation of the activity on reducing emissions from deforestation for the period 2006–2010. This includes: uncertainties associated with the carbon density map, including from data collection; the allometric equations used for calculating the carbon content; the biomass from smaller trees, palms and vines; the aggregation of forest types; and the rules used to estimate the carbon density of forest type per the RADAMBRASIL volume (paragraph 19 of the TATR). However, this information was not used in assessing the uncertainties of the emissions estimates. Thus, the effect of these uncertainties on the accuracy of the results from the implementation of the activity on reducing emissions from deforestation could not be assessed (see paragraph 33 of the TATR).
(viii) Has information been provided on payments that have been (or are expected to be) received from other sources for results recognized by the country[6] from the same national or subnational area during the period for which a country is proposing to receive payments from the GCF? And has the country provided sufficient assurance that results that have been paid for by other sources have been excluded from the total volume offered to the GCF?	2	The funding proposal provides detailed information on the avoidance of double payments for the same results. This includes tables 12 and 13, which provide detailed information on payments received by Brazil for results achieved reducing emissions from deforestation in the Amazon biome in 2014 and 2015. This information is available on Info Hub Brasil, an online tool developed for the REDD+ Brasil website to ensure full transparency of the information and prevent double counting of

[6] Through the REDD-plus national entity or focal point, where appointed.

		results and double payments for the same results. Table 12 shows that only 4 per cent and 4.5 per cent of the total REDD-plus results achieved through reducing emissions from deforestation in the Amazon biome in 2014 and 2015, respectively, have been paid for. About 95 per cent of the total results achieved in these two years are still available for payments, a total of 1.2 billion tCO_2eq. The total amount of REDD-plus results that Brazil will offer to the GCF corresponds to only 2 per cent of the total results achieved through reducing emissions from deforestation in the Amazon biome in 2014 and 2015. These payments will be discounted from the 40 per cent of total results allocated to the Government of Brazil by the CONAREDD+ Resolution n.6, of July 6th, 2017 (more details below) for fundraising. The large amount of total REDD-plus results achieved by Brazil assures that there is no risk of double payments. Even after receiving payments from the GCF, Brazil would still have more than 90 per cent of its total REDD-plus results from 2014 and 2015 available for other payments.
(ix) Are the results proposed to the GCF for payment included in a registry or similar system that tracks emissions reductions and corresponding payments[7] to ensure there is no past or future double payment [or use] of such emissions reductions?	2	According to the funding proposal, Brazil tracks the emissions reductions achieved through reducing emissions from deforestation in the Amazon biome through the Info Hub Brasil, a repository created on the REDD+Brasil website. All results achieved by Brazil and respective payments are also displayed in the Lima Information Hub in the REDD+ Web Platform of the UNFCCC.
Total score section B	**36**	
Any fails	☐ Yes ☒ No	

Abbreviations: AT = Assessment Team (under the aegis of UNFCCC), BUR = biennial updated report , FREL = forest reference emission level, FRL = forest reference level, GHG = greenhouse gas, HFLD = High Forest Low Deforestation , IPCC = Intergovernmental Panel on Climate Change, LULUCF = land use and land-use change and forestry, TA = technical assessment , TAR = technical assessment report, UNFCCC = United Nations Framework Convention on Climate Change.

[7] Tracking information should, at a minimum, identify for each of these results the corresponding national or subnational area, the entity eligible to receive payment, the year generated, and the source of RBP received and, where possible, the identifying number.

Section C: Non-carbon elements		
C.1. Cancun Safeguards Does the "summary of information on safeguards" provide information on how each of the safeguards below were addressed and respected in a way that ensures transparency, consistency, comprehensiveness and effectiveness:		
Criteria	**Evaluation (pass/fail)**	**Remarks**
(i) That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements.	Pass	The summary provides information on how the safeguard was addressed and respected taking into account decision 17/CP.21. (Evaluation = Pass)
(ii) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty.	Pass	The summary provides information on how the safeguard was addressed and respected taking into account decision 17/CP.21. (Evaluation = Pass)
(iii) Respect for the knowledge and rights of indigenous peoples and members of local communities by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples.	Pass	The summary provides information on how the safeguard was addressed and respected taking into account decision 17/CP.21. (Evaluation = Pass)
(iv) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of this decision.	Pass	The summary provides information on how the safeguard was addressed and respected taking into account decision 17/CP.21. (Evaluation = Pass)
(v) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the 12 protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits.	Pass	The summary provides information on how the safeguard was addressed and respected taking into account decision 17/CP.21. (Evaluation = Pass)
(vi) Actions to address the risks of reversals.	Pass	The summary provides information on how the safeguard was addressed and respected taking into account decision 17/CP.21. (Evaluation = Pass)
(vii) Actions to reduce displacement of emissions.	Pass	The summary provides information on how the safeguard was addressed and respected taking into account decision 17/CP.21.

		However, it is noted that it would be helpful for Brazil to include information on the actions that the country is taking to prevent or minimize the displacement of emissions before achieving the implementation of activities to reduce emissions from deforestation at the national level in addition to the information provided on the scaling up of the monitoring system to national in the future. (Evaluation = Pass)
C.2. Use of proceeds and non-carbon benefits		
Criteria	**Evaluation (pass/fail)**	**Remarks**
Has information been provided on how proceeds will be used consistent with GCF policies? Has information been provided on how the proceeds will be used in a manner consistent with the country's nationally determined contribution, national REDD-plus strategy and/or low-carbon development plans and policies? Has information been provided on how the proceeds will be used in a manner that contributes to the long-term sustainability of REDD-plus activities, including non-carbon benefits?	2	In the funding proposal, Brazil states that the RBP received by Brazil from the GCF will contribute to the implementation of the forest sector actions of Brazil's NDC. This project proposal has two main outputs: - Developing a pilot of an Environmental Services Incentive Program for Conservation and Recovery of Native Vegetation (Floresta+); and - Strengthening the implementation of Brazil's ENREDD+ through improvements in its governance structure and systems According to the funding proposal, these two outputs will contribute to the achievement of the overall objective of the ENREDD+ and the country's nationally determined contribution. Further, the funding proposal notes that the resources received by Brazil from the GCF through REDD-plus payments will be in part directed to support the: 1) Expansion of the forest monitoring system and measurement, reporting and verification (MRV) to include additional REDD-plus activities, pools and gases, considering the mapping products produced under the Brazilian Biomes Environmental Monitoring Program, for all biomes, as appropriate, following the guidance from the Working Group of

		Technical Experts on REDD+. The aim is to submit a national FREL to the United Nations Framework Convention on Climate Change secretariat by 2020; 2) Development of a tool to monitor and measure the impacts of REDD-plus policies and investments and inform decision-making regarding the forest component of Brazil's NDC; 3) Improvement Brazil's Safeguards Information System for REDD+ (SISREDD+) and its ombudsman, making it more complete, transparent and accessible; 4) Enhancement of the capacities and access of the various stakeholders for participating in the National REDD+ Committee (CONAREDD+) and its Consultative Chambers, including the revision of the National REDD+ Strategy in 2020; and 5) South-south Cooperation Program in Forests and Climate Change designed by the MMA and the Brazilian Agency of Cooperation of the Ministry of Foreign Affairs (ABC/MRE) A stronger governance structure and more transparent data and information systems will contribute to the long-term sustainability of these investments. **It will also contribute for the effective implementation of the measures needed in the forest sector for the achievement of the national target indicated in Brazil's NDC.**
Total score section C	2	
Any fails	☐ Yes ☒ No	

Abbreviations: NDC = nationally determined contribution. FREL = Forest Reference Emission Level.

Section D: Investment framework (Though not applicable for small-size proposals, it was applied in the context of the REDD-plus pilot programme)		
Criteria	**Evaluation (High/Medium/Low)**	**Remarks**
Impact potential	High	The relevant mitigation and/or adaptation impact is specified The GCF core indicators (and other indicators) are provided with specific values Methodologies provided for calculating non-greenhouse gas indicators are clear and robust The proposal compares the indicator values against appropriate benchmarks to demonstrate the impact potential
Paradigm shift potential	High	The proposal clearly: - Describes the potential for scaling up the country's NDC, national REDD-plus strategy and/or low-carbon development plans and policies; - Explains how the programme contributes to strengthening knowledge and learning; - Describes how proposed measures will create an enabling environment and contribute to innovation, market development and transformation; - Explains how the programme strengthens the regulatory framework and policies; and - Demonstrates paradigm shift potential for catalysing impact beyond a one-off payment
Sustainable development potential	High	The proposal demonstrates environmental, social and economic impact, including the gender sensitive development impact
Needs of the recipient	High	The proposal clearly: - Describes the degree of vulnerability of the country/population, and demonstrates that the programme addresses the issues; and - Explains in detail how the programme addresses financial, economic, social and institutional needs
Country ownership	High	The proposal: - Sufficiently explains how the programme contributes to a national climate strategy and/or policies; and - Specifies in detail how the multi-stakeholder consultation was conducted

Efficiency and effectiveness	Medium	The proposal clearly describes the adequateness of the financial structure for cost-effectiveness and efficiency Information is provided on financial viability in the long run The proposal explains in detail the application of best practices and the degree of innovation

Response of the accredited entity to the independent Technical Advisory Panel's assessment (FP100)

Proposal name:	REDD+ results-based payments for results achieved by Brazil in the Amazon biome in 2014 and 2015
Accredited entity:	United Nations Development Programme (UNDP)

