

Funding Proposal

FP173: The Amazon Bioeconomy Fund: Unlocking private capital by valuing bioeconomy products and services with climate mitigation and adaptation results in the Amazon

Multiple Countries | Inter-American Development Bank (IDB) | Decision B.30/03

23 November 2021



**GREEN
CLIMATE
FUND**

Contents

Section A	PROJECT / PROGRAMME SUMMARY
Section B	PROJECT / PROGRAMME INFORMATION
Section C	FINANCING INFORMATION
Section D	EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA
Section E	LOGICAL FRAMEWORK
Section F	RISK ASSESSMENT AND MANAGEMENT
Section G	GCF POLICIES AND STANDARDS
Section H	ANNEXES

Note to Accredited Entities on the use of the funding proposal template

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the [GCF Information Disclosure Policy](#), project and Programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

Please submit the completed proposal to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

“FP-[Accredited Entity Short Name]-[Country/Region]-[YYYY/MM/DD]”

A. PROJECT/PROGRAMME SUMMARY			
A.1. Project or Programme	Programme	A.2. Public or private sector	Public
A.3. Request for Proposals (RFP)	Not applicable		
A.4. Result area(s)	<p>Check the applicable GCF result area(s) that the <i>overall</i> proposed project/Programme targets. For each checked result area(s), indicate the estimated percentage of <u>GCF budget</u> devoted to it. The total of the percentages when summed should be 100%.</p>		
	<p>Mitigation: Reduced emissions from:</p> <p><input type="checkbox"/> Energy access and power generation:</p> <p><input type="checkbox"/> Low-emission transport:</p> <p><input type="checkbox"/> Buildings, cities, industries and appliances:</p> <p><input checked="" type="checkbox"/> Forestry and land-use:</p> <p>Adaptation: Increased resilience of:</p> <p><input checked="" type="checkbox"/> Most vulnerable people, communities and regions:</p> <p><input type="checkbox"/> Health and well-being, and food and water security:</p> <p><input type="checkbox"/> Infrastructure and built environment:</p> <p><input checked="" type="checkbox"/> Ecosystem and ecosystem services:</p>	<p>GCF contribution:</p> <p><u>50%</u></p> <p><u>25%</u></p> <p><u>25%</u></p>	
A.5. Expected mitigation impact	123 million tCO ₂ eq	A.6. Expected adaptation impact	Direct beneficiaries: 191,952 (~50 % female) Indirect beneficiaries: 485,375 (~50 % female) ¹
			0.64% (direct beneficiaries) and 1.62% (indirect beneficiaries) relative to Amazon population (30 million)
A.7. Total financing (GCF + co-finance)²	<u>598.1 million</u> USD	A.9. Project size	Large (Over USD 250 million)
A.8. Total GCF funding requested	<u>279 million</u> USD		
A.10. Financial instrument(s) requested for the GCF funding	<p>Mark all that apply and provide total amounts. The sum of all total amounts should be consistent with A.8.</p> <p><input checked="" type="checkbox"/> Grant <u>137.5 million</u> <input checked="" type="checkbox"/> Equity <u>6.5 million</u></p> <p><input checked="" type="checkbox"/> Loan <u>135 million</u> <input type="checkbox"/> Results-based payment</p> <p><input type="checkbox"/> Guarantee <u>Enter number</u> <u>Enter number</u></p>		

¹ The methodology and assumptions used for estimating the beneficiaries are described in detail in section D.1.

² GCF resources, IDB (AE) and Executing Entities (EE) co-financing (see Section C.1).

A.11. Implementation period	7 years ³	A.12. Total lifespan	27 years ⁴
A.13. Expected date of AE internal approval	1/31/2022	A.14. ESS category	I-2
A.15. Has this FP been submitted as a CN before?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.16. Has Readiness or PPF support been used to prepare this FP?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A.17. Is this FP included in the entity work Programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.18. Is this FP included in the country Programme?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> ⁵
A.19. Complementarity and coherence	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

³ IDB investment loan operations generally have a maximum execution period of 5 years. As multiple countries and country approval processes are involved, the AE requests 7 years to allow for different approval dates of each individual country program by the IDB Board and by the national congress, where applicable, of each target country.

⁴ Total lifespan considers the 7 years expected for implementation to include the latest investments with funds from the Programme. Overall, investments are estimated to have effective impacts for up to 20 years, in average.

⁵ GCF Country programs are not available, except for Brazil where the Amazon is marked as a strategic priority.

A.20. Executing Entity information

Throughout the Funding Proposal, Executing Entity (EE) refers to any entity that signs a Subsidiary Agreement⁶ with IDB to execute, carry-out, or implement a part of the Funded Activity. The IDB will assess the capacity of each EE prior to entering into any Subsidiary Agreement, following its policies and procedures. Information on such policies and procedures and the track record of selected EEs is provided in Section B.4. IDB, as Accredited Entity (AE), may also carry out the functions of an EE for technical cooperation activities. More specifically:

- **For the execution of sovereign loans and investment grants referred to in Component I.1**, each EE will be responsible for the full execution of the loan and/or investment grant in accordance with the Subsidiary Agreement and its Operational Regulations (see Section B.4 and Annex 21). Eligible EEs will be identified jointly with national governments based on the relevance of their public mandate to the Programme activities, experience in finance structuring and fiduciary management, and track record, including with the IDB. EEs may include National Development Banks (NDBs) or other government agencies, such as FINAGRO (Colombia), CONAFIPS (Ecuador), COFIDE (Peru), Suriname National Development Bank Ltd. (Suriname) and *Banco da Amazonia* (Brazil).
- **For the execution of equity investments referred to in Component I.2**, eligible EEs include: for the Regenerate Accelerator, Kaete Investimentos, an entity already institutionally assessed by IDB, a local reputable fund management company with vast experience in identifying sustainable early-stage bioeconomy businesses; and other direct investees (growth tech-based start-ups) to be defined and assessed by IDB's innovation laboratory (IDB Lab) that will receive funding support for activities related to climate-tech and bio-tech investments.
- **For the execution of investment grants referred to in Component II.2**, IDB will transfer GCF grant resources to a public entity issuer acting as EE, for it to defray the financial charges costs associated with the portion of the guarantee funded with IDB resources. As part of its project preparation cycle, and prior to the approval of the relevant guarantee operation, the IDB will conduct an institutional capacity assessment of such public entity, as further detailed in Annex 20b.
- **For all Technical Cooperation activities** (Components I.3, II.1 and III) IDB may be the EE and/or it may enter into a Subsidiary Agreement with other EEs.

A.21. Executive summary (max. 750 words, approximately 1.5 pages)

The Amazon region is highly vulnerable to climate change because of its direct exposure to climate risks, its high sensitivity to such risks, and its low adaptive capacity. Global warming may induce a higher frequency of extreme climate events and fires, directly impacting forests and agricultural productivity. In parallel, changes in land-use linked to unsustainable practices in agriculture and other land-use are a primary cause of forest loss, exacerbating the degradation of Amazon ecosystems and global climate. Temperatures have increased by 0.5°C on average since 1980 in the region, and some 23% of its GHG emissions were driven by the Agriculture, Forestry and Other Land-use (AFOLU) sector between 2007 and 2016. Deforestation and forest degradation, land-use, anthropogenic fires, biodiversity loss, and ecosystem fragmentation, among other factors, create adverse climate feedback loops. Without intervention, growth on demand of unsustainable use of agricultural land and forests will continue to raise deforestation and degradation in the Amazon, critically affecting ecosystems over the long-term. Altogether, impacts on natural capital stocks and future health of ecosystems could be severe.

⁶ As defined in the Accredited Master Agreement (AMA) between IDB and the Fund, dated 29th of August, 2017, a Subsidiary Agreement means "any agreement entered into by the Accredited Entity, in its capacity as Accredited Entity and administrator of the GCF Proceeds, on the basis of or in connection with this Agreement, unless expressly agreed otherwise in an FAA, with an Executing Entity (that is not the Accredited Entity)".

In 2019, the governments of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname signed the Leticia Pact for the Amazon Region, seeking cooperation among Amazon countries for the conservation of the region to generate opportunities for the sustainable development and well-being of its population. The Pact includes action related to the fight against deforestation and forest degradation; the conservation, recovery and resilience of biodiversity and ecosystems; sustainable productive systems; active participation by women, by indigenous and tribal peoples and by local communities in the sustainable development of the region; as well as the promotion of financial mechanisms to implement the Pact.

Because of the Amazon's diverse biological, land and water resources, the bioeconomy provides a robust framework for promoting sustainability in the AFOLU sector. Shifting to business models and technologies that sustainably use natural capital and forest assets (i.e., bio-businesses) can contribute to lower the impacts of climate change, reducing GHG emissions and increasing the region's resilience. The potential for private investment in bio-business is significant and tapping it can be determinant of the ability of economies to sustainably leverage natural capital. The financial sector can play a significant role, along with boosting processes such as incubation and accelerating businesses and promoting comprehensive regulatory tools to adequately value natural and forest assets involved in bio-businesses.

With a regional, multi-stakeholder approach (including investors, banks, project developers, producers and specialized advisory institutions) the Programme focuses on enabling the conditions to increase the flow of private funds to bio-businesses that can reduce the impact of climate change, safeguard local livelihoods and promote more inclusive development. The Programme focuses on addressing some of the most critical barriers specifically faced by bio-businesses (namely, risks of lending to bio-businesses, immature capital and financial markets, weak institutional environment for bio-business development, lack of standardized frameworks to monitor biodiversity impacts, and knowledge and capacity gaps) to encourage private investment. Programme activities are expected to help effectively overcome these barriers, ensuring financing becomes available and projects are suitable for financing, and enabling the use of thematic bonds to further support the development of these businesses. Targeted financing schemes and channels, such as blended finance, high-risk capital investment, bond issuance and shared-risk models designed to meet bio-business needs can make financiers more willing to serve the sector and developers more willing to invest without risking profitability. Knowledge and institutional mechanisms can help ensure a continued flow of quality and inclusive projects that can be financed successfully, including innovative ways to structure partnerships between public and private actors through concessions.

Activities under the Programme are expected to reduce 6.2 million tCO₂e annually (123.4 million tCO₂e over a 20-year lifespan of investments) from forest and land-use, enhance carbon stocks of forests under improved management, leverage US\$719.1 million resources additional to GCF funding (including US\$319.1 million Programme co-finance as per Section C.1.b plus US\$400 million from other sources), and increase resilience and adaptation of some 677,327 beneficiaries (direct and indirect).

Overall, the Programme is conceived as an important contribution to kick-start the change of entrenched behaviours (i.e., unsustainable practices in business in the Amazon), helping create the foundation for markets that value the fundamental role of natural capital in business, enabling the development of profitable, scalable and climate-friendly production models in which private entities will be more willing to participate. Jumpstarting private participation in bio-businesses should produce demonstration effects, highlighting biodiversity as an intrinsic element of economic success beyond GCF support.

B. PROJECT/PROGRAMME INFORMATION

B.1. Climate context (max. 1000 words, approximately 2 pages)

1. Covering over 6,000,000 km² and portions of 9 countries in Latin America and the Caribbean (LAC)⁷, the Amazon is the world's largest river system, containing a tenth of the world's known species⁸. The Amazon biome hosts over 40% of the existing dense moist tropical forest globally and about 10% to 15% of terrestrial biodiversity, being fundamental for carbon sequestration (stores approximately 150-200 billion tons of carbon) and resilience to global climate change. While it contains many different ecosystems, the Amazon forms a single bio-geophysical entity, and its many parts depend on the integrity of the whole. It is home to 34 million people, including more than 350 indigenous groups.

Climate change and the Amazon basin: observed trends and projected impacts.

2. On average, temperatures have increased by 0.5°C since 1980 in the Amazon Biome, with the largest increments observed in the southwest Amazon (USAID, 2018)⁹. A significant increase in heatwaves has been observed in the region during the period from 1950–2017¹⁰. Rainfall anomalies and variability have also been recorded continually over the past decades. Nonetheless, the following trends have emerged:
3. Evidence shows that the dry season intensity (i.e., dry periods beginning earlier and ending later in the year), as well as the frequency of drought events has been increasing in the Amazon during the period 1951-2014 (Marengo and Souza 2018; USAID 2018). Over the last 35 years there has been an increasing tendency towards more extreme wet months and extreme dry months (Marengo and Souza, 2018).
4. Espinoza et. al (2019) observed a significant increase in dry-day frequency in the southern Amazon during SON (September-November), and a decline in total annual precipitation, estimated at 18% during the period between 1981 and 2017. In the northern Amazon, a diminution of dry-day frequency was observed, especially during MAM (March-May) season. Rainfall increases of 17% during MAM, along with an increase in wet-day frequency during the same period and throughout the year, were observed in the northern Peruvian and Brazilian Amazon.
5. In the period 1981–2018, Funatsu et al. (2021) found a statistically significant increase in the number of consecutive dry-days in the Southern Amazon (defined as south of 5°S) during November-March, whereas the Northern Amazon (defined as north of 5°S) had statistically significant increases in very heavy precipitation days, and the maximum number of consecutive wet-days from February until June.
6. According to the IPCC 5th Assessment Report for Central and South America¹¹, rainfall dynamics in the Amazon region are influenced either by interannual fluctuations linked to 'El Niño-Southern Oscillation' (ENSO) or decadal variability¹². Recycling from the Amazon rainforests is responsible for 50-75% of its annual rainfall, where deforestation and land-use can play an important role in changing the regulating role of forests¹³.
7. Table 1 provides a reference on the various climate-related hazards to which the region is exposed. In terms of climate-related natural hazards, the main ones observed in the Amazon biome between 1970 and 2015 were floods (50%), landslides (27%), droughts (19%), and forest fires (4%)¹⁴. As shown in the table, all countries have at least one administrative area in the basin characterized as "high risk" of flooding, and nearly all countries are considered high or medium risk for wildfires. Fires are not only attributed to drought and extreme heat, but they are largely linked with anthropogenic activities, especially the use of fire for clearing forest and agricultural land.

⁷ The majority of the Amazon biome is located in Brazil (59.2%), followed by Peru (11.3%), Colombia (7.9%), Venezuela (6.7%), Bolivia (6.0%), Guyana (3.5%), Suriname (2.4%), Ecuador (1.8%), and French Guiana (1.3%). The Amazon basin is 6.3 million km², the Amazon biome is 6.7 million km², the extended Amazon (Pan Amazon) is 8.03 million km².

⁸ The monetary value of the Amazon's natural capital and ecosystem services is estimated in US\$11 trillion per annum (IPBES, 2018).

⁹ USAID, 2018.

¹⁰ Perkins-Kirkpatrick and Lewis 2020.

¹¹ Magrin et al., 2014.

¹² More detailed information on climate variability is provided in the Feasibility Study.

¹³ USAID, 2018.

¹⁴ Pabón-Caicedo et al., 2018.

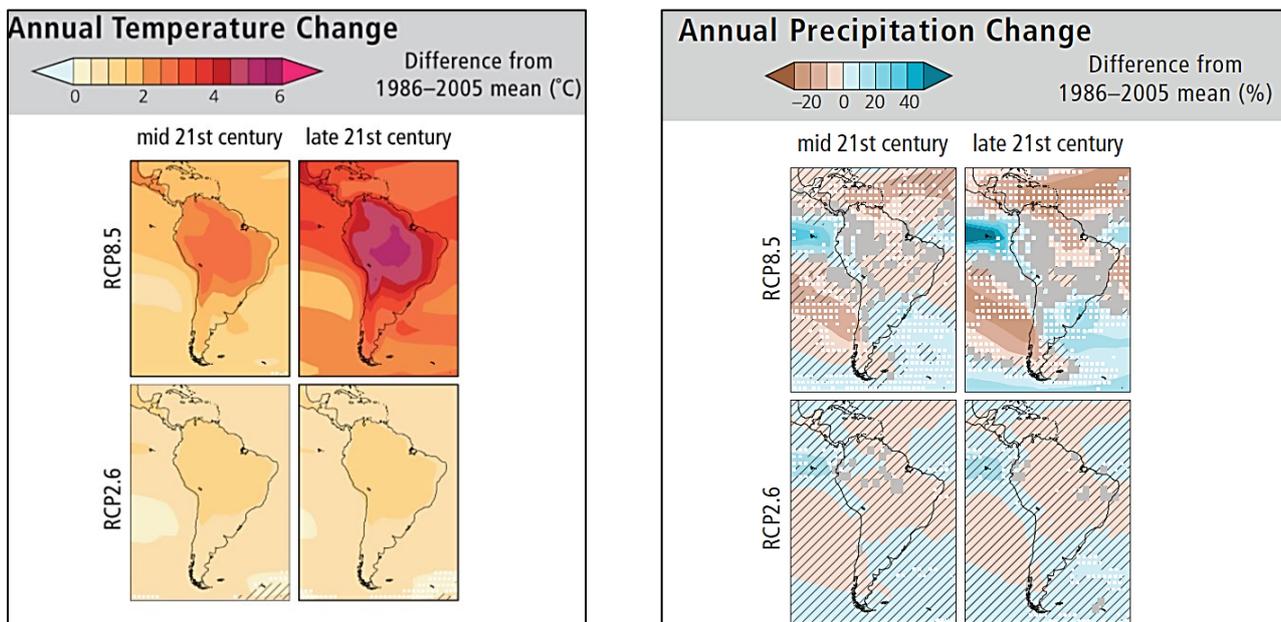
Table 1.- Climate-related hazard in the Amazon region, by country¹⁵

Country	River flood	Landslide	Extreme heat	Wildfire	Water scarcity
Brazil	High	Medium-low	Medium	High	Low-very low
Colombia	High	High-low	Medium	High-low	Very low
Ecuador	High	High-medium	Medium-low	High-medium	Very low
Guyana	High	Low	Medium	High	Very low
Peru	High-low	High –low	Medium	High	Low-very low
Suriname	High-low	Low	Medium	High-medium	Very low

Source: GFDRR, No date, <https://thinkhazard.org/>

- The Amazon Basin is projected to have some of the highest increases in temperature due to climate change within South America, with the central Amazon area particularly affected. According to RCP projections using CMIP5 models, the average annual temperature in the Amazon basin could increase between 0.6°C and 2°C by the end of the century for RCP2.6 scenario,¹⁶ between 3°C and 4°C in RCP4.5 scenario¹⁷, and 6°C under RCP8.5¹⁸. Positive temperature trends are projected for all countries in the Amazon basin (Figure 1).
- According to RCP2.6, RCP4.5 and RCP8.5 projections, the average annual precipitation in the Amazon could decrease as much as 40% in some areas of the central-north Amazon, while the central region could experience a decrease in precipitation of up to 20%¹⁹. Precipitation is expected to increase by 15% (RCP4.5) and 20% (RCP8.5) in some areas and decrease by 11% (RCP4.5) and 25% (RCP8.5) in others by the end of the 21st century. Increases in aridity, as well as in the longest dry spell, are projected.

Figure 1A.- Projected changes in annual average temperature (left) and annual precipitation (right) for the period 2046-2065 and 2081-2100 (RCP2.6 and RCP 8.5)



Source: Magrin et al., 2014, p. 1513 (cited in [Marengo et al., 2014](#))

¹⁵ Data builds on country-level profiles for each of the target countries, based on available literature and using Government Reports (including national communications to the UNFCCC, NDCs, NAPs, among others), the World Bank Climate Change Knowledge Portal, and other studies by international and national organizations working on climate change (see Annex 2 Feasibility Study and Annex 21 Climate risk and vulnerability assessment at the country level in the bioeconomy product chains).

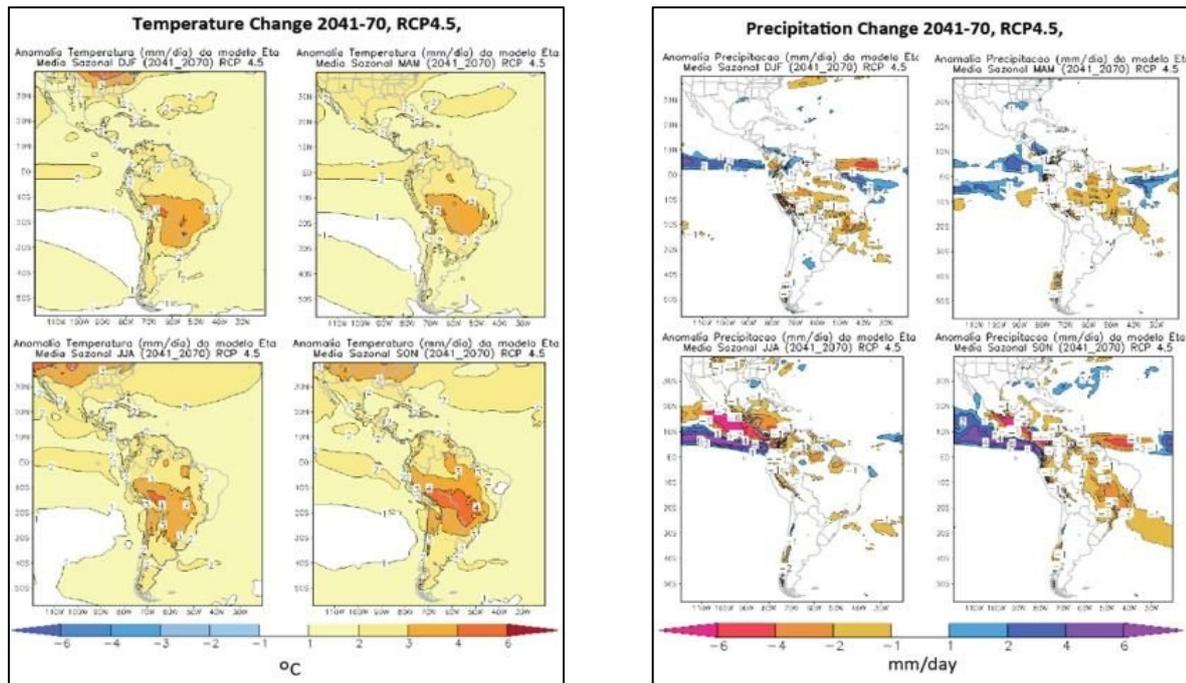
¹⁶ Magrin et al., 2014.

¹⁷ Lyra and Sampaio, 2016.

¹⁸ Marengo and Souza, 2018.

¹⁹ Data collected from CORDEX South America predictions show variations and ensemble disagreement in terms of precipitation. More detailed information is provided in Annex 2; Marengo et al., 2018; Lyra and Sampaio, 2016; Magrin et al., 2014.

Figure 1B.- Projected changes in annual average temperature (left) and annual precipitation (right) for the period 2041-2070 relative to 1961-1990 (RCP4.5)



Source: [Marengo et al., 2014](#).

10. Floods are also projected to increase in the future in terms of frequency and intensity²⁰. This is likely to affect all countries in the Amazon basin. The western Amazon is expected to experience more frequent flooding in the rainy season, due to projected increases in precipitation. Zulkafli et al. (2016) project an increased severity of the wet season flood pulse in the western Amazon by 7.5% and 12% for RCPs 4.5 and 8.5, respectively, for the 100-year floods. Deforestation further exacerbates these trends and contributes to intensified flooding²¹.
11. CMIP5 projections from Duffy et al. (2015) and Sorribas et al. (2016) project that by 2100, the area affected by mild and extreme drought will nearly double and triple, respectively, for the entire Amazon basin²². Wildfires are expected to increase due to increasingly dry conditions and continued use of fire for clearing forest in the Amazon²³. The southern and eastern Amazon are particularly at risk of wildfires, and the risk will increase due to climate change projections indicating drier and warmer conditions. Lyra and Sampaio (2016) further project a possible substitution of some areas of rainforest in the Amazon by deciduous forest types and grassland under the RCP4.5 scenario, and especially grassland in RCP8.5 scenario by the end of this century²⁴.

Climate change exposure, vulnerability and risk

12. Scientific evidence and information point out that climate variability and change pose a great risk to the Amazon region. The Amazon is particularly at risk due to its direct exposure to climate risks, and its high vulnerability (high sensitivity and low capacities). There are over 34 million people living in the Amazon basin, including over 3 million indigenous peoples²⁵, many of which are dependent on agriculture, forests and other natural resources for their livelihoods. At the same time, poverty levels in the Amazon region tend to be above national averages of most countries, which limits the populations' ability to prepare for and respond to climate change.

²⁰ Marengo et al. 2013 in Prüssman et al. 2016

²¹ Andrade Abe et al. 2018

²² Duffy et. al 2015; Sorribas et. al 2016

²³ USAID 2018. De Faria et al. 2017

²⁴ Lyra and Sampaio 2016

²⁵ USAID 2018.

13. Expected changes in temperature and precipitation, and associated risks, will have impacts in key economic sectors such as agriculture, fisheries and tourism, and natural ecosystems in the Amazon region. These changes will impact the suitability areas where crops are able to be produced, as well as loss of ecosystems and biodiversity, affecting the livelihoods of people in these areas.

Deforestation and forest degradation

14. In addition to climate-related hazards, Amazon forests are being depleted at an alarming pace, exacerbating dramatic nature loss and ecosystem degradation. Short-sighted, unsustainable development throughout the region has led to high levels of persistent deforestation rates over the last decade, threatening the integrity of the ecosystem and the global climate. Some 1.7 million hectares of Amazon forests in South American countries were lost in 2019 (Table 2)²⁶. By mid-2020, deforestation had grown 55% compared with the previous year.

Table 2.- Overview of forest loss in the Amazon in 2019, by country²⁷

Country	Forest Loss in hectares (ha)	Forest Loss in the Amazon relative to total national forest loss (%)
Brazil	1,290,000	94.8%
Colombia	91,400	79.4%
Ecuador	11,400	93.2%
Peru	161,600	100.0%

Source: IDB's elaboration, based on Global Forest Watch data.

15. While underlying causes of deforestation in each country are distinct, changes in land-use to meet growing demand for food, fibres, timber and energy, are considered a primary cause of forest loss and/or severe degradation in the Amazon²⁸. In general terms, agriculture (including large-scale, small-scale and colonization) and livestock are among the most significant causes of deforestation in the Amazon²⁹. In the absence of alternatives, increasing agricultural and livestock production in forested regions involves the cutting down of trees to create new production areas –and then burning what remains– to make the soil more fertile in the short term. Various other industries dependent on forest-related activities, such as logging and plantation development, are clearing large areas of forest.

16. In Brazil, commodity production and cattle ranching are major drivers of the conversion of forests to pastures and plantations (Piotrowski M. et al., 2019). In both Colombia and Peru, major drivers are the expansion of the agricultural frontier and pastures for cattle grazing, although illegal crops, mining and logging have also contributed (Clerici et al., 2020, Piotrowski M. et al., 2019). In Ecuador, small-scale ranching and production expansion of commodities such as palm oil are key drivers (MAAP, 2019). In Guyana and Suriname, shifting cultivation and forestry activities also lead to degradation impacts, although mining and infrastructure prevail as main drivers (Benn et al, 2020, Nimos et al, 2017).

17. Indeed, in Amazon countries, the Agriculture, Forestry and Other Land-use (AFOLU) is at the same time economically significant and a major source of environmental degradation, and carbon emissions (Table 3 and Figure 2). Overall, between 2007 and 2016, some 23% of the Amazon's GHG emissions were driven by the AFOLU sector (IPCC, 2020).

Table 3.- GHG emissions (Mt CO₂eq/year) by country (including AFOLU), 1990-2020

Country	1990	1995	2000	2005	2010	2015	2020
Brazil	1642.3	1726.1	1807	2004.4	2105	1354.3	1431.6
Colombia	217.1	231.7	233.1	228.4	245	233.8	270.3

²⁶ Global Forest Watch.

²⁷ Deforestation rates in Guyana and Suriname are relatively lower. It is estimated that forest loss in Guyana reached 9,227 ha in 2019 (Benn et al., 2020). No forest loss data is available for Suriname, although it has been documented that forest logging reached 1 million m³ (Nimos, et al., 2017).

²⁸ [IPBES, 2019](#); [UNEP-WCMC, 2016](#); [Curtis, P. et al, 2021](#). Other drivers of deforestation include mining, infrastructure development and large hydroelectric plants, as well as fires. These are not the focus of this proposal and thus are not covered in detail in this section.

²⁹ Bennett, L., "Deforestation and Climate Change", 2017.

Ecuador	70.4	78	78.9	80.4	90.4	83.5	92.8
Guyana	9.6	11	11.6	12.6	13.1	21.6	19.2
Peru	103.9	112	122.1	133.2	149.8	183.9	187.5
Suriname	6.1	6.7	6.2	6.8	7.3	12.7	13.2

Figure 2- Share of AFOLU sector (%) in total emissions by country, 1990-2050



Source: IDB's elaboration based on [Climate Watch](#) Historical GHG Emissions. 2021. World Resources Institute. Assumptions: (1) As of December 2019, 0.5% increase in CO₂eq emissions by energy sector above 2018 levels as in [Friedlingstein et al., 2019, Global Carbon Budget 2019, Earth Syst. Sci. Data, 11, 1783–1838](#), AFOLU sector emissions remain as BAU; (2) As of December 2020, 2% increase in global CO₂eq emissions by energy sector above 2019 levels as in [International Energy Agency, 2 March 2021](#), AFOLU sector emissions remain as BAU; (3) percentages for the period 2021-2050 predicted using exponential smoothing (ETS) algorithm. Brazil prediction based on records 2011 to 2020.