Impact potential
UNDP is in full agreement with the ITAP assessment finding that • *The relevant mitigation and/or adaptation impact is specified.* • *The GCF core indicators (and other indicators) are provided with specific values.* • *Methodologies provided for calculating non-GHG indicators are clear and robust.* • *The proposal compares the indicator values against appropriate benchmarks to demonstrate the impact potential.*
Paradigm shift potential
UNDP is in full agreement with the ITAP assessment finding that *the proposal clearly:* • *Describes the potential for scaling up to the country's NDC, national REDD-plus strategy and/or low-carbon development plans and policies.* • *Explains how the programme contributes to strengthening knowledge and learning.* • *Describes how proposed measures will create an enabling environment and contribute to innovation, market development and transformation.* • *Explains how the programme strengthens the regulatory framework and policies.* • *Demonstrates paradigm shift potential for catalysing impact beyond a one-off payment*
Sustainable development potential
UNDP is in full agreement with the ITAP assessment finding that t*he proposal demonstrates environmental, social and economic impact, including the gender sensitive development impact.*
Needs of the recipient
UNDP is in full agreement with the ITAP assessment finding that t*he proposal clearly:* • *Describes the degree of vulnerability of country/population, and demonstrates that the programme addresses the issues.* • *Explains in detail how the programme addresses financial, economic, social and institutional needs.*
Country ownership
UNDP is in full agreement with the ITAP assessment finding that t*he proposal:* • *Sufficiently explains how the programme contributes to a national climate strategy and/or policies.*

• *Specifies in detail how the multi-stakeholder consultation was conducted.*
Efficiency and effectiveness
UNDP is in full agreement with the ITAP assessment finding that *the proposal clearly describes the adequateness of the financial structure for cost-effectiveness and efficiency.* • *Information is provided on financial viability in the long run.* • *The proposal explains in detail the application of best practices and the degree of innovation.*
Overall remarks from the independent Technical Advisory Panel: UNDP is in agreement with the ITAP assessment of the proposal using the scorecard included in the terms of reference (ToR) for the pilot programme for REDD-plus results-based payments. The score generally reflects our expectation and is consistent with the ToRs.

Gender Assessment and Action Plan

Brazil REDD+ Results-Based Payment Proposal for 2014-2015

Contents

Preliminary Gender Assessment and Action Plan - Brazil 1
Contents 1
1. Introduction 3
2. Existing Gender Dynamics and Inequalities in Brazil 3
2.1 Gender Inequality Index 4
2.2 Education 5
2.3 Political participation and decision-making 5
2.4 Labour force participation 7
2.5 Access to land and social resources 8
2.6 Agriculture 9
2.7 Health 10
3. Legal and Administrative Framework Protecting Women and Protecting Gender Equality 11
3.1 Key International Protocols and Frameworks Ratified by Brazil in Support of Gender Equality and Women's Empowerment and Human Rights 11
3.2 Key National Gender Equality and Women's Empowerment Frameworks, Policies and Laws 11
3.2.1 National Constitution and laws 11
3.2.2 National Policies, Plans and Programs 12
3.2.3 Additional frameworks and policies supporting gender equality and women's empowerment 13
3.3 Institutional Arrangements 13
4. Gender Issues Around Forests and REDD+ 14
5. Gender integration within forest conservation efforts and REDD+ action in Brazil 15
5.1 Women's collective microenterprises in the Brazilian Amazon 15
5.2 Social Movement of National Council of Extractivist Populations 16
5.3 Nationally-led programmes in rural and forest areas 16
5.3.1 Floresta+ Pilot Program 16
5.3.2 Bolsa Família and Bolsa Verde 18
5.4 REDD+ Design 18
5.4.1 National REDD+ Strategy 18
5.4.2 REDD+ Safeguards 19
5.5 REDD+ Implementation 20
5.5.1 REDD+ Governance 20

5.5.2 Early REDD+ implementation 20
6. Recommendations 22
7. Gender Action Plan 25

1. Introduction

The Green Climate Fund (GCF) recognizes the central importance of gender considerations in terms of both impact and access to climate funding, and requires a Gender Assessment and Gender Action Plan to be submitted as part of the funding proposals that it assesses. The main objective of the Gender Assessment is to screen the gender aspects of the GCF project, and to subsequently strengthen the gender responsive actions within the project. It is within this context that this gender assessment aims to provide an overview of the gender dynamics in Brazil, with a focus on REDD+ and related thematic areas, specifically as they refer to the results period (2014 and 2015) as well as the investment of proceeds for this proposal. The information and design considerations in this Annex should not be considered additional, but rather part of the basis of the proposal, including its Stakeholder Engagement and Environmental and Social Management Framework (ESMF) Annexes.

This gender assessment also identifies gender issues that are relevant to the project and examines potential gender mainstreaming opportunities. The assessment was based upon available data from studies conducted by the Government of brazil, United Nations (UN) agencies, and multilateral and research organizations; and included:

1. Undertaking a desktop review and aligning approaches in this proposal with the national priorities of Brazil;
2. Reviewing and considering national aspirations as detailed in the national policies and agenda on gender and women's empowerment;
3. Incorporating information and lessons learned from past studies and assessments on gender in Brazil from the Government of Brazil, the UN and international development and research organizations;
4. Integrating gender considerations in the project indicators, targets, budget and activities.

2. Existing Gender Dynamics and Inequalities in Brazil

Over the last two decades, Brazil has made good strides in promoting gender equality within the country. As discussed in more detail in the following sections, Brazil's has taken concrete actions to promote and integrate gender equality into the broader policy-making agenda and has achieved substantial advances in women's education and health and equality before the law. Brazilian women now even outperform men in various education indicators.[1]

Progress has been weaker, however, in the areas of women's economic opportunities, particularly in outcomes relating to women's economic opportunities and agency (i.e., the capacity to make decisions and take control over one's life projects). Additionally, aggregate advances by women often hide the more racial or geographic differences in every dimension of gender equality. This means, that even in areas where progress has been made, large groups of women are being left behind due to

[1] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"

their racial, ethnic or geographic identities. And when these types of inequalities remain, these same women face double discrimination for being female as well as for being part of a different culture, race ethnicity, etc. In Brazil, the existing gender dynamics can be detrimental to men as well. The continuing underperformance in school by men (specifically Black/pardo males) has negate e implications for development. These existing inequalities are discussed in more detail within the sections below.

2.1 Gender Inequality Index

Through the years, several indices have developed to quantify the concept of gender inequality. The United Nations Development Programme uses the Gender Inequality Index (GII) and Gender Development Index (GDI). GII is a composite measure that shows inequality in achievement between women and men in reproductive health, empowerment and the labour market while with a measures achievement in human development in three areas: health, education, and command over economic resources. The GDI considers the gender gaps on human development between men and women.

Brazil has a GII value of 0.414, ranking it 92 out of 159 countries in the 2015 index. The female HDI value for Brazil is 0.754 in contrast with 0.751 for males, resulting in a GDI value of 1.005, which places the country into Group 1 (high equality in HDI achievements between women and men).[2]

The Global Gender Gap Index (GGGI) of the World Economic Forum examines the gap between men and women in four categories: economic participation and opportunity, educational attainment, health and survival; and political empowerment.[3] Out of 144 countries, Brazil's rankings, based on GGGI in the year 2016, are given below[4]:

Description	Score	Rank
Economic participation and opportunity	0.640	91
Educational attainment	0.998	42
Health and survival	0.980	1
Political empowerment	0.132	86
Gender Gap Index 2016	0.687	79

* Inequality = 0.00; Equality = 1.00. Source: The Global Gender Gap Report 2014

The Organization for Economic Cooperation and Development (OECD) developed the Social Institutions and Gender Index (SIGI), a composite index that scores countries (i.e., 0 to 1) on 14 indicators grouped into five sub-indices: discriminatory family code, restricted physical integrity, son bias, restricted resources and assets, and restricted civil liberties to measure the discrimination against

[2] United Nations Development Programme (2016). Briefing Note for Countries on the 2016 Human Development Report: Brazil. Available at: http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/BRA.pdf
[3] World Economic Forum. The Global Gender Gap Report 2014 Country Profiles. http://www3.weforum.org/docs/GGGR14/GGGR_CountryProfiles.pdf
[4] World Economic Forum. The Global Gender Gap Report 2016 Country Profiles: Brazil. Available at http://reports.weforum.org/global-gender-gap-report-2016/economies/#economy=BRA

women in social institutions across 160 countries. The 2014 SIGI value for Brazil is 0.0458, suggesting that discrimination against women is low.[5]

2.2 Education[6]

The literacy rate of youth (ages 15-24) is 98% for males and 99% for females, which is up from 84% in 1980. Similarly, 98.7% of 12-year-olds currently attend school, with 98.1% of girls and 98.3% of boys of this age attending school.

School attendance rates drop between 14 and 17 years of age, however, with only 87% of 16-year-olds and 73% of 17-year-olds attending school. This decline does not differ substantially between girls and boys. In fact, among older youths, females are more likely to attend school than males. One in three women 21 years of age attends school, versus only one in four of their male counterparts. With the increase in women's and girls' schooling, a gender gap in favor of girls has developed in secondary (female-to-male ratio: 1.11) and tertiary education (1.29) according to the latest data from 2008. The increase in female tertiary education is notable given that in 1970, the female-to-male ratio in tertiary education was as low as 0.6.

To note, with education, disparities emerge when disaggregating by race, with white women reporting over a year more of education than women who self-identify as black or parda (Afro-Brazilian), 9.1 versus 7.7 years. Regional differences also occur, as women in the Southeast and the Center-West report 8.8 years of schooling, compared to 7.5 for those in the Northeast.

Gender discrepancies in education increase with levels of education. While equal shares of boys and girls (92.5%) ages 6 to 14 were enrolled in school in 2013, the shares dropped at ages 15-17 to 60.1% for girls and 50.4 percent for boys. There was a dramatic drop for the next age group, 18-24 year olds, to 18.8% for women, which is still meaningfully higher than the men's share of 14.0%. Currently, close to two-thirds of graduates from tertiary education each year are women.