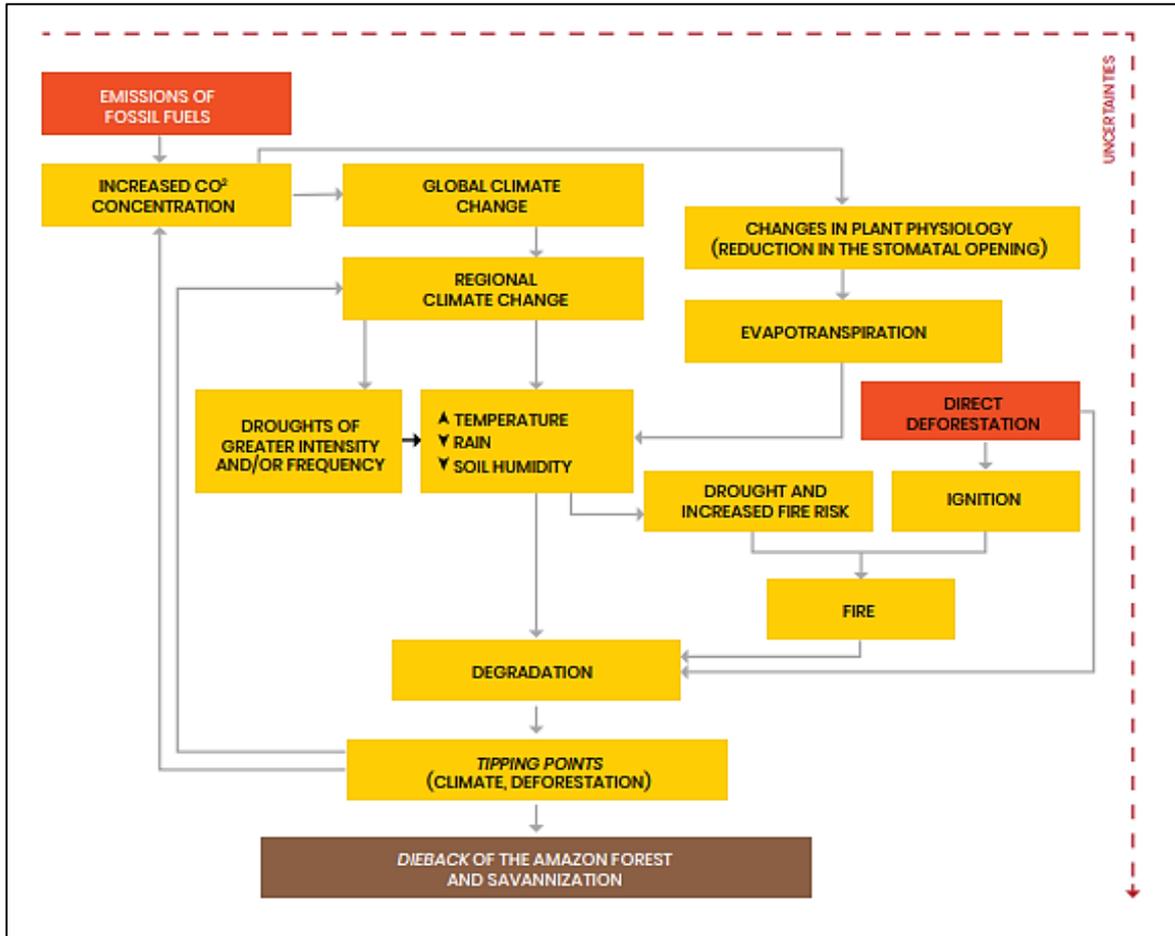
Deforestation and forest degradation exacerbate climate change risk and bring the basin closer to its tipping point

18. The findings of the last few decades support climatological models' forecasts of a warmer Amazon scenario with more severe and sustained droughts, making the forest more vulnerable to degradation and loss of its ecological functions to sequester carbon, retain carbon reserves and biodiversity, and control hydrological and biogeochemical cycles³⁰. Such trends towards ecosystem degradation and loss of ecosystem function are further exacerbated by deforestation and forest degradation (Marengo and Souza, 2018). Deforestation is closely linked with drought in the Amazon basin, where the conversion of

³⁰ Marengo and Souza, 2018.

forests into non-forest land causes climate feedback loops that reduce precipitation and increase temperatures through changes in the albedo and surface roughness, and that reduce evapotranspiration and rainfall recycling (Figure 3). This process creates a general trend towards increasingly dry conditions during the dry season and could further drive the Amazon rainforest to reach its tipping point, resulting in forest dieback and the conversion of forested ecosystems into a savannah-like landscape. Thus, the Amazon would become a net source of carbon emissions instead of a sink (Hubau et al. 2020).

Figure 3.-: Overview of the Amazon tipping point and forest dieback / “savannization” mechanism



Source: Marengo and Souza, 2018, p. 21

19. Without intervention, growth on demand of unsustainable use of agricultural land supply (for crop and livestock) and unsustainable practices in forest activity (logging, plantation and services) is likely to raise the rate of deforestation and forest degradation in the region, critically affecting ecosystems over the long-term. According to the World Economic Forum (WEF), “business as usual in the food, land and ocean use system is no longer viable, not only because of its impact on biodiversity but also because of its broader challenges: adapting to a changing climate, mitigating GHG emissions and ensuring better health outcomes while addressing food insecurity and rural poverty”³¹. The Amazon is projected to have the largest potential for forest loss globally, with an estimated 23-48 million hectares lost between 2015 and 2030³². Should these trends remain unchecked, impacts on natural capital stocks and future health of ecosystems could be severe. Preliminary estimates from the IDB suggest that reaching an Amazon tipping point³³ would generate a cumulative GDP loss of over US\$230 billion.

³¹ World Economic Forum (WEF), “The future of nature and business”, New Nature Economy II, 2020.

³² World Wide Fund for Nature, “Living Forests Report Chapter 5: Saving Forests at Risk”, 2015.

³³ Literature argues on the threat of two “tipping points” in the Amazon, namely: i) an increase in temperature of 4°C or ii) deforestation exceeding 40% of the forest area. This analysis suggests that if transgressed, large-scale “savannization” of mostly southern and eastern Amazon may occur (Nobre, C. et al., 2016).

20. Climate change has economy-wide implications. No economic sectors are spared the impacts, which are yet to be fully understood and quantified, especially with regards to ecosystems, security and the potential of adaptation measures at a sectoral level. Nonetheless, the range of potential consequences of climate change is known to be broad, including impacts on terrestrial and aquatic ecosystems, impacts on food production, livestock, fisheries and aquaculture, impacts on human health, mortality and morbidity, air quality, changes in energy demand, as well as impacts on key economic sectors such as transport, tourism and labour productivity. Climate change could further induce the displacement of people, increasing the risk of conflicts and have effects on security³⁴. Overall, this translates into reduced economic growth and higher levels of poverty.

Curbing these trajectories requires concerted regional efforts to increase private participation.

21. There is a need for concerted efforts across the Amazon basin to reduce deforestation, increase forest cover, and restore degraded ecosystems to strengthen climate change mitigation, improve the resilience of local populations, livelihoods and ecosystems, support species' recovery and the enhancement of biodiversity, and ultimately restore ecosystem functionality.

22. On September 6th, 2019, the Heads of State and Heads of Delegation of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname signed the Leticia Pact for the Amazon Region, which reaffirmed that the cooperation among Amazon countries is an important condition for the conservation of the Amazon, to generate opportunities for the sustainable development and well-being of its population. The Pact established 16 areas of action related to the fight against deforestation and forest degradation; the conservation, recovery and resilience of Amazon biodiversity and ecosystems; sustainable productive systems; the active participation by women, by indigenous and tribal peoples and by local communities in the sustainable development of the region; as well as the promotion of financial mechanisms to implement the Pact, underlining the importance of multilateral development banks and the Global Environment Facility (GEF)'s Amazon Sustainable Landscapes Program (ASL) II. On August 11th, 2020, at the II Presidential Summit of the Leticia Pact, the signatory countries gathered virtually to discuss the repercussions of the COVID-19 pandemic and the urgent need for a financing initiative for the region's sustainable development and bioeconomy. The pace of change required and the need to do it in a cost-efficient way makes it impossible to think of governments as sole leaders on this agenda. The business community can engage in activities where they can lead this change, using their available resources to invest in more sustainable productive practices. In fact, The Leticia Pact includes specific action for the promotion of sustainable use of forests and production systems, including value chains, as well as sustainable business development.

23. Investments in nature have traditionally come from public domestic budgets, official development assistance and philanthropy. With the recent unfolding of the COVID-19 pandemic, governments are facing important budget constraints resulting from record spending amidst the crisis and in preparation for the upcoming recovery phase. On the other hand, understanding the need to direct efforts towards a "green recovery"³⁵, various organizations and investors are rallying to counteract the degradation of the world's natural capital. This momentum presents a unique opportunity for jumpstarting a shift to more efficient use of public funding to incentivize increased private investment. In this regard, the international community specifically highlights the role of financial institutions in mobilizing private finance at the scale needed to protect nature and its services for human well-being³⁶.

24. Supporting private actors that sustainably leverage nature's assets, facilitating private investment and fostering private innovation, can help address the funding gap to protect natural capital and biodiversity. Because nature is very much linked to critical sectors of the economy (such as agriculture and tourism), and rural and riverine communities, it offers great potential for entrepreneurs and investors willing to embrace sustainable use of natural capital and conservation as a business development opportunity.

³⁴ European Union Science Hub, "[Climate change impacts and adaptation in Europe](#)", European Commission, 2020.

³⁵ IMF, Special Series on Fiscal Policies to Respond to COVID-19, "Greening the Recovery", April 2020; Organization for Economic Cooperation and Development (OECD), "What Policies for Greening the Crisis Response and Economic Recovery? Lessons Learned from Past Green Stimulus Measures and Implications for the COVID-19 Crisis", Environment Working Paper N° 164, May 2020.

³⁶ The Paulson Institute, "[Financing Nature: Closing the Global Biodiversity Financing Gap - Paulson Institute](#)", 2020; The World Bank, "[Mobilizing Private Finance for Nature](#)", 2020.

Bioeconomy: Private role in bio-businesses and forest conservation

25. Because of the Amazon’s diverse biological, land and water resources, the bioeconomy³⁷ provides the ideal framework for the development of sustainable, productive models and practices in AFOLU in the Amazon. Shifting to production models, technologies and practices that embrace a more sustainable use of the Amazon’s natural capital and forests (from this point forward defined as **bio-businesses**, see ¶35), can contribute to lower the impacts of climate change by reducing deforestation, restoring soil, and reducing GHG emissions. In parallel, being conscious of risks and vulnerabilities in the mainstreaming of more sustainable practices in AFOLU can help increase the region’s resilience to future climate-related impacts already unavoidable to this day (Table 4).

Table 4.- Overview of potential climate change impacts in the Amazon region, and adaptation and mitigation interventions and benefits from selected bio-business value chains

Sector / sub-sector value chain	Impacts of climate change	Adaptation interventions and benefits	Mitigation interventions and benefits
Sustainable agroforestry: Value chain: Coffee	Zones better suited for arabica coffee migrates upwards by about 500m in elevation, with negative ecosystem impacts (Bunn et al. 2015 ; Ovalle-Rivera et al., 2015). Reduction in 60% of area suitable for coffee production in Brazil (Gomes et al. 2020).	<u>Interventions:</u> Moving to agroforestry (shade tree management), with organic fertilization, pest management and irrigation and water management (Gomes et al. 2020 ; Rahn et al 2018). <u>Benefits:</u> Agroforestry systems can maintain 75% of the area suitable for coffee production; shade trees can decrease the mean daily temperature by up to 4 °C (50% shade can decrease temperature by 2–3 °C) (Gomes et al. 2020). Optimal tree cover, fertilization and irrigation adaptation practices could help prevent yield drops. Improved planting material, and management practices, would also reduce climatic stress.	<u>Interventions:</u> Agroforestry system involves arabica coffee, bananas and native tree species. <u>Benefits:</u> The converted and new coffee agroforestry areas should reach an additional 4.3 tCO ₂ /ha/year sequestration relative to low productivity conditions and up to 15.2. tCO ₂ /ha/year sequestration for plantations established on degraded land.
Sustainable agroforestry: Value chain: Cacao	Higher temperatures and erratic rainfall changes cocoa farming suitability and causes yield reduction (Lahive et al., 2019 ; Bunn et al. 2019). There is a reduction in current suitable cacao production areas, and a migration of suitable areas for cocoa production with negative ecosystem impacts.	<u>Interventions:</u> Agroforestry system combining food crops, fruit species, native tree species, and timber trees; manual weeding, composting, mulch; irrigation and water management by rudimentary drip irrigation; integrated pest management (IPM), phytosanitary measures (Bunn et al. 2019). <u>Benefits:</u> Optimal tree cover and irrigation adaptation practices could help prevent yield drops. 30-40% canopy cover can increase yield by 22%. Better water management can increase yields (+73%) and trenches reduce soil erosion and flooding during intensive rainfall. Improved planting material, and management practices, would also reduce climatic stress. Correct quantity and timing of fertilizer application to avoid soil depletion can	<u>Interventions:</u> Agroforestry system combining food crops, fruit species, native tree species, and timber trees; manual weeding, composting, mulch. <u>Benefits:</u> The converted and new cacao agroforestry areas should increase carbon sequestration by an additional 4.3 tCO ₂ /ha/year sequestration relative to low productivity conditions and up to 15.2 tCO ₂ /ha/year sequestration for plantations established on degraded land.

³⁷ The **bioeconomy** refers to any economic activity based on the use of natural renewable biological resources, from both land and ocean, to obtain food, materials, and energy in a sustainable way without compromising their availability for future generations. It comprises activities related to the invention, development, production, and use of biological products and processes. For the purposes of this proposal, in the Amazon the bioeconomy aims to be climate and nature-positive, encouraging sustainable land-use practices that lead to reduced emissions, higher carbon stocks, net gains in natural capital, and increased climate resilience of vulnerable populations and ecosystems.

		increase yields by 130%; IPM can raise yields by 25% (Bunn et al., 2019).	
Native palm-perennial agricultural systems (Value chain Açai)	Interruptions to Açai palm growth cycle from warmer temperatures and reaching of upper heat and water stress thresholds, new pest and disease outbreaks, and changes in crop yields and productivity. Higher temperatures combined with drought conditions may increase fruit abortion. Evidence of a decline in Açai production during hot years that is largely attribute to regional temperature increases of around 1.5 °C in recent decades. Açai producers estimate production losses of one to 40% of normal production (Tregidgo et al. 2020)	<u>Interventions:</u> Intensification of production, through optimal fertilization and micro-aspersion irrigation, as well as support to best practices including new cultivars, scheduling production to coincide with periods of low natural forest acai production, among others. (Oliveira et al. 2016, EMBRAPA, 2019). <u>Benefits:</u> Native palms, as a perennial woody crop, can increase canopy cover and limit soil degradation, erosion and sedimentation, improve soil health, while also supporting biodiversity conservation, and maintaining ecological integrity at the landscape level. Irrigation more than doubles productivity of Açai cultivation (EMBRAPA, 2019).	<u>Interventions:</u> Use of deeper-rooted species and non-crop trees with crops <u>Benefits:</u> Increased productivity is accompanied by above and below ground carbon stocks increases, reaching an additional 6.1 tCO ₂ /ha/year sequestration/avoided.
Non-timber natural forest products (NTFP) (Value chain Brazil nut)	Studies indicate that a warming, drying climate will reduce the mean net primary productivity (NPP) by approximately 52% by 2050 under a medium-high GHG emissions scenario. When the direct effects of CO ₂ on plant physiology are included, NPP still reduces but to a lesser extent of 33% due to the enhancement of photosynthesis by CO ₂ fertilization (Esquivel-Muelbert et al. 2018). Decrease in quality and availability due to inadequate growing conditions and pest and disease outbreaks (Oxfam, 2020);	<u>Interventions:</u> Enrichment and active management (climate information management to anticipate management responses), as well as landscape level conservation approaches, and favour crossed pollination by maintaining natural forest cover. Research and monitoring of forest conditions and composition are also an important part of the strategy to adequately adapt to the change processes at hand, considering the many uncertainties. <u>Benefits:</u> Enrichment and active management would increase productivity of Brazil nut forests and other NTFPs as it responds to external ecosystem stressors from climate change.	<u>Interventions:</u> Protection of forest through intensification of forest-based NTFP value chain utilizing Brazil nut enrichment and other non-timber forest product best management practices (optimization of collection paths, in situ drying racks, among others). <u>Benefits:</u> Reduced emissions from reduced agricultural encroachment and other illegal deforestation. Enrichment in Brazil nut concessions, especially those that have been subjected to logging or agricultural induced degradation, could lead to increased carbon stocks equivalent to 1.4 tCO ₂ /ha/year.
Native species aquaculture (Value chain <i>Colossoma</i> sp.)	Changes in the ecological balance that provides sustenance for fish; decreased availability of nutrients in the water; alteration of the reproductive behaviour of the species; degradation of areas that offer shelter to fish; migration of fish to other regions; decrease in river flows (Herrera et al. 2015). Loss of 1 km ² of floodplain forest induces up to 9% decreasing in fish catches (de França Barros et al 2020). The size of fish species in the Amazon is negatively correlated to drought intensity (Fabr�e et al. 2017)	<u>Interventions:</u> Improvement of infrastructure, management practices and feed quality in aquaculture growing of in-demand local fish species (<i>Colossoma</i> sp. and other 'round fish') in small-scale operations (fish from aquaculture management and managed sustainable fisheries). <u>Benefits:</u> <i>Colossoma</i> sp. and other 'round fish' are a resilient fish species, used to high temperatures and still waters often encountered in aquaculture operations. Growing in-demand local fish species in small-scale operations reduces pressure on native wild fish populations, hence improving aquatic biodiversity, while waste stream water can be reused as fertilized irrigation water. Diet and income diversification for local communities (McGrath et al. 2020).	<u>Interventions:</u> Growing in-demand local fish species (<i>Colossoma</i> sp. and other 'round fish') in small-scale operations to substitute beef protein. Other measures as part of aquaculture and managed fisheries such as efficient energy (fuel) and raw material use, use of waste products for biodiesel, efficient post-harvest and distribution systems. <u>Benefits:</u> At the jurisdictional/landscape level the sector can convert to net emissions sink by substituting consumption of more emissions intensive protein sources, like beef

<p>Forestry (value chain of native species plantations)</p>	<p>Loss of carbon stocks, and reduced evapotranspiration and rainfall recycling; Slow shift to a more dry - affiliated forest genera in the Amazon (Esquivel-Muelbert et al., 2018); With more extended or intense periods of soil water deficit, large trees and those with low wood density may be at greatest risk of hydraulic failure due to cavitation (McDowell & Allen, 2015; Rowland et al., 2015). Large trees have been shown to be particularly affected by artificially - imposed drought (McDowell & Allen, 2015; Nepstad et al., 2007; Rowland et al., 2015) and drought events (Bennett et al., 2015; Phillips et al., 2010). This will result in a decline in forest productivity, tree growth and reforestation viability.</p>	<p><u>Activities:</u> Reforestation with native species forestry plantations (e.g., <i>Shizolobium sp.</i>, <i>Guazuma sp.</i>, <i>Ochroma sp.</i>) <u>Benefits:</u> Native species forestry plantations can increase ecosystem resilience and help avert the Amazon tipping point by being structurally similar to natural forests, as far as hydrological and climatic functions; decrease in costs of restoration and reforestation; for every hectare of native forests planted and maintained 0.4 new local jobs are created (Rolim et al., 2019).</p>	<p><u>Activities:</u> Reforestation with native species forestry plantations (e.g., <i>Shizolobium sp.</i>, <i>Guazuma sp.</i>, <i>Ochroma sp.</i>) <u>Benefits:</u> Decrease in deforestation and degradation (Rolim et al., 2019), higher carbon stocks in biomass and soil above and below ground carbon stocks increases, which should reach an expected 6.5 tCO₂/ha/year sequestration.</p>
<p>Wilderness and traditional use (value chain community-led nature tourism)</p>	<p>Damage to key tourism hotspots and tourism infrastructure creating higher operational costs (insurance, evacuation, back-up systems) and trip cancellations; Damage to forest resources (tourism hotspots) due to wildfires; Risk of reduced attractiveness of tourism in areas with increasing disease incidence (zika, malaria, dengue); Risk of decreased attractiveness of key tourism features (waterfalls) due to precipitation variability; Reduced attractiveness of eco-tourism opportunities contingent on unique species (giant otter (<i>pteronura brasiliensis</i>), macaws (<i>ara sp.</i>), spider monkeys (<i>ateles sp.</i>), etc.) that are highly vulnerable to climate change.</p>	<p><u>Activities:</u> Community-led nature tourism <u>Benefits:</u> Well-organized community-led nature tourism can lead to cultural revival and economic diversification of local and indigenous communities (Izurieta et al., 2021). It can lead to jobs, income and social inclusion (Hoefle, 2016). It is inherently aligned with keeping natural forests and all their biodiversity in place and promotes ecosystem-based adaptation and resilience. Though nature tourism is vulnerable to outside shocks (e.g., COVID) it is also one of the key areas that can have a quick recovery in high forest landscapes once the economic recovery is underway.</p>	<p><u>Activities:</u> Community-led nature tourism <u>Benefits:</u> The establishment of nature tourism operations and the ensuing protection of forests and wildlife species for observation by visitors leads to habitat conservation and avoided deforestation (Butts and Sukhdeo-Singh, 2010; Lorencini and Gomes, 2018). This avoided deforestation 'halo' effect is estimated to lead to increased carbon stocks equivalent to 1.87 tCO₂/ha/year.</p>

Source: IDB's elaboration.

26. However, bio-businesses and the nature of investments related to them pose various challenges in raising capital. Since 2015, the environmental investment sector has been growing rapidly. This expansion includes investment blueprints for sectors in the bioeconomy, expanded capital in private investment funds and investments by various value chain actors, signifying that the pool of available capital is becoming larger. Yet, bio-businesses in general are still not ready to absorb the minimum levels of investment or the terms and conditions of funding that existing platforms are able to offer. Investments needed to implement these businesses are often associated to small and medium-sized enterprises and to payback models that may well increase transaction costs and risks.

Reinforcing the regulatory setting for bio-business development

27. Amazon countries do not have dedicated legal frameworks governing the bioeconomy, although there are countries that have recently embraced the concept under different instruments. All target countries have sectoral or general policy frameworks that cover some areas of relevance to bio-businesses, such as payments for ecosystem services, forest concessions, environmental incentives, supply chain legislation, organic agriculture, sustainable fisheries, ecotourism, access to biological resources or scientific research. In countries like Brazil and Peru, sub-national governments have also embedded bioeconomy promotion in their regional strategies. Yet, the approach towards the promotion of bio-businesses is still at its infancy, is based on programmatic objectives and lacks sufficient legal anchorage.

28. In addition, while there have been recent adoptions of guidelines in countries like Brazil and Peru to integrate economic valuation of natural assets, none of the Amazon countries have comprehensive regulatory tools when it comes to mechanisms to adequately value natural and forest assets involved in bio-businesses. Thus, the latter remain relatively unattractive to large- or small-scale investors and

financiers, which inevitably favour other more profitable and accessible ventures. Addressing these challenges requires innovative financing schemes and channels, such as blended finance, high-risk capital investment, bond issuance and shared-risk models³⁸.

29. A sector-specific scheme to promote bio-businesses that deserves consideration is forest concessions. The sector is dynamic throughout the region, with consolidated legal frameworks and countries increasing or decreasing concession areas rapidly in response to public policy and stakeholder engagement (Table 5)³⁹. Concessionaires can incorporate sustainable practices in forest with proper management and monitoring if they are able to generate sufficient revenue from sustainably harvested forest products, helping governments bring in private resources to forest conservation⁴⁰. In addition, increasing financial gains from sustainable products, activities or services will benefit not only private concessions but also community-based concessions, contributing to link sustainable forest practices with poverty eradication and recognition of community forest management.

Table 5. Overview of forest concessions in Latin America (thousands of hectares), by country

Country	Total forest area	Public forests area	Public forests for production area	Forest in public lands (%)	Public lands for production (%)	Industrial concessions area	Public lands under concessions (%)
Brazil	516,000	313,000	4,300	61	1.37	840	0.27
Peru	67,992	18,821	5,513	28	29	7,110	38
Guyana	15,200	12,200	6,580	80	56	6,500	53
Suriname	14,758	11,300	4,482	77	40	1,090	10
Latin America	718,820	425,368	43,582	59	10	18,597	4

Source: FAO (2016) Latin American Experiences in Natural Forest Management Concessions, Forestry Policy and Institutions.

30. By definition, the concession of a particular area of forest to a private company promotes long-term investment by the concessionaire, who has guaranteed access to the benefits of capital improvements over an extended period of time. This is crucial for building an economic constituency for standing forests. But given the multivariate nature of forestry, concession systems must be improved and implemented at scale incorporating social and environmental factors into the traditional technical and financial analysis of projects on equal standing.
31. The activities in this proposal seek to address the above-described challenges and increase the flow of private funds to bio-businesses that can reduce the impact of climate change, safeguard local livelihoods and promote more inclusive development.

B.2. Theory of change (max. 1000 words, approximately 2 pages plus diagram)

Problem Statement

32. In the Amazon basin, its various ecosystems –which include forests (lowlands and montane), peatlands, freshwater ecosystems and others– are experiencing changes in their dynamics as a result of climate change-induced increase in temperature, changes in precipitation and its variability, and extreme hydro meteorological events. These climate change-induced changes are expected to cause a rise in evapotranspiration, which is a key component of the surface water and energy balance of the target ecosystems in the basin. These impacts are compounded by changes and other dynamics associated to land use change, including deforestation (small and large-scale), land degradation, and wildfires, with CO₂ being emitted into the atmosphere as trees die and vegetation burns. These changes in the Amazon ecosystems and the climate change-induced changes in temperature, precipitation and extreme hydro-meteorological events affect the productive systems and the people and businesses (micro, small, medium and large) that interact and depend on them.

³⁸ IDB, “[Impact Investment for Biodiversity Conservation: Cases from Latin America and the Caribbean](#)”, 2021.

³⁹ FAO (2016) Forest concessions: past, present and future, Forestry Policy and Institutions Working Paper 36.

⁴⁰ The United Nation’s Sustainable Development Goals (SDG) agenda highlights the role of promoting effective public, public- private and civil society partnerships.

33. As described in Section B.1, these climate-change induced warming of the Amazon, with more severe and sustained droughts, will make the forest ecosystems more vulnerable to degradation and loss of its ecological functions. Recent observations show that during the dry season, degraded forests in the Amazon are 6.5°C warmer, pump one-third less water, absorb one-third less carbon, and show a considerably higher fire risk than intact forests ([Longo et al, 2020](#)). In the last decades, the Amazon region has suffered with greater intensity a series of pressures that have caused the loss of at least 10% of its vegetation cover. It is predicted that if more than 20-25% of the Amazon's original forest cover is lost, the “tipping point”, the current dense forest could be permanently transformed into a savannah ([Lovejoy and Nobre, 2018](#)), resulting in the dieback of Amazon forest, and rapidly accelerate climatic changes worldwide, as the Amazon would become a net source of carbon emissions instead of a sink. As shown in Figure 3, deforestation causes climate feedback loops that reduce precipitation and increase temperatures through changes in the albedo and surface roughness, and that reduce evapotranspiration and rainfall recycling.

Shift in the development pathway.

34. Cognizant of the social, environmental and economic challenges associated with the loss of natural capital, Amazon countries are increasingly looking for effective ways to promote a low emission/high carbon stock, climate resilient, more sustainable and inclusive development. Substantial efforts are needed to ensure a systematic and structural change, as this transition faces barriers that are diverse and somewhat intertwined. Although the investor community at large has already started to contribute to sustainably leveraging natural capital, well-designed incentives can encourage them to invest more and to further innovate in low emission, climate resilient sustainability solutions. International commitments under the Paris Agreement and the Convention on Biological Diversity promote more engagement of the financial sector in sustainability overall, triggering awareness on the relevance of forest protection, reforestation, and soil management. But standard compensation mechanisms have not yet been deployed at scale, and finance for conservation still represents only a small portion of the broader sustainable investment market⁴¹.
35. The region's endowment of natural capital and its economic relevance offer considerable opportunities to mobilize private investments for bio-businesses. Throughout this proposal, **bio-businesses** are defined as business models, practices and technologies that sustainably use natural capital and forest assets that lead to reduced emissions, higher carbon stocks, net gains in natural capital and increased climate resilience, in the context of the bioeconomy. More specifically, this involves practices such as conservation and preservation of ecosystems, recyclability and/or use of recycled materials, accreditation or certifications, efficient use of renewable resources (linked to climate change mitigation) and/or location considerations based on country level ecosystem-based adaptation (EbA) hotspots, local communities' poverty levels, proportion of natural-vegetation cover, and exposure to climate change (linked to climate change adaptation) (see ¶25). For the purpose of this proposal, bio-businesses are broadly categorized as sustainable intensification and/or extensive ecosystem conservation that leads to reduced emissions, higher carbon stocks and increased resilience in any of seven sectors: perennial agriculture, agroforestry, aquaculture, forestry plantations, non-timber natural forest products (NTFP), nature tourism and ecosystem services. The feasibility study for this proposal (see Annex 2) estimates current finance demand (debt and equity) for bio-businesses in target countries in the order of US\$1.9 billion⁴². The study is based on sectoral Gross Domestic Product (GDP) analysis and a thorough revision of key value chains in each of the aforementioned sectors, considering the various groups of productive actors (small producers, indigenous and riverine populations, and large producers) and business models (independent smallholder model, associative model, aggregation and trading model, and integrated corporate model)⁴³.

⁴¹ IDB, “[Impact Investment for Biodiversity Conservation: Cases from Latin America and the Caribbean](#)”, 2021.

⁴² This estimate should be considered a minimum, as the portfolio of value chains evaluated is indicative and not exhaustive.

⁴³ The sectors identified in the feasibility study have been the basis for the economic model and the estimations on target values for Programme indicators. However, provided that they fulfil eligibility criteria described under the activities of the Programme, other sectors or activities could be considered for receiving funds from the Programme.