2.3 Political participation and decision-making

Women´s political participation and representation are still very weak in Brazil and have not much changed over the last decades. While Brazil is one of the few countries in the Latin America region that has had a female president, Dilma Rousseff (from 2011-2016), only six out of 39 ministers in her government were female, and they were often appointed to "softer", less technical roles, in areas such as human rights, racial equality, and policies for women. None of the new ministers whom current president Michel Temer selected for his government in May 2016 are female.[7]

[5] OECD. Social Institutions and Gender Index 2014. http://www.genderindex.org/ranking/
[6] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"
[7] Ibid

There has been a recent change to the Brazilian electoral code which now requires that at least 30% of political party's candidates must be women, and that at least 5% of financial resources must be allocated to promoting female political participation and meeting this quota. As a result, the number of female candidates in the last general election, in 2014, increased by 47% when compared to the election in 2010.[8]

Nevertheless, the election itself did not significantly change the gender make-up of law-making bodies. In 2010, 45 women were elected to the Chamber of Deputies; in 2014, 51 female candidates secured seats. The numbers represent respectively 8.8% and 9.9% of the chamber's 513 deputies. For the Federal Senate, which renewed one third of its 81 seats in 2014, five female senators were elected, joining another six previously chosen. According to IBGE (2018), in 2017, women were occupying 11,3% of all National Congress seats - 16% of the Senate seats and 10,5% of the Chamber of Deputies seats. Additionally, the Inter-Parliamentary Union[9] ranks Brazil 152nd in the world in its "List of Women in National Parliaments".[10]

At the state level, leadership roles are equally male-dominated, with only one female governor elected in 2014 for the 27 posts available. In state parliaments, the number of women elected decreased between 2010 and 2014: 120 female candidates won seats in 2014, compared to 141 in the previous cycle. Finally, at the local level, only 11.8% of elected mayors and 13.3% of city councilors are female (CEPAL Gender Observatory, data for 2014).

Within this context it is encouraging to see the level of the organization of women, who live in rural and forest areas. In fact, since the eighties, the movements of rural women workers begun to grow with the emergence of several regional organizations, among them the Movement of Rural Women Workers of the Northeast (1986) and the Interstate Movement of the Women Babassu Coconut Breakers (1991). In the later years, national organizations has also risen such as The Movement of Peasant Women (2003) and The Daisies March which took an important place in the political arena in the recent years. In its 5 editions (2000, 2003, 2007, 20011 and 2015), the Daisies March mobilized thousands of women (more than one hundred thousand in 2015), marching in the capital against hungry, poverty, violence and requesting sustainable development, democracy, autonomy and freedom for women.

Recently, new organizations of women are being created, representing specific minorities. As an important example, in 2010, the Brazilian indigenous movement founded the Union of the Indigenous Women from the Legal Amazon (UMIAB).

[8] Ibid
[9] The Inter-Parliamentary Union compiles and reports data on the percentage of women in the lower or single House of 193 countries, and organizes the countries by descending sorder of these percentages.
[10] http://archive.ipu.org/wmn-e/classif.htm

2.4 Labour force participation[11]

Female labor force participation (LFP) and employment have risen only slightly over the last 20 years, from a rate of 54% in 1995 to 59% in 2014. To note, while the respective rates for men declined ever so slightly and female rates increased over the last twenty years, most of this happened between 1995 and 2005. Between 2005 and 2014, female LFP in Brazil did not deviate by more than 1 percentage point.

While labor force participation changed little for men or women over the past decade, large drops for some groups is present when looking at age and educational level. For example, LFP among unskilled young men and women dropped significantly between 2004 and 2014. At the same time, skilled people aged 55 to 64 seem to have postponed their retirement.

In households with children present, the LFP participation increases for both men and women when they have just one child, but then drops continuously for females and stays constant for males with every additional child in the household.

LFP among women is higher in the top quintiles of the income distribution, regardless of the household composition. Women in households with both parents and another female adult tend to participate less in the labor market than those in households with both parents and children. Among women in the poorest two quintiles, LFP does not change much whether they have children or not in the household. In single-parent households, which are typically led by women, LFP is higher when there is no other adult female in the household.

Even though they have lower LFP rates, women also face higher levels of unemployment relative to men, particularly among younger cohorts. In 2013, the average unemployment rate was 6.3% (for the population aged 15 and higher). For women, it was 8.2%, whereas for men it was only 4.8%. This gap widens significantly in the younger population, with 17.1% of women ages 18-24 being unemployed compared to 10.8% of men in the same age group.

These LFP and employment figures covers up occupational segregation, which shows up not only in the differences in gender representation in different sectors, but also in vocational training and entrepreneurship. In Brazil, female employment is still concentrated in sectors related to traditionally female roles, such as accommodation and food, education, health, social services, and domestic services. Together, these sectors account for approximately 45% of working females, while about 48% of employed men are engaged in the agricultural, industrial, and construction sectors.

The rate of female entrepreneurship in Brazil is close to the regional average, with 15% of working-age women about to start or currently running a new business. This is also very close to the male rate of 16%. The share of female entrepreneurs operating single-person businesses in Brazil is higher than that of male entrepreneurs—71% versus 55%. This data, together, suggests that there is a willingness among women to start business but that there are barriers—actual or perceived—for the growth of

[11] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"

female-owned businesses.

Business training offered to women is often gender-biased, particularly in rural areas, where women often take courses on traditional roles, such as cooking and sewing. Female-owned businesses are concentrated in the micro and small end of the spectrum. They grow more slowly, use less labor and physical capital, and are focused in the commerce, services, and manufacturing sectors, which tend to be less profitable overall.

Differences in hours worked in paid work and domestic tasks are also present between men and women. In Brazil, women tend to spend an average of 22.7 hours a week on domestic work and men 5.5 hours. This division of labor not only reduces women's earnings by limiting the time they spend on paid activities, but it may also lead women to seek employment that has flexible or shorter hours. This work is more likely to be found in the informal sector or in low-growth entrepreneurship. Brazilian women also work for more hours than men, when both paid and domestic work are taken into account. To illustrate, women spend an average of 41.5 hours per week at work, compared to the 37.3 hours spent by men. The difference between sexes increases substantially when considering employed persons, where women work about 55.4 hours a week, or eight more hours than men.

2.5 Access to land and social resources

In Brazil, distortions in agrarian, forest and environmental policies, laws and regulations and their implementation have contributed to insecure property rights over both land and timber, leading to persistent violent conflicts over resources – all of which affect women and men in particular ways. Indigenous areas along with sustainable use reserves, smallholder colonization settlements, and quilombolas control rights to over 37% of lands in Brazilian Amazonia. These claims to "territories" imply far more than mere rights to land, often encompassing historical memory and identity, and implying the right to self-determination and self-governance of the common property using local practices that may follow a different logic from formal property institutions. In Brazil, "traditionally occupied lands" combine the use of commons (forests, water, fields and pastures) with titled properties and recognition of de facto rights related to specific extractive, agricultural, fishing, hunting, crafts and animal husbandry activities. Securing access to territory often is a precondition for survival as an ethic group, embedded in highly charged social mobilizations that unite all community members in a common struggle. In Brazil, where joint titling of both women and men became an option in the 1988 Constitution, female land ownership remains very low (12.6% in the mid-1990s) because cultural practices led to titling only male household heads, and the Land Reform Institute (INCRA) resisted joint titling because the forms they used for land registration did not have space for two names until 2001 reforms.[12]

Additionally, land tenure in the country is difficult to track and follow. There is no central database containing information on land ownerships and titles and there is no official land registry system. Rather, each location often has its own paper-based system. This situation then makes it equally

[12] Schmink M and García MAG. 2015. Under the canopy: Gender and forests in Amazonia. Occasional Paper 121. Bogor, Indonesia: CIFOR.

difficult to track and compile gender data and statistics on land ownerships.

Nevertheless, there has been efforts undertaken by the Government of Brazil to improve this situation. The Terra Legal Program which supports regularization of land titles for small holders in the "Legal Amazon" (including Maranhão and Tocantins) have included actions to empower the position of women through, for example, registration of the land titles in the name of both wife and husband (in that order). Another important program is the National Agrarian Reform Program (*Programa de Reforma Agrária*) which seeks to improve the distribution of land to meet the principles of social justice, sustainable rural development and increased production.[13] This land distribution program has improved the women's access to land titles by means of prioritizing the access for women who are head of household.

In terms of access to social services, the Government of Brazil has invested in partnerships with local authorities and in mobile units (54 buses and five boats) that provide specialized services to women living in rural and remote areas, including social, psychological, health, and legal advice. And while plans exist to extend these services, ensuring these services reach rural women remains a challenge. Specialized and nonspecialized services within the network are concentrated in urban areas. Even theoretically nationwide services, such as Dial 180,[14] do not reach all parts of the country. At the same time, the number of calls to Dial 180, which covers 70 percent of Brazilian cities, originated from rural areas, and quadrupled from 2013 to 2014.[15]

2.6 Agriculture

A less well studied sector in Brazil is the relation between gender and agriculture, particularly agribusiness. Some studies have concluded that although agribusiness is often seen as a generator of wealth and local development, it is also responsible for the social exclusion of women from participation in the labor market.[16]

According to the 2017 Farming Census (IBGE, 2018), Brazil has 5.7 million rural properties with a labor force of 15 million people. Most of them, 11 million, have some level of kinship with the farmer: men represents 65% of this labor force and women 35% .

In terms of race, 45% of the rural producers (farmers) are white, 52% blacks and pardos, 1% are Asiatic and 1% indigenous.

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[13] http://mds.gov.br/assuntos/cadastro-unico/o-que-e-e-para-que-serve/programa-nacional-de-reforma-agraria

[14] The hotline (dial 180) provides women with legal and services information. As of 2014, women could also use it to report cases of violence. Complaints filed through this service are forwarded to law-enforcement agencies and to state public prosecutors' offices

[15] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"

[16] See for example: Campos, Christiane Senhorinha Soares (2009). "Pobreza e exclusão feminina nos territórios do agronegócio – o caso de Cruz Alta/RS" PhD-thesis on: http://www.lume.ufrgs.br/handle/10183/21080 and ROSSINI, R. A modernidade tecnológica no campo exclui a mulher e acelera as masculinidades na agricultura, anais do XIII Encontro da Associação Brasileira de Estudos Populacionais, Ouro Preto/MG, novembro de 2002.