Programme Goal

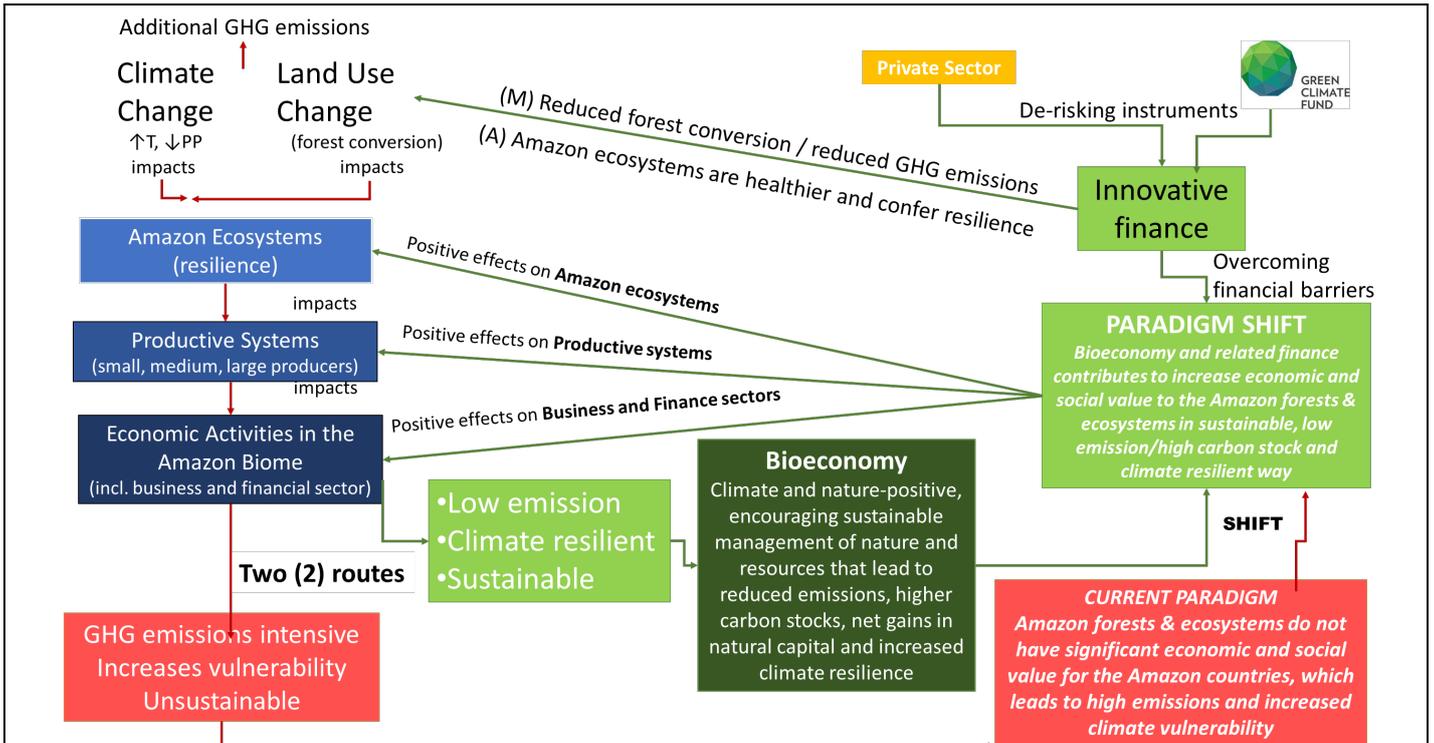
36. The overall goal of the Programme is to reduce GHG-emissions and increase the resilience of targeted value chains and ecosystems in the Amazon region by enabling the conditions to increase the flow of funds to bio-businesses in the bioeconomy of the Amazon. The Programme focuses on addressing some of the most critical barriers specifically faced by bio-businesses (including those related to the valuing of natural capital within financial and business models) to encourage private investment. While this approach may not respond to other technical and governance barriers and risks that are also relevant for the sustainable and inclusive development of the Amazon⁴⁴, the Programme proposes that ***IF tailored financial and policy mechanisms to value natural capital are deployed through the operationalization of the Amazon Bioeconomy Fund, THEN bio-businesses that contribute to climate mitigation, resilience and adaptability to climatic threats of local people in the value chains and ecosystems will become financially viable, expand, and provide a new model for low-emission resilient business development, BECAUSE entrepreneurs will be able to build capacity, start-ups will be incubated and accelerated, private support will be pooled through thematic bonds and incentivizing policies, and knowledge on climate-resilient and low-emission practices will be generated and disseminated.***
37. Fostering private investment in bio-businesses and their value chains can be determinant of the ability of economies to achieve maximum use of the potential of the bioeconomy. The financial sector can play a significant role, as project developers point to the need for debt financing, specifically long-term, with longer grace periods, flexible conditions and preferential interest rates. Both developers and financial institutions also long for equity instruments –especially those that absorb risks– and hedging schemes that help attract private capital⁴⁵. Promoting the bioeconomy also requires boosting processes such as incubation and accelerating businesses that enable their access to markets under competitive conditions. Access to financing, especially in the early stages and expansion is particularly relevant⁴⁶. This will allow to shift the current paradigm, where Amazon forests and ecosystems do not have significant economic and social value, project high emissions and increased climate vulnerability, to a new paradigm where the bioeconomy increases the economic and social value of the Amazon forests and ecosystems in a sustainable, low emissions/high carbon stock and climate resilient way (Figure 4).

Figure 4. Paradigm shift of bioeconomy interventions in the Amazon region

⁴⁴ For instance, local infrastructure and connectivity gaps, or deficiencies in land tenure and rights across the region.

⁴⁵ European Investment Bank (EIB), [Access-to-finance conditions for Investments in Bio-Based Industries and the Blue Economy](#), 2017.

⁴⁶ Economic Commission for Latin America and the Caribbean (ECLAC), [ALC](#) 2018.



Source: IDB's elaboration.

Barriers and Risks

38. As showcased in Figure 4, this paradigm shift will help address both climate risks and drivers of land use change (forest conversion). Climate induced risks, affect the amazon ecosystems, productive systems (small, medium and larger producers) and other economic activities in the Amazon biome (including tourism, business and financial sectors) in various ways. In the case of the selected value chains (see Table 4), the climate induced risks due to changes in temperature and precipitation include the reduction in suitable crop production areas (coffee, cocoa) and interruptions to crop growth cycle of native palms; a decrease in the quality and availability of NTFPs (particularly traditional medicines, essential oils, açai berries, Brazil nuts, etc.) due to inadequate growing conditions; risk of biodiversity loss; changes in ecosystem functions, including regulatory and cultural services; risk of reduced ecosystem capacity to regulate key hazards (flood, drought); loss of carbon stocks, and reduced evapotranspiration and rainfall recycling; slow shift to a more dry-affiliated forest genera in the Amazon due to increase in temperature and decreased rainfall; damage to key tourism hotspots and tourism infrastructure creating higher operational costs and trip cancellations due to changes in precipitation and temperature.
39. Partly due to the relative novelty of bio-business products, technologies and markets, important barriers exist that prevent funds to flow to private investments with strong climate change adaptation and mitigation impacts at scale. Many of these barriers are linked to the prevailing incapacity to assign a proper value to natural capital used sustainably in business. This is relevant as these investments are expected to combine financial goals with others related to climate change mitigation and adaptation, nature conservation, sustainable production practices and livelihoods in local communities. In line with this, the main identified **barriers** to investment in bio-businesses for climate resilience and mitigation are:
- (i) *Weak institutional environment for low-emission, climate resilient bio-business development:* The lack of national systems, platforms and tools for the valuation of assets that produce carbon sequestration and GHG-emission reduction or reduce vulnerability to climate risks, diminishes the capacity to attract private investment to activities that protect natural capital. In all target countries, existing legal frameworks and governance tend to distort the true costs of unsustainable activities in forest and land-use, without assigning a tangible value to conservation, climate mitigation, or increased climate resilience. Changes are needed to address the absence of policies that support

the shift to more resilient and low-emission production practices and technologies, including long-term strategies to access markets that offer premium prices for sustainable products. In addition, better articulation among actors in the business ecosystem –investors, financial institutions, risk capital, businesses, research and development (R&D) centres, incubators, and accelerators– is needed to create scale and to link actors to value chains. Targeted mechanisms and incentives can be developed so that the private sector will invest more in low-emission and resilient activities, either directly or indirectly through capital markets or via well-structured partnerships.

- (ii) *Risks of lending to bio-businesses that help improve climate resilience and/or reduce GHG emissions, including those in areas exposed to climate and environmental risks:* Despite their adaptation and mitigation benefits (as outlined in Table 4 and Figure 5), bio-businesses are riskier and more costly compared to other land-uses, especially at the early stages of development and in low-income, vulnerable areas. Adopting resilient and low-emission production practices impose incremental costs on businesses and producers, requiring capital that is generally unavailable or only available at significantly higher costs. Bio-businesses in general lack the scale needed to attract conventional investors, as they are mostly not big enough for large investors and many times not small enough for microfinancing. In addition, they lack traditional types of collateral as required by financial institutions. Anchor firms are dependent on small enterprises or producers along their value chain with limited or no funding of their own and must also work together with dispersed communities. Bio-businesses generally require longer payback periods, too, since their financial returns cannot normally be expected in the short run. Many bio-businesses operate in markets with high volatility in the volumes and prices of the inputs and products they offer, which negatively impacts their ability to be competitive, especially since the climate benefits and environmental value of their product is not usually reflected in a price premium. Bio-businesses also have limited or no track record that would inform potential investors about profitability, biodiversity impacts, and contributing factors to exposure to climate and environmental risks. In general, financiers and investors avoid riskier projects, and their lack of familiarity with lending to bio-businesses exacerbates their perception of risks. Thus, bio-businesses risk profile causes funds to flow towards other directions, leading to an overall lack of resources to invest, which in turn limits their possibilities for development and expansion⁴⁷.
- (iii) *Lack of standardized frameworks to monitor biodiversity and climate vulnerability impacts*⁴⁸: Lack of data, measurement systems, taxonomies, and natural capital and forest asset value accounting systems lead to insufficient awareness on the value associated to bio-businesses for climate mitigation and adaptation. As a result, the costs of destruction relative to the benefits of sustainable use that supports GHG-emission reduction and climate resilience is not properly understood, nor is it considered in decision-making⁴⁹ by either public or private actors. Reliable data is also essential to build credibility. Investors require transparency on the biodiversity and climate risks of the ventures they support. Measuring and reporting systems, metrics and indicators are key to build credibility.
- (iv) *Immature capital and financial markets, which limits supply of funding for bio-businesses:* In LAC, the problem goes beyond the characteristics inherent to bio-businesses. Although initial capital needs may not be very high, bio-businesses in the region do not have access to sources of venture capital, angel investors or other financing mechanisms, mostly due to their difficulty to bring their businesses to scale. The region's banking sector lacks depth, with around 88% of total financing demand unmet. About half of formal small and medium firms do not have access to formal credit and the gap is much larger when micro and informal enterprises are considered⁵⁰. Capital markets are quite underdeveloped in most of the Amazon countries, leading to a marginal number of large companies using it as a financing source, with no mechanisms available for smaller firms to access them. Other traditional sources of finance (e.g., bank credit) are often not available to these ventures, partly because of lack of information that results in high collateral requirements and interest rates, and lending policies that favour short-term loans with low risks. The COVID-19 crisis has exacerbated

⁴⁷ Rodríguez A. et al., *Towards a sustainable bioeconomy in Latin America and the Caribbean: elements for a regional vision*, 2019; Rodríguez A., *La bioeconomía: oportunidades y desafíos para el desarrollo rural, agrícola y agroindustrial en América Latina y el Caribe*, 2017.

⁴⁸ IPCC (2019), Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems: Summary for Policy Makers.

⁴⁹ Financial Times, ESG investors wake up to biodiversity risk, 2020.

⁵⁰ IFC, MSME finance gap: assessment in the shortfalls and opportunities in financing MSME in emerging markets, 2017.

these constraints, as lending strategies have been readjusted to address weaker operating conditions and increased risks. The crisis has also affected the financial health of firms, which are at higher risk and facing liquidity constraints⁵¹. These trends affect bio-businesses, as Micro and Small Enterprises (MSE) represent the majority of these businesses and their value chains. In the Amazon, this is compounded by a general absence of financial institutions in the region.

- (v) *Knowledge and capacity gaps for qualitative and quantitative assessment of contributing factors to and benefits of sustainable intensification and expansion practices in targeted value chains:* Insufficient awareness on the bio-business market opportunity is compounded by other capacity issues, such as a general lack of specialized knowledge (about climate change risks and resilience building investments in bio-businesses, biochemical, molecular and genetic properties of natural sources, production and marketing of innovative products or potential business models), low levels of social organization, insufficient alignment with international standards and norms, inadequate access to markets, insufficient logistic capacity, and limited use of certifications. These factors combined critically limit the capacity of firms, MSE in particular, to formulate successful growth strategies and to translate ideas for conservation, reducing emissions, and strengthening resilience into bankable/investable projects. Local availability of professionals that combine technical conservation, climate change adaptation and mitigation and financial skills is limited in target countries. Financial institutions are generally not familiar with traditional agriculture models, let alone climate change and sustainable bio-businesses that mitigate climate change and strengthen resilience of local producers and ecosystems.

Programme structure: Components and Activities

40. Enabling businesses to incorporate low-emission and climate resilient practices while maintaining minimum desired profits requires novel strategies and financial structures. The identified climate induced risks will be addressed through the intensification and/or expansion of financially viable bio-businesses, which will allow the implementation of adaptation and mitigation activities that will reduce the negative impacts of climate change in those value chains. These activities include agroforestry, irrigation best practices, investments that reduce deforestation and forest degradation, while also maintaining or improving ecosystem services, sustainable forest management and conservation, plantations of native species, community-led tourism for the conservation of natural habitats and ecosystems, etc. (see Table 4 and Annex 2).
41. The adoption and expansion of adaptation and mitigation activities described above will address the impacts of climate change for improved management of land in agriculture and forest areas, increased resilience and enhanced livelihoods of Amazonian communities, and improved resilience of Amazon ecosystems and ecosystem services. With a holistic view, this proposal identifies two main areas of action in which risk-tolerant financial instruments, improved institutional environments and capacities to properly value natural capital can help offset the incremental costs and risks of bio-businesses for low emissions and climate resilient development.
42. First, commercial banks in target countries do not offer credit products tailored to bio-businesses or to the type of investments needed to enhance sustainability, mitigation and adaptation benefits of these businesses.⁵² Loans are mainly short-term, and financing is concentrated in larger companies. Where formal credit exists for MSEs, financial and non-financial terms and conditions are highly unfavourable, which is mainly the result of: (i) high operating costs to lend at smaller scales; (ii) high transaction costs due to the remoteness of the territory; (iii) limited collateral; and (iv) increased perceived risks. Perception of risk by financial institutions might not be unjustified as bio-businesses in many cases face legitimate bankability challenges (see description of incremental risks above) and capacity gaps (see description of knowledge and capacity gaps above). Sufficient data on the performance of bio-businesses or the financial value of natural capital is not available. Innovative financing is key to address these issues, including a range of financial models and approaches to face market failures of traditional financing.

⁵¹ OECD, COVID-19 in Latin America and the Caribbean: Regional socio-economic implications and policy priorities, 2020.

⁵² Although there are some initiatives in the region (e.g., Santander in Brazil), there are potential complementarities. The Programme can benefit other entities (smaller scale) that have a presence in the region, as Santander's financing goes to consumption and larger entities, and does not have major presence (branches) in the region.

Innovative financing may use a combination of already established instruments, such as guarantees, loans, microfinance and factoring, or introduce new products, such as equity, quasi-equity, or convertible notes to expand existing products to new markets and value chains or involve new sources of funding, such as crowdfunding or investor/business matching platforms that can verify results. In any case, these financial mechanisms can help manage risks and adjust incentives to encourage private actors to invest in bio-businesses, as well as attract other participants to co-finance them.

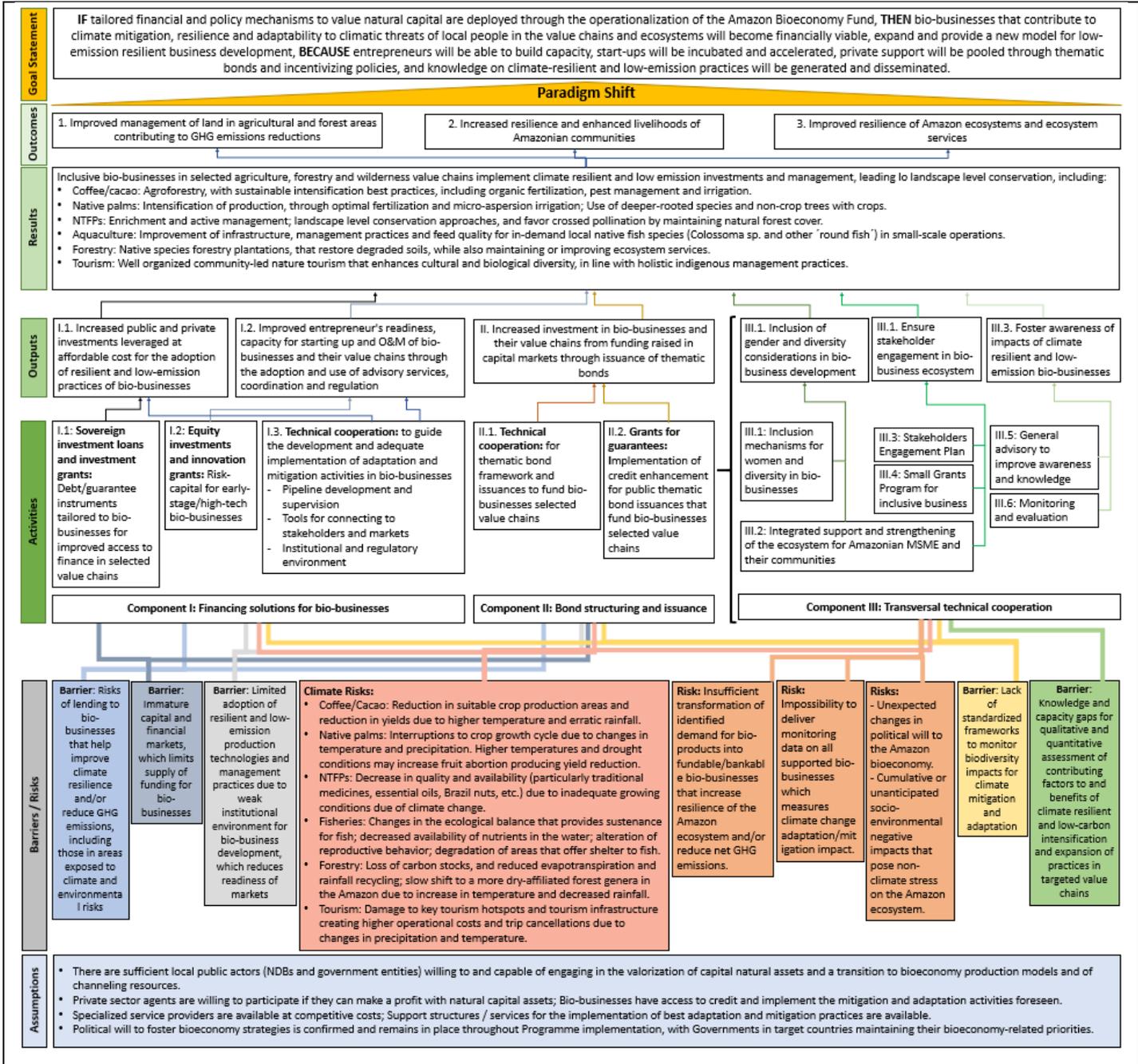
43. Second, governments are taking increased interest in the issuance of bonds to raise money for sustainable projects and attract new pools of socially responsible investors. On the opposite front, a growing number of institutional investors is increasing their concern for environmental and social standards into their investment decisions⁵³. Capital markets indeed provide an adequate platform for new mechanisms to channel private funds more efficiently to projects that address social, economic, climate, and environmental challenges altogether. For instance, with transactions ranging between US\$300 million and US\$1 billion, green bonds have become popular instruments for sustainable investments, particularly from large mainstream investors⁵⁴. Green bonds in LAC are still largely focused on energy and infrastructure, but these instruments could be expanded to bio-businesses. While a sufficiently large portfolio would need to be supplied to support the minimum size of a bond issuance, the potential for bio-business that can transparently demonstrate climate impact (either mitigation or adaptation) in the context of the bioeconomy is large. In turn, improvement in capital markets for the bioeconomy would lower the cost of financing for bio-businesses. To be successful in this endeavour, potential issuers need to understand the key elements pertaining a bond issuance, improve their creditworthiness and offset incremental costs of issuance (particularly for first-time issuers). They also need to understand bio-business investment criteria and apply minimum standards to effectively attract investors and increase transparency on the alignment of the bond with investor goals.
44. Activities under the Programme are expected to help effectively overcome the challenges described above, ensuring financing becomes available and projects are suitable for financing, and enabling the use of thematic bonds to further support the development of these businesses. The deployment of financial instruments that enable investments that protect and recognize the value of natural capital in business is expected to help offset the incremental risks and costs of these ventures for the private sector, addressing the ‘risks of lending to bio-businesses’ barrier and making them more competitive vis-à-vis other less sustainable alternatives. Targeted instruments designed to meet bio-business needs can make financiers more willing to serve the sector and developers more willing to invest without risking profitability, addressing the ‘immature capital and financial markets’ barrier. Knowledge and institutional mechanisms that address barriers on ‘weak institutional environment’, ‘knowledge and capacity gaps’, and ‘lack of standardized frameworks’ can help ensure a continued flow of quality projects that can be financed successfully, including innovative ways to structure partnerships between public and private actors through concessions. Well-structured bond issuances to address the ‘immature capital and financial markets’ barrier, along with standardization of methodologies to address the barrier on the ‘lack of standardized frameworks to monitor biodiversity and climate vulnerability impacts’, can increase the flow of funds to sustainable portfolios and persuade other issuers –public and private– to undertake this type of instrument to finance their portfolios as well.
45. Overall, the Programme can help create the foundation for markets that value the fundamental role of natural capital in business, enabling the development of profitable, scalable, resilient and climate-friendly production models in which private entities will be more willing to participate. Jumpstarting private participation –enterprises, producers, financiers or investors– in bio-businesses should produce demonstration effects, highlighting biodiversity and resilience as an intrinsic element of economic success. In turn, this may well entice more private actors to enter these markets in the future and in the longer term, shifting the productive structure of the Amazon towards one more reliant on activities that support GHG-emission reduction and lead to reducing vulnerabilities to climate change.

⁵³ GIIN, [Financing the SDGs: Impact Investing in Action](#), 2018; PGGM et al., [“Institutional investment into the Sustainable Development Goals”](#), 2018.

⁵⁴ IDB, [“Impact Investment for Biodiversity Conservation: Cases from Latin America and the Caribbean”](#), 2021.

46. While it is argued that climate change currently has a stronger role than deforestation in causing negative effects in the Amazon biome (Staal et al. 2020), the feedback loop described in Section B.2 needs to be addressed, as deforestation remains a major challenge in many parts of the region. The investments proposed under the Programme will contribute to this by providing alternatives to unsustainable forest and land use. In addition to the impact on GHG-emission reduction, a secure, more diversified flow of goods and services from bio-businesses has the potential to significantly aid societal adaptation to climate change, providing safety nets to local communities when climate variability causes crop failures, and helping reduce vulnerability of participants in the value chains at the local and sectoral levels. The enhanced productivity and profitability, job creation and income diversification that investments in bio-businesses supported by the Programme (see Annex 2) are capable of delivering can reduce the economic vulnerability of Amazon communities, enhancing their livelihoods and resilience to climate change impacts. Conversely, degraded forests and insecure flows of forest ecosystem services can make communities and sectors more vulnerable to climate variability and change, and lead to increased adaptation costs.
47. The Programme and its actions described before are aligned with the priority for each of the participating countries. Table 7 in Section D.5 "Country Ownership" provides more detail on how the Programme is aligned with the NDC, Climate Policies, Strategies and Actions Plans, as well as sectoral plans. The section provides a country-level description of the sectoral or general policy frameworks that show how the Programme is a priority and covers the areas of relevance for each country, such as payments for ecosystem services, environmental incentives, supply chain legislation, organic agriculture, sustainable fisheries, ecotourism, and technological research.
48. As described in the Operations Manual (Annex 21) and in section B.3, there will be a set of clear eligibility conditions for investments, beneficiaries and intermediation channels under each value chain. All investments must be carried out in the Pan Amazon in any of the target countries. Eligible investments will follow an "Indicative Positive List of Activities, Investments and Use of Resources" (see Annex 21 for further details for each value chain) and were initially determined based on bioeconomy definitions and their relevance in terms of contribution of mitigation and/or adaptation benefits. This list is not restrictive; it is dynamic and may evolve as new business opportunities arise that may be considered eligible in each target country. Incorporation of other activities and uses will be evaluated on the basis of compliance with the definition of bio-business, their potential to deliver mitigation and/or adaptation impact, and their compliance with any other Programme requirements. Eligibility will be further determined by the policies and procedures of the EE in each country and with national regulations. Section B.3 further describes the eligibility criteria under Components I and II.

Figure 5.- Theory of change diagram



Climate Risks	<ul style="list-style-type: none"> • Coffee/Cacao: Reduction in suitable crop production areas and reduction in yields due to higher temperature and erratic rainfall. • Native palms: Interruptions to crop growth cycle due to changes in temperature and precipitation. Higher temperatures and drought conditions may increase fruit abortion producing yield reduction. • NTFPs: Decrease in quality and availability (particularly traditional medicines, essential oils, Brazil nuts, etc.) due to inadequate growing conditions due to climate change. • Fisheries: Changes in the ecological balance that provides sustenance for fish; decreased availability of nutrients in the water; alteration of reproductive behavior; degradation of areas that offer shelter to fish. • Forestry: Loss of carbon stocks, and reduced evapotranspiration and rainfall recycling; slow shift to a more dry-affiliated forest genera in the Amazon due to increase in temperature and decreased rainfall. • Tourism: Damage to key tourism hotspots and tourism infrastructure creating higher operational costs and trip cancellations due to changes in precipitation and temperature.
----------------------	--

Sector/System	Climate Risks	Bio-Business	Evidence of Impacts	Adaptation and Mitigation Interventions	Adaptation and Mitigation Benefits
Sustainable agroforestry (coffee, cacao)	Increased temperature and precipitation variability impacts the suitability of production areas for coffee and cocoa production (Bunn et al., 2015; Ovalle-Rivera et al., 2015; Gomes et al., 2020; Lahive et al., 2019; Bunn et al., 2019).	19,214 cacao bio-businesses 25,081 coffee bio-businesses	<ul style="list-style-type: none"> • Reduction in 60% in Brazil of area suitable for coffee production (Gomes et al., 2020) • Higher temperatures and erratic rainfall changes cacao farming suitability and causes yield reduction (Lahive et al., 2019; Bunn et al., 2019) 	<ul style="list-style-type: none"> • Adaptation: Coffee and cacao production under agroforestry systems (shaded and diversified systems), with organic fertilization, pest management and irrigation and water management. • Mitigation: Agroforestry system involves arabica coffee/cacao, bananas and native tree species. 	<ul style="list-style-type: none"> • Adaptation: Increased productivity of cacao and coffee; Increased job opportunities. Agroforestry systems can mitigate the effects of climate change and maintain 75% of the area suitable for coffee production (Gomes et al., 2020). • Mitigation: New coffee/cacao agroforestry areas should increase carbon sequestration.
Native Amazon Palms (Açaí berries)	Increased temperatures and drought conditions impact the growth cycle of native palm production (Açaí berries) (Tregidgo et al. 2020)	2,799 Açaí bio-businesses	Decline in Açaí production during hot years is largely attributed to regional temperature increases of around 1.5 °C in recent decades (Tregidgo et al. 2020); Interruptions to Açaí palm growth cycle from warmer temperatures and reaching of upper heat and water stress thresholds, new pest and disease outbreaks, and changes in crop yields and productivity due to increased fruit abortion.	<ul style="list-style-type: none"> • Adaptation: Use of deeper-rooted palm species to make water available to more shallow-rooted species; selective removal of vegetation but granting a well-balanced shade as a strategy to increase production; enrichment and active management, as well as landscape level conservation approaches • Mitigation: Use of deeper-rooted species and non-crop trees with crops. 	<ul style="list-style-type: none"> • Adaptation: Increased productivity of native palms; Increased income from Açaí fundamental to the livelihoods of the majority of the region's ribeirinho population, most of whom live in low-income households; Increased job opportunities linked to climate resilient Açaí production areas. • Mitigation: increased productivity is accompanied by above and below ground carbon stocks increases.
Non-timber natural forest products (NTFP) (Brazil nut, essential oil, non-traditional medicine)	Increased temperature and precipitation variability impacts the growth conditions of various NTFPs species with commercial value, in particular of Brazil nut, essential oil production and traditional medicine production; impacting the quality and availability of the products. (Esquivel-Muelbert et al. 2018)	4,416 NTFP medicine bio-businesses	<ul style="list-style-type: none"> • Reduction of net primary productivity (NPP) by approximately 52% by 2050 under a medium-high GHG emissions scenario. When the direct effects of CO2 on plant physiology are included, NPP still reduces but to a lesser extent of 33% due to the enhancement of photosynthesis by CO2 fertilization. • Decrease in quality and availability of produce due to inadequate growing conditions and pest and disease outbreaks. 	<ul style="list-style-type: none"> • Adaptation: Climate information management to anticipate management responses. Favor crossed pollination by maintaining natural forest cover; Enrichment and active management, as well as landscape level conservation approaches; Research and monitoring of forest conditions/composition. • Mitigation: Protection of forest through intensification of forest-based NTFP value chain utilizing Brazil nut enrichment and other non-timber forest product best management practices. 	<ul style="list-style-type: none"> • Adaptation: Enrichment and active management would increase productivity of Brazil nut forests and other NTFPs as it responds to external ecosystem stressors from climate change. • Mitigation: Reduced emissions from reduced agricultural encroachment and other illegal deforestation. Enrichment in Brazil nut concessions, especially those that have been subjected to logging or agricultural induced degradation, could lead to increased carbon stocks.
Native species aquaculture	Increased temperature and precipitation variability drive permanent changes in the function of Amazon rivers, negatively impacting the fisheries. (Herrera et al., 2015)	1,571 aquaculture bio-businesses	Changes in the ecological balance that provides sustenance for fish; decreased availability of nutrients in the water; alteration of the reproductive behavior of the species; degradation of areas that offer shelter to fish; migration of fish to other regions; decrease in river flows (Herrera et al., 2015).	<ul style="list-style-type: none"> • Adaptation: Improvement of infrastructure, management practices and feed quality in aquaculture growing of in-demand local fish species (Colossoma sp. and other 'round fish') in small-scale operations. • Mitigation: Growing in-demand local fish species (Colossoma sp. and other 'round fish' in small-scale operations. 	<ul style="list-style-type: none"> • Adaptation: Growing in-demand local fish species in small-scale operations reduces pressure on native wild fish populations, hence improving aquatic biodiversity; Diet and income diversification for local communities (McGrath et al., 2020). • Mitigation: The sector can convert to net emissions sink by substituting consumption of more emissions intensive protein sources, like beef.
Forestry (value chain of native species plantations)	Increase in temperature and reduction of precipitation, compounded with land use change due to deforestation in the Amazon basin affects evapotranspiration and rainfall recycling, reduces carbon stocks and increases GHG emission sources; leading to a savannization of the Amazon. (Esquivel-Muelbert et al., 2018)	3,940 timber bio-businesses	With more extended / intense periods of soil water deficit, large low wood density trees may be at greatest risk of hydraulic failure due to cavitation (McDowell & Allen, 2015); Large trees are particularly affected by artificially-imposed drought (Nepstad et al., 2007; Rowland et al., 2015) and drought events (Bennett et al., 2015; Phillips et al., 2010), resulting in a decline in forest productivity, tree growth and reforestation activity.	<ul style="list-style-type: none"> • Adaptation/Mitigation: Reforestation with native species forestry plantations (e.g., Shizolobium sp., Guazuma sp., Ochroma sp.) 	<ul style="list-style-type: none"> • Adaptation: Native species forestry plantations can increase ecosystem resilience and help avert the Amazon tipping point by being structurally similar to natural forests, as far as hydrological and climatic functions; decrease in costs of restoration and reforestation; for every hectare of native forests planted and maintained 0.4 new local jobs are created (Rolim et al., 2019). • Mitigation: Decrease in deforestation and degradation (Rolim et al., 2019), higher carbon stocks in biomass and soil above and below ground carbon stocks increases.
Nature-led tourism Community-led tourism	Increase in temperature and precipitation variability, as well as extreme events negatively affect ecosystems, biodiversity and landscapes, which are key for ecotourism hotspots.	277 tourism bio-businesses	Negative impacts on tourism infrastructure creating higher operational costs and trip cancellations due to changes in precipitation and temperature as well as extreme events increase in frequency and intensity.	<ul style="list-style-type: none"> • Adaptation/Mitigation: Community-led nature tourism 	<ul style="list-style-type: none"> • Adaptation: Cultural revival and economic diversification of local and indigenous communities (Zurieta et al., 2021); jobs, income and social inclusion (Hoeffle, 2016). Promotes ecosystem-based adaptation, resilience. • Mitigation: protection of forests and wildlife species for observation by visitors leads to habitat conservation and avoided deforestation (Butts and Sukhdeo-Singh, 2010; Lorencini and Gomes, 2018)

Eligibility Criteria - Indicative positive list of activities, investments and use of resources per value chain

Sustainable agroforestry (coffee, cacao)	<ul style="list-style-type: none"> • Native genetic material technologies (seedlings, seeds). In vitro propagation of material. • Purchase of fertilizers / bio-inputs (bio-fungicides, bio-pesticides, biofertilizers). • Purchase of a compost bin to make organic fertilizer. • Acquisition of seals, green, sustainable certification. • Acquisition of equipment for eco-efficient production of resources; low resource use. • Acquisition of equipment to meet national or international environmental standards. • Investment in technology for marketing and commercialization. • Investment in clean vehicles. • Investment in monitoring systems. • Sustainable agroforestry practices. • Good business practices.
Native Amazon Palms (Açaí berries)	<ul style="list-style-type: none"> • Investment in reproductive technologies for native genetic material. In vitro propagation of material. • Purchase of native plant material (seedlings, seeds); resistant varieties to pests and diseases • Purchase of fertilizers / Bio-inputs (bio-fungicides, bio-pesticides, bio-fertilizers); integrated pest management, phytosanitary measures • Purchase of a compost bin to make organic fertilizer • Acquisition of seals, green certifications, organic, ecological, clean, sustainable cultivation. • Purchase of light, mobile harvesting equipment: Soil management (less impact on compaction, carbon footprint) • Purchase of bags, baskets (recycled, reused, biodegradable). • Acquisition of equipment for eco-efficient production; Low energy consumption, Low water consumption, Low input consumption. • Acquisition of equipment to meet national or international environmental standards. • Environmentally friendly storage center: low energy consumption, use of rainwater, natural lighting, cross ventilation, improved waste management. • Purchase of a baler with biodegradable, recycled materials. • Acquisition of biocatalysts for product transformation. • Investment in technology for merchandising and commercialization. • Investment in clean vehicles. • Sustainable agricultural practices. • Good business practices.
Non-timber natural forest products (NTFP)	<ul style="list-style-type: none"> • Purchase seeds of native species. • Eco-efficient oil press machine. • Equipment: fermentation -Fermenters with low electric consumption. • Eco-efficient threshing machine. • Acquisition of equipment for eco-efficient production/operation of resources; low energy consumption, low water consumption, low input consumption. • Investment in technology for merchandising and commercialization. • Investment in clean vehicles. • Purchase of fertilizers / bio-inputs (bio-fungicides, bio-pesticides, bio-fertilizers). • Purchase of a compost bin for organic fertilizer. • Acquisition of seals, green certifications, organic, ecological, clean, sustainable cultivation. • Purchase of light, mobile harvesting equipment: Soil management (less impact on compaction, carbon footprint). • Purchase of bags, baskets (recycled, reused, biodegradable). • Environmentally friendly collection center: low energy consumption, use of rainwater, natural lighting, cross ventilation, waste management. • Purchase of biodegradable and recycled packaging materials. • Purchase of biocatalysts for product transformation. • Sustainable NTFP practices • Good business practices.
Native species aquaculture	<ul style="list-style-type: none"> • Acquisition of native fry. • Purchase of high-quality feed. • Purchase of low impact equipment for fish harvesting. • Construction/implementation of the farm. • Cold Room / Refrigerators - Clean Energy. • Acquisition of eco-efficient processing equipment (low energy, water consumption) for washing, filleting. • Acquisition of clean packaging machinery. • Acquisition of equipment for clean and low waste operation. • Investment in technology for merchandising and commercialization. • Investment in clean vehicles. • Sustainable aquaculture practices. • Good business practices.
Forestry (value chain of native species plantations)	<ul style="list-style-type: none"> • Native genetic material technologies (seedlings, seeds). In vitro propagation of material. • Purchase of fertilizers / bio-inputs (bio-fungicides, bio-pesticides, biofertilizers). • Purchase of a compost bin to make organic fertilizer. • Acquisition of seals, green, sustainable certification. • Acquisition of equipment for eco-efficient production of resources; low resource use. • Acquisition of equipment to meet national or international environmental standards. • Investment in technology for marketing and commercialization. • Investment in clean vehicles. • Investment in monitoring systems. • Sustainable agroforestry practices. • Good business practices.
Nature-led tourism Community-led tourism	<ul style="list-style-type: none"> • Adequacy of eco-efficient/green/sustainable infrastructure in facilities. • Solar water heaters. • Acquisition of photovoltaic panels. • Acquisition of eco-efficient equipment in energy, water, and supplies. • Acquisition of seals, green certifications. • Investment in clean vehicles. • Investment in technology for merchandising and commercialization. • Staff training in nature tourism (ecotourism, bird watching, etc.). • Good business practices.

Note: Since not all components might be relevant or applicable in all target countries, it should be emphasized that the theory of change is based on a general framework that aims to provide a list of eligible uses for the funds. The applicability of specific components will be defined on a country-by-country basis during Programme execution. Country-specific needs, priorities and timeframes for implementation vary widely. Country-specific IDB programs in the context of this proposal will provide thorough justification for the selection of specific components and will be approved and implemented following IDB's project cycle, as detailed in Section B.4.

B.3. Project/Programme description (max. 2000 words, approximately 4 pages)

49. With a regional, multi-stakeholder approach (including investors, banks, project developers, producers, specialized advisory institutions, and R&D institutions) the Programme focuses on enabling the conditions to increase the flow of funds to bio-businesses in the bioeconomy of the Amazon. The Programme will be part of the overall IDB internal financing strategy to assist Amazon countries with promoting the sustainable development of the region, the Amazon Initiative, which goes beyond the Programme scope to include topics such as health, infrastructure and education⁵⁵.
50. In order to achieve Programme goals and in line with the theory of change, a multi-component structure is proposed. Since not all components and activities might be relevant or applicable in all participating countries, it is noted that this is a general framework that aims to provide a list of possible –not mandatory– uses for the funds at the country level⁵⁶.

Programme Components

51. **Component I: Financing solutions for bio-businesses:** Support to private bio-businesses and their supply chains through dedicated financing solutions designed to help overcome the prevailing financing challenges for the sector in each country. To deploy Component I, a holistic approach proposes activities in both the supply and demand sides of the financing, using a set of tailored instruments to finance projects in various stages of development. Concessionality is particularly relevant for companies introducing sustainable practices, to cover incremental costs and strengthen their operational capacity and skills. Reducing the cost of finance and increasing its tenor enables amortization profiles that better suit bio-business investments. GCF resources under Component I will be executed as follows:
- I.1. **Sovereign investment loans⁵⁷ (US\$135M) and investment grants (US\$16M)** will be provided by IDB to EEs to finance private projects via on balance earmarked dedicated financing lines and de-risking financial solutions, and/or through dedicated trusts or Special Purpose Vehicles (SPV). Using sovereign loans (funded with GCF and/or IDB resources) and investment grants (funded with GCF reimbursable grants), EEs will be able to offer various financial instruments that can provide terms (tenor, price, amortization profiles, collateral requirements) more adequate to bio-businesses financial and risk profiles. Funds will be channelled by the IDB to EEs via:
- a) **Loans (US\$135M):** to enable EEs to provide lending in various modalities to beneficiaries directly or via local financial institutions (LFI) that would extend them to beneficiaries.
 - b) **Targeted investment grants (US\$16M):** to enable EEs to structure de-risking financial solutions tailored to the needs of LFIs in each country-specific context to help them properly manage incremental risks when they go beyond their business-as-usual financing terms, market segments and type of businesses they finance –with the objective of enhancing and expanding their credit offer for investments eligible under this Programme. The management of incremental risk might materialize in the form of: i) longer tenors / duration of loans; ii) more flexible repayment terms / amortization schemes; iii) longer grace periods (more attuned to the revenue profile of some bio-businesses with longer growth pace); iv) alternative or reduced collateral requirements. Companies with a higher risk profile include earlier stage, less mature companies, those with less robust off-take conditions –for value chains still developing or in less consolidated markets–, those more vulnerable to climate/agricultural risks, etc. Investment grants will allow the provision of risk-

⁵⁵ Approved in March, 2021, the IDB's [Amazon Initiative](#) is designed to foster sustainable and inclusive development models in the Amazon, as well as to facilitate governance, alliances and collaboration within the region that are required in this endeavour. The initiative will focus on four focus areas: i) bioeconomy, ii) sustainable agriculture, livestock and forest management, iii) human capital (health, education and employment), and iv) sustainable infrastructure and sustainable cities. The proposed Programme will focus on a sub-set of the aforementioned activities, namely i and ii (with the exception of livestock, which it will not finance). In particular, the proposed Programme will support perennial agriculture, agroforestry, aquaculture, forestry plantations, NTFPs, nature tourism and ecosystem services by supporting various groups of productive actors (small producers, indigenous and riverine populations, and large producers) and business models (independent smallholder model, associative model, and integrated corporate model).

⁵⁶ The use of each component in IDB operations using Programme funds will be defined on a country-by-country basis during Programme execution. This definition process will be closely coordinated with NDAs and the respective countries' public authorities to ensure alignment with their existing and upcoming programs and initiatives in the Amazon.

⁵⁷ A sovereign investment loan is a sovereign guaranteed loan provided to an IDB eligible borrower that benefits from the sovereign guarantee of the country. Depending on the nature and/or mandate of the eligible borrower, the Subsidiary Agreements for a sovereign loan may include, in addition to the sovereign loan, a sovereign guarantee agreement to be entered into between the IDB and the country.

sharing products that enable financing of projects that would otherwise fall beyond the risk/return tolerance of LFIs, which are also subject to risk-taking and economic restrictions.

In turn, products offered by EEs to beneficiaries with the abovementioned funding comprise:

- a) Credit instruments funded by the loans, including: i) medium and long-term individual loans for bio-businesses in relevant value chains; ii) associative loans for anchor companies; and iii) factoring products;
- b) De-risking instruments structured with the investment grants, including: i) first⁵⁸ or second loss portfolio guarantees to mitigate the higher risk LFIs assume when financing bio-businesses; and ii) *pari-passu* guarantees that support credits so that potential losses are distributed proportionally between the EE and the LFI, when applicable. In all cases, de-risking instruments will not cover more than 80% of the LFI's loan or portfolio of loans, to ensure risks are effectively shared with the LFI, promoting adequate due diligence, structuring and supervision of investments by them.

Due to the programmatic nature of this proposal, the specifics of each instrument and fine-tuning will depend on the activities to be supported in each country under country-specific IDB programs, and will follow IDB project-cycle policies for approval and implementation (see Section B.4). For instance, the use of investment grants will be considered when LFIs are not capable of offering financing terms in line with eligible investments profiles in a specific country, sector and eligible value chain, providing the required extent and depth of risk coverage fully by itself, or offering such solution at a cost that does not hinder the economic viability of the investment.

The structures under which resources from Component I.1 may be channelled are⁵⁹:

- i. **Trusts or SPVs** executed by EEs, which allow for the pooling of different capital sources and offer high levels of flexibility and efficiency. An SPV structure facilitates the deployment of an ample range of financial products to support projects of all sizes, either directly or indirectly (via various types of LFIs). Aggregation is also key to mitigate the overall risk.
- ii. **On-balance dedicated financing lines and de-risking financial solutions** of EEs that earmark funds for certain types of projects. This structure allows for capitalizing on pre-existing operating structures within EEs, which in many cases already have products tailored to sectors that may be associated with bio-businesses (such as agriculture) in different stages of development.

In either structure, EEs may deploy resources to final beneficiaries directly or via participating LFIs. LFIs will have to comply with a pre-established accreditation process, which EEs normally have in place as part of their own operational policies. To be accredited, LFIs generally need to be supervised by the corresponding national supervisory agency or qualify through exhaustive risk screening by the EE.

Financing to final beneficiaries will be granted upon demand, subject to strict eligibility criteria. This includes a three-step verification system by which potential beneficiaries: i) shall not carry out activities or be subjects or entities involved in activities in a pre-defined exclusion list; ii) fulfil pre-defined environmental, social and economic criteria to be categorized as bio-business (see ¶25 and ¶35); and iii) comply with the eligibility of the sector of activity, type of investment and use of funds. While bio-business investment can emerge across multiple sectors (agriculture, forestry, aquaculture,

⁵⁸ There are many reasons and instances where a first loss coverage could be required. Some segments (micro/small businesses), for example, face significant limitations in terms of collateral available. This restricts the extent to which LFIs might finance them, and/or significantly increases required interest rates to reflect (and thus offset) the higher loss provisions / expected losses associated with lending to them. A first loss coverage has the potential to partially offset this collateral deficit, expanding and enhancing the financing offer to such segments. In addition, some bio-business investments have long payback periods –for example, from the long time to grow/mature certain plants– and thus require longer tenors. A way to help LFIs provide such tenors is through first loss coverage that spans all the way throughout the maturity of a fully amortizing loan, thus significantly reducing the net exposure in the last few years, where a smaller proportion of the original loan is outstanding but the full guarantee/risk coverage could still be in place. Another justified use of a first loss coverage are investments with remaining off-take risk (e.g., price risk and/or off-take contracts not covering the full period required for loan repayment), where the first loss coverage could help overcome outstanding gaps / risks and result in a positive credit decision.

⁵⁹ The channelling structure will be determined on a country-by-country basis depending on the characteristics of the local financial system and regulation, and the capacity assessment of the local EE. The two mechanisms (SPV or dedicated lines) could be combined –for instance, guarantees could be in a SPV while financing remains on balance.

agroforestry, NTFP, etc.) and the intended use of funds may be varied, Annex 21 provides a framework on eligibility criteria for investments to account for climate change mitigation and/or adaptation. Specific sectors eligible for financing will be decided on a country-by-country basis in response to country-specific circumstances and will be pre-established in the context of the Operations Regulations (OR) of each IDB operation using GCF funds (see Sections B.4 and G.3).

I.2. Equity investments (US\$6.5M) and innovation grants (US\$4M) will be used to enable risk-capital investment flows to early-stage bio-businesses in the Amazon region in the form of direct equity, investment fund interests and other first loss and risk sharing schemes to complement equity from other funds administered by the IDB (such as IDB Lab)⁶⁰ and other co-financers. These schemes are considered effective tools to maximize the potential impact of financing operations in early stage/high-tech businesses and attract equity from private investors, because of their capacity to de-risk investments while offering more value for innovative companies. Equity will be used for more mature/less risky businesses (only formal businesses) that have passed the pilot phase (minimum viable product phase), have positive revenues and are looking for gaining market traction. Grants, in the form of Contingent Recovery Investment Grants (CRIG)⁶¹ will be needed for riskier/more incipient businesses or NGOs (i.e., those that are leaving the pilot phase to start selling a determined product or service or those still working on a minimum viable product and still without a steady flow of revenue). Activities under Component I.2 will support ongoing IDB Lab initiatives, including:

- a) **Regenerate Accelerator (US\$2M equity and US\$4M grant):** a pilot fund that invests in high-potential regenerative bioeconomy enterprises operating in the countries of the Leticia Pact for the Amazon. The EE will be Kaete Investimentos, a local and reputable fund management company with vast experience in identifying sustainable early-stage bio-businesses, conducting detailed due diligences and deploying the best financial products for companies and investors.
- b) **Direct funding for climate-tech and biotech companies (US\$4.5M equity):** IDB Lab has identified a series of potential direct investees, characterized as growth tech-based start-ups that develop innovative products and services that result in better climate change resilience for local households and small-holder farmers⁶². IDB Lab will be responsible for identifying and selecting these investees based on over 20 years of experience in financing impactful start-ups in LAC.

Eligibility criteria for beneficiary bio-businesses under Component I.2 shall resemble the eligibility criteria for financing under Component I.1. However, equity and investment grants considered under Component I.2 may not only be used to directly support projects meeting such eligibility criteria, but also companies that indirectly enable the development of such projects, by offering solutions that help overcome critical barriers for their development (for example, to enhance market access and product off-take) (see Annex 21).

I.3. Technical cooperation (US\$53.6M) will finance activities under the following categories:

- a) **Bio-business pipeline development and supervision (US\$23.5M):** Advisory directed to guiding the development and adequate implementation of adaptation and mitigation activities in bio-businesses that will reduce the negative impacts of climate change.
 - i. **Supporting capacity of potential beneficiaries (US\$13M):** (i) advisory and extension services in good business practices, marketing and logistics, (ii) socioenvironmental impact measurement and monitoring systems (including participatory monitoring systems with local indigenous and afro-descendant populations or peasant communities), (iii) alignment with international standards and norms (including the adoption of certifications), (iv) access to local and international markets, and (v) technology upgrading in priority value chains.

⁶⁰ [IDB Lab](#) is the innovation laboratory of the IDB Group, responsible for promoting development through the private sector by identifying, supporting, testing and piloting new solutions to development challenges and seeking to create opportunities for the poor and vulnerable populations in LAC. IDB Lab uses flexible tools to test scalable innovations that drive economic and social inclusion. [IDB Lab activities](#) are funded with funds under administration by the IDB, principally resources from the [Multilateral Investment Fund III](#).

⁶¹ CRIG's repayment is usually triggered by a revenue-generating or liquidity event.

⁶² For example, combining solar power and water purification, generation of drinkable water and energy by whirlpool systems, biotech companies that produce microcapsules, colorants or pharmaceutical from nature-based inputs, such as plants/fruits etc.

- ii. Supporting **capacity of LFI (public or private) (US\$8.5M)**: (i) governance, management and fundraising of different financial structures, including SPV, where applicable, (ii) monitoring and assessment tools associated to bio-business performance, including data collection systems and indicators, (iii) coordination systems seeking to articulate actions among NDB, financial intermediaries and other relevant institutions, and (iv) optimization of resource allocation and risk assessment of bio-business investments.
 - iii. Supporting **bioprospection, knowledge dissemination and R&D (US\$2M)**: (i) creation and management of the Amazon Biodiversity Knowledge Hub⁶³, a virtual space for advancing open science, collaboration, and knowledge exchange for selected accredited R&D institutions, (ii) development of bioprospecting strategies and dissemination of results (local communities, private sector, academia, and local institutions), and (iii) a competitive fund to support R&D and innovation projects by bio-businesses and R&D institutions jointly.
- b) **Tools for connecting bio-businesses to stakeholders and markets (US\$11M)**: assist firms in the prototype phase or already operating with a minimum viable product to (i) better connect with stakeholders and match their projects with investors⁶⁴, (ii) provide greater access to markets opportunities by connecting buyers and sellers, (iii) access incubators/accelerators that support their transformation into scalable businesses, capable of attracting and absorbing funding offered by the Programme, as well as additional private capital, and (iv) strengthen the presence of women, indigenous, afro-descendant and peasant communities among producers and companies with possibility of investment, and promote the hiring of women and indigenous people in bio-business⁶⁵. This activity will support the following ongoing IDB Lab initiatives:
- i. **Amazonia 4.0 (US\$1M)**: Support to local communities' (including indigenous) start-ups focused on supplying resources to bio-tech companies. The EE will be Conexus, a local NGO that has a long track record in developing solutions to create economic opportunities through sustainable production. Specifically, this initiative will support business generation and reduction of deforestation in four Brazilian Amazon communities that depend on the cocoa and *cupuaçu* value chains, in which an estimated 3,000 people work.
 - ii. **Leticia Platform (US\$3M)**: Executed by the Worldwide Fund for Nature (WWF), which finances the creation of a local multistakeholder platform enabled with Geographic Information System (GIS) and Client Relationship Manager (CRM) systems that will identify, promote and link targeted bio-businesses to potential investors.
 - iii. **Amazon Bioeconomy marketplace (US\$7M)**: Develop the bio-business ecosystem in the Amazon so that early-stage entrepreneurs and more mature small and medium-sized businesses can increase exports and connect with investors. This project will run in two complementing tracks. Track 1 will use a bottom-up approach focused on strengthening emerging bio-businesses and connecting them with investors. To do so, it will: (i) identify and help verify quality and/or certify bio-businesses and products; (ii) curate and help connect bio-businesses with global investors through mechanisms such as the "Leticia Platform;" (iii) help develop different aspects of the value chains and prepare bio-businesses to participate in a transactional marketplace. Track 2 will develop the transactional marketplace for bio-business products and services to be sold globally. To do so track 2 will entail: (i) market analysis (local, regional and global) to identify bioeconomy products being exported or with export potential, as well as regional and local organizations that can partner with this track to strengthen the skills and competitiveness of the producers; (ii) local partner engagement and capacity building to help strengthen the skills of local producers of selected

⁶³ The Amazon Biodiversity Knowledge Hub will support R&D centres and universities in beneficiary countries whose mission is bioprospection, R&D, as well as conservation of the Amazon biodiversity. Discoveries from bioprospection are the primary source of new ideas, products and services that can be developed by existing firms and also by new start-ups, contributing to the development of the bio-businesses pipeline.

⁶⁴ Existing information platforms mostly contribute to the purposes of science, conservation and project management. There is no platform designed with a connection approach specialized in driving efficient and additional finance in the Amazon.

⁶⁵ Resources used for the development of technologies to link investors and projects will complement efforts being developed by IDB Lab and WWF in Colombia, in collaboration with the Paulson Institute and other conservation organizations, and expand these to the rest of the Amazon (see Section C.1.d).

Amazon bioeconomy products, and increase their international competitiveness; (iii) business matchmaking roundtables to generate export deals for new or existing Amazon bioeconomy products, gather lessons and generate knowledge that will inform the design of the future online Marketplace and; (iv) design and implementation of a dedicated, transactional marketplace for cross-border transactions, that includes an application that allows potential investors to register; learn about bio businesses and finance them (such as a crowd equity/financing platform). The marketplace will be designed, developed, implemented and managed by the IDB, co-created and designed with the Rainforest Alliance, The Nature Conservancy, IDB Lab, the Natural Capital Lab and could collaborate with global marketplace platforms such as Mercado Libre. It will also complement the other two initiatives herein proposed by IDB Lab: Amazonia 4.0 and Leticia Platform. Amazonia 4.0 will support early-stage/communities-driven bio businesses that may benefit for the marketplace in the future. The Leticia Platform can also benefit from the Marketplace given that it will support the engagement of investors to conservation and restoration projects undertaken by NGOs that may be featured in the bio-business marketplace in the future.

c) **Institutional and regulatory environment (US\$19.1M):** While policy frameworks are in place in all targeted countries for conservation and sustainable management of forests and biodiversity, a regulatory approach to natural capital valuation, access to genetic and biological resources, and incentives to attract private actors to bioeconomy investments are not universally in place. Grants will finance advisory for and/or training of government entities in the following areas:

- i. **Strengthening of national systems in valuing natural capital/forest assets (US\$7.6M):** (i) assessment and drafting of regulation in bioeconomy areas, (ii) bio-business definition and taxonomy, integration of natural capital accounting practices in decision-making both at the national and sub-national level, design and implementation of payment for environmental services mechanisms, landscape-level monitoring and management systems (including climate-informed land-use planning, natural infrastructure and disaster risk management planning), (iii) integrating land-use change and forestry management in public budgets, (iv) developing country's System for Environmental Economic Accounting (SEEA)⁶⁶, (v) promoting regional agreements and concerted action among Amazon states or neighbouring sub-national entities to tackle specific issues, and (vi) articulating regional and national strategies with conservation practices within local communities (indigenous, afro-descendant, fishing and peasant communities) and their territories, in order to promote the sustainability of their local economies, their cultural meanings and practices, and specific actions carried out by women.
- ii. **Developing and implementing innovative schemes for private participation in the sustainable management of forests and other conservation areas (US\$11.5M):** appropriately frame forest concessions and Public-Private Partnerships (PPP) as efficient policy instruments to deliver sustainable forest management and forest governance plans with local communities. Forest concessionaires –both private and community-based– have shown their commitment to protecting their source of revenue by keeping illegal loggers and land speculators out. They can also contribute to the instauration of sustainable forest management and practices that can endure in the long-term. These apply to different conservation areas, including legally protected areas but also other effective area-based conservation measures (OECM), where local communities and private actors can play an active role⁶⁷. Contractual structures designed will seek to promote economic efficiency, value-for-money, fiscal sustainability and improved conservation outputs and results. These mechanisms will also consider land tenure and access to ecosystem services, especially when local communities and indigenous territories are involved, including areas where they live or that they use for their own livelihoods. This activity will support: (i) improvement of

⁶⁶ The "Global Assessment of Environmental-Economic Accounting and Supporting Statistics 2020" states that Colombia, Peru, Ecuador and Brazil are implementing SEEA. However, deep gaps exist concerning the scope and thoroughness of SEEA implementation.

⁶⁷ OECM are geographically delimited areas –not Protected Areas– managed by multiple actors that conserve biodiversity, ecosystem services and functions, and its cultural, social, and economic values associated (IUCN, 2019). For instance, biosphere reserves, territories and areas conserved by indigenous peoples and local communities, responsible fishing areas, natural reserves of civil society, among others.

regulatory and institutional regimes governing private sector participation to emphasize better risk allocation that will lead to sustainable forest management and agriculture practices, and extend the scope of concessions to other nature-positive economy activities (e.g., eco-tourism), and (ii) design of partnership structures and contractual models that incorporate effective incentive schemes to ensure sustainable practices are put in place, by adjusting compensation mechanisms to the incremental cost associated with conservation goals while simultaneously promoting fiscal sustainability⁶⁸.

52. Component II: Bond structuring and issuance: Support to public entities (including national or sub-national governments and NDBs) to leverage capital market financing through the issuance of thematic bonds (those earmarked for specific use of funds, such as green or sustainable bonds) that include bio-businesses. Bond issuance can help governments gain access to new sources of private funding for their social and environmental financing programs, with better financial conditions relative to other sources⁶⁹. Nonetheless, interest rates depend on various factors such as credit risk, the strategy of the issuer, and concrete performance conditions required by investors. More transparency is key to make governments accountable for the results of their policies, with regards to determining the real impact of a bond and its proceeds (including at the underlying project level) and strategic alignment of the issuer with broader sustainability goals⁷⁰. Bond issuance offers a platform to effectively attract local and international capital market investors, and fulfil reporting requirements, with the aim of triggering increased financing for bio-businesses. Component II will use GCF grant funding in two distinct ways:

II.1. Technical cooperation (US\$5M) will finance advisory services on how to effectively include bio-businesses in the use-of-proceeds commitments of thematic bond issuance. Activities may include: (i) support for the legal and financial structuring of the bond, including the assessment of credit enhancement options, covered bond structures, co-finance/anchor investment with emerging market bond funds and other guarantee alternatives, (ii) development of the bond framework, including eligibility criteria, (iii) bond certification and methodology, and (iv) harmonization and standardization of bond reporting following international standards, particularly through the IDB [Green Bond Transparency Platform](#) (GBTP)⁷¹. The IDB will be the EE for this activity.

II.2 Grants for guarantees (US\$30M) will be used to deploy credit enhancement instruments for green bonds issued by public entities⁷². Many potential issuers in the region, particularly small or first-time issuers, face incremental costs associated to bond issuance and ex-post reporting. In addition, creditworthiness and limited capacity and/or diversification of issuers, as well as political risk, remain obstacles to capital market investments in LAC. Credit enhancement instruments, such as guarantees, can partly offset these issues, helping reduce the cost of debt for the issuer without risking attractiveness to investors, increasing the chances and volume of resource uptake in public issuances to finance investments in bio-businesses⁷³. Nonetheless, guarantees represent an

⁶⁸ Expanding the objectives of private participation from an exclusive sustainable resource management approach to a broader intervention where key conservation objectives are translated into the concession obligations, demand that contracts be designed with compensation mechanisms for the incremental investment cost of sustainable practices, especially since many benefits of sustainable forest management do not generate revenue –and thus no incentive– for forest owners and managers. This may require the use of financial resources as revenue streams, connected to the achievement of pre-determined environmental and social objectives.

⁶⁹ In February 2020, Mexican development bank FIRA, issued a US\$130 million green bond with support from the IDB. The bond is the first to receive an international Climate Bonds Initiative certification in the forestry sector and is expected to support more than 500 sustainable projects in agriculture, with expected outcomes on productivity, GHG-emission reduction, reduced use of agrochemicals, efficient use of water, and soil conservation.

⁷⁰ Reporting by issuers is a fundamental element of best practices in thematic bond issuance. Originally focused on a requirement to account for the allocation of proceeds (either on a project-by-project or an aggregated portfolio basis), it is gradually emphasizing more on disclosing key underlying methodologies and/or assumptions used to determine quantitative impact indicators to help inform investors.

⁷¹ Supported by a private stakeholder consortium, the platform provides standardized and transparent disclosure. Standards for clearer visibility about which bonds support nature-based projects could be developed.

⁷² Component II.2 is initially targeted at Brazil, Colombia and Ecuador only. Nonetheless, final allocations will be done in accordance with the IDB programming process and project-cycle described in Annex 21 and Section B.4, so country targeting in this case is only indicative.

⁷³ Leveraging the IDB's AAA credit rating via the use of partial credit guarantees can make these bonds a better fit with the risk profile of institutional investors otherwise unwilling to opt for a high-risk bond. The guarantee support would allow new investors to become familiar with the opportunities in LAC, efficiently boosting local bond markets.

additional cost to the issuance, which can often be a deterrent on uptake despite the benefits it can offer in terms of helping secure successful placement of the bond and/or reducing the required yield⁷⁴.

To address the abovementioned cost barrier, IDB will use GCF grants for guarantees to **reduce the cost of financial charges of IDB-funded guarantees**. Guaranteed debtors will pay IDB guarantee fees in accordance with IDB policy and as per documentation of the guarantee funded with IDB resources⁷⁵. To the extent that IDB receives GCF grant resources for this use, IDB will transfer those resources to assist the guaranteed debtor in reducing the financial charges it has to pay to IDB during the life of the guarantee, up to the amount of the grant. This will further improve the resulting all-in financing cost offered by the bonds, critical to bring funding to bio-businesses at viable terms.

The assessment of potential beneficiaries for Component II.2 will require ensuring that there is: (i) sufficient volume of bio-business projects in the issuer's pipeline; (ii) adequate legal and regulatory environments of local capital markets; and (iii) appetite and capacity of local investors to invest in these types of instruments. An ex-ante analysis of the expected net financial benefit of the credit enhancement associated to the guarantee will be conducted by the IDB in order to determine the appropriateness of providing grant support for Component II.2.

Proceeds from supported bonds (which are expected to provide long-term finance of at least 10 years) will be well positioned to provide funding (through public entities, such as NDBs) to bio-businesses and value chains, analogous to those expected to be financed under Component I. In other words, these projects may benefit from direct financing from sovereign loans/grants and equity (Component I.1 and I.2), or financing funded via capital markets through bonds (Component II.2). In this sense, the eligibility criteria for funding obtained via bonds in Component II shall be the same as the eligibility criteria for financing under Component I (see Annex 21). The size of the demand is big enough to justify both mechanisms.