The 2017 National Farming Census 2017 (IBGE, 2018) is revealing a slight improvement of women protagonism in the agricultural sector: the number of women who are in charge (the manager) of the production in the farms has grown from 12,6% (2006 National Farming Census) to 18,6% (2017 National Farming Census); while men participation has decreased from 87,3% to 81,4%.

In terms of access to credit, according to the Brazilian Central Bank (Bacen), from Jul/2016 to Jun/2018, women have accessed 15% (R$ 33 billion) of the total amount of credit conceded by the rural credit system. Women have also signed 24% (851.534) of the total contracts of rural credit. In this context, it is reasonable to suppose that access is more likely for those who are the owners of the land and responsible for the business.

The country has also developed strategies for supporting credit access, mainly for the most vulnerable groups. The National Program on Family Agriculture (Programa Nacional de Fortalecimento da Agricultura Familiar) does offer a dedicated line of credit to rural women.

From 2013 to 2018, the PRONAF/WOMAN has destined around R$127 million for supporting women – rural producers, indigenous, quilombolas, extractivists and fisherwoman.

In practice, however, accessing it is quite difficult, because female applicants must submit a technical project for approval, which requires technical knowledge and thus imposes barriers particularly for less-educated women. Some women overcome this by relying on local cooperatives and/or other services to assist in proposal design, but it is clear that this agricultural credit does not generally reach the poorest or least-educated women in rural areas.[17]

2.7 Health[18]

In Brazil, maternal mortality rate fell from 120 per 100,000 live births in 1990 to 69 in 2013. 98% of births are currently attended by skilled personnel, compared to 88% in the mid-1990s.

However, it should be noted that the share of births by cesarean section in Brazil is high, at 57.7% of all births in 2012 [the World Health Organization (WHO) recommends a target of 15 %]. While it is not known why the rate is well above this WHO recommended target, it could be due to a combination of financial incentives for hospital administrators and medical staff and the preferences of pregnant women to schedule a birth in advance. As medically unnecessary cesarean procedures may pose risks to pregnant women, in 2015, the Ministry of Health and the National Agency on Supplementary Health launched an initiative aimed at reducing cesarean surgeries and encouraging vaginal deliveries. Obstetricians are now required to provide a written explanation for each cesarean delivery. Pregnant women are given leaflets with information on vaginal and cesarean deliveries, and health insurance companies are required to disclose obstetricians' shares of cesarean sections relative to total

[17] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"
[18] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"

deliveries.

Concerning pregnancy prevention, contraceptive use is as high as 80% among married women 15-49 years of age. Unmet need from family planning has fallen to 6%, well below the regional average of 11%. In regards to contraception use, there is significant variation in the type of use across income quintiles. Condom use gradually increases by socio-economic level, from 10.3% among the poorest to 16.4% in the highest quintile. Female sterilization, which is known as an invasive means of contraception, is most common among the poorest quintile (32.3%) and drops to 20.2% for the two highest quintiles. In contrast, the rate of male sterilization is only 1% among the poorest but 13.3% among the two wealthiest quintiles.

The prevalence of teenage motherhood has fallen slightly since 2001. To illustrate, in 2001, 13.6% of women 15-19 years of age reported having had a child. By 2014, the figure had dropped to 11%. Among those aged 15-17 in 2001, 7.3% reported having had a child, where in 2014 it had decreased to 6.2%.

3. Legal and Administrative Framework Protecting Women and Protecting Gender Equality

3.1 Key International Protocols and Frameworks Ratified by Brazil in Support of Gender Equality and Women's Empowerment and Human Rights

Brazil has ratified and/or signed many key international conventions, treaties and plans of actions on gender equality, women's empowerment and human rights. Critical among them are:[19]

- UN Declaration on Human Rights;
- International Covenant on Civil and Political Rights;
- The Convention on the Elimination of All Forms of Discrimination against Women, including its Optional Protocol[20];
- The Inter-American Convention to Prevent, Punish and Eradicate Violence against the Woman "Convention of Belém do Pará";
- International Covenant on Economic, Social and Cultural Rights;
- The Beijing Declaration and Platform for Action of 1995;
- The Declaration on the Rights of Indigenous People;
- The International Convention on the Elimination of All Forms of Racial Discrimination;
- The International Convention on the Rights of the Child;
- Convention on the Rights of Persons with Disabilities.

3.2 Key National Gender Equality and Women's Empowerment Frameworks, Policies and Laws

3.2.1 National Constitution and laws

Feminist and women's movements have successfully advocated for the inclusion of gender equality

[19] https://www.ohchr.org/en/professionalinterest/pages/cerd.aspx
[20] The Optional Protocol allows parties to recognize the authority of the CEDAW Committee to consider complaints from individuals

principles in the 1988 Constitution, as well as for legal changes aimed at enforcing such principles.[21] In addition to this, Article 3 of Brazil's Constitution states that the fundamental objectives of the Federation Republic of Brazil are to 1) build a free, just and solidarity society; 2) guarantee national development; 3) eradicate poverty and marginal living conditions and to reduce social and regional inequalities; and 4) promote the well-being of all, without prejudice as to origin, race, sex, color, age, and any other forms of discrimination.

Additionally, Article 1 of Brazil's Labour Laws states that it is prohibited to adopt discriminatory practices and for the purpose of limiting access to the employment relationship, or its maintenance by reason of sex, origin, race, color, marital status, family status or age, except in this case the chances of child protection provided for in paragraph XXXIII art. 7 of the Federal Constitution.

The "Feminicide/Femicide" law, signed by ex-President Dilma Rousseff on 9 March 2015, is new legislation under Brazil's Penal Code that imposes harsher penalties for those who harm or kill women or girls on account of their gender.

Law 13,112/2015, sanctioned by ex-President Dilma Rousseff in March 2015, legally equates mothers and fathers on the obligation to register the newborn and allows mothers to seek registration of birth of their children at register offices without the presence of the father and Law 13,109, also sanctioned in March 2015, provides six months maternity leave for women in the military armed forces.

3.2.2 National Policies, Plans and Programs

Four National Conferences (in 2004, 2007, 2011 and 2016) on Policies for Women (*Conferência Nacional de Políticas para as Mulheres*) have taken place under the direction of National Secretariat for Women's Policies (SPM), with the participation of women in various levels of government and civil society. The first three conferences each led to a National Plan of Policies for Women (*Plano Nacional de Políticas para as Mulheres*). The latest National Plan of Policies for Women was for the period from 2013-2015. Prior to the conferences, consultation rounds were held at municipal and regional levels, with the purpose of crafting or strengthening plans of policies for women and institutionalizing gender-related policies. Thereafter, state conferences were convened in order to elect delegates for the conference and, in some cases, draft State Plans of Policies for Women. (Currently, twelve states have adopted their own state plans of policies for women).[22, 23]

Decree No. 6,040, of February 7, 2007, established the National Policy for the Sustainable Development of Traditional Peoples and Communities. The goal of this policy is to strengthen programs and actions aimed at enhancing gender relations in traditional peoples and communities and women's contributions and participation in government initiatives, while also valuing the historical importance

[21] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"
[22] The states with Plans of Policies for Women are: Amazonas, Amapá, Bahia, Goiás, Minas Gerais, Mato Grosso do Sul, Pará, Paraíba, Pernambuco, Rio Grande do Norte, and Sergipe e Tocantins
[23] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"

of women and their ethical and social leadership.

The "Maria da Penha Law" (also known as Brazil's Federal Law 11340) has the objective of reducing domestic violence against women. The law expedites court orders and domestic violence cases, as well as imposes harsher sentences for perpetrators. In 2015, women were afforded greater protection when the "Lei do Feminicidio," was adopted, which distinguished regular homicides from homicides specifically targeting women by adding it to the Brazilian Penal Code and imposing higher penalties for perpetrators, ranging anywhere from twelve to thirty years. While this is a federal law, its implementation is delegated to the states and municipalities, with no built-in federal enforcement mechanisms or conditionality. While the law has been internationally recognized as one of the most comprehensive legal instruments to address this problem, there are still several bottlenecks regarding its implementation, notably questions of jurisdiction and insufficient funding from states and municipalities. [24]

The National Plan of Action on Women, Peace and Safety of Brazil, with a duration of 2 years (2017-2018), was created to promote gender mainstreaming and empowerment of women within strategies for adopting an inclusive and sustainable perspective of peace and security. It is structured into four thematic pillars, with two strategic objectives that permeate all its content. These objectives are the following: 1) gender mainstreaming in all actions undertaken by the country in the context of international peace and security; and (2) the empowerment of women and girls as lasting peace. [25]

With the fifth edition of the Pro Gender and Racial Equity Program, the federal government has also taken steps to encourage public and private businesses to adopt measures promoting equal opportunities and treatment.

3.2.3 Additional frameworks and policies supporting gender equality and women's empowerment

There are also other national policies, laws and legislation frameworks that support gender equality and women's empowerment in Brazil. These include:

- National Policy for Comprehensive Attention to Women's Health
- National Program on Women's Health
- Laws 10,208/2003 and 11,324/2006 [focus on reducing the gap and ensure domestic workers greater (though not yet comprehensive) social protection and rights such as job stability for pregnant employees and a 30-day leave]
- National Pacts for Combating Violence Against Women I and II

3.3 Institutional Arrangements

In 2003, the Federal Government created the National Secretariat for Women's Policies (SPM). Originally a ministry, it later lost this ministerial status in September 2015 and was merged with the

[24] Ibid
[25] Government of Brazil (2017). "National Plan of Action on Women, Peace and Safety" Brazil, March 2017. Available at: http://www.itamaraty.gov.br/images/PlanoNacional-Mulheres-Paz-Seguranca.pdf

Ministry of Human Rights and Racial Equality and is now called the Ministério das Mulheres, da Igualdade Racial, da Juventude e dos Direitos Humanos (Ministry of Women, Racial Equality, Youth and Human Rights). This was done as part of a national ministerial reform to cut government spending. Women's groups and feminist organizations decried this action as a setback for gender equality in Brazil. SPM's mandate is to create enforce policies for gender equality, and led to the design and implementation of National Plans for Policies for Women.[26] The SPM also has an Ombudsman.