53. **Component III: Transversal Technical Cooperation (US\$28M):** Additional activities will accompany the two components described above, specifically via technical cooperation to support:

III.1. Inclusion mechanisms for women and diversity in bio-business (US\$5M): Development of strategies, explicit measures and/or services to promote equitable access to the benefits of investments supported: (i) technical training or financial services tailored to women (taking into account collective land ownership), (ii) better and equitable access to information and technologies, (iii) equitable ownership over productive factors such as land, animals and capital, (iv) including specific criteria for the use of proceeds obtained from the issuance of sustainable bonds in favour of activities led by minorities, indigenous people and women, (v) access to formal economies, (vi) better promotion and marketing strategies for bio-products in local, national, and international markets, (vii) good production practices, (viii) gender-segregated data collection, and analysis of country-level gaps and opportunities. These mechanisms will be applied to strengthen women's own businesses and other alternatives where they are included in fair schemes of employment. These actions will be carried out in accordance with national gender strategies.

III.2. Integrated support and strengthening of the ecosystem for Amazonian Small and Medium Enterprises (SME) and their communities (US\$5M): Create and consolidate a network of projects, technical assistance providers and market connectors that are synergetic with the Amazonia 4.0

⁷⁴ The level of yield reductions that are obtained will depend on various factors, including -most notably- the country and entity issuing the bond, the tenor/maturity of the bond and the level of coverage provided by the IDB guarantee. These aspects will be determined during sub-project preparation stage, at which point this could be assessed more precisely. This said, making conservative assumptions consistent with those made in the rest of the proposal, and based on observations on outstanding sovereigns bonds (conservatively adjusted to reflect the usual higher risk associated to the sub-sovereign nature of public issuers to be supported by the Programme) and the ex-ante modelling of credit enhancement impacts, estimated improvements in yield required in the countries with the expected largest uptake of the Programme's credit enhancement solutions range between at least 170 and 280 bps. These reductions will help enhance funding cost (and thus economic viability) of bio-businesses to which proceeds from these issuances will be on-lent. But besides the direct, issuance-specific impact on yields and funding costs, this intervention has the broader, more transformational objective and expected, lasting impact of helping develop thematic bonds as an instrument to facilitate access to capital markets, with their huge potential for unlocking this vast source of local currency, long term financing that can deliver a sustainable path of access to adequately-termed finance for bio-businesses.

⁷⁵ The guarantee will be issued by IDB in its own capacity. The guarantee is triggered in the event that the issuer fails to service the debt under the bond. The share of the bond (principal and/or interest) to be covered by the guarantee and/or the structure of the guarantee will be determined on a case-by-case basis. The amount will vary depending on the underlying risk/rating of the issuer and the level of coverage needed to achieve a certain placement and/or price reduction objective.

concept⁷⁶ and that will strengthen the role of Amazonian SME and their communities⁷⁷ as forest maintainers and bio-businesses ecosystem generators. Through a regional entity, local partners together with local communities will implement business development support projects to improve SME and their communities' access to market opportunities leveraged by other initiatives carried out by the IDB Lab, such as Amazonia 4.0, Leticia Platform, Regenerate Accelerator and Bioeconomy Marketplace (see Component I). To prepare for the implementation of the regional project, a regional mapping exercise will be performed to create a database consisting of potential providers and recipients of the innovative solutions and connections. The database will gather information about (i) programs and institutions providing traditional peoples and communities and their bio-businesses with business development support, (ii) Amazonian SME and their communities, their structure and social characteristics, as well as their main areas of economic activity; (iii) other local partners (public and private) that can be part of the implementation providing innovative technological solutions and digitalization, and (iv) local market opportunities that can stimulate bio-business growth and resilience. From this database, a methodology will be developed to select the local partners that will implement the Programme together with the SME and their communities. IDB Lab is planning for Conexus to be the regional coordinator of this subcomponent, considering its expertise in business development and sustainable productive practices for community organizations, as well as its background as a stakeholder connector.

III.3. Stakeholder Engagement Plan (SEP) (US\$2M): Improving the design and execution of the whole Programme by including a meaningful and organic stakeholder engagement with quantifiable results to make it possible to measure both its effectiveness and the value added of this effort on the Amazon region. It also aims to revitalize and activate the Amazon's key stakeholders' inclusion by mapping a wider range of stakeholder profiles, perspectives and perceptions, contributing to improve meaningful and diverse bio-businesses, fostering innovative approaches among governments, the private sector, civil society, and other development actors, with quantifiable results. The SEP will be implemented on five levels of engagement: information, dialogue, public consultations, collaboration, and partnerships.

III.4. Small Grants Program (SGP) (US\$10M): This activity seeks to empower and enable local stakeholders – especially women, indigenous people, afro-descendants and campesinos – to take on initiatives and enable bio-businesses to enhance and influence development outcomes with a bioeconomy perspective. To manage expectations of local groups, strategic plans for outreach, including clarification of funding priorities will be designed together with a SGP steering committee of IDB and community organization representatives. Specific criteria will be fine-tuned as part of SGP activities to make the selection process more effective. Activities under the SGP, composed of both Technical Cooperation activities and Investment Grants, will include the following TC activities: (i) programme management activities (administration, knowledge and project lifecycle management); (ii) technical cooperation support and capacity building to facilitate community participation in the program--including institutional capacity strengthening for community organizations involved in programme co-management and for community participants in project development; and (iii) facilitating knowledge sharing among communities at the regional level through the strengthening of networks and alliances. Investment Grant activities will include financing of (a) participatory grants for productive and participatory family/community proposals ("Productive Projects"), and (b) catalytic grants for projects that involve several communities focused on enabling tools and conditions to facilitate community participation in bioeconomy value chains ("Enabling Projects").

⁷⁶ The Amazonia 4.0 concept is a technology driven methodology with the aim to develop a green circular economy that takes full advantage of the value of a "standing and permanent productive forest" so that it can reduce deforestation and capitalize on the Amazon biodiversity, with the support of new digital and innovative technologies, providing a viable economic alternative to deforestation-intense models.

⁷⁷ Among traditional peoples and communities are indigenous peoples, quilombolas, traditional communities of African origin, extractivists, riverside dwellers, caboclos, and artisanal fishermen.

III.5. General advisory services (US\$5M): (i) facilitation of Leticia Pact regional dialogue among signatories⁷⁸, (ii) high-quality knowledge generation and regional/international dissemination in collaboration with the Amazon Cooperation Treaty Organization (ACTO), (iii) development and implementation of data collection systems, (iv) analysis of limitations and opportunities of business informality in targeted sectors, and ways in which it can be avoided or reduced. It is expected that these activities will help create awareness that will encourage additional private participation and financial flows. The IDB will be the EE for this activity.

III.6. Programme monitoring and evaluation (US\$1M): Monitoring activities, analyses and preparation of interim and final evaluations to be submitted to the GCF by the IDB. These include data collection, verification and assessment of fund-level impact and outcome indicators, as well as Programme performance indicators. Two self-assessment evaluations are foreseen: a mid-term outcome evaluation (2024) and a final ex-post evaluation (2028) (see Annex 11).

54. Project Management Costs (US\$0.9M): Direct administrative costs to cover day to day execution-related activities of the Programme. These include staffing/consultants, travel, project management systems and office supplies.

55. In line with the proposed theory of change in Section B.2, successful implementation of activities under the components described above is expected to contribute to (i) reducing GHG-emissions from forest and land-use, enhancing carbon stocks of forests under improved management, (ii) leveraging private and public resources for bio-businesses, and (iii) increasing resilience and adaptation of regional ecosystems, facilitating adaptation of populations and economic sectors.

B.4. Implementation arrangements (max. 1500 words, approximately 3 pages plus diagrams)

56. As provided in the Accreditation Master Agreement (AMA), signed between the IDB and the GCF, the Funding Activity Agreement (FAA) will establish the requirements for the transfer, administration and use of GCF funds for the financing of the Programme. The IDB will ensure all necessary management and supervisory mechanisms to provide and maintain a transparent and effective administration of the Programme and will be solely responsible for the management and administration of GCF resources in accordance with its policies, procedures and practices, and following the provisions set forth in the AMA and the FAA.

57. The Subsidiary Agreements for the activities described in this proposal will establish the framework and conditions for all specific IDB operations to be considered for funding from this Programme. Consistent with its regional and multi-component structure, detailed arrangements –including between the IDB and corresponding EEs at the country level, when applicable– will be tailored to the specifics of component activities and third parties involved (see Table 6), as well as intended final beneficiaries.

58. During the implementation period, following the entry into effect of the FAA for this Programme, GCF resources will be allocated by IDB in the context of country specific IDB operations (Sub-projects). The assessment of the institutional capacity and eligibility of EEs will be individually undertaken as part of the preparation process of each Sub-project conducted by IDB (unless otherwise noted), and will follow IDB policies, procedures, and due diligence standards. Only after a Sub-project has been approved by the IDB, the IDB may enter into a Subsidiary Agreement with the corresponding EE.

59. Following a request from a specific country to the IDB, a Sub-project will be prepared, assessed and approved as an individual IDB operation financed with GCF resources under this Programme. If applicable, IDB resources or other resources administered by the IDB will co finance. Each Sub-project shall be consistent with the objective, scope and activities established in Section B.3 of this proposal and aligned with one or more of the expected results, as presented in the Programme performance indicators in Section E.5 of this proposal. All IDB operations shall also be included in IDB programming and strategic

⁷⁸ The Programme is aligned with the Pact overall, but specially contributes to its objectives 1, 10, 13 and 15, related to coordinating national policies and regulatory frameworks, promoting sustainable use of forests and production systems, including value chains, foster technological transfer to encourage sustainable business development, and strengthen financial programs and mechanisms, including with support from multilateral banks.

dialogue with each target country, in the context of local government priorities and existing collaboration with the IDB.

Contractual and Institutional Arrangements

Component I.1

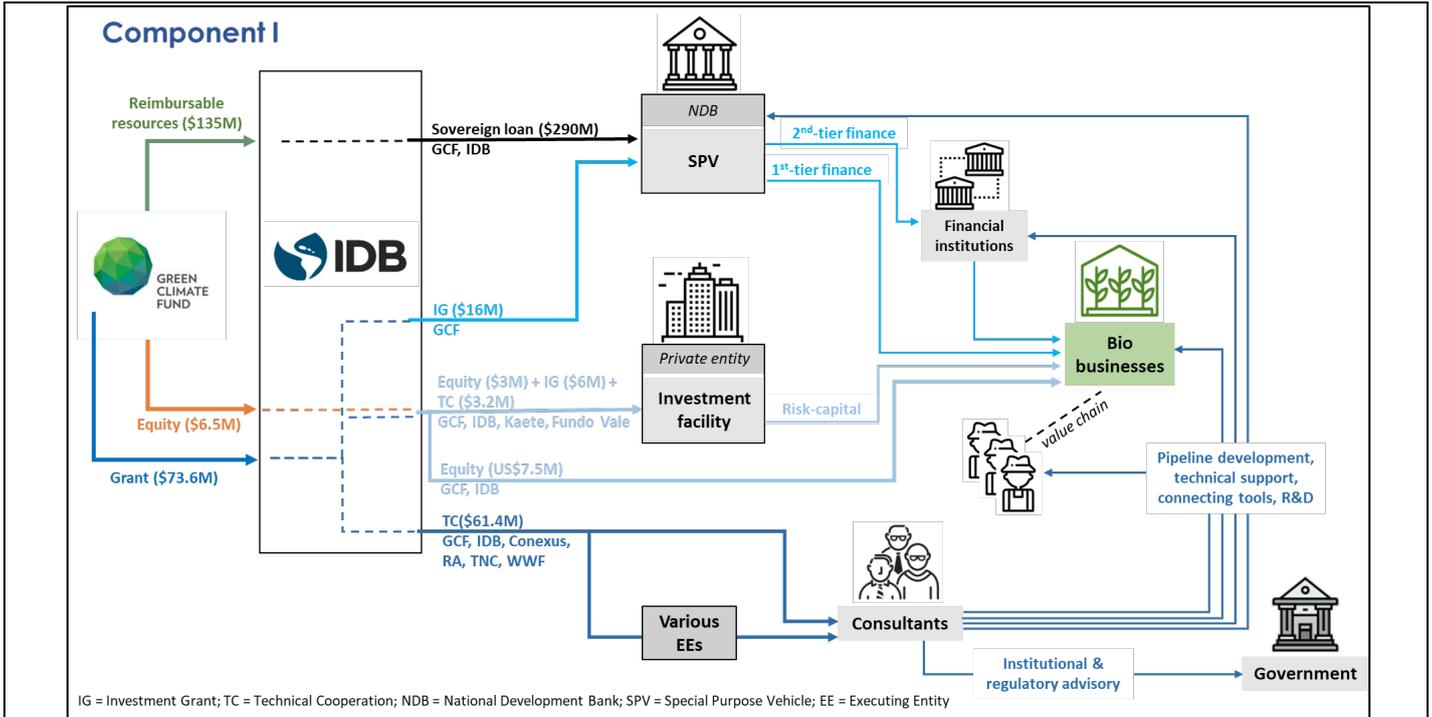
60. Eligible EEs will be identified jointly with national governments based on the relevance of their public mandate to the Programme activities, experience in finance structuring and fiduciary management, and track record, including with the IDB. As per IDB policy, prior to the approval of each Sub-project, IDB's fiduciary team will perform and/or update an institutional capacity assessment on the corresponding EE. This assessment includes overall technical capacity, adequacy of information systems, internal and external controls, and recommendations on any fiduciary risks identified. Institutional capacity assessment requirements for EE are detailed in Annex 20b.
61. EEs will be responsible for channelling resources provided by the IDB via sovereign investment loans (funded with GCF and/or IDB resources) and investment grants (funded with GCF reimbursable grants) to private projects through on balance earmarked dedicated financing lines and de-risking financial solutions and/or dedicated trusts or SPVs. Funds will be passed on to final beneficiaries in the form of various financial instruments that can provide terms (e.g., tenor, price, amortization profiles, collateral requirements) more adequate to bio-businesses financial and risk profiles (see ¶I.1). To this effect, EEs will enter into funding agreements with eligible LFIs and/or final beneficiaries of private projects. When channelling funds through LFIs, those institutions will provide financing to final beneficiaries of private projects.
62. EEs will be responsible for the full execution of sovereign investment loans and investment grants in accordance with the Subsidiary Agreements. Such agreements typically require that prior to the first disbursement the EE approves the OR, in terms previously agreed with IDB. OR will detail specific eligibility and other requirements needed to ensure alignment with Sub-project and Programme requirements⁷⁹ (see ¶I.1).
63. Without prejudice to the regional and programmatic nature of the Funded Activity, and to the assessments to be conducted by IDB at the Sub-project level, the following EEs have been identified for Component I.1: Banco da Amazonia (Brazil), FINAGRO (Colombia), CONAFIPS (Ecuador), COFIDE (Peru), and Suriname National Development Bank Ltd. (Suriname). Additional information for each EE has been included in attachment 1 in Annex 20b.

Component I.2

64. Fund managers and/or direct investees will be chosen by the IDB Lab through a formal due diligence process, including an integrity due diligence (conducted by the Office of Institutional Integrity of IDB) and an Environmental Social and Governance (ESG) consideration (using IDB's ESG policy). In addition, the AE must provide counterpart financing at a minimum of 1:1.
65. The following EE has already been selected (see Attachment 2 in Annex 20b) for activity (a) under Component I.2 and is already executing initiatives to be scaled up with Programme resources: Kaete Investimentos, a local and reputable fund management company with vast experience in identifying sustainable early-stage bioeconomy businesses (see ¶I.2, a).
66. Institutional capacity assessment and integrity requirements for EEs responsible for equity management under IDB Lab initiatives are detailed in Annex 20b.

Figure 6.- Component I: Financial flows and prototype structure of a Sub-project

⁷⁹ IDB will not enter into any Subsidiary Agreements with LFIs or final beneficiaries, which for that reason are not considered EEs. Nevertheless, the Subsidiary Agreement and the OR will establish Programme and Sub-project requirements that the EE will pass-on to LFIs.

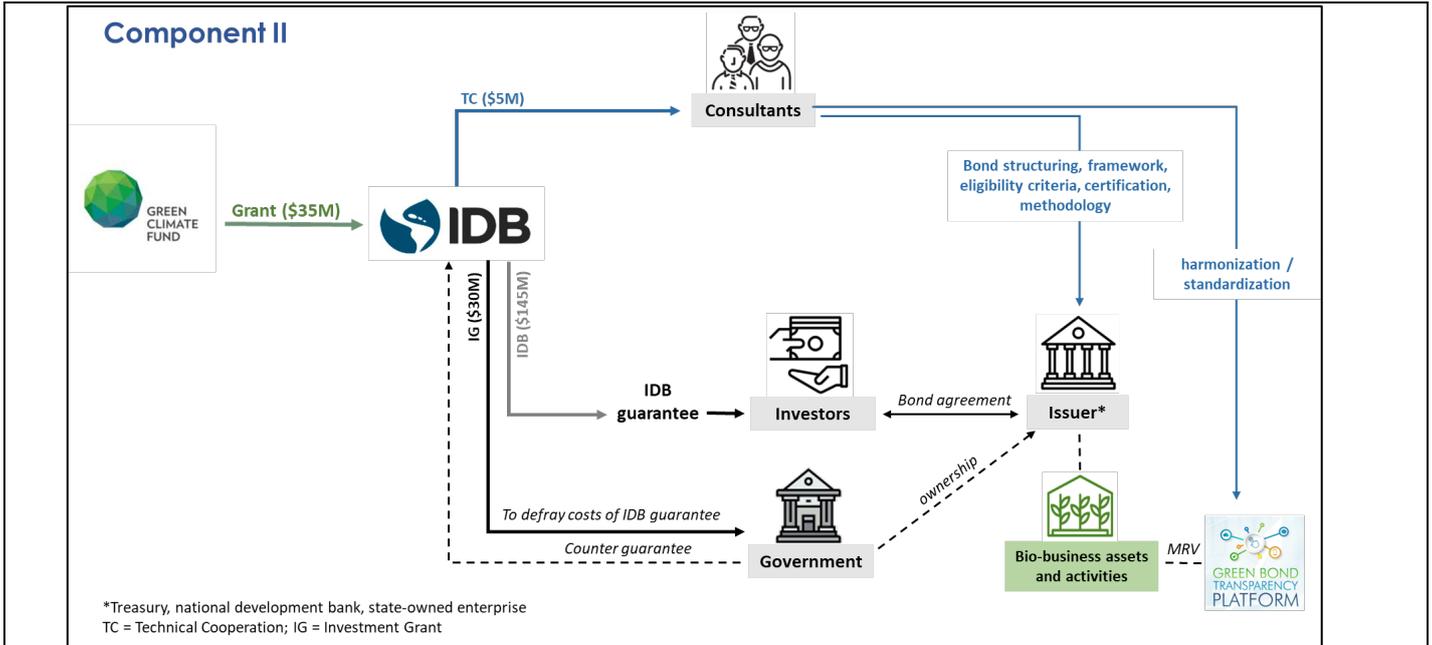


Component II.2

67. In its capacity as AE, the IDB will administer resources received from GCF for Component II.2. The implementation of the green bond issuance will be the responsibility of the public entity issuer in accordance with the bond documentation. As part of its project preparation cycle, and prior to the approval of the relevant guarantee operation (i.e., Sub-project), the IDB will conduct an institutional capacity assessment of such public entity, as further detailed in Annex 20b. Once the individual guarantee operation is approved by the IDB, the Subsidiary Agreements to be entered into between the IDB, as AE, and the bond issuer, as EE, would include all the necessary guarantee documentation. The guarantee documentation will establish the financial charges in accordance with IDB policy.

68. GCF guarantee grant resources will be allocated for **reducing the cost of the financial charges of IDB-funded guarantees** (¶II.2). For this purpose, the GCF will disburse such resources to IDB into the GCF Account prior to the effectiveness of the guarantee. GCF grant resources will be disbursed by the IDB as a grant to the guaranteed debtor. The guaranteed debtor then makes the payments of those charges in full to the IDB but has received a grant to defray its cost. In this way, the guaranteed debtor benefits from the grant by lowering its costs of issuing an IDB-funded guarantee. If there is a cancellation and/or a call of the guarantee, and the charges paid by the guaranteed debtor up to that moment are less than the amount of the grant, a partial refund of the grant must be made.

Figure 7.- Component II: Financial flows and prototype structure of a Sub-project



Technical cooperation (Components I.3, II.1, and III)

69. The execution of technical cooperation resources under this Programme will be done under the [IDB Technical Cooperation Policy](#) (OP 400) and related operational guidelines. According to this Policy, IDB may be the EE for technical assistance resources and/or it may enter into technical cooperation agreements with another EE. The definition of whether the EE is the IDB, or a third party will depend on the specific country context and beneficiaries' preferences and capacity. IDB will plan along with government and potential beneficiaries the detailed deployment of specific technical cooperation components and define based on the best execution option. The EE will be determined and assessed as part of the preparation of each technical cooperation Sub-project to be designed for every technical cooperation component of the Funding Proposal.

Third-party EEs

70. EEs must be legally established entities. This includes (i) national and subnational institutions from borrowing member countries of the IDB with legal capacity to enter into agreements with the IDB; (ii) regional and subregional agencies established by the same countries; (iii) private companies eligible to receive loans from the IDB; and (iv) not-for-profit institutions, including civil society associations.
71. When the IDB is not the EE, IDB will enter into technical cooperation agreements with eligible EEs. Eligible EEs will be required to use applicable IDB's procurement policies for their use of GCF funds.
72. According to IDB procedures, a formal diagnosis of the EE is required to assess institutional capacity, fiduciary management, eventual execution risks and identify and implement mitigation measures. Four basic areas are evaluated: (i) Management of Contracting of Services and Procurement of Goods; (ii) Administrative, Financial and Accounting Management; (iii) Technical and Monitoring Capacity; and (iv) Knowledge Management and Strategic Communication Capacity. It should be noted that this analysis is comprehensive as it also identifies institutional characteristics and capacities associated with the management of resources from national and international donors, good practices, experience, and use of systems to strengthen these, with a view to an efficient and transparent project execution.

IDB Execution

73. In specific local circumstances and for some of the components of the Funding Proposal (in particular for components such as II.1, III.5 and III.6), because of the scope of activities and/or highly complex technical inputs, which would feed into specific Programme preparation and reporting requirements from both the IDB and the GCF, it is appropriate for the IDB to directly execute in order to provide a centralized coordination of the various products. The execution by the IDB will enhance the quality control of the

studies and methodologies to be developed and will improve the efficiency and velocity in the design and execution at the Sub-project level.

74. When acting as EE, IDB will apply its own policies and procedures for hiring of individual consultants and/or procurement of consulting and other services, supervision, monitoring and reporting of activities, and will ensure the fulfilment of applicable AMA and FAA requirements. On a case-by-case basis, the IDB will determine if Subsidiary Agreements are needed for technical cooperation activities executed by the IDB, for example, if the beneficiary has committed in-kind contributions.

Common provisions for all Components

75. The administration of any of the above-mentioned operations, including reporting requirements, will follow IDB policies and procedures, and applicable AMA and FAA requirements, which will be reflected as needed in any Subsidiary Agreements. The Subsidiary Agreement will require that GCF proceeds are used for eligible activities under the applicable components of the Programme, would establish the disbursement period and will establish other implementation requirements, including regarding the execution structure for GCF-funded activities within the EE.
76. Due to the programmatic nature of this proposal, institutional capacity assessments will be carried out in the context of country specific IDB Sub-projects as part of the preparation and approval of each individual investment loan, guarantee, technical cooperation, or equity investment operation, and will follow IDB policies and due diligence standards. In all cases, EEs will follow AE's guidelines and principles (see Annex 20b).
77. Monitoring and evaluation of each IDB Sub-project approved with funding from the Programme will also follow standard procedures established by IDB policy. This includes a requirement to define monitoring indicators at the product and results level, which shall be consistent with one or more of the activities and expected results included in Sections E.6 and E.5, respectively. Investment loan operations also require an economic evaluation, which assesses the value of net benefits associated to IDB support. Whenever possible, the methodology used to calculate net benefits and costs of IDB loan operations using funds from the Programme shall be consistent with the model used to estimate the economic rate of return of the Programme (see the Economic Model in Annex 3 and Section D.6).
78. On account of the Programme design, which includes various countries, components, EEs and disbursement schemes, the IDB will monitor, compile and register information on all IDB operations approved and financed –totally or partially– with resources from this Programme, and will be solely responsible for aggregating and updating information on the Programme for periodical reporting to the GCF⁸⁰. The procurement plan shall also be revised periodically according to progress of the various IDB Sub-projects in target countries.

Table 6.- Summary of implementation arrangements by components, activities and outputs

Component	Subcomponent	Type of IDB implementation arrangement	Activity	Output	EE
Component I. Financing solutions for bio-businesses	I.1 Sovereign investment loans ⁸¹ and investment grants	Sovereign-guaranteed loan and investment grant (global credit operation), under a Subsidiary agreement in the framework of the FAA	Debt financing supply to bio-businesses	Credit disbursed or guaranteed to bio-businesses	NDBs (as listed in Section A.20 and Annex 20b)
	I.2 Equity investments and	Subsidiary Agreement, under the framework of the FAA	Risk capital supply for early-stage bio-	Risk-capital investment disbursed to	Kaete Invetimentos, IDB, and other direct

⁸⁰ When EEs other than the IDB are involved, they will produce and maintain information on the activities they are executing, and report it to the IDB.

⁸¹ The resources for the sovereign-guarantee loan will be provided through the IDB.

	innovation grants		businesses (post MVP phase) Contingent recovery investment grants for earlier stage bio-businesses (MVP phase)	early-stage bio-businesses	investees defined and assessed by IDB Lab
	I.3 Technical cooperation	Technical cooperation agreements between IDB and EE, under the framework of the FAA; or FAA where the IDB is EE	Bio-business pipeline development and supervision	Service contracts for capacity building, digital tools and technical support Technology applied and quality standards achieved	IDB and various EEs as detailed in Annex 20b
Technical cooperation agreements between IDB and EE, under the framework of the FAA; or FAA where the IDB is EE.		Tools for connecting bio-businesses to stakeholders and markets	Connecting tools and coordination systems	IDB, Conexus, WWF, The Nature Conservancy and Rainforest Alliance	
Technical cooperation agreements between IDB and EE, under the framework of the FAA; or FAA where the IDB is EE		Institutional and regulatory environment	Service contracts for regulation and institutional support	Various EEs as detailed in Annex 20b	
Component II: Bond structuring and issuance	II.1 Technical cooperation	FAA	Technical support for thematic bond framework development and issuance	Specialized advisory services for bond issuance	IDB
	II.2 Grants for guarantees	Investment grant agreement between IDB and EE under the FAA ⁸²	Implementation of credit enhancement for public thematic bond issuances with reduced costs for the issuer	Guarantees structured for bonds that include bio-businesses	Various EEs to be identified as potential green bond issuers and IDB, as detailed in Annex 20b
III. Transversal Technical Cooperation	III.1 Inclusion mechanisms for women and diversity in bio-businesses	Technical cooperation agreements between IDB and EE, under the framework of the FAA	Development of strategies, explicit measures and/or services to promote equitable access to the benefits of investments supported	Amazonian platform to promote women's access to bio-business financial services. Gender-lens in LFI's portfolio Selection criteria to access credit that rewards a	Various EEs as detailed in Annex 20b

⁸² Peru will not participate in the sub-component II.2.

				gender-lens in bio-business	
	III.2 Integrated support and the strengthening of the ecosystem for Amazonian SME and their communities	Technical cooperation agreement between IDB and Conexus, under the framework of the FAA	Strengthen the role of SME and their communities as forest maintainers and bio-businesses ecosystem generators	Strategic connections plan developed E-knowledge products developed Regional network of SME and their communities and public and private partners	Conexus
	III.3 Stakeholders Engagement Plan (SEP)	Technical cooperation agreements between IDB and EE, under the framework of the FAA; or FAA where the IDB is EE	Improve the design and execution of the Programme by including a meaningful and organic stakeholder engagement with quantifiable results	Information tools published and disseminated. Dialogue meetings and consultation processes implemented. Collaboration products, partnerships and sub grants implemented	IDB Amazonian Universities, local stakeholders, regional indigenous organizations
	III.4 Small Grants Program (SGP)	Technical Cooperation and Investment grant agreements between IDB and EE, under the framework of the FAA; or FAA where the IDB is EE for certain TC activities	Program management, building institutional capacity, financing Productive and Enabling Projects, and knowledge management co-designed in cooperation with community organizations	Community organization institutional capacity to manage program processes and projects. Portfolio of grants implemented. Knowledge and networking strategy implemented.	IDB and one or more community organizations
	III.5 General advisory services	FAA	Facilitation of regional dialogue, knowledge generation, implementation of data collection systems, relevant regional analysis	Knowledge products published or disseminated	IDB
	III.6 Programme monitoring and evaluation	FAA	Monitoring and evaluation as per Annex 11	Periodical reports on fund-level impacts and outcomes Mid-term and final evaluations	IDB

Experience and track record of the AE and EEs

79. The IDB is the main source of multilateral financing for LAC. Since 1961, the IDB has provided almost US\$246 billion for projects to reduce poverty, raise standards of living, spur economic growth, protect natural resources, and foster integration and trade. The IDB is well-positioned to support Amazon countries in advancing towards their climate mitigation and adaptation goals, building on extensive experience gained during design and implementation of several operations related to the promotion of private sector investment. For more than a decade now, the IDB has been particularly active on climate finance, mobilizing private capital in partnership with a vast array of public and private institutions. Only within the last five years, the IDB has approved credit lines for over US\$1.5 billion, supporting some US\$3.3 billion in green investments in 19 countries. Additional support for thematic bond issuances with NDBs and ministries of finance amount to more than US\$3 billion.
80. All this experience entails long-term relationships with governments and partner institutions, including over 40 NDBs throughout the region and in target countries, as well as thorough understanding of the financial markets. Beyond traditional loans and technical assistance, the IDB has decades of experience supporting innovation in various sectors across the region and developing innovative financing mechanisms to leverage private investments both at a macro (governments) and micro level (MSMEs).
81. Appropriate coordination between public and private parties, as well as among the different financing mechanisms, is essential to ensure success when implementing the structure proposed for the Programme. As part of the ongoing IDB strategic dialogue with target countries, including all sector ministries and public agencies involved in the bioeconomy, the Programme will be guided by IDB focal points in each country, as well as relevant technical experts within both public and private sector windows at the IDB. Led by the Connectivity, Markets and Finance (CMF) division, in close coordination with the Environment and Rural Development (RND), Climate Change and Sustainability (CCS), Gender and Diversity (GDI), Competitiveness, Technology and Innovation (CTI), Integration and Trade (INT), and Fiscal Management (FMM) divisions, and the innovation lens provided by IDB Lab, the Programme will benefit from synergies in the development of sector-dedicated projects, combining extensive knowhow on the design and implementation of innovative financial and policy instruments for access to finance, business acceleration, bond issuance, public-private contractual structures, and vast technical expertise on AFOLU and value chains in the rural sector. Under this collaborative scheme, the IDB has already some initiatives underway to channel national and international funding to bio-businesses in Brazil, Colombia and Peru (see Section C.1.d), which offers the opportunity to replicate good experiences and learn from experience.
82. Due to its internal structure, the IDB is able to sustain this multidisciplinary approach throughout the implementation of the Programme, adding value and offering knowledge based on regional and international best practices. IDB's internal procedures will ensure a solid definition of the logic and scope of the intervention in each participant country, including technical feasibility of the proposed customized solution on a country-by-country basis, key aspects of risk allocation, availability of and coordination with other sources of funding, and engagement of corresponding counterparts at a country and regional level.
83. NDBs acting as EE for Component I.1 have a public mandate to promote inclusive and sustainable productive activity, have ample experience in finance structuring and fiduciary management, and are generally an important financing agent for development in their respective countries. As such, they play a fundamental role in stimulating the expansion of access to finance and mobilizing resources in sectors underserved by local markets, offering several financial support mechanisms to companies of all sizes to enable investments. EEs for other components, especially those working with the IDB Lab, have proven capacity in their corresponding fields and experience with local markets. Overall, EEs have been or will be selected and identified using IDB internal operations approval systems and due diligence. In most cases, these entities will be those with which the IDB has a relevant track record, based on prior investment loan or technical cooperation operations (see Section B.4 and Annex 20b).

B.5. Justification for GCF funding request (max. 1000 words, approximately 2 pages)

84. Attracting the private sector to participate in bio-business investments is essential to support Amazon government strategies related to climate change mitigation and adaptation of forest ecosystems. By nature, private capital flows are necessarily reliant on return expectations (the existence of and possibility to determine a minimum level of economic return) and the level of risk involved. Most likely, if expected returns adjusted for risk are not attractive in comparison to other investment opportunities, private funding will be insufficient in sectors that are crucial to transition to a low-emission development path and build resilience in the long-term. If the value of natural capital and forest assets is not properly accounted for, these investments will remain unattractive or plainly overlooked. Ultimately, the goal is to induce the involvement of private actors that fundamentally are willing to make efforts to support sustainability in their business but have yet to see them as financially attractive.
85. Incentives are needed to promote the valuing of these assets across markets if private sector participation is to be encouraged. The system needs to be comprehensive enough so that the dynamics of these markets are changed to make these investments more profitable. The public sector can play an important role in allocating resources directly to the development of the bioeconomy, especially since it is so relevant to the government's development goals. But overall fiscal restrictions in targeted countries are substantial, and public funds are insufficient to cope with the many social and economic issues that governments need to address. Particularly amid the recent COVID-19 crisis, restrictions have become larger, and uncertainties remain on how the crisis is going to evolve. In this scenario, governments can leverage limited own and international resources to provide incentives so that private funds flow more easily to bio-businesses, supporting their development at scale. GCF funding can aid governments in this respect, enabling this transformation to happen at a faster pace.
86. Concessional financing and grants are an integral part of the set of mechanisms used by development finance institutions to support private sector development. Its use must be guided by the understanding that they should bring additional value, without displacing other financing sources. Extending incentives with public funds to a private business is fully justified when the development of such business produces positive externalities that would not be properly accounted for otherwise. When the concessionality is effectively employed to fix market failures, concessional resources help achieve development impacts by leveraging private sector participation that would not happen without support.
87. As a general premise, the justification of the use of GCF concessional funds in this Programme is based on the inability of bio-businesses to access financing in the local market on adequate terms, and to LFI's not being able to raise funding for credit and risk mitigation instruments that allow them to match lending conditions required by these businesses, which in turn lead to limited investment for the development, expansion and diversification of the bioeconomy. GCF's participation and concessional finance will allow for the provision of financing instruments and incentives suitable for these investments, helping offset incremental costs and risks undertaken by private developers/sponsors, banks and investors to make their involvement in bio-businesses viable. Initial capital flows from first movers are expected to leverage resources from other developers, lenders and investors.
88. **Concessional loans, equity and grants under Component I**, aim at delivering more adequate financial instruments for bio-businesses. Reducing the cost of finance and increasing its tenor makes the amortization profile more suitable to bio-business investments. De-risking support can catalyse positive lending decisions by means of enhancing the collateral profile of operations and/or reducing expected losses for financiers (in turn reducing loss provisions and improving profitability). First loss, risk sharing, and guarantee schemes are also considered effective tools in early stage/riskier businesses to maximize the potential impact of leveraging equity from private investors, helping address the "valley of death" for innovate companies. GCF participation is critical to:
- supplement IDB resources, significantly enhancing reach and impact of the Programme (more than twice, as per IDB estimations); this includes an estimated private sector leverage potential of over US\$160 million only in activities under Component I.
 - achieve the required level of concessionality and other critical financing terms (e.g., tenors, risk-tolerance).

- address the bankability challenges faced by innovative early-stage bio-businesses that hinder their access to traditional debt financing, giving them the required capital and time to build their business (capacities/track record, pipeline, off-take and supply agreements).
89. For instance, for investments modelled for SMEs in the native palm, cacao, coffee, aquaculture, native timber and NTFP sectors, a reduction of 300 bps in interest rates and a tenor of 10 years (matching the economic payback period of these investments) would result in an average improvement of equity IRR of 2.3% (from 8.6% in the base case to almost 11% with GCF-enabled improved financing terms). This would achieve not only a meaningful improvement in IRR, but also an alignment between payback periods and loan tenors, which would reduce the need for further (generally scarcely available) equity injections to pay back debt before projects start paying off.
90. **Grants for technical cooperation in Component I.3** will provide critical support to build capacities, innovation, business resources and regulation, among others, to help overcome bankability issues and ensure adequate implementation of adaptation and mitigation activities in bio-businesses that will reduce the negative impacts of climate change.
91. **Grants under Component II** will support the deployment of thematic bonds, particularly tailored for financing of bio-businesses in various ways: i) filling capacity gaps needed to develop a pipeline and portfolio of suitable bio-business projects (e.g., compliance with relevant bond standards, financial profile suitable for aggregation/inclusion for bond financing, etc.), ii) supporting the design of sovereign-guaranteed instruments to credit enhance issuances to achieve interest rate reductions, particularly in certain countries that are not investment grade, where rates can be higher than needed to enable the financing of bio-businesses under suitable terms, iii) ensuring proper structuring of these bonds (given higher requirements for certification, monitoring, reporting and verification), when needed. In particular, **grants for guarantees in Component II.2** are needed in cases where the economics –without valuing relevant externalities- result unattractive. GCF support becomes critical, to reduce pricing for IDB-funded bond guarantees (i.e., buying down their cost by using GCF grants) when the costs of the instrument might significantly offset the interest rate reductions achieved through the credit enhancement, turning them unattractive. Such support in turn incentivizes development of bond solutions to help pave the way for access of bio-businesses to the vast availability of capital markets financing.
92. Overall, GCF grant resources are key to cover availability gaps of the described instruments, as well as limitations in public budgets available to fund these activities, particularly as they are stressed with and prioritized for COVID-19 pandemic-related investment needs.
93. Throughout its project cycle, the IDB assesses development outcomes of each operation it approves. Such an assessment is geared towards ensuring that interventions are indeed aligned with its mandate, including social, environmental and economic development aspects and the justification of the need for support. At the country and component level, the use of funds from the Programme will be justified on development outcomes, clearly stated in the results framework required for approval of all IDB operations (see Section B.4). Justification at the country level will also be based on the concept of additionality and minimum concessionality.
94. With regards to ensuring the use of **minimum concessionality** (in order to avoid market distortions and crowding out private investment), the following principles will be applied in all cases for interventions funded by this Programme:
- i. Financial analysis will be conducted for each lending/guarantee facility to be deployed, for instance by comparing financial performance metrics of the relevant sector or prospect investment with appropriate benchmarks. This will be used to assess the need for pricing and other specific terms (tenor, grace, seniority, etc.) enabled by GCF funding concessionality. Country-level analysis will also support confirmation of the additionality of the proposed financing/guarantee solution.
 - ii. EEs and LFI on-lending to final beneficiaries will have to abide by the rules established by the IDB in the respective Subsidiary Agreements (see Section B.4). These rules include oversight mechanisms (e.g., indicators, mandatory reporting and supervision visits) intended to ensure an adequate use of the grant element to transfer or reduce risk, to maintain appropriate levels of quality of the portfolio and fulfil conditions on the use of funds. This will also help ensure that the grant

element reaches final beneficiaries and does not distort the market or encourage excessively risky lending, and that it leverages the desired behaviour among stakeholders⁸³.

B.6. Exit strategy and sustainability (max. 500 words, approximately 1 page)

95. Successful implementation of Programme activities should translate into increased confidence on and experience with the bioeconomy among governments, investors, financiers and firms, leading to them further investing in structuring and implementing bio-businesses without donor support in the future. Moreover, by supporting bio-businesses through a value chain approach, the Programme will be building robust connections to demand and markets. These relationships and mutual beneficial transactions, strengthened by anchor companies in these value chains, are self-replicating. The activities proposed by the Programme have been designed to induce investment and crowd in private actors, with a view to ensuring that such activities produce results that are sustainable over time. These mechanisms are intended to function in a way that does not distort existing markets, but instead by offering venues where market conditions can be improved to match the risks and costs of bio-businesses.
96. First, for businesses directly supported via debt or equity-like financing instruments, concessionality is essentially used to incentivize a systematic and effective financing system for formal bio-businesses, whatever the stage of their development. By tackling first-movers' risks, the Programme will help build a strong portfolio of bankable projects and demonstrate the profitability of the sector to financiers and businesses alike, encouraging other actors to participate in these markets later in time. The Programme will monitor the extent to which LFI have built capacity to be able to on-lend to these businesses, small and large alike, without requiring further subsidies, as well as to expand their lending practices and portfolio to respond to bio-business needs. The Programme will also oversee the level of engagement of local public and private institutions, the use of certifications and sustainable principles, and the development of technology to support the creation of pipeline in the future.
97. Second, regarding the work with thematic bonds, besides securing sufficient investment in bonds earmarked for bio-businesses and their direct contribution to scaling up financing for these ventures, the proposed Programme will make some additional contributions with longer-lasting effect: i) asset demonstration, since supported bonds will offer another platform to demonstrate the viability of these assets to yet another group of investors, especially at the international level, and ii) capacities and standards on the issuer side (for issuance, monitoring and reporting) that at the local level will remain in place, opening the door for replicating successful issuances in the future by either the same or other potential issuers. Within the context of the global drive toward green and sustainable bonds, the aggregation and monetization of bio-business finance through bond issuances is an innovation not previously applied by major international financial institutions. Above and beyond the introduction of the instrument in developing markets, resource mobilization will expose institutional and impact investors in developing economies to opportunities from new capital market instruments. This supports the development of domestic capital markets, which will eventually also facilitate the participation of international sources of finance. Altogether, supporting functional capital markets for the bioeconomy will create financial structures that will provide large amounts of financing well beyond the life of the Programme.
98. Institutional and specialized knowledge barriers are addressed by technical cooperation activities under each component in the proposed structure. These have been crafted to incorporate capacity transfer and training, which will help institutions better understand the actors, products, business models, technologies and networks involved in the bioeconomy, better gauge the risks involved and overcome the information asymmetry problem. Such capacity building is intended to improve institutional ability to sustain or replicate the activities financed by the Programme, as well as strengthen the delivery of associated development outcomes. By adopting a training-of-trainer's model and engaging relevant "aggregators" (e.g., extension organizations or incubators), know-how should be inherited by others that are also

⁸³ Following the example of previous GCF/IDB funded programmes, the methodology for ensuring GCF concessionality is passed down to final beneficiaries includes: i) for final beneficiaries, financial products within this activity are designed so that they inherently offer interest rates more attractive than comparable products on the market, and ii) LFIs will be required to declare the average interest rate applied to similar borrowers, and a comparison with GCF-funded products, which shall demonstrate lower interest rates than the declared average. See Annex 21.

relevant to these markets. Where regulation and institutions will have been reinforced, such improved frameworks are expected to remain in place beyond the Programme and continue to encourage private investments in the long run, for example with national natural capital accounting systems and SEEA in participating countries. The generation and dissemination of knowledge and improved coordinating systems among public and private actors should also contribute to sustaining results in the long-term.

C. FINANCING INFORMATION						
C.1. Total financing						
(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)		Total amount			Currency	
		279			million USD (\$)	
GCF financial instrument		Amount	Tenor		Grace period	Pricing
(i)	Senior loans	135	20 years		5 years	0.75 %
(ii)	Subordinated loans	---				
(iii)	Equity	6.5				
(iv)	Guarantees	---				
(v)	Reimbursable grants	20				
(vi)	Grants	117.5				
(vii)	Results-based payments	---				
(b) Co-financing information ⁸⁴		Total amount			Currency	
		319.1			million USD (\$)	
Name of institution		Financial instrument	Amount	Currency	Tenor & grace	Pricing
IDB and/or other co-financiers ⁸⁵		Senior Loans ⁸⁶	155	million USD (\$)	25 years 5 years	LIBOR+ 0.80%
IDB		Guarantees ⁸⁷	145	million USD (\$)	25 years	0.80%
IDB Lab, Fundo Vale		Equity	4	million USD (\$)	10 years	
IDB Lab, Kaete, Conexus, RA, TNC, WWF		Grant	14	million USD (\$)		
IDB		In-kind	1.1	Million USD (\$)		
(c) Total financing (c) = (a)+(b)		Amount			Currency	
		598.1			million USD (\$)	
(d) Other financing arrangements and contributions (max. 250 words, approximately 0.5 page)		<p>99. For the reimbursable portion of the resources requested, participant countries will provide a sovereign guarantee, which covers the EE financial obligations under the loan (including repayment of principal, payment of interest and other financial charges).</p> <p>100. As listed in Section C.1.b, besides IDB co-finance EEs are expected to contribute with additional resources to complement the financing of a larger portfolio of bio-businesses. Resources from intermediary LFIs will be leveraged especially in the case of guarantee products offered by NDBs and funded by the Programme, as these would only cover the credits partially, leading to LFIs assuming risks with their own resources. In addition, the Programme estimates to mobilize some US\$181 million in debt financing from bond investors and some US\$175 million equity and debt from other sources at investment/firm level. Also, the Programme will benefit from in-kind contributions (US\$1.1</p>				

⁸⁴ The estimated total amounts of AE and other co-financiers are subject to the approval of allocation of such funds for each individual Sub-project on a case-by-case basis and is contingent on such approvals being obtained (see Section B.4).

⁸⁵ Loans from the AE and/or funding provided by EEs, LFIs and/or other resources administered by AE in excess of that funded with GCF resources, and/or a combination thereof.

⁸⁶ IDB loan terms are flexible. Expected averages for tenor and grace are used and rates applicable for the 4th quarter 2020 under the Flexible Financing Facility (FFF). 3-month LIBOR based rates reset four times a year in January, April, July and October. See IDB Finance [Current Interest Rates and Loan Charges - All financial products](#).

⁸⁷ See IDB Finance [Flexible Guarantee Instrument \(FGI\) for Sovereign Guaranteed Operations](#).

	<p>million) for the overall implementation, administration and supervision of activities. More concretely, these are related to IDB's and EE's operational and administrative working hours of staff involved in IDB sub-projects using funds from the Programme, which will be determined on a case-by-case basis, depending on various factors such as the type of intervention (i.e., the specific structure of components), the size of the loan or non-reimbursable allocation and the timeframe for implementation of each operation⁸⁸.</p> <p>101. The Programme will complement existing initiatives, platforms and actions by the IDB focused on the Amazon region and the support for the bioeconomy. These include activities at the regional, national and subnational levels, involving public and private actors, all of which are engaged in efforts that contribute to the sustainable development of the region. For instance, the proposal links directly with initiatives being designed in different countries by IDB with support from the Natural Capital Lab, such as the <i>Programa para el Desarrollo de la Bioeconomía en la Amazonia Peruana</i> with Peruvian development bank, COFIDE, and the Amazonia Regenerate Accelerator implemented by Kaete Invetimentos across Leticia Pact signatories.</p> <p>102. In the context of its internal Amazon Initiative financing strategy, and in line with its broader engagement in partnerships and mobilization, the IDB will map collaboration and partnership opportunities with government, private and civil society actors, working in the same or complementary areas of actions proposed, both at the country and regional levels. For instance, WWF, Conservation International (CI) and IDB have a very good track record of collaboration in the execution and co-financing of operations in Latin America. For this proposal and to ensure that all investments maximize opportunities to achieve synergy at the national level and contribute to regional climate mitigation and resiliency goals, an ad hoc working group for the Amazon region –which will include all three organizations and is part of the Stakeholder Engagement Strategy described in Annex 7– will be established.</p> <p>103. Complementarities between proposals of these organizations have been identified and will be more deeply developed during execution. Following the model applied in the <i>Bhutan for Life Project</i> (FP 050), in the projects <i>Natural Legacy of Peru</i> (CN 21330) and <i>Colombian Heritage</i> (CN 22830) WWF will collectively support 22 million hectares of natural ecosystems in the Amazon - and the mitigation and adaptation benefits they provide- through improving protected areas management capacity and practices while establishing sustainable financing mechanisms for national networks of protected areas. Grant-funded investments by WWF initiatives will complement those of the Programme by securing sustainability of public land, while increasing availability of natural resources that support businesses ranging from eco-tourism to forest products (such as Brazil nuts) as well as valuable ecosystem services like regulation of water and micro-climates. Similarly, in their project <i>Scaling up regional action to reduce deforestation and increase resilience to climate change under the framework of the Leticia Pact for the Amazon - Brazil, Colombia, Ecuador and Peru</i>, CI will also be supporting the creation, strengthening and scaling up of enterprises and value chains which reduce emissions, augment carbon sequestration and storage, and/or reduce vulnerability to climate change. In addition to its focus on institutional support for local participation, monitoring and governance of ecosystems to improve management of at least 35 million hectares of forest in the region, CI's initiative</p>
--	---

⁸⁸ While specific costs related to GCF requirements are expected to be covered with AE fee (e.g., admin & supervision costs), IDB full-time staff hours dedicated to the IDB project cycle of operations to be approved and implemented using GCF funding also involve partial use of IDB's own administrative and operational budget.

is being designed to become a potential pipeline for national partners on the execution of the Programme and is also aligned to the vision of securing regeneration of ecosystem services with private actors and on private land.

104. Both proposals mentioned above are complemented by IDB's broad approach to the Amazon biome, which in support to the Leticia Pact aligns public and private funding for ecosystem regeneration in public and private land. The Programme is being set up to act as a lighthouse for conservation finance innovation with a facility so support green bonds design, a facility to fund and train LFIs on Bioeconomy, and a facility to engage with impact investors. Finally, IDB will also explore co-financing or parallel financing mechanisms including public private partnerships during implementation to ensure complementarities and synergistic approaches at the country level; an example of this is the Leticia Platform⁸⁹ with WWF from the Technology and Innovation to Close the Green Finance Gap in the Amazon Basin Program.

105. Annex 23 provides an overview of ongoing related initiatives in the Amazon in target countries. The proposed Programme builds on and goes beyond existing efforts, as it strengthens private sector actors' participation in forest conservation.

C.2. Financing by component⁹⁰

Component	Output	Indicative cost million USD (\$)	GCF financing		Co-financing ⁹¹		
			Amount million USD (\$)	Financial Instrument	Amount million USD (\$)	Financial Instrument	Name of Institutions
Component I: Financing solutions for bio-businesses							
I.1 Sovereign investment loans and investment grants	Credit disbursed or guaranteed to bio-businesses	290	135	Senior loans	155	Senior loans	IDB
		16	16	Grants			
I.2 Equity investments and innovation grants	Risk-capital investment disbursed to early-stage bio-businesses	10.5	6.5	Equity	4	Equity	IDB, Fundo Vale
		9.2	4	Grants	5.2	Grants	IDB, Kaete
I.3 Technical cooperation	Service contracts for capacity building, digital tools (including monitoring systems) and technical support	23.5	23.5	Grants			
	Connecting tools and coordination systems	18.8	11	Grants	7.8	Grants	IDB, Conexus, RA, TNC, WWF
	Service contracts for regulation and institutional support	19.1	19.1	Grants			
Component II: Bond structuring and issuance							
II.1 Technical cooperation	Specialized advisory services for bond issuance	5	5	Grants			

⁸⁹ The Leticia Platform is a digital platform that uses advanced technologies and algorithms to provide information on who is doing what and where. It is the product of a partnership of key players in conservation, technology, data science and finance. The platform combines location intelligence with the power of connections and collaboration integrating the industry-leading GIS and CRM platforms in one place (see ¶1.3, b).

⁹⁰ A conservative assumption is that the revolving feature could increase outputs in a range of 1.5-2.5 times.

⁹¹ The estimated total amounts of AE and other co-financiers are subject to the approval of allocation of such funds for each individual Sub-project on a case-by-case basis and is contingent on such approvals being obtained (see Section B.4).

II.2 Grants for guarantees	Guarantees structured for bonds that include bio-businesses	175	30	Grants	145	Guarantees	IDB
Component III: Transversal technical cooperation							
III.1 Inclusion mechanisms for women and diversity in bio-businesses	Amazonian platform to promote women's access to bio-business financial services Gender-lens in LFIs portfolio Selection criteria to access credit that rewards a gender-lens in bio-business	5	5	Grants			
III.2 Integrated support and the strengthening of the ecosystem for Amazonian SME and their communities	Strategic connections plan developed E-knowledge products developed Regional network of SME and their communities and public and private partners	6	5	Grants	1	Grants	IDB
III.3 Stakeholders Engagement Plan (SEP)	Information tools published and disseminated Dialogue meetings and consultation processes implemented Collaboration products, partnerships and sub grants implemented	2	2	Grants			
III.4 Small Grants Program (SGP)	Community organization institutional capacity to manage program processes and projects. Portfolio of grants implemented. Knowledge and networking strategy implemented.	10	10	Grants			
III.5 General advisory services	Knowledge products published or disseminated	5	5	Grants			
III.6 Programme monitoring and evaluation	Periodical reports on fund-level impacts and outcomes Mid-term and final evaluations	1	1	Grants			
Project Management Costs (PMC)	Staffing and consultants	2	0.9	Grants	1.1	In-kind	IDB, IDB Lab, Fundo Vale, Kaete,

	Office equipment, mission-related travel costs, project management systems and office supplies						Conexus, RA, TNC, WWF
Indicative total cost (USD)		598.1	279	319.1			

Note: Specific allocations by country are generally expected to be proportional to the size of participant economies, as this should be indicative of the size of the local market and the corresponding financing needs.

C.3 Capacity building and technology development/transfer (max. 250 words, approximately 0.5 page)

C.3.1 Does GCF funding finance capacity building activities? Yes No

C.3.2. Does GCF funding finance technology development/transfer? Yes No

106. The proposed innovative financing mechanisms and incentives embedded in newly developed schemes, the relatively incipient stage of advance of these business models and markets, and the complexities involved in coordinating the various actors efficiently, calls for specialized technical cooperation support for capacity building. Capacity building and knowledge generation will be developed in a range of areas such as extension services and coordination mechanisms for bio-businesses, investors and producers, as well as identification, evaluation and supervision of projects by LFIs, regulatory measures to enable natural capital valuation, innovation in public-private contractual schemes in forestry, standardization and harmonization of bio-business criteria, bioprospection, certification of thematic bonds and bio-business pipeline, monitoring and verifying environmental impacts of bio-business (see Section B.3)
107. Awareness raising and dialogue will be an important transversal element of the Programme to maximize the potential for dissemination and replication, targeting key audiences including the bio-business community, domestic and international institutional investors and government relevant agencies. The transfer of knowledge is considered essential to ensure that results are achieved, sustained and can be built-on over time (see ¶198). As a standard practice, the IDB is also committed to making knowledge and lessons learned from the Programme available to the international community, including financial and development institutions, to enable further replication and upscaling of the approach.

D. EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

D.1. Impact potential (max. 500 words, approximately 1 page)

108. Due to the diverse nature of bio-businesses that may ultimately benefit from the improved business environment and financing enabled by the Programme, and the characteristics of the proposed scheme –in which specific investments to be financed are not known ex-ante and driven by demand from local private actors– estimations of potential impacts were made based on an indicative portfolio of value chains (See Annex 2 and Annex 3).
109. After a characterization of the potential sectors and value chains in the bioeconomy, analysis was undertaken to understand the size and definition of actors in each chain. A more detailed review was conducted of primary producers and other actors in each chain, to understand key production variables and limitations of the existing business models. By applying to each value chain an indicative allocation of Programme resources (i.e., GCF resources plus additional resources mobilized) used for CAPEX investment (US\$707 million overall), the study modelled specific productive interventions. Where possible, these interventions were normalized to a per hectare basis and translated into mitigation and adaptation benefits (see Section E and Annex 3).
110. Based on the methodology and assumptions used in the model described above, the expected annual and lifetime tonnes of carbon dioxide equivalent (tCO₂eq) to be reduced or avoided by the Programme are 6.2 million and 123.4 million, respectively (see Annex 22). The expected volume of resources to be leveraged by the Programme, including public and private sources, is US\$719.1 million (US\$319.1 million co-finance as per Section C.1.b plus US\$400 million from other sources). The total number of direct and indirect beneficiaries are estimated to reach about 191,952 and 485,375, respectively⁹².
111. It should be noted that in order to maintain a conservative approach on the potential for mitigation, calculations for this section consider only the impact expected to be produced by the direct use of the US\$598.1 million of GCF financing plus co-financing. However, the impact is expected to become larger inasmuch as the funds are expected to be used in a revolving manner throughout the maturity period of the GCF loan⁹³. In addition, the Programme is indeed designed to allow for the development of a self-sustaining support framework that will keep funds flowing to bio-businesses that lead to GHG emission reduction in the long-term, even after the GCF loan is fully reimbursed. This indirect impact of the Programme, mainly the result of the demonstration effect, is quite difficult to estimate but is considered to be additional to the values presented. Hence, the potential impact assessment and quantification presented herein is considered to be in the lower bound of the range of possible actual impacts attributable to Programme activities.

D.2. Paradigm shift potential (max. 500 words, approximately 1 page)

112. Overall, the Programme is structured so that it reinforces the activities of private sponsors and leverages private finance for bio-businesses in order to sustain and increase private participation in the future, regardless of the existence of further Programme support. To this end, several elements have been considered for the proposed Programme design:
- It leverages private finance and supports regulatory reform
 - It supports ventures that are commercially viable or expected to become so in the short- to medium-term

⁹² The direct beneficiaries of the Programme are bio-business owners and their families whose adaptive capacity has improved. This is estimated based on the total size of the investment resulting from the Programme (some US\$707 million of CAPEX including both GCF and additional funding) and the number of bio-businesses that the Programme can finance. Using the values from the financial model, the average investment for each value chain, market segment (micro, small, and medium enterprise), and the country are used to estimate the average size of a loan. Using the total size (value) of the Programme, the total number of loans that can be financed by the Programme is estimated for each value chain, market segment and country to estimate the total number of bio-businesses financed. The total direct beneficiaries are then estimated by multiplying the total number of bio-businesses in each value chain and country by the average size of household. The estimation for indirect beneficiaries assumes that for each bio-business, there are a number of new jobs per bio-business that are created, and that the benefits will be passed to the people within the household of each bio-business employee. Thus, the total number of indirect beneficiaries is estimated by multiplying the total number of bio-businesses by the number of new jobs per bio-business and the average number of people in each household per country. See Annex 3 for the data and assumptions used to calculate this.

⁹³ A conservative assumption is that the revolving feature could increase the impact values in a range of 1.5-2.5 times.

- It incorporates different platforms to attract private actors, targeting both the supply and demand sides of the investment
- It combines innovative financial and institutional mechanisms with technical cooperation
- It is aligned with local market practices and policy objectives
- It is targeted specifically at the underlying problem –the inadequate valuing of natural capital in business– and as such, it is focused on addressing market failures specific to private investment
- Its costs and benefits have been assessed (Annex 3), suggesting that the size of the support is adequate to attain its development objectives with a positive economic rate of return

113. In sum, this holistic approach is aimed at enabling the creation and support of a sufficiently qualified portfolio of bio-business ventures that offer tangible gains to both sides of the financing, shifting risk perceptions of developers, financiers and investors, as well as public entities in charge of promoting the bioeconomy.

114. The Programme is indeed conceived as an important contribution to kick-start a change of entrenched behaviours (i.e., unsustainable high emission practices in business in the Amazon that increase climate vulnerability and risks) by promoting the valuing of natural capital via a set of incentives, financial solutions and technical support –to borrowers and lenders alike– to help first-movers establish and demonstrate commercial viability of bio-business models. Once they have seen it can be profitable (i.e., adequate risk-adjusted returns and risk management possibilities), private investors will choose to invest more in bio-businesses to reduce sustainability risk and boost portfolio resilience. In this sense, the Programme will contribute with setting the track for the adoption of sustainable practices and technologies in private-led businesses to reduce GHG-emissions, enhance carbon stocks and/or increase resilience beyond GCF support.

115. All Programme activities have been designed in a way that they can be integrated into national systems so that changes are ingrained and continue to evolve after Programme completion. NDBs and other actors acting as EEs have extensive knowledge of the local markets and can also help catalyse the Programme’s impact using their various delivery channels, also increasing the pool of potential supply of co-financing. As the Programme enables different platforms through which market conditions are improved to compensate for the incremental risks and costs and allow the private to obtain real value for their money used sustainably, the intrinsic value of natural capital is expected to emerge and ultimately become internalized by these actors in their decision-making processes. New capacities and awareness will be built among the many relevant stakeholders involved, which will also contribute to a more enabling environment to further expand and scale-up these investments.

116. All in all, Programme activities are thought of as a “bridge” that will enable a transition from grant-funded models to self-sustaining structures that support markets in the long-term.

D.3. Sustainable development (max. 500 words, approximately 1 page)

Social and economic co-benefits

117. At a macro level, investing in bio-businesses in the Amazon is necessary to protect the regional economy, as the economic losses from the destruction of the Amazon in a business-as-usual scenario are projected to be significant (Section B.1). This does not only involve environmental challenges, but also the ability to create jobs and growth, and making economies more competitive. The mainstreaming of new production models supported by the Programme will generate more consolidated and dynamic markets, which leads to positive effects on several aspects, including:

- economic benefits related to improved trade, consumption and investment at the macro level
- enhanced competitiveness, productivity and value creation of firms related to these ventures
- diversification of current crop production systems and improvements in the provision of agro-ecosystem and forest ecosystem goods and services
- reduced government expenditures on subsidies (where applicable) or increased tax revenues through greater investment and economic activity

118. Increased private investment overall can also trigger ripple effects throughout the economy, which in turn reflects in human well-being and welfare consistent with assessed targets of the Sustainable

Development Goals (SDG), specifically those related to poverty, hunger, health, work, innovation, responsible consumption and production, water, cities, climate, oceans, land, and partnerships (IPBES, 2019). Thus, loss of biodiversity is not only an environmental issue but also a social issue. In this sense, Programme activities are expected to bring co-benefits related to:

- increased sources of income for agricultural and non-agricultural communities in rural areas
- direct and indirect employment creation
- technology development
- financial inclusion

119. It is worth noting that forest ecosystems provide human societies with a wide range of ecosystem services that reduce at the local and sectoral levels the vulnerability to impacts of climate change (particularly changes in the frequency, duration, and intensity of temperature, rainfall, coastal flooding, and hurricanes). However, these climate change variables will also have significant impacts on forest growth, species diversity, and ecosystem function. Therefore, for human society to continue to benefit from forest ecosystem services, adaptation strategies must also reduce the negative climate change impacts on forests themselves.