The National Council on Women's Rights (Conselho Nacional dos Direitos da Mulher – CNDM), created in 1985 under the Ministry of Justice, was placed under SPM in 2003. It includes representatives of other areas of government and civil society and is comprised of 16 members of various departments of the federal government and 21 elected civil society representatives. The Council formulates guidelines for the promotion of women's rights and enforces gender-related policies.[27]

Gender equality is also a relevant subject for the environmental sector. Since 2012, the Ministry of Environment has a Gender Committee, which is in charge of discussing and proposing actions to ensure gender equality in programs and policies, specifically those as they relate to Sustainable Development Goal 5 (SDG 5).

4. Gender Issues Around Forests and REDD+

In Brazil, the gender division of labor commonly associates men with timber and women with multi-use, small-scale, local, informal activities. Resource-based economies are predominantly controlled by men, including production and trade, while direct sales networks have opened opportunities for rural and urban women, despite economic risks. Men's and women's knowledge also differs according to these areas of expertise. For example, it can be the case that women list more NTFPs compared to men. Men in the Brazilian Amazon are also more likely to cite timber products among important forest products, whereas women cite a variety of species used for food, nutrition, medicines and other cultural uses. [28] Additionally, women, particularly those living in extractive reserves in Brazil, are the principal health care providers for their families. Women's accumulated knowledge of forests within the extractive reserves, the ecology, habitats, and specific location of phototherapeutics, is intimately connected with their family's health.[29] This organization of knowledge into complementary but distinct gender domains provides a valuable, collective adaptive resource for rural communities.

It can, conversely, also skew realities. To illustrate, in western Brazil, one study[30] found that over 64% of women had cut and collected rubber at some point and 78% had regularly collected latex usually tapped by men. Yet tapping rubber, nevertheless, continued to be viewed as a male occupation. These gender relations in Brazilian rubber tapper communities, paired with patriarchal values, the spatial

[26] Gukovas, R., Müller, M., Pereira, A.C., Reimão, M.E. (2016) "A Snapshot of Gender in Brazil Today: Institutions, Outcomes, and a Closer Look at Racial and Geographic Differences"
[27] Ibid
[28] Schmink M and García MAG. 2015. Under the canopy: Gender and forests in Amazonia. Occasional Paper 121. Bogor, Indonesia: CIFOR.
[29] Shanley, P., Da Silva, F.C., Macdonald, T. (2011). "Brazil's social movement, women and forests: a case study from the National Council of Rubber Tappers". International Forestry Review Vol.13(2), 2011
[30] Kainer K and Duryea M. 1992. Tapping women's knowledge: Plant resource use in extractive reserves, Acre, Brazil. Economic Botany 46(4):408–25.

division of labor, social isolation and the exclusion of women from community and public arenas have strongly influenced women's roles and livelihood strategies, and often limited their access to resource rights and decision making at household and community levels.

Cultural values within forest communities often influence the roles of women and men in Brazil as well. For example, patriarchal cultural values among some indigenous groups and among the general population in northeastern Brazil assume that men represent the family and the community in public arenas, leaving women without independent autonomous property rights and representation in decision making related to forest management.[31]

5. Gender integration within forest conservation efforts and REDD+ action in Brazil

5.1 Women's collective microenterprises in the Brazilian Amazon[32]

Over the past two decades, women in the Brazilian Amazon region have organized themselves into collective microenterprises to work with forest resources and support more sustainable land use practices. These efforts in turn have contributed to their economic empowerment within their households and communities. The goals of these enterprises have typically centered on improvements for women and their families, but they also aim to enhance women's self-confidence and social visibility, political awareness, and environmental knowledge. Unfortunately, little information is available about the diverse types of rural women's collective microenterprises, as many of them are informal.

These collective microenterprises, lacking support from public policies attuned to their particular characteristics and potential, often instead are supported through church-based or NGO groups. These efforts have resulted in many positive outcomes. For example, these enterprises have helped women to change family property management models through microenterprise training and activities. They have also increased economic gains for women, and added value to the NTFP they produce. Given that women have also contributed more to their family's income composition, they have gained more voice and power in the household as well as in decision making about natural resources use, especially in households with smaller land size, because they implemented profitable productive activities and expanded their management of the family property.

However, the prospect of scaling up support for these promising small-scale women-led initiatives presents challenges, given their continued "invisibility," their hybrid nature that encouraged informality, and their lack of experience in dealing with larger commercial markets. Public policies are also lacking in support women's collective microenterprises, as they do not provide women with flexibility in accessing technical assistance and credit lines appropriate to enable them to learn and

[31] Schmink M and García MAG. 2015. Under the canopy: Gender and forests in Amazonia. Occasional Paper 121. Bogor, Indonesia: CIFOR.
[32] Mello, D. Schmink, M. (2017) "Amazon entrepreneurs: Women's economic empowerment and the potential for more sustainable land use practices". Women's Studies International Forum 65 (2017) 28–36. Available at: https://www.sciencedirect.com/science/article/pii/S027753951530176X

grow at their own pace.

5.2 Social Movement of National Council of Extractivist Populations (CNS)[33]

The extractivist movement in Brazil, which started with the rubber tappers, began not as an environmental movement but a human rights movement, and has close ties with the agrarian reform movements. The rubber tappers movement then came to be allied with the environmental movement when international environmentalists adopted the purpose of the rubber tappers of defending their forests. Collaboration efforts between national and international environmental groups gave it unprecedented visibility and effectiveness throughout the 1980s until today. The council, first founded in 1985, works to advocate for the social and political empowerment of forest communities. In 1995, the council, realizing the need to better reflect women's views and needs, created the Secretariat of Women Extractivists.

Over the years, the Women's Secretariat of CNS has built on strengths of forest-reliant women by strategically mobilizing support across sectors and scales, working from the personal to the political while blurring the boundaries between lay and expert knowledge. Their efforts have helped to shift the paradigm in development, environment and health in Brazil. For example, the Secretariat worked closely with the Ministry of Health to amend health policies. They were also successful in modifying policy language away from an agriculture-centric nomenclature to new language which includes forest peoples. The name of this policy became the National Policy of Health for Rural and Forest Populations. This was a significant achievement in recognition of extractivist communities as well as calling for more equitable access to and provision of health services for forest-reliant people. Building on these efforts they also created a project entitled, *A Bagagem das Mulheres da Floresta* (Baggage of the Women of the Forest) signifying the knowledge that women possess and the tools and outside knowledge that the project brought to them (i.e. videos, books, workshops). Critical support from the Ministry of Health allowed them to broaden their workshops to reach every extractive reserve in Amazonia.

The Women's Secretariat of CNS helped to break down barriers in social movements around land use and forest management in Brazil as well. Once barred from entry into rural workers' unions and social and land reform movements, women are now commonly members of social movements linked with forests and land reform. Inequalities, nevertheless, persist. Women are secondary to men in institutional politics and as of yet, there are no women leaders of forest extractive reserves. Women living within reserves generally have little voice in land use and forest management decision and have little access to formal education or public health care.

5.3 Nationally-led programmes in rural and forest areas

5.3.1 Floresta+ Pilot Program

As highlighted in the proposal, the results-based payments that would be received by Brazil through

[33] Shanley, P., Da Silva, F.C., Macdonald, T. (2011). "Brazil's social movement, women and forests: a case study from the National Council of Rubber Tappers". International Forestry Review Vol.13(2), 2011

the proposed project will contribute to the implementation of Brazil's forest sector actions, one of which is the Floresta+ Pilot Program. It is a new and innovative pilot program that aims to provide incentives for environmental services (IES) in the Legal Amazon region, in accordance with Brazil's Forest Code, the ENREDD+ and Brazil's Nationally Determined Contributions (NDC) (for more details on this Program, please consult Section C.2.1 of the Proposal). The target beneficiaries for the Floresta+ Pilot Program are the following:

- small farmers, according to art. 3º, V, of the Forest Code (Law nº 12.651/2012), up to 4 fiscal modules;
- indigenous peoples;
- traditional peoples and communities according to I, do art. 3º, of decree nº 6.040/2007 (that use their territory collectively); and
- public institutions or agencies (including States), civil associations, cooperatives and private law foundations that act in topics related to conservation and recovery of native vegetation.

The amount of payment per hectare will be defined in norms to be published by the Floresta+ Program Management Committee. Direct payments will be calculated based on the area of native vegetation remnants and environmental liabilities to be recovered, in hectares, according to the data in the National Rural Environmental Registry System (SICAR), which is the system responsible for issuing the Registration Receipt of the rural property in the Rural Environmental Registry (CAR). The CAR is a national electronic public registry, mandatory for all rural properties, with the purpose of integrating the environmental information of rural properties and possessions and forming a database for control, monitoring, environmental and economic planning and deforestation. It is also important to highlight that proof of ownership of land is not necessary to register environmental information on a property in CAR. It is not a land registry system, rather a self-declaratory environmental registry.

Given this, while the CAR provides critical geographical and biophysical information on the properties, it does not display publicly who the property owner is or give any information about the owner (male/female, age, etc.). Rather, CAR assigns a code to each property, which public officials can then use to liaise with other government ministries/departments in order to obtain any specific information about a property owner. This format and design of CAR makes it very difficult and complicated to assess information pertaining to the sex of property owners (in those instances where the land is individually held). Given this, the ability for Floresta+ to integrate a gender perspective also becomes more difficult, as additional steps will need to be taken, for example, to collect sex-disaggregated data, when quotas are established to ensure Floresta+ provides incentives equitably among women and men property owners. The recommendations below look to mitigate and address some of these limitations (see Gender Action Plan below for more information).

One key entry point for gender-responsive action will be ensuring that the consultations on criteria and priority areas for Floresta+, which are taken with relevant stakeholders, fully integrate a gender approach in their design and implementation. This will help to ensure that women from different stakeholder groups can actively and equitably participate and that their interests, concerns and perspectives are taken into account.

5.3.2 Bolsa Família and Bolsa Verde

In the recent decades, some fundamental programs focused on mainstreaming gender took place in the country, among them the social welfare program known as Bolsa Família, which has defined women as preferred beneficiaries. Bolsa Familia has contributed to keep millions of Brazilian women (who account for almost 90% of all the beneficiaries[34]) and their families out of poverty. Bolsa Família has shown positive impact on forest dependent communities.

Another important programme from the Federal Government in forest areas is the Bolsa Verde, which provides conditional cash transfers in return for the maintenance of forest cover. Bolsa Verde shares targeting and cash transfer channels with Bolsa Família. Launched in 2011, the programme aims to promote conservation of the ecosystems while also improving the livelihoods of people living in extreme poverty – the condition of nearly 17% of the population in the Amazon region. The traditional people and communities of the babassu coconut breakers (largely constituted by women), is an important group that benefited from this initiative.

5.4 REDD+ Design

5.4.1 National REDD+ Strategy

In 2015, Brazil launched its National Strategy for REDD+ (ENREDD+)[35] with the objective to scale up the implementation of policies to reduce deforestation and forest degradation from the Amazon and Cerrado biomes to the national level. ENREDD+'s overall objective to contribute to climate change mitigation by eliminating illegal deforestation, promote conservation and restoration of forest ecosystems and foster a low-carbon and sustainable forest economy, while delivering environmental, social and economic benefits. It notes that these actions will be achieved through three specific objectives: (i) improving the monitoring and impact assessment of public policies for REDD+; (ii) integrating governance structures for climate change, forests and biodiversity in all levels; (iii) contributing to the mobilization of resources at the scale compatible with Brazil's commitments to mitigate climate change in accordance with Brazil's NAMAs by 2020.

The ENREDD+ discusses social and economic aspects, and mentions gender aspects, and identifies women as a group to be engaged with and who will benefit from REDD+ action in the country. However, it does not incorporate principles of gender equality or women's empowerment within its objectives, governance arrangements or action lines. Thus, in order to ensure that Brazil's efforts on REDD+ do no harm to more marginalized groups, such as women, youth and the elderly, and actively promotes their meaningful involvement in such efforts, Brazil will need to take proactive and explicit measures to ensure a gender perspective is fully integrated into the revised ENREDD+ and REDD+ implementation.

[34] For more information see: http://www.worldbank.org/en/news/opinion/2013/11/04/bolsa-familia-Brazil-quiet-revolution, last accessed on August 3rd, 2018.
[35] http://redd.mma.gov.br/images/publicacoes/enredd_english_web.pdf

5.4.2 REDD+ Safeguards

The application of the UNFCCC REDD+ safeguards requires adapting them to the reality of each country, taking into account national and regional context, and aligning them with existing policies and national REDD+ actions. Given this, Brazil's National REDD+ Committee (CONAREDDD+) commissioned the REDD+ Thematic Advisory Board on Safeguards (CCT-Salv) to adapt the seven UNFCCC REDD+ safeguards to the Brazilian reality, in order support the effective implementation of REDD + actions in the country. Within this national interpretation of the REDD+ safeguards[36], the following gender considerations were incorporated:

- *Safeguard (b) - Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation:* Governance bodies of ENREDD+ and polices or bodies receiving REDD+ resources will be guided by principles of representativeness, participation, commitment, accountability, transparency, effectiveness and integrity. These instances of partnership should be balanced in composition, encompassing the representation of indigenous peoples, traditional peoples and communities, traditional and family agriculture, and the private sector, taking into account gender and generational representation.
- *Safeguard (c) - Respect for the knowledge and rights of indigenous peoples and members of local communities, taking into account relevant international obligations, national circumstances and laws and noting that the UN General Assembly adopted in the United Nations Declaration on the Rights of Peoples Indigenous people*: The rights of indigenous peoples, traditional peoples and communities, and traditional and family farmers should be based on non-discrimination, where these groups should enjoy the same rights as other citizens, especially as regards human rights and fundamental freedoms, without discrimination, including gender equity.
- *Safeguard (d) - Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of this decision*: Full and effective participation of stakeholders should be achieved through transparent governance structures and instruments that ensure stakeholder representation and engagement, while safeguarding sociocultural diversity and gender equity.

While gender considerations are integrated into the national REDD+ safeguards, it is done so to a limited degree, with a focus on ensuring gender equity. For example, they do not provide information on whether and how the safeguards will ensure the meaningful and active participation of marginalized groups, such as youth and women, in REDD+ implementation. There is also a lack of information on how such groups will equitably benefit from such national efforts on REDD+. Thus, in REDD+ implementation and in the use of proceeds for this project, additional efforts will need to be undertaken to ensure gender is sufficiently mainstreamed within national efforts to address and respect the UNFCCC REDD+ safeguards, to ensure all groups, including those who are more marginalized in Brazilian society, such as youth and women, will be meaningfully involved and can equitably benefit from such actions.

[36] http://redd.mma.gov.br/images/conaredd/SEI_MMA---0160864---Resoluo-9.pdf

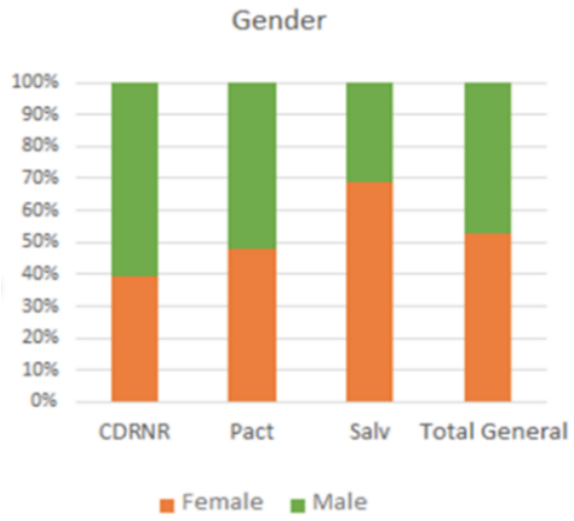
To note, and as illustrated above, gender equitable participation is an important consideration for REDD+ planning within Brazil. This has been reflected in various CONAREDD+ working groups, including its CCTs. To illustrate, as of 11 July 2016, 67% of the members of CCT-Salv, the Thematic Advisory Board on Safeguards, are women. Additionally, the development of indicators for Brazil's REDD+ Safeguards Information System (SISREDD+) is currently underway, with four workshops having already taken place. These workshops are representative of various societal sectors/groups. Of the 158 representatives thus far, 80 have been female and 78 have been male.

5.5 REDD+ Implementation

5.5.1 REDD+ Governance

While there are gender gaps in its REDD+ design efforts, Brazil has taken steps in REDD+ implementation to ensure equitable representation of women, including within its governance for REDD+. Most of the representatives from the Ministries, states and civil society in CONAREDD+ are female. To illustrate, CNS has one seat in CONAREDD+ and they have appointed a woman to represent them in it. Also, CONAREDD+ has gender balance as one of the selection criteria for the representatives within the CCTs. As a result, as indicated in Figure 1, more than 50% of the representatives in the CCTs are female. Some CCTs, including the one dealing with safeguards, have a majority of women.

Figure 1. Sex-disaggregated data of CCT participants



CDRNR = Thematic Advisory Board on Fundraising and Distribution of Non Reimbursable Resources; Pact = Thematic Advisory Board on Federal Relations; Salv = Thematic Advisory Board on Safeguards

5.5.2 Early REDD+ implementation

There have efforts undertaken by the international community to assess REDD+ implementation impacts on women, both in terms of their roles in REDD+ implementation, as well as any changes of their well-being. The results of these studies can help shed light on existing gender gaps in REDD+

implementation, inform Brazil's efforts in how it integrates a gender perspective in its REDD+ efforts moving forward, including in its use of REDD+ proceeds, as well as demonstrate areas in which good practices and lessons learned can be drawn upon.

Within the study "The role of women in early REDD+ implementation: lessons for future engagement", led by CIFOR in 2016[37], an assessment was undertaken to analysis women's role in REDD+ initiatives in four countries (one of which being Brazil), as well as assess corresponding implications for implementation and future outcomes. The results from this assessment are not meant to be representative of all REDD+ sites. To note, the choice of study sites was not random and the sites for the REDD+ initiatives were chosen based on proponents' interest in an outside evaluation and their prior identification of specific villages for REDD+ interventions. The following four sites where evaluated in Brazil (from the period from 2009 to 2011):

- Acre State System of Incentives for Environmental Services
- Northwest Mato Grosso Pilot REDD+ Project
- Sustainable settlements in the Amazon: the challenge of family production in a low carbon economy
- The sustainable Landscape Pilot Program in Säo Félix do Xingu

In the Brazil sites, results from the survey found that women's focus groups demonstrated a basic understanding of REDD+ in all the villages where the village focus groups demonstrated understanding. However, in Acre, Brazil, although all villages had at least one woman in the main decision making body, a majority of the women disagreed to at least one of the statements that they were sufficiently represented, able to influence and participate actively in meetings. Additionally, in the Brazil sites, women did not perceive that they influenced village decisions, did not participate in forest decisions and used the forest less relative to men. They were also very dissatisfied with their level of participation in decision-making bodies. At the household level, the majority of women believed that they did not influence household decisions on land and forest use.