Gender sensitive development impact

120. The Programme will strive to support gender equality by incorporating mechanisms and a strategy that targets and monitors the participation of women as beneficiaries. For instance, technical training or financial services tailored to women and women-led enterprises can help address the significant financing gap for this group, especially among MSE.⁹⁴ In addition, investments in projects that support the use of locally available sources can also provide opportunities for women's entrepreneurship, such as in local enterprises that can deliver services or become part of the supply chain. Programme implementation activities (Section B.3) will include the identification at the country level of gender gaps and the potential to incorporate specific measures to ensure gender equality in alignment with IDB's Operational Policy on Gender Equality and Gender Action Plan, and explicit services to promote equitable access to the benefits of investments supported by different social groups, including women and indigenous communities. Whenever possible, the potential to promote equitable access to benefits from supported activities will be included in the criteria for prioritization of beneficiary sectors and activities. In addition, another crucial outcome is the improved articulation of indigenous, afro-descendant and peasant bio-businesses to the market. Hence, this project also engages with the Operational Policy on Indigenous Peoples (OP-765), the Strategy for Indigenous Development (GN-2387-5) and the Diversity Action Plan (DAP) 2019-2021 that promote development with identity respecting collective rights and traditional forms of land management. By fostering the development of local bio-businesses, this Programme promotes a more inclusive agenda to the bioeconomy, while respecting and promoting cultural forms of conservation and territorial management. That is why the activities included are culturally sensitive in the ways they engage with strategies of training, feasibility analysis, financial strategies, legal and other challenges. The Programme also promotes intercultural communication and engagement plans to strengthen such local economies in the national and/or international markets and with different governmental institutions and economic sectors. Finally, this Programme includes the lessons of previous IDB interventions that attempted to strengthen indigenous, afro-descendant and peasant local economies including socio-cultural protocols and close follow-up strategies that guarantee the social, environmental and cultural viability, as well as the sustainability of the Programme.

D.4. Needs of recipient (max. 500 words, approximately 1 page)

121. As described in Section B.1, the AFOLU sector is a major contributor to GHG emissions in all Amazon countries and a key driver of rising deforestation rates. It is also highly vulnerable to climate changes that are increasing temperatures and frequency and intensity of fires, further impacting agricultural productivity. Despite governments' willingness to find ways to reduce deforestation and land

⁹⁴ Throughout LAC, this gap is estimated at US\$86 billion (IDB Invest, 2020). This has become more critical in the face of the COVID-19 crisis, as women are expected to have been disproportionately affected given their lower levels of income and higher poverty rates, compared to men (CEPAL, 2020).

degradation, efforts so far have been insufficient to revert the trends. A shift in local productive structures and practices can contribute to addressing this issue, but this cannot be achieved on public efforts alone. Private participation is key to produce a fundamental and long-lasting change, specifically via investing in the adoption of business models, activities and technologies that use the natural resource more sustainably. In all targeted countries, natural capital is substantial, and the development of bio-businesses poses an important opportunity to address AFOLU-related GHG emissions and increase resilience to climate change. Yet, capital flows to these activities are not granted. Measures need to be taken to better connect relevant actors within these markets and for them to realize the value of natural capital in these activities at scale.

122. None of these countries has either a proper regulatory environment, or specific mechanisms to adequately value natural/forest assets. Advances made in regulatory and institutional frameworks vary among the targeted countries and the development of bioeconomy strategies is still incipient. Overall, legal and policy frameworks are in place for the conservation and sustainable management of forests and biodiversity, but incentives for streamlining the participation of private actors in related businesses are generally not in place. All target countries have also demonstrated their commitment to consolidate a support system for safeguarding their natural capital and have been implementing initiatives in this very complex sector (see Section B.2).
123. On the other hand, all targeted countries have financial systems that show low levels of depth, are inherently risk-averse and offer very limited financing alternatives for these ventures. Adequate financial instruments that can crowd in the private sector to support more rapid development of these business models are still lacking. In general, the risks associated to these projects, especially in the absence of proper natural capital valuation, hinders credit and investment by private actors. In addition, support is needed across the region to overcome barriers related to the limited expertise and advancement in technology development associated to the innovative nature of these businesses (see Section B.2).
124. GCF resources are necessary for deploying mechanisms that can attract private capital, particularly from local financial systems and impact-driven investors to bio-businesses that can deliver climate benefits with the maximum leverage possible. They are also needed to build knowledge and capacity within local governments, and along the finance and production value chains.

D.5. Country ownership (max. 500 words, approximately 1 page)

125. Country-level ownership is crucial to ensure results over the longer-term. This involves meaningful participation beyond the Programme proposal and implementation, including governance support and alignment with nationally devised climate change strategies, and forest and bioeconomy related legal frameworks. During the implementation phase, strategic decisions will be coordinated with NDAs and the respective countries' public authorities to ensure alignment with their existing and upcoming program initiatives in the Amazon and to ensure complementarity, scalability of approaches, and knowledge sharing. A strategic steering committee will be organized at the country level with the respective NDA, the EEs (where applicable), and Ministry of Finance to provide periodical strategic input, while the day-to-day execution is conducted by the designated EEs.
126. All targeted countries have well-established climate commitments and plans –both at national and sub-national level– related to reducing GHG emissions and increasing climate resilience and adaptation, including Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAP) (see Table 7). Many of these require external financing, technology and knowledge transfer. They also widely recognise the private sector's role in deploying investments to support their goals, and its potential to contribute to the paradigm shift to a low-emission and climate resilient development path.
127. Amazon countries also have forest and biodiversity policies in which the Programme can contribute to addressing chronic financing and implementation gaps. Approaches to REDD+ and forestry policies differ among countries, but many of them include bioeconomy-related considerations as part of their strategies. Moreover, while most Amazon countries do not have dedicated legal frameworks governing the bioeconomy, several countries have recently embraced the concept under different instruments:

- Brazil has incorporated bioeconomy strategies in national documents such as the National Plan for the Promotion of Socio-Biodiversity Value Chains 2009, National Strategy of Science, Technology, and Innovation 2016-2022 and the National Programme for Biobased Agricultural Inputs (implemented by Decree No. 10,375/2020).
- In Ecuador, the government has stated its vision to pursue the bioeconomy as a strategy for recovering from the socio-economic impacts of the COVID-19 pandemic, preserving its threatened ecosystems, and diversifying the country's production matrix to become more independent from fossil fuels (MAE 2020). The National Development Plan (2017-2021) includes bioeconomy as a tool for sustainable growth. Ecuador has also adopted a National Pact for Sustainable Bioeconomy and a Law for Agro Biodiversity, Seeds and Promotion of Sustainable Agriculture.
- The bioeconomy concept is integrated in several Colombian national development documents such as the Colombian Low Carbon Development Strategy, the Green Growth Strategy, the Circular Economy Strategy and most recently the Bioeconomy Policy (2020). The country has also adopted in 2018 Guidelines to authorities regarding the application of available economic valuation methodologies, to promote the generation of information as a technical criterion to support the decision-making process in the management and conservation of the nation's natural heritage.
- Bioeconomy concepts are embedded in multiple pieces of Peruvian legislation and development strategies, mainly Vision of Peru to 2050, the National Competitiveness and Productivity Plan and the Law Promoting Investment and Development of the Amazon region. Concerning the accounting for biodiversity and ecosystems in national economic planning and policy decision-making, the Ministry of Environment has approved the Guide for the Economic Valuation of Natural Heritage, which aims to provide guidance on the matter so that decision makers can use this concept in the face of the conservation and sustainable use of natural heritage. Equally, Peru has adopted in 2019 guidelines for the formulation of investment projects in the typologies of ecosystems, species, and support for the sustainable use of biodiversity.
- The Guyana's Low Carbon Development Strategy (LCDS) establishes the country's intention to transition to a low-carbon economy, focusing on reduced deforestation and degradation and investment in high priority low-carbon sectors such as aquaculture and ecotourism.
- Suriname's Policy Development Plan objectives give a strong indication of the country's priorities related to developing the bioeconomy in the medium-term. The country has several policies in place that contribute to a sustainable bioeconomy by strengthening environmental components in bioeconomy fields, with the primary aim to increase climate resilience. New production clusters that are prioritized in this regard include processing and/or use of residual wood and waste, non-timber forest products, and environmentally related use of the forests, including compensation for forest preservation and recovery of rain forests.

128. In general terms, all Amazon countries have sectoral or general policy frameworks that cover some areas of relevance, such as payments for ecosystem services, environmental incentives, supply chain legislation, organic agriculture, sustainable fisheries, ecotourism, or technological research.

Table 7.- Climate change mitigation and adaptation commitments, by country⁹⁵

Brazil	Brazil's NDC establishes that the country will enhance its national capacity in the conservation and sustainable use of biodiversity, focusing efforts in reducing GHG emissions by applying "large-scale measures relating to land-use change and forests". The National Biodiversity Strategy and Action Plan has the overall objective of "contributing to the mitigation of climate change through the eradication of illegal suppression of native vegetation, the conservation and recuperation of forest ecosystems and the development of a low-carbon sustainable forest-based economy, generating economic, social and environmental benefits". The National Law on Climate Change establishes sectorial action plans for mitigation and adaptation that aim among others to prevent and control deforestation in the Amazon, prevent and control fires and transition towards a low carbon agriculture. The National Climate Change Plan aims
--------	--

⁹⁵ A comprehensive revision of policy and legislation at the country level related to forest management and climate change, including REDD+ is included in Annex 24a Country Assessments Climate, REDD+, Bioeconomy and in Annex 24b on Biodiversity Commitments and Legislation. These annexes provide additional background on local commitments to improve country's natural resource governance. Programme activities will not address all policies surveyed related to conservation and REDD+. Rather, it focuses on legislation for the valuation of natural capital assets as a way to provide economic value to biodiversity and forests.

	<p>to reduce deforestation and reverse the net loss of forested areas. Most states have also enacted laws at the sub-national level with a few of them including specific GHG emission reduction targets. Brazil's NAP recognizes the role of biodiversity and ecosystems in reducing socio-economic vulnerabilities through provision of ecosystem services. The NAP also recognizes that benefits of EbA strategies include reduction of the vulnerability to gradual and extreme events maintenance of the ecological integrity of ecosystems, carbon sequestration, greater food security, sustainable water-resources management, and an integrated approach to territorial management, all of which generate multiple economic, social, environmental, and cultural benefits for society</p>
Ecuador	<p>Ecuador's updated NDC places strong emphasis on climate targets for the AFOLU sector. The NDC embraces a gender-sensitive approach and aims at promoting sustainable, resilient, inclusive, and low-carbon development. The revised NDC is fully aligned with its National Development Plan, the National Climate Change Strategy, and individual integrated projects to address desertification and land adaptation, such as the "Integrated Management for the fight against desertification, land degradation and adaptation to climate change" project, led by the Ministry of Environment since 2014. The National Climate Change Strategy 2012-2025 targets priority sectors for tackling AFOLU-related GHG emissions, i.e., agriculture, land-use, land-use change, and forestry, as well for adaptation. It has identified adaptation actions, including conservation of protected areas, management of carbon stocks and establishment of water recollection systems; strengthening the resiliency of vulnerable communities with a focus on food security; and the identification of vulnerable areas to drought and land degradation to promote sustainable land management practices and water catchment systems, among others.</p>
Colombia	<p>Colombia's NDC sets emission reduction targets for 2030 and a carbon budget for its National Development Plan, which aims to ensure the country is on its path to achieving its 2030 goals. The government has chosen to focus its efforts on three goals in the AFOLU sector: i) halting the accelerated growth of deforestation by 2022; ii) a commitment to enhancing GHG removal by expanding agroforestry, sustainable management of natural forests, silvopastoral systems, and other forms of productive land restoration by over 700,000 ha; and iii) implementing best practices in agricultural lands by applying less fertilizer (NDC Partnership, 2019). The country passed a Climate Change Law in 2018 and is promoting the use of market economic instruments including a carbon tax and an emission trading scheme. They also have a National Strategy for Reducing Emissions from Deforestation and Forest Degradation (ENREDD+) and the Amazon Vision Program. Colombia's National Plan for Adaptation to Climate Change (PNACC) seeks to reduce the vulnerability of the country and increase its capacity to response to the threats and impacts of climate change. The PNACC seeks to influence the environmental, territorial and sectorial planning processes in such way that key stakeholders can make informed decisions, considering climate determinants and projections, to reduce vulnerability in populations, ecosystems and productive sectors.</p>
Peru	<p>Peru's NDC includes mitigation and adaptation commitments in the thematic area of forests, as well as in mitigation in the land-use, land-use change and silvopasture sectors. Under current policy, land-use, land-use change, and forestry-related emissions from Peruvian deforestation are projected to increase by 82–84% between 2012 and 2030. Peru is committed to reducing this source of GHG emissions, has declared its objective of reaching carbon neutrality in 2050, and has expressed support for using market mechanisms. The country has also adopted a Framework Law on Climate Change and a Gender and Climate Change Action Plan. At the subnational level, regional climate change strategies have been drafted by many Peruvian Amazon regional governments, which are becoming more relevant given the role assumed by regional governments under the ongoing decentralization processes and the new climate change law. The NAP, currently under elaboration, includes forestry as one of the sectors to be tackled. The Programme is aligned with the main objective in this sector which is increase the resilience of forests and unsustainable anthropic activities to maintain the provision of ecosystem-based services. In addition, it will strengthen the adaptive capacity of society to manage forests in a participatory way at different government levels.</p>
Guyana	<p>Guyana' NDC and Low Carbon Development Strategy enshrine the country's commitment to forest conservation and sustainable forest management, including the extension of 2 million ha of national protected areas and other area-based conservation measures, reduced impact logging and improved forest governance. The NDC is aligned with the National Climate Change Policy and Action Plan 2020-2030 as the main instrument for unifying and coordinating national climate policy in Guyana. As part of Guyana's Low Carbon Development Strategy, the country has envisaged a variety of adaptation measures in the forestry sector: 1. Promotion and encouragement of local communities and indigenous people's participation in forest use, protection, conservation and management, and the utilization of non-timber forest products; 2. Implementation of efficient Management Plans for primary and secondary forest, and degraded forest lands; 3. Collaboration with R&D institutions to promote species enrichment of degraded forests and forests lands with economically valuable species which are resilient to the impacts of climate change, where possible, among others. Adaptation actions in the country are based in different pillars, innovation of financing instruments is one of them. The pillar seeks to introduce financing instruments for the implementation of adaptation measures, and to expand/adjust mechanisms and platforms, including international cooperation and funding, and investments from the private sector and public budget.</p>
Suriname	<p>Suriname has commitment to maintaining the integrity of its 93% forest cover as a carbon sink, increasing efforts on sustainable forest and ecosystem management, developing climate-smart farming and minimizing</p>

deforestation and forest degradation. This commitment is aligned with the 2017-2021 Policy Development Plan, which aims for the forest sector to increase its contribution to the economy and the welfare of this and future generations, including through biodiversity preservation and with the National Climate Change Policy, Strategy and Action Plan. Suriname has also adopted a NAP in 2019, contributing to an integrated approach to climate resilience and sustainable economic development. The NAP indicates six strategic priorities, including integrating and mainstreaming climate change adaptation in broader economic development. Priority sectors include forestry, energy, agriculture, and tourism. Suriname formally adopted the Joint Declaration of "High Forest, Low Deforestation countries" that seeks to overcome barriers of accessing climate finance needed for the continued progress toward sustainable development goals, with concurrent care and protection for their essential intact forest ecosystems.

129. Regional cooperation is also key. As previously described, the Leticia Pact signed by representatives from all target countries (Section B.1) lists various points on which they intend to collaborate, including combating deforestation, promoting forest restoration and sustainable use of resources, actions to strengthen women and indigenous peoples and the creation of educational campaigns on the importance of the Amazon conservation. Although the Leticia Pact is a good starting point for an overall vision of countries with regards to forest and natural resource sustainable management, it does not specify how goals will be achieved. The IDB will work closely with governments and accompany their efforts to consider, evaluate and implement concrete actions, sectoral agreements and establish targets in their agendas as a priority. As described in Section B.4, the IDB will also capitalize on its strong and well-established relationships with partners throughout the region, based on a long history of collaboration with an extensive network of NDB and government agencies in LAC.
130. Perspectives of various local stakeholders have been considered for the development of this proposal, including NDBs, government ministries, bio-business developers, LFIs and investors. Country-specific implementation will ensure close consultations with local indigenous people and communities, as well as civil society organizations, in all cases. Also, the IDB will engage with universities, scientific organizations and cross-national networks, such as [Parceiros pela Amazonia](#), [Amazon 4.0](#), [Fundação Amazonia Sustentavel](#), all of which are working to support entrepreneurship in bioeconomy.
131. All operations carried out within the framework of the Programme will contribute to target countries' national priorities related to climate change and land degradation, and their commitments under the Convention on Biological Diversity and their National Biodiversity Strategy and Action Plans (NBSAP), the Paris Climate Agreement and their NDCs, NAPs, the Sendai Framework and the SDG. They will also be coherent with actions undertaken by these countries under the amended Amazon Cooperation Treaty and the Leticia Pact.

D.6. Efficiency and effectiveness (max. 500 words, approximately 1 page)

132. Section B.5 describes how GCF resources are needed to structure financing instruments that can help overcome barriers identified, including its approach to ensure minimum concessionality.
133. Besides the provisions thereby described, the risk of crowding out other private and public investment will be mitigated by some additional factors:
- i. As described throughout this proposal, bio-businesses (particularly MSEs) are by and large financially underserved, both in terms of availability of risk capital for start-up and of adequately termed debt from LFIs. Thus, activities from the Programme aim to fill a financing gap through financial and non-financial support. In doing so, the Programme strives to help develop a market that is currently far from tapping its full potential. As this market develops, opportunities will be created –rather than diminished– for other investors and financiers.
 - ii. The Programme implementation model will extend solutions to LFIs and other relevant actors already acting in the target region, who will become partners instead of competitors. Leveraging Programme resources, these entities are best positioned to reach, properly assess and support beneficiaries. Partnerships with LFIs and EEs will be promoted through the provision of funding and de-risking solutions, as well as various types of technical cooperation (see Section B.3) that will enhance their capacities to properly identify, assess and structure financing solutions that can effectively manage the risks inherent to these businesses and attract more investment.

134. Based on the economic model and with a conservative approach (see Annex 3) the Programme is estimated to deliver an average GCF cost of US\$2.26 per ton of CO₂e abated. This expected GCF cost efficiency compares favourably relative to other forest-related GCF programs in the region, including various projects in the Amazon (Brazil, Colombia, Ecuador) from the Pilot Program for REDD-plus results-based payments (ranging between 4 and 5 US\$/ton of CO₂e) as well as other GCF forest projects in Latin America (FP 19, 128, 146) with costs ranging between 1 and 3 US\$/ton of CO₂e. From an effectiveness point of view, the Programme is projected to achieve a leverage ratio of 1:2.6 (i.e., US\$2.6 additional public and private funding leveraged per US\$1 of GCF investment); thus, a GCF US\$279 million investment is expected to leverage about US\$719.1 million in additional public and private contributions (including co-finance as per Section C.1.b).
135. The Program's Economic Rate of Return (ERR) has been estimated at 49%. The estimation is based on financial flows stemming from an assumed portfolio of supported investments and the value of abated GHG emissions. For the latter, a social cost of carbon of 40 US\$/ton of CO₂e has been used. Internalizing carbon value increases the basic financial rate of return of the investments at the asset level (i.e., pre-tax and independent of the financing structure) from 14% to the resulting 49% ERR, reflecting the significant additional value of natural capital externalities when properly considered (in this case by incorporating GHG emission abatement benefits). From that perspective, this ERR calculation is also conservative, as it does not incorporate other expected environmental and social benefits (including those stemming from enhanced climate change adaptation/resilience) into the model.
136. Availability period for the structuring and deployment of some of the financial solutions is proposed at 5 years from the effectiveness date of each corresponding subsidiary agreement (within the larger 7-year implementation period for the Programme). This is required given the complexity of structuring some of these financial structures with EEs, as well as the need to allow a reasonable origination period, considering that: i) multiple LFIs will need to be involved to reach target bio-businesses, with each of whom a design, approval and deployment process will need to be followed; and ii) in some cases, enhanced origination capacities will only be in place after some technical assistance activities are completed.

E. LOGICAL FRAMEWORK

This section refers to the project/Programme's logical framework in accordance with the GCF's [Performance Measurement Frameworks](#) under the [Results Management Framework](#) to which the project/Programme contributes as a whole, including in respect of any co-financing.

E.1. Paradigm shift objectives

- Shift to low-emission sustainable development pathways
- Increased climate resilient sustainable development

E.2. Core indicator targets

E.2.1. Expected tonnes of carbon dioxide equivalent (t CO ₂ eq) to be reduced or avoided (mitigation and cross-cutting only) ⁹⁶	Annual	6,170,048 tCO ₂ eq	
	Lifetime	123,400,955 tCO ₂ eq	
E.2.2. Estimated cost per t CO ₂ eq, defined as total investment cost / expected lifetime emission reductions (mitigation and cross-cutting only)	(a) Total project financing	<u>998,100,000</u> USDUSD	
	(b) Requested GCF amount	<u>279,000,000</u> USDUSD	3
	(c) Expected lifetime emission reductions	123,400,955 tCO ₂ eq	3
	(d) Estimated cost per t CO₂eq (d = a / c)	<u>8.08</u> USDUSD / tCO₂eq	3
	(e) Estimated GCF cost per t CO₂eq removed (e = b / c)	<u>2.26</u> USDUSD / tCO₂eq	0
E.2.3. Expected volume of finance to be leveraged by the proposed project/Programme as a result of the Fund's financing, disaggregated by public and private sources (mitigation and cross-cutting only) ⁹⁷	(f) Total finance leveraged	<u>719,100,000</u> USDUSD	72
	(g) Public source co-financed	<u>314,100,000</u> USDUSD	3
	(h) Private source finance leveraged	<u>405,000,000</u> USDUSD	4
	(i) Total Leverage ratio (i = f / b)	<u>2.6</u>	2
	(j) Public source co-financing ratio (j = g / b)	<u>1.1</u>	1
	(k) Private source leverage ratio (k = h / b)	<u>1.5</u>	1
E.2.4. Expected total number of direct and indirect beneficiaries, (disaggregated by sex)	Direct	Click here to enter text.191,952 50% of female	
	Indirect	Click here to enter text.485,375 50%% of female	
E.2.5. Number of beneficiaries relative to total population ⁹⁸ (disaggregated by sex)	Direct	0.64% (Expressed as %) relative to population of the Amazon	
	Indirect	1.62% (Expressed as %) relative to population of the Amazon	

⁹⁶ The impact of main activities on GHG emissions were estimated by using the EX-ACT (EX-Ante C-balance Tool) tool, developed by FAO. In addition to soil type, climate information, conversion modes of land, the model used i) the duration of the investment (implementation- and capitalization phase), ii) the initial land-use and iii) the final land-use. The soil type and climate information inputs were obtained by using the IPCC climate and soil classification that is embedded in the tool.

⁹⁷ Main assumptions for these values include: i) for bank loans, debt-to-equity ratio (at corporate level) of 75/25; (ii) for bank guarantees, 50% guarantee coverage and 70/30 debt-to-equity ratio; iii) for equity investments, matching equity considered from AE (at 1:1 ratio); iv) for bonds, 4.5x ratio of IDB guarantee relative to GCF grant, 80% guarantee coverage, 75/25 debt-to-equity ratio.

⁹⁸ For the purpose of this percentages, total population is assumed to be the total population of the Amazon, estimated at some 30 million people ([WWF](#) and [Rainforest Foundation Norway](#)).

E.3. Fund-level impacts						
Expected Results	Indicator	Means of Verification (MoV) ⁹⁹	Baseline	Target		Assumptions
				Mid-term	Final	
<i>M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks</i>	<i>M4.1 Tonnes of carbon dioxide equivalent (t CO₂ eq) reduced or avoided (including increased removals) - forest and land use</i>	Monitoring platform, field surveys, data collection.	0	0.6 ¹⁰⁰ million (annual)	6.2 million ¹⁰¹ (annual)	<p>The indicator measures annual tCO₂e.</p> <p>The lifespan of investments is estimated to be 20 years, on average.</p> <p>Total expected abatement over the lifetime of investments (20 years) is 123.4 million tCO₂e.</p> <p>There are sufficient local public actors (NDBs and government entities) willing to and capable of engaging in the valorisation of capital natural assets.</p> <p>Private sector agents are willing to participate if they can make a profit with natural capital assets.</p> <p>Specialized service providers are available at competitive costs.</p> <p>Bio-businesses in each of the 7 sectors adopt best adaptation and mitigation practices and technologies.</p>
<i>A1.0 Increased resilience and enhanced livelihoods of the most</i>	<i>A1.2 Number of males and females benefiting from the adoption of diversified, climate</i>	Monitoring platform, field surveys, data collection of bio-businesses supported	0	19,195 Male: 9,598	191,952 ¹⁰² Male: 95,976	<p>Private sector agents are willing to participate if they can make a profit with natural capital assets.</p>

⁹⁹ The monitoring for impacts, outcomes and programme specific indicators will be conducted according to the Monitoring and Evaluation Plan specified in Annex 11.

¹⁰⁰ Mid-term values are generally estimated at between 10-20% of final values, as the preparation and approval process of all country sub-projects under the Programme is expected to take a good part of the of the first half of the Programme implementation period.

¹⁰¹ Methodology applied is the EX-ACT (EX-Ante C-balance Tool), developed by FAO. In addition to soil type, climate information, and conversion modes of land, the model used i) the duration of the investment (implementation- and capitalization phase), ii) the initial land-use and iii) the final land-use. Model is based on a typical value chain in each of the sectors assumed to be financed, as per feasibility study. For detailed assumptions please refer to Annex 3 and Annex 22.

¹⁰² Model is based on a typical value chain in each of the sectors assumed to be financed, as per feasibility study. For detailed assumptions please refer to Annex 3.

<i>vulnerable people, communities and regions</i>	<i>resilient livelihood options (including fisheries, agriculture, tourism, etc.)</i>			Female: 9,598	Female: 95,976	Bio-businesses have access to credit and implement the mitigation and adaptation activities foreseen. Support structures / services for the implementation of best adaptation and mitigation practices are available.
<i>A4.0 Improved resilience of ecosystems and ecosystem services</i>	<i>A4.1 Coverage/scale of ecosystems protected and strengthened in response to climate variability and change</i>	Monitoring platform, field surveys, forest statistics, data collection based on supervision of individual operations approved and EE monitoring reports	0	0.8 million hectares	3.9 million hectares ¹⁰³	Financing from the Programme is effectively disbursed, and investment targets are met. There are sufficient local public actors (NDBs and government entities) willing to and capable of engaging in the valorisation of capital natural assets. Private sector agents are willing to participate if they can make a profit with natural capital assets
	<i>New bio-business/ green jobs created</i>	Monitoring platform, field surveys, data collection	0	9,847 Male: 4,924 Female: 4,924	49,236 Male: 24,618 Female: 24,618	There are sufficient local public actors (NDBs and government entities) willing to and capable of engaging in the valorisation of capital natural assets. Private sector agents are willing to participate if they can make a profit with natural capital assets

E.4. Fund-level outcomes

	Indicator		Baseline	Target	Assumptions
--	-----------	--	----------	--------	-------------

¹⁰³ Methodology applied uses area (hectares) of land or forests where businesses develop more resilient practices, based on modelling on i) the initial land-use and ii) the final land-use. Model is based on a typical value chain in each of the sectors assumed to be financed, as per feasibility study. For detailed assumptions please refer to Annex 3.

Expected Outcomes		Means of Verification (MoV)		Mid-term	Final	
M9.0 Improved management of land or forest areas contributing to emissions reductions	M9.1 Hectares of land or forests under improved and effective management that contributes to CO2 emission reductions	Monitoring platform, field surveys, data collection based on supervision of individual operations approved and EE monitoring reports	0	0.7 million	3.5 million ¹⁰⁴	There are sufficient local public actors (NDBs and government entities) willing to and capable of engaging in the valorisation of capital natural assets. Private sector agents are willing to participate if they can make a profit with natural capital assets. Specialized service providers are available at competitive costs.
M5.0 Strengthened institutional and regulatory systems	M5.1 Institutional and regulatory systems that improve incentives for low-emission planning and development and their effective implementation	Monitoring platform, data collection from reports on Programme activities Publications from competent national authorities	No/Weak institutional and regulatory systems that improve incentives for low-emission planning and development are in place	Introduction of efficient institutional and regulatory systems for low-emission planning and development in at least two target countries	Implementation of financing systems tailored for bio-businesses in at least 1 NDB per target country, and increase in financing portfolio of low-carbon investment as a result of systematization of bio-business identification, evaluation and network creation ¹⁰⁵	Political will to foster bioeconomy strategies is confirmed and remains in place throughout Programme implementation.
A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development	A5.1 Institutional and regulatory systems that improve incentives for climate resilience and their effective implementation	Monitoring platform, data collection from reports on Programme activities Publications from competent national authorities	No/Weak institutional and regulatory systems that improve incentives for climate resilience are in place	Introduction of efficient institutional and regulatory systems for climate resilience in at least two target countries	Implementation of financing systems tailored for bio-businesses by at least 1 NDB per target country, and increase in	Political will to foster bioeconomy strategies is confirmed and remains in place throughout Programme implementation.

¹⁰⁴ Methodology applied uses area (hectares) of land or forests where businesses develop more resilient practices, based on modelling on i) the initial land-use and ii) the final land-use. Model is based on a typical value chain in each of the sectors assumed to be financed, as per feasibility study. For detailed assumptions please refer to Annex 3.