This study concluded that promoting women's participation in REDD+ alone is insufficient. This is not only due cultural norms, discrimination and lack of experience, confidence and skills and power relations that may limit women's voice in the public sphere, but also because of the limited analysis and understanding of gendered forest uses and community and household relations that may be affected by interventions. While women's active participation is key, gender-responsive analyses are also needed to understand real and perceived gender differences and anticipate risks.[38]

In another study on "Gender lessons for climate initiatives: A comparative study of REDD+ impacts on subjective wellbeing"[39], subnational REDD+ initiatives in six countries (one of which was Brazil) were

[37] Larson, A.M., Dokken, T., Duchelle, A.E., Atmadja, S., Resosudarmo, I.A.P., Cronkleton, P., Cromberg, M., Sunderlin, W., Awono, A., and Selaya, G. (2015). "The role of women in early REDD+ implementation: lessons for future engagement". Center for International Forestry Research. International Forestry Review Vol.17(1), 2015

[38] Ibid

[39] Larson, A.M., Solis, D., Duchelle, A.E., Atmadja, S., Resosudarmo, I.A.P., Dokken, T., and Komalasari, M. (2018). "Gender lessons for climate initiatives: A comparative study of REDD+ impacts on subjective wellbeing". World Development Volume 108, August 2018, Pages 86-102

analyzed to assess the gendered impact of the initiatives on women's perceived wellbeing. The results show net negative movement in Brazil, wherein more women in REDD+ villages perceived that their wellbeing decreased and were worse off than those in non-REDD+ villages. In cases were women in the villages were undecided on whether the effects of conditional livelihood enhancements were positive or negative, the reasons given were primarily due to perceptions that the expected benefits may not materialize, was not or will not be distributed fairly, or that the payment value was low. Concern over REDD+ interventions related to those that restricted forest access and conversion. In the case of Brazil, some women in villages viewed such environmental policing as detrimental to their livelihoods. In cases where women in villages saw REDD+ as having a positive impact on their well-being, the reasoning focused on environmental and health benefits of less deforestation and burning. This study concluded that perceived wellbeing decreased in REDD+ villages both for villagers as a whole and for women, relative to control villages, but the decrease was much worse for women – a decrease that is significantly associated with living in a REDD+ village.[40]

These analyses reveal, moving forward, the need for REDD+ efforts in Brazil to fully mainstream gender into design, monitoring and evaluation. These efforts need to more comprehensively explore the ways in which men and women interact and differ with regard to REDD+ implementation in their respective sites, and incorporate such dimensions into national efforts on REDD+. To avoid perpetuating gender inequalities and worsening the situation of women, REDD+ action in Brazil needs to focus on empowering women, increasing their control over assets and safeguarding their rights.

6. Recommendations

This preliminary gender analysis acts as an entry point for gender mainstreaming throughout design and implementation of the proposed project. The results and findings of the gender analysis has also informed and guided the development of a Gender Action Plan (please see Section 7 below).

This gender analysis, conducted through desk review, resulted in the following actions:

- Identification of gender gaps and inequalities within Brazil's land tenure system and incentives for environmental services;
- Identification of gender inequalities and challenges and risks faced by women and other marginalized groups in Brazil around thematic areas of relevance to REDD+ action, such decision-making processes, labor force participation, forest use, land tenure, safeguards, etc.;
- Identification of gaps, entry points and opportunities for mainstreaming gender in the proposed project, and in the implementation of REDD+ action and safeguards more broadly;
- Development of the gender approach used within this proposal to effectively integrate gender and women's and youth empowerment considerations within the social, economic, political and local context within the country;
- Identification of sectors and thematic area of particular relevance in REDD+ in which gender-responsive actions can catalyze transformational positive change for marginalized groups,

[40] Ibid

such as women and youth;

- Demonstration of the need to develop a gender-responsive environmental and social impact assessment (ESIA), which also focuses on the collection of additional baseline data on gender (e.g. on land tenure, women's involvement in decision-making at local/community levels, etc.)
- Demonstration of the need to ensure the stakeholder consultations and engagement efforts for the ESIA are designed and undertaken using a gender approach and equitably include representatives from more marginalized groups, including women, youth, single-family households.
- Establishment of recommendations to incorporate into the preliminary Gender Action Plan.

Key entry points and recommendations for gender action within programme design and implementation are listed below. To note, these recommendations are based on preliminary findings of this assessment (based solely on a desk review). Thus, the findings and recommendations of this gender assessment, including the gender-responsive actions, indicators, etc., noted in the Gender Action Plan in Section 7 below, will need to be re-assessed and revised as necessary during the ESIA process, as well as will need to be consulted with and validated by state and non-state stakeholders, including those more marginalized, such as women, youth, indigenous, people, etc.

- Undertake measures within work on Floresta+ (e.g. establishment of quotas, capacity building, etc.) to address identified gender gaps and inequalities within Brazil's land tenure system and incentives for environmental services.
- Develop a gender-responsive ESIA which also focuses on the collection of additional baseline data on gender (e.g. on land tenure, women's involvement in decision-making at local/community levels, etc.).
- In partnership with MMA, work with the applicable government agencies to identify gender gaps in data within CAR (both individual and collective) and address these gaps to the best extent possible to help ensure that women can actively participate in and receive equitable benefits under Floresta+.
- Ensure governance arrangements with Floresta+ (e.g. Program Management Committee) and ENREDD+ (e.g. CONAREDD+) are gender equitable in their memberships. In cases where there are seats for civil society groups, ensure women and youth are represented.
- Take affirmative measures to solicit and incorporate the perspectives of women in the design, implementation, monitoring, and evaluation of the proposed outputs of this proposed project.
- Hire a gender specialist within the project to support the mainstreaming of gender throughout the design and implementation of the outputs of the project, as well as any associated gender action plans and mitigation measures that are developed during the safeguards work and social and environmental assessments, etc.
- In stakeholder engagements activities, ensure a gender approach is fully integrated into their design and implementation so that women and men across different stakeholder groups can actively and equitably participate and that their interests, concerns and perspectives are taken into account.
- Build capacity of women and youth from local and indigenous communities on REDD+ and provide them with adequate resources (e.g. financing, know-how, etc.) to actively participate

and benefit from the activities of the proposed project.

- Carry out training and capacity building among MMA and REDD+ staff, stakeholders and partners on matters of gender equality, the contributions of women to REDD+, and the specific harms faced by women in the context of ecosystem destruction and conversion.
- Given its responsibility to promote the integration of gender equality principles within MMA programs and policies, train and build capacity of the MMA's Gender Committee on Floresta+ and ENREDD+ so that their guidance can be context specific and they can be used as a resource to help mainstream gender into REDD+ action.
- Require and develop capacities to collect and report on accurate disaggregated data around all REDD+ activities with respect to male and female participation, benefit sharing, positive and negative impacts, then share it across government institutions, and make such data publicly accessible.
- Devote and allocate adequate funds, resources and expertise for implementing gender-related strategies, monitoring the results of implementation, and holding individuals and institutions accountable for outcomes that promote gender equality.
- During project implementation conduct qualitative assessments on the gender-specific benefits that can be directly associated to the project.

Addressing the gender dimensions and gaps identified within this preliminary assessment and implementing the corresponding recommendations noted above and gender-responsive actions noted below in the Gender Action Plan, within project design and implementation, will help to promote the project provides gender-responsive results.

7. Preliminary Gender Action Plan

Data presented above provides context and an overall baseline assessment on the gender dynamics, inequalities and state-of-play within Brazil, its forest sector and in its efforts on REDD+ action to date. This analysis identified the differences between men and women and has helped to identify gaps and provide a baseline for comparison.

Addressing the gender gaps noted above, this preliminary Gender Action Plan provides suggested entry points for gender-responsive actions to be taken under the applicable activities of the proposed project. In addition, specific indicators are also proposed to measure and track progress on these actions at the activity level. This can be incorporated into the detailed M&E plan which will be developed at the start of implementation, and provides concrete recommendations on how to ensure gender (including disaggregated data) continues to be collected and measured throughout implementation.

The gender budget assigned to each of the outputs below reflects the portion of the output and corresponding budget, which either has gender equality as a significant objective or has gender equality as a principal objective within it. So, for example, for Output 1, the overall budget is XX USD. However, the portion of the activities and corresponding budget for Output 1, which either has gender equality as a significant objective or has gender equality as a principal objective, is XX USD. Thus, it is this amount which is reflected in the budget column within the Gender Action Plan below.

To note, as additional gender data collection in the field still needs to be undertaken in the forest sector and around REDD+ issues within the country, detailed gender baseline data, as they pertain to the project activities, in many cases are not yet known. In these instances, baseline information for the activities within the Gender Action Plan are currently marked with a ‘0’, to illustrate that such information is not yet available. Such information will be collected during the process of developing the gender-responsive ESIA, wherein the generation of gender-responsive baseline data for the proposed programme will be undertaken. Thereafter, the Gender Action Plan below will be revised as necessary and gender baseline information will be provided.

Gender Action Plan [41]

Objective	Gender-responsive actions	Gender indicators	Responsible Institutions/ Individuals
Output 1: Floresta+ Pilot Program	- In any outreach activities on Floresta+ Pilot Program, ensure equitable participation of women and men, including from single-headed households - Under modalities 1 and 2 of the Floresta+ Pilot Program: • Ensure that at least 30% of the landowners and/or land users, rewarded are women, where the prioritized areas allow it.	Baseline: 0 Indicator: % and # of participants of outreach activities and consultations/workshops related to this output who are women and are heads of single-headed households (disaggregated by sex) Target: 40% of participants of outreach activities and consultations/workshops related to this output are women and at least 10% are from single-headed households (disaggregated by sex) Baseline: 0 Indicator: % and # of women and single headed household participants involved in consultations/workshops for this output who felt they 1) understood the content being discussed; 2) could actively participate and 3) had their perspectives taken into account Target: 90% of women and single headed household participants felt the consultations/workshops for this output at least 'adequately' met and/or achieved these parameters Baseline: 0	MMA, UNDP

[41] Budget to implement the gender-responsive actions will be finalized based on final budget envelope for the programme which will be provided by the Secretariat to the Board of a proposed results-based payments based on the results of the application of the scorecard by the Secretariat and independent TAP as set out in GCF/B.18/23 Page 94 .

	• Ensure at least 10% of the landowners and land users rewarded are women from single-headed households or • women who are managers of rural activities. - Under modality 3 of the Floresta+ Pilot Program: • Organize all awareness raising workshops on Floresta+ Pilot Program with associations and representative entities of indigenous and traditional peoples and communities to ensure women's and youth's active and equitable involvement • Build capacity of women and men (both married and unmarried) within indigenous and traditional communities receiving rewards from Floresta+	Indicator: % of outreach activities and consultations/workshops associated with this output which are designed to account for women's and single-headed household constraints (e.g. location, timing, women's only groups, etc.) Target: 100% of outreach activities and consultations/workshops associated with this output are designed to account for women's and youth constraints Baseline: 0 Indicator: % and # of landowners and/or land users under Floresta+ Pilot Program rewarded who are women Target: 40% of landowners and/or land users under Floresta+ Pilot Program rewarded are women Baseline: 0 Indicator: % and # of landowners and/or land users under Floresta+ Pilot Program rewarded who are women from single-headed households Target: 10% of landowners and/or land users under Floresta+ Pilot Program rewarded are women from single-headed households Baseline: 0 Indicator: Evidence that staff responsible for the monitoring system for the Floresta+ pilot program attended a gender workshop in order to have their capacity on gender and monitoring systems built Target: All staff responsible for the monitoring system attended the workshop on gender Baseline: 0 Indicator: Evidence that the monitoring system for the Floresta+ pilot program 1) disaggregates data on modality 1 and 2 by sex and household type (e.g. single, etc.) and 2) consulted equitably with women and men in communities in its data collection methodology	

	on the benefits of having both women and men involved in decision-making on use of rewards.[42] - In systems developed to monitor distribution of rewards under Floresta+ pilot program: • Undertake a workshop to build capacity of staff responsible for monitoring system on how a gender perspective can be incorporated into their work • Integrate a gender perspective into monitoring system to ensure information collected is disaggregated by sex and household type	Target: Both of these elements noted above present in the monitoring system for the Floresta+ pilot program and corresponding data for them successfully collected Baseline: 0 Indicator: Evidence that the monitoring system for the Floresta+ pilot program measures women's 1) involvement in decision-making on use of rewards; and 2) satisfaction in how household and community used rewards (as applicable per modality used) Target: Both of these elements noted above present in the monitoring system for the Floresta+ pilot program and corresponding data for them successfully collected Baseline: 0 Indicator: # and % of women who are involved in the governance structure for Floresta+ pilot program Target: 40% of those involved in the governance structure for Floresta+ pilot program are women Baseline: 0 Indicator: # and % of representatives within the governance structure of Floresta+ pilot program who are from a women's organization Target: 1 representative from a women's organization actively participants within governance structure for Floresta+ pilot program Baseline: 0	

[42] It will be critical to directly support the women organizations. Those like UMIAB, Babassu Coconut Breakers and other regional organizations of women or supportive of women (COIAB, the most important indigenous organization from Amazon, created in 1989, which represents 160 peoples, 75 organizations, has now a woman as its General Coordinater . Those organizations lack technical skills and financial support. The project could address these issues: 1) identification of those organizations; 2) evaluation of their needs; 3) designing and implementation of a program.

	• Measure women's 1) involvement in decision-making on use of rewards; and 2) satisfaction in how household and community used rewards (as applicable per modality used) - In any governance structure for the Floresta+ pilot program 1) gender equitable participation of women and men; 2) representatives of marginalized groups, such women, indigenous people, etc. - Equitably build capacity of women and men participating in the Floresta+ pilot program on the stipulations of the contracts including their stipulations (undertaken before they sign the contracts)	Indicator: % of women and men beneficiaries (both married and unmarried) trained on the stipulations of the Floresta+ pilot program contracts (disaggregated by sex, marital status and household type) Target: 100% of women and men beneficiaries trained on the stipulations of the Floresta+ pilot program contracts before contract is signed	

Output 2: The implementation of Brazil's ENREDD+	**NFMS** - In the expansion of the NFMS, when undertaking local monitoring and validation, equitably and meaningfully consult with and involve women, men and youth from communities **REDD+ Policies Monitoring & Revision** - Mainstream gender into the tool developed to monitor and measure the impacts of REDD+ policies and investments -Integrate a gender perspective throughout the revised national REDD+ Strategy **SISREDD+** - Equitably include women and female youth as key non-state information holders for the SIS - Assess women's and youth's capacity on safeguards themes, and	**NFMS** Baseline: 0 Indicator: % and # of women and female youth involved in monitoring activities (disaggregated by stakeholder group) Target: 40% of community participants of involved in monitoring activities are women or female youth Baseline: 0 Indicator: % of consultations and workshops associated with this activity which are designed to account for women's constraints (e.g. location, timing, women's only groups, etc.) Target: 100% of consultations and workshops associated with this activity are designed to account for women's and youth constraints Baseline: 0 Indicator: % and # of women from communities involved in the monitoring efforts who felt they 1) could actively participate, 2) understood the activities being undertaken and 3) had their perspectives taken into account Target: 90% of women participants involved in the monitoring efforts felt this activity at least 'adequately' met and/or achieved these parameters **REDD+ Policies Monitoring & Revision** Baseline: 0 Indicator: Evidence that gender was mainstreamed into the 1) tool developed to monitor and measure the impacts of REDD-plus policies and investments; and 2) revised National REDD+ Strategy Target: Gender mainstreamed into the 1) tool developed to monitor and measure the impacts of REDD-plus policies and investments; and 2) revised national REDD+ Strategy **SISREDD+**	MMA, UNDP

	conduct any necessary capacity building to facilitate their meaningful involvement and inform their decision-making under this activity - As more marginalized groups (e.g. women, youth, etc.) can face increased barriers (e.g. safety, trust, etc.) in engagement within information sharing channels, ensure such processes are gender responsive, participatory and encourage active engagement from information holders. **Stakeholder Participation and Capacity Building** - Equitably include women and female youth within consultations and validation processes with this output - Ensure women represent an equitable number of positions and/or seats	Baseline: 0 Indicator: # and % of information holders for the SIS who are women and female youth (disaggregated by stakeholder group) Target: At least 40% of information holders for the SIS are women and female youth (disaggregated by stakeholder group) Baseline: 0 Indicator: % and # of women and female youth consulted on the SIS under this output who felt they 1) understood the content being discussed; 2) could actively participate and 3) had their perspectives taken into account Target: 90% of women and women and female youth consulted on the SIS under this output at least 'adequately' met and/or achieved these parameters Baseline: 0 Indicator: Evidence that feedback from women and youth (including from associated organizations that represent them) was integrated into SIS Target: 80% of feedback from women and youth (including from associated organizations that represent them) integrated into SIS Baseline: 0 Indicator: % of outreach activities and consultations/workshops associated with this output which are designed to account for women's and single-headed household constraints (e.g. location, timing, women's only groups, etc.) Target: 100% of outreach activities and consultations/workshops associated with this output are designed to account for women's and youth constraints **Stakeholder Participation and Capacity Building** Baseline: For gender make-up within REDD+ thematic advisory groups, see Figure 1 above Indicator: % and # of women 1) involved in consultations, workshops, and/or validations associated with this output (disaggregated by stakeholder group); and 2)	

	within CONAREDD+ and its Consultative Chambers -Ensure capacities of women and men stakeholders (both state and non-state) are equitably built on REDD+ - Design all consultations and training associated with this activity to encourage women's active involvement - Address any knowledge gaps and particular needs of women and youth in advance of consultations for this activity to enable the active participation of these groups	who occupy positions and/or seats within CONAREDD+ and its Consultative Chambers Target: 40% of people who are 1) involved in consultations, workshops, and/or validations associated with this output are women; and 2) occupy positions and/or seats within CONAREDD+ and its Consultative Chambers are women Baseline: 0 Indicator: % of consultations, workshops, and/or validations associated with this output which are designed to account for women's and single-headed household constraints (e.g. location, timing, women's only groups, etc.) Target: 100% of consultations, workshops, and/or validations associated with this output are designed to account for women's and youth constraints Baseline: 0 Indicator: % and # of women participants involved in capacity building and consultations for this output who felt they 1) could actively participate, 2) understood the content being discussed and 3) had their perspectives taken into account Target: 90% of women participants felt the consultations and capacity building for this output at least 'adequately' met and/or achieved these parameters	
Output 3: Program management	- Train and build capacity of MMA staff and REDD+ staff, stakeholders and partners on the 'why' and 'how to' integrate a gender perspective within REDD+ Implementation - Hire a gender expert to support the mainstreaming	Baseline: 0 Indicator: # of MMA and REDD+ staff and stakeholders who have had their capacity built/awareness raised on gender and REDD+ (disaggregated by sex and stakeholder group) Target: 60% of MMA and REDD+ staff and stakeholders have their capacity built/awareness raised on gender and REDD+ Baseline: 0 Indicator: Evidence of changes in perception/understanding of gender among MMA and REDD+ staff and stakeholders	MMA, UNDP, MMA's Gender Committee

	of gender within this proposed project - Train and build capacity of MMA's Gender Committee on REDD+ concepts as necessary, so that their guidance can be context specific and they can be used as resource to help gender integration into REDD+	Target: at least 80% of MMA and REDD+ staff and stakeholders trained demonstrate changes in perception/ understanding of gender (e.g. through use of pre and post workshop surveys, etc.) Baseline: There is no existing gender expert supporting the mainstreaming of gender in REDD+ efforts in Brazil Indicator: Evidence that a gender expert is supporting the mainstreaming of gender in REDD+ efforts in Brazil for the lifespan of the project Target: A gender expert is hired to support the mainstreaming of gender in REDD+ efforts in Brazil for the lifespan of the project Baseline: 0 Indicator: % and # of members of MMA's Gender Committee who have had their capacity built/awareness raised on gender and environment, including REDD+ (disaggregated by sex) Target: 80% of members of MMA's Gender Committee have their capacity built/awareness raised on REDD+	