¹⁰⁵ Based on the analysis of country-specific circumstances and progress, the indicator measures the institutional and regulatory systems that improve incentives for the bioeconomy development in the context of their low-emission planning policies, based on evidence of their effective implementation.

					financing portfolio of climate resilient investment as a result of systematization of bio-business identification, evaluation and network creation ¹⁰⁶	
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	A7.1 Use by vulnerable households, communities, businesses and public-sector services of Fund-supported tools instruments, strategies and activities to respond to climate change and variability	Monitoring platform, surveys	0 bio-businesses under the programme that have adopted at least 1 measure under the eligibility criteria 58% of those bio-businesses with female majority ownership ¹⁰⁷	11,460 bio-businesses, of whom: 8,859 bio businesses in the sustainable agroforestry value chain, 560 bio-businesses in the Native palm-perennial agricultural systems value chain, 883 bio-businesses in the non-timber natural forest products (NTFP), 788 bio-businesses in the native species timber value chain, 314 bio-businesses in the aquaculture, and 55 bio-businesses in the community-led nature tourism value chain have adopted at least 1 measure under the eligibility criteria	57,299 bio-businesses, of whom: 44,295 bio businesses in the sustainable agroforestry value chain, 2,799 bio-businesses in the Native palm-perennial agricultural systems value chain, 4,416 bio-businesses in the non-timber natural forest products (NTFP), 3,940 bio-businesses in the native species timber value chain, 1,571 bio-businesses in the aquaculture, and 277 bio-businesses in the community-led nature tourism value chain have adopted at least 1 measure under the eligibility criteria	Private sector agents are willing to participate if they can make a profit with natural capital assets. Bio-businesses have access to credit and implement the mitigation and adaptation activities foreseen.

¹⁰⁶ Based on the analysis of country-specific circumstances and progress, the indicator measures the institutional and regulatory systems that improve incentives for the bioeconomy development in the context of their low-emission planning policies, based on evidence of their effective implementation.

¹⁰⁷ Average value among Amazon countries of percentage of firms with female majority ownership (World Economic Forum, [Global Gender Gap report 2021](#)).

				58% of those bio-businesses with female majority ownership	58% of those bio-businesses with female majority ownership	
A8.0 Strengthened awareness of climate threats and risk-reduction processes	A8.1 Number of males and females made aware of climate threats and related appropriate responses	Monitoring platform, surveys	0	1,000 Male: 500 Female: 500	10,000 Male: 5,000 Female: 5,000	Support structures / services for the implementation of best adaptation and mitigation practices are available.
	Number of technologies and innovative solutions transferred or licensed to support low-emission and climate resilient development as a result of GCF support	Monitoring platform, surveys	0	3 new measures and 0 technology Measures: agroforestry, sustainable forest management and conservation, native species plantations	7 new measures and 2 technologies Measures: Same as midterm, plus pest management, community-led nature tourism, use of resilient fish species and small-scale operations Technologies: Irrigation, aquaculture technologies	Private sector agents are willing to participate if they can make a profit with natural capital assets. Support structures / services for the implementation of best adaptation and mitigation practices are available.

E.5. Project/Programme performance indicators

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Component I: Financing solutions for bio-businesses						
Increasing climate resilience of bio-businesses and their value chains in areas exposed to climate and environmental risks	Increase in revenue per job (percentage)	Surveys of bio-businesses	0	5%	17%	Private sector agents are willing to participate if they can make a profit with natural capital assets. Support structures / services for the implementation of best adaptation and mitigation practices are available.
	Percentage of beneficiaries who perceived that their knowledge improved as a result of the information received in the training sessions/workshops	Monitoring Platform or training sessions/workshops surveys	0	20%	70%	Beneficiaries remain interested and actively participate in the programme activities. Trainings are effective/sufficient to enable and speed up the adoption of low carbon

	differentiated by gender					climate-resilient practices.
	Percentage of bio-businesses that report alignment with international standards and norms (including the adoption of certifications)	Monitoring Platform or bio-businesses surveys	0	15%	40%	Beneficiaries remain interested and actively participate in the programme activities. Trainings on international standards and certification are effective/sufficient for bio-businesses.
	Percentage of bio-businesses in priority value chains that report technology upgrading	Monitoring Platform or bio-businesses surveys	0	15%	40%	Beneficiaries remain interested and actively participate in the programme activities. Technology is available to bio-businesses
Improving access to finance by bio-businesses and their value chains in areas exposed to climate and environmental risks	Number of climate resilient and/or low-emission bio-businesses financed	Reports from financial institutions that participate in the Programme	0	7,640	38,200	Private sector agents are willing to participate if they can make a profit with natural capital assets.
	Total bio-business financing portfolio (US\$ million) in LFIs participating in the program. Indicator includes financing disbursed or guaranteed by Component I.1, including Programme financing and LFIs own resources mobilized.	Monitoring platform, surveys, reports based on own supervision of individual operations approved and EE monitoring reports	0	32	324	LFIs can access various sources of funding and increase their willingness to enter the bio-business financing market.
Increasing the volume of total investment flows to bio-businesses and their value chains	Total investment in bio-businesses (US\$ million) leveraged through the financial system, including co-financing from other sources (debt and equity). Indicator includes investments	Monitoring platform, surveys, reports based on own supervision of individual operations approved and EE monitoring reports	0	45	450	Private sector actors confirm their willingness to invest if they can make a profit with natural capital assets.

	enabled by Components I.1 and I.2, including financing and co-financing from the Programme and leverage from third parties.					
	Employment in bio-business and value chains supported (number), that contributes to improving resilience adaptability to climate threats. Indicator includes investments enabled by Components I.1 and I.2, including financing and co-financing from the Programme and leverage from third parties.	Monitoring platform, surveys, reports based on own supervision of individual operations approved and EE monitoring reports	0	14,500	144,888	Private sector actors confirm their willingness to invest if they can make a profit with natural capital assets.
Enhancing capacities and coordination of bio-business market stakeholders	Entities participating (number) in bio-business operational and technical tools and trainings, disaggregated by type. Indicator aggregates entities supported under activities (a) and (b) under Component I.3. Entities can be classified by type as: LFI (public or private), investor, business, producer or business support organizations (may include trade promotion organizations, chambers of commerce, sector associations and others). Where applicable, an indicator on the share of entities that are women or women-led will be included.	Monitoring platform, surveys, reports based on own supervision of individual operations approved and EE monitoring reports	0	60	150	Bio-business market stakeholders participate in training and take appropriate actions as advised. Specialized training and extension service providers are available at competitive costs.

Enhancing institutional and regulatory environments for bio-businesses	Public entities (number) participating in trainings for regulation and national systems bio-businesses and forestry concession schemes	Monitoring platform, surveys, reports based on own supervision of individual operations approved and EE monitoring reports	0	7	20	Governments in target countries maintain their bioeconomy-related priorities. Public actors confirm their willingness to engage in training and reform of their national systems for valuing of capital natural assets to support bio-business value chains. Specialized service providers are available at competitive costs.
	Regulation (number) for valuing natural capital or forest concessions regimes published/enforced	Monitoring platform, surveys, reports based on own supervision of individual operations approved and EE monitoring reports	0	7	20	
	Innovative concession schemes (number) designed and subjected to market consultation	Monitoring platform, surveys, reports based on own supervision of individual operations approved and EE monitoring reports	0	3	8	
Component II: Bond structuring and issuance						
Improving readiness of bond issuers to access funding for bio-businesses in capital markets	Bond issuers (number) with improved knowledge on portfolio identification, bond structuring and certification. Where applicable, an indicator on the share of bonds that incorporate gender-related eligibility criteria will be included.	Monitoring platform, surveys, reports based on own supervision of individual operations approved and bond certification	0	1	4	Sufficient pipeline of bio-business projects is developed in order to support a minimum-sized bond issuance. Specialized service providers are available at competitive costs.
Increased volume of funding raised for bio-businesses through bond issuance	Number of climate resilient and/or low-emission bio-businesses financed	Reports from financial institutions that participate in the Programme	0	3,820	19,099	Private sector agents are willing to participate if they can make a profit with natural capital assets.
	Volume of financing raised (US\$ million) through bond issuances supported that include bio-businesses	Monitoring platform, surveys, reports based on own supervision of individual operations	0	18	181	Private sector agents confirm their willingness to participate if they can make a profit with natural capital assets. Relative political and economic stability is

		approved and bond issuances				maintained in target countries. It is confirmed that bond market in target countries overall has enough legal guarantees to incorporate a new type of thematic bonds (i.e., where green or sustainable bonds are already being explored).
	Share (%) of total value of financing raised through bond issuances enabled by credit enhancement	Monitoring platform, surveys, reports based on own supervision of individual operations approved and bond issuances	0	100%	100%	Credit enhancement effectively offsets incremental cost of the debt for the issuer and increases attractiveness to investors. IDB confirms its triple AAA category as a guarantor of the bond.

E.6. Activities

Component/Activity	Description	Sub-activities	Deliverables
Component I: Financing solutions for bio-businesses			
1.1 Sovereign investment loans and investment grants	Funding to NDBs (or SPVs administered by them) that offer financial and guarantee instruments to bio-businesses, directly or via local FIs that would extend it to bio-businesses	<ul style="list-style-type: none"> Debt financing through NDBs dedicated product lines or SPVs Risk coverage/ incentives to LFIs or final borrowers 	<ul style="list-style-type: none"> Debt and guarantee financial instruments tailored to the scale and risks of bio-businesses. Total volume of financing disbursed
1.2 Equity investments and innovation grants	Funding directly or to investment facilities that offer high-risk tolerant capital (equity) for incubation of new business models and early-stage bio-businesses	<ul style="list-style-type: none"> Regenerate Accelerator Direct investments 	<ul style="list-style-type: none"> Equity-like financial instruments for early-stage bio-businesses Total volume of financing disbursed
1.3.a Bio-business pipeline development and supervision	Capacity building for bio-business operation, management and evaluation from the demand a supply side of the financing	<ul style="list-style-type: none"> Technical support for potential beneficiaries Technical support for FIs (public or private) Technology upgrading Support for certifications Positioning strategy Bioprospection and R&D 	<ul style="list-style-type: none"> Training and extension services for bio-businesses and members of their value chains Training and advisory for FIs Records/Lists of participation of entities in eligible trainings/initiatives Quality certifications Positioning strategy defined Amazon Biodiversity Knowledge Hub Bioprospection strategies Dissemination of bioprospection results
1.3.b Tools for connecting bio-businesses to stakeholders and markets	Financing for ongoing IDB Lab initiatives for connecting bio-businesses to stakeholders and markets	<ul style="list-style-type: none"> Leticia Platform Amazon Bioeconomy Marketplace Amazonia 4.0 	<ul style="list-style-type: none"> Coordination mechanisms Records/List of participation of entities in eligible trainings/initiatives Market related studies and relevant data. Knowledge material, publications, and reports.

			<ul style="list-style-type: none"> • Trained local partners supporting local producers. • Matchmaking events organized. • Marketplace design and implementation roadmap
I.3.c Institutional and regulatory environment	Advisory services and training of government entities for streamlining private participation in investments.	<ul style="list-style-type: none"> • Strengthening national systems in terms of valuing natural capital/forest assets • Innovative schemes for private participation in sustainable management of forests and conservation areas 	<ul style="list-style-type: none"> • Regulation drafts or assessment studies • National systems developed/implemented • Trainings for bioeconomy-related government entities • Records of participation of entities in eligible trainings • Drafts contracts and supporting documentation for public-private partnerships
Component II: Bond structuring and issuance			
II.1 Technical cooperation for thematic bond issuance	Advising on mechanisms to include bio-businesses in the use-of-proceeds commitments of thematic bonds	---	<ul style="list-style-type: none"> • Bond issuance document package • Bond certification • Frameworks or reporting systems studies
II.2 Grants for guarantees	Structuring credit enhancement instruments for specific issuances	---	<ul style="list-style-type: none"> • Guarantee instruments to cover risks of sovereign bond issuances • Bond guarantee contracts signed
Component III: Transversal technical cooperation			
III.1 Inclusion mechanisms for women and diversity in bio-business	Developing strategies, measures and/or services to promote equitable access to the benefits of investments supported	---	<ul style="list-style-type: none"> • Diagnosis and studies • Strategies/plans developed/implemented • Records of female participants in specific eligible activities
III.2 Integrated support and the strengthening of the ecosystem for Amazonian SME and their communities	Build economic and social environmental resilience as well as prosperity and well-being of the SME and the Amazonian communities in which they reside	---	<ul style="list-style-type: none"> • Regional mapping • Database of potential providers and recipients of the innovative solutions and connections • Strategic connection plans developed/implemented • Records of SME and their communities and partners participants in specific eligible activities
III.3 Stakeholders Engagement Plan	Improve the design and execution of the Programme by including a meaningful and organic stakeholder engagement. Revitalize and activate the Amazon's key stakeholders' inclusion by mapping a wider range of stakeholders' profiles, perspectives and perceptions (governments, the private sector, civil society, and other development actors).	<ul style="list-style-type: none"> • Information level: Stakeholder mapping, AI Amazon citizen's pulse • Dialogue level: Regular dialogue tables set • Consultation level: Due diligence on consultation improvement. • Collaboration level: Assessment on stakeholders' local capacities and trainings. • Partnership level: External resources mobilized; Small Grants Program designed 	<ul style="list-style-type: none"> • Knowledge materials, including publications, assessment reports, and systems for data collection and monitoring (developed or updated)

III.4 Small Grants Program	Empower and enable local stakeholders, especially women, indigenous people, afro-descendants, campesinos, to take initiatives to enhance and influence development outcomes with bio economy perspective.	<ul style="list-style-type: none"> • Prioritize the Amazon economic and social development with identity. • Leverage local economic activities led by local communities related to the invention, development, production, and use of biological products and processes 	<ul style="list-style-type: none"> • Small investment grants per country awarded to leverage and develop local bio business led by local stakeholders: indigenous, afro-descendants, women, youth and elderly
III.5 General advisory services	Increase awareness on the contributing factors to and benefits of bio-business intensification and expansion	---	<ul style="list-style-type: none"> • Knowledge materials, including publications, assessment reports, and systems for data collection and monitoring (developed or updated)
III.6 Programme monitoring and evaluation	Monitoring activities, including analyses and preparation of interim and final evaluations to be submitted to the GCF by the IDB	---	<ul style="list-style-type: none"> • Periodical reports on fund-level impacts and outcomes • Mid-term and final evaluations

E.7. Monitoring, reporting and evaluation arrangements (max. 500 words, approximately 1 page)

137. On account of the Programme design, which includes various countries, components, EEs and disbursement schemes, the IDB will monitor, compile and register information on all IDB Sub-projects approved and financed –totally or partially– with resources from this Programme, and will be solely responsible for aggregating and updating information on the Programme for periodical reporting to the GCF (see Annex 11).
138. Monitoring and evaluation of each IDB operation approved with funding from the Programme will follow standard IDB policy. This includes a requirement to define monitoring indicators at the product and results level, which shall be consistent with one or more of the activities and expected results included in Sections E.5 and E.6. All indicators will have targets established ex ante, based on existing knowledge at the time of preparation and approval of the Sub-project by the IDB Board of Directors. Throughout implementation of the Programme, values for monitoring indicators will be integrated annually by the IDB in its internal monitoring systems.
139. Following IDB standard practice, agreements between the IDB and EEs will establish monitoring and periodical reporting obligations during execution. In coordination with the IDB, EEs will compile and maintain all information necessary. In some cases, additional projections, estimations, or technical calculations will be required, which could be carried out by the IDB based on the information provided by the EEs in the periodical reports or with specialized support provided in the context of technical cooperation activities under component I (see ¶51, I.3.a).
140. EEs are required to inform the IDB on the performance of activities under their execution at least on an annual basis. Annual reports generally include an in-depth examination on the performance of activities relating to (i) disbursements (amounts, dates, co-financing including local counterpart and other sources, when applicable), eligible expenses financed, and the remaining amount of funds; (ii) compliance on the eligibility and concessionality requirements; and (iii) evolution of indicators on the results framework, including at the investment level.
141. In addition to the annual reports, IDB-led mid-term and final evaluations of all approved IDB sub-projects will be carried out to: (i) determine the extent to which products and outcomes defined in the results framework have been met; (ii) identify lessons learned and provide recommendations for improving implementation; and (iii) assess the performance of the EEs. These evaluations will be used as inputs to develop a final assessment.

142. A final assessment of each Sub-project funded by the Programme will be carried out by the IDB once the funds are fully justified. This report shall contain all relevant information to evaluate the fulfilment of objectives as per targets established ex ante and is normally submitted to the IDB within six months after the last disbursement to the EE. Due to the times required to collect and analyse information, reporting commitments by EEs are expected to continue until after the end of the execution period, within the time limits established for the submission of the final report.

F. RISK ASSESSMENT AND MANAGEMENT

F.1. Risk factors and mitigations measures (max. 3 pages)

143. As per IDB's Project Risk Management Framework, all IDB Sub-projects using funds from the Programme will require a description of the overall risk assessment and respective mitigation measures under either of the following categories:
- Executing environment: political, economic and financial, institutional, legal, natural, social
 - EE: organizational structure, internal processes, human resources, systems, goods and services, integrity
 - Project: technical design, planning, sustainability, governance system, environmental and social safeguards.
144. Scales for qualifying probability and impact of each risk are defined as:
- For probability: high, medium-high, medium-low, low
 - For impact: high, medium-high, medium-low, low
145. All IDB Sub-projects to be prepared under the Programme will undergo a thorough environmental and social safeguards screening, including the timely disclosure of environmental and social safeguards documentation, in coordination with the IDB Environmental and Social Safeguards Unit (VPS/ESG) and in compliance with IDB's new Environmental and Social Policy Framework. Each operation is classified under a specific category and level of risk, based on the assessment of the associated environmental and social risks and impacts; the actions required to address these are described in the corresponding management instrument.
146. If an EE is involved, the IDB also has a formal approach to risks of a fiduciary nature. Prior to approval, the IDB is required to carry out or document analysis of fiduciary risks associated with the EE under any of the specified typologies, in line with the IDB Project Risk Management Framework.
147. Risks identified for the overall Programme are listed below.

Selected Risk Factor 1 Insufficient transformation of identified demand into fundable projects

Category	Probability	Impact
Technical and operational	Medium	Medium
Description		
<p>148. Business owners and developers must face several needs at the same time and resources are limited. While the existence of a viable model is necessary for the process of investment decision-making, it is not always sufficient. Information may not be accessible to all potential beneficiaries and a history of recurrent crises, including the most recent COVID-19, may have made private actors less inclined to invest. The risk is considered medium because the potential demand has been quantified as significantly higher than the existing funding. While the probability of not reaching at least 37% of the total potential demand (US\$707 million in CAPEX estimated to be supported by equity and debt instruments enabled by the Programme¹⁰⁸ versus a demand of beyond US\$1.9 billion overall) is considered low, limitations on approval and implementation periods in each country increase the probability to medium. Impact is considered medium, as even if this risk materializes, under no circumstance should it affect the totality of Programme funding.</p>		
Mitigation Measure(s)		
<p>149. Technical cooperation activities under each component include activities to support the demand side of each component. Bio-business pipeline development and supervision activities under Component I are</p>		

¹⁰⁸ The US\$707 figure differs from the total amount of funding leveraged, as the former only considers the net investment that will end up being used as CAPEX investment/financing (including equity and debt) and hence it does not include the guarantee or TC moneys.

aimed at supporting firms to develop high-quality projects that are bankable. The institutional capacities of the EE for the loan component to respond to this demand in a timely and effective manner have been analysed by the IDB and should be reviewed in the context of each pre-approval Sub-project. Advisory services under Component II will result in bond structuring using best international practice, increasing the quality of the issuance and enabling access to more investors. As this support is delivered within the framework of the Programme itself, helping consolidate fundable projects at a faster pace, it is considered that the probability of this risk occurring is low.

Selected Risk Factor 2 Impossibility to deliver monitoring data on all supported projects

Category	Probability	Impact
Technical and operational	High	Low

Description

150. Because the bioeconomy is a relatively new concept that involves various specific technical skills, monitoring the results could become challenging. In most cases, monitoring will depend on secondary sources, which may not be fully deployed or well-functioning in all target countries. In the case of EEs for Component I, these institutions may have good monitoring systems in place for their overall credit operation but are not necessarily suited to deliver geographic data or technical aspects of specific practices. The probability of this risk is considered high based on the scope of the Programme, which involves several types of businesses, channels and sectors. Also due to the existing lack of coordination among relevant institutions, as identified in some target countries, which leads to numerous databases and sources of information. Impact is considered low, because while data at the investment level may not be available in all cases, conditions will be in place to guarantee all investment follow strict eligibility criteria to be considered part of the bioeconomy.

Mitigation Measure(s)

151. As part of the implementation activities for each IDB operation using funds from the Programme, specific monitoring and reporting arrangements will be established, including templates and indicators, means of verification and periodicity of data collection. Where an EE different from the IDB is involved, these arrangements will be agreed with the IDB prior to the disbursement of funds as per IDB policy. In addition, transversal technical cooperation activities include support for overall supervision and coordination at the country level, which includes assistance to carry out monitoring activities and the deployment of monitoring systems that are adequate to incorporate the majority of beneficiary projects to the overall impacts and results measurement.

Selected Risk Factor 3 Unexpected changes in political will

Category	Probability	Impact
Other	Low	Medium

Description

152. Given that future developments around the COVID-19 pandemic are still uncertain, a risk has been identified in potential delays on implementation at the country level, as a result of governments in target countries prioritizing new emergency measures that may arise in the coming years. So far, governments throughout the region have shown a strong commitment to incentivising the development of bio-businesses with the participation of the private sector as they consider it key to promote the sustainable development of the Amazon. Even if the impacts of the crisis are higher than expected, it is well recognized that the sector can play a significant role in the post-COVID recovery phase. Hence, this risk is considered low.

Mitigation Measure(s)

153. The IDB team will follow closely the development of the crisis and its effect on government priorities in all target countries and will provide analyses about the potential of bio-business investment to effectively contribute to sustainable development in each country in alignment with various national policies and plans. Strong relationships with representatives in each country (including NDAs but also other relevant stakeholders) will support close monitoring of government plans to ensure that engagement with the Programme is sustained and justified to respond to their economic recovery needs.

Selected Risk Factor 4 Cumulative or unanticipated socio-environmental negative impacts

Category	Probability	Impact
Reputational	Low	High

Description

154. Eligibility of investments to be financed under the Programme is based on the sustainable nature of these businesses regarding the use and conservation of biodiversity. This considers environmental, social and economic sustainability criteria and, therefore, no direct negative socio-environmental impacts are anticipated. Despite this condition, given the number and geographical dispersion of the potential projects to be financed by the Programme, as well as the potential for indirect and cumulative impacts, associated with financial intermediation, it has been classified as I-2 per the GCF Environmental and Social Policy. Business development based on the use of biodiversity in an inherently complex region such as the Amazon, in some cases may involve sensitive issues that would need to be carefully addressed. Timely information and oversight of these issues are key to avoid reputational risks.

Mitigation Measure(s)

155. Besides the overall ESG framework presented with this proposal, each IDB financing operation to be approved with funds from the Programme will include a more specific assessment of socioenvironmental impacts and risks and management measures, including cumulative effects and indirect impacts. The framework at the IDB Sub-project level incorporates an exclusion list of high-risk socioenvironmental activities/sectors and Category A projects which will not be eligible for financing (such as those involving involuntary resettlement, negative impact on indigenous peoples or critical natural habitats, damage to cultural sites, or the use of invasive species). The assessment of EEs' capacity for socioenvironmental risk management is part of the institutional analysis that is carried out or updated before the approval of each IDB Sub-project (see Sections B.4 and G.1). In addition, the Programme includes technical cooperation activities to support overall supervision at the country level, which includes the adequate implementation (and design, if required) of a socioenvironmental risk management system, as well as continuous impact monitoring.

Selected Risk Factor 5 Unidentified financing of money laundering, terrorist financing, and prohibited practices

Category	Probability	Impact
ML/FT	Low	High

Description

156. National financial systems are subject to country compliance with the international standards of the Anti-Money Laundering and Combating the Financing of Terrorism policy, embedded in national policymaking of all target countries. As lending operations being considered in the context of this Programme will be part of financial intermediation schemes in local and international markets, a very low risk is foreseen on having unidentified financing of these practices.

Mitigation Measure(s)

157. Because all financial operations under Programme activities are carried out in the context of the financial and capital markets, subject to national regulation, this risk is considered low. Nonetheless, the IDB will

not only establish specific rules and eligibility criteria for all financial transactions in each target country (as part of IDB project-cycle), but all portfolios financed will be subject to IDB's non-objection.

Selected Risk Factor 6 Misuse of materials or technology procured for unauthorized, improper or illicit purposes

Category	Probability	Impact
Technical and operational	Low	Medium

Description

158. Due to the diverse nature of the bio-business sectors, models, practices and technologies, use of funds for purposes that are aligned with the Programme criteria can be difficult to standardize. Hence, a risk is identified in a possible misuse of some elements procured with loans or grants from the Programme. The risk is classified as low, as IDB policies and procedures are deemed sufficient to guarantee checks and balances to prevent this.

Mitigation Measure(s)

159. EEs eligibility and disburse of funds to them will be contingent on their compliance with institutional capacity assessment and formal agreement with IDB, which include specific guidelines for use of proceeds, whether it is reimbursable or non-reimbursable money. The IDB supervises compliance of all requirements established in these agreements, including the OR, where applicable (see Section B.4 and G.3) and carries out supervision of all beneficiary entities and projects.

Selected Risk Factor 7 Exposure to foreign exchange risk of beneficiaries or LFI as result of financing under Component I.1

Category	Probability	Impact
Forex	High	Low

Description

160. Foreign exchange (FX) risk (or currency risk) exists in financial transactions under Component I.1, as IDB loans are denominated in USD and loans to final borrowers are likely to be disbursed in a currency other than USD (i.e., the local currency in each country), especially in the case of smaller firms for which transactions occur mainly in local currency. Thus, FX risk arises from the possibility of unfavourable fluctuations between the local currency and the USD before the loan repayment is completed, as the associated value may decrease due to changes in the relative value of the involved currencies. Target countries are generally prone to undergo sporadic unstable economic conditions, but NDBs acting as EEs generally have the capacity to hedge this risk (i.e., place USD in the market and manage profits to increase their capacity to offer concessional terms in local currency). Bio-businesses exporting or importing goods and services are also subject to FX risk but can take measures to manage it as well. All in all, while the probability of facing FX risk in the target countries is high, its impact is considered low based on the mitigation measures below.

Mitigation Measure(s)

161. If the analysis at the country-level identifies that a substantial portion of the loans will be required in local currency, the IDB will ensure that the corresponding EE is informed about the FX risks and sufficiently connected to financial institutions interested and willing to hold USD positions locally, and that the size of the market is large enough in relation to the amount of Programme resources allocated to that particular country. As for bio-businesses exposed to FX risk, hedging strategies to mitigate it usually involve mechanisms such as forward contracts, options and others, which can protect them from exchange rate fluctuations. Capacity building and proper implementation of such mechanisms will be part of the TC activities under Component I.3.

Selected Risk Factor 8 Possibility of losses resulting from borrowers' failure to repay the loans or meet contractual obligations under the bonds		
Category	Probability	Impact
Credit	Low	Medium
Description		
<p>162. In any credit transaction, a risk exists that the borrower may default. Potential defaults of bio-businesses financed by the Programme may negatively impact the repayment of the lender LFI to the EE, and that of the EE to the IDB. As described in Section B.4, loans provided to EEs with GCF funding under Component I.1 will be backed by a sovereign guarantee; this is, in the event of default, the GCF would be protected (i.e., reimbursed) by the national government. Investment grants will contribute to reduce the net exposure of the public sector to the extent and depth of the de-risking instruments enabled by these funds, which would allow for potential recoveries from defaulting borrowers through LFIs.</p>		
Mitigation Measure(s)		
<p>163. While it is not possible to foresee who will default on obligations, properly assessing and managing credit risk can lessen the severity of a loss. The intermediation scheme proposed for Component I.1 uses LFIs expertise in collecting and processing information to accurately assess the risk (i.e., capacity to repay, associated collateral, credit history and capital) of various investments. As the bulk of LFIs are private, origination of credit follows commercial banking practice under market conditions, and the inclusion of sub-loans in their lending portfolio is indicative that the expected value of these investments will produce net profits. If a lender participating in the Programme faces heightened credit risk, instruments enabled by the Programme have been designed precisely to mitigate it, while at the same time avoiding an increase in financial costs for the borrower or issuer of a debt obligation. Also, with regards to Component II investors are expected to look at the credit rating of the bond they are buying, as an indication of the risk of default of the issuer. The AAA rating provided by the IDB guarantee supported by Component II.2 significantly diminishes the risk. Hence, the probability of this risk is considered low.</p>		

G. GCF POLICIES AND STANDARDS

G.1. Environmental and social risk assessment (max. 750 words, approximately 1.5 pages)

164. Because higher Environmental and Social (E&S) risk activities will be excluded from the Programme, the potential E&S risks and impacts are likely to be low to moderate, which are largely manageable by standard mitigation measures. Therefore, this transaction was categorized as Category B.
165. Although the Programme is expected to have positive contributions on natural resources, if a beneficiary project fails to meet good practices implementation, negative impacts can occur. However, based on the proposed E&S management approach these risks and impacts can be readily addressed through well-established mitigation measures and fulfilment of IDB's applicable Environmental and Social Performance Standards.

Table 8.- Assessment of E&S risks and impacts, and mitigation measures

	E&S Risks and Impacts	Mitigation Measures
ESPS1	The targeted portfolio includes MSMEs and Cooperatives, where structured ESMS are uncommon. E&S management practices and governance is usually limited to meet national law and permits requirements.	Where applicable, investments will seek good practices independent third-party certifications (e.g.: organic, eco-friendly, ISO, fair trade, FSC, VCS) consistent with IDB's Environmental and Social Performance Standard 6. EEs will screen beneficiary investments' performance against the applicable requirements.
ESPS2	Targeted sectors have physical, biological and chemical hazards risks. OHS culture maturity level is limited in the region and in MSMEs. Child and forced labour practices occur in the region (including supply chain related practices).	IDB will support the development of sectoral labour practices and working conditions checklist and guidance assessment consistent with IDB's Environmental and Social Performance Standard 2. Supply chain auditing protocols will be foster through anchor investments.
ESPS3	Limited logistics to final disposal for waste and hazardous materials. Wastewater pollution.	EEs will review applicable required environmental permits based on sector and country requirements, as well as against selected EHS guidelines. IDB will support the development of sectoral environmental checklist and guidance assessment.
ESPS4	Affected communities EHS related may include: - Access to resources and benefit sharing issues (including environmental services related to provision) - Exposure to hazards (physical and chemical)	IDB will support the development of sectoral affected communities EHS checklists and guidance assessments consistent with IDB's Environmental and Social Performance Standard 4.
ESPS5	Investments involving involuntary resettlement will not be eligible	Exclusion of investments requiring involuntary resettlement as defined by IDB's Environmental and Social Performance Standard 5.
ESPS6	Land conversion and deforestation risks (including supply chain) Impact on critical habitats	Exclusion of investments requiring deforestation, or which present significant risk of induced deforestation, including supply chain. Supervision will include monitoring of land-use and land cover change. Exclusion of investments that involve land clearing activities in critical habitats as defined by IDB's Environmental and Social Performance Standard 6.
ESPS7	Adverse impacts to communities and persons belonging to indigenous peoples and afro-descendant	Exclusion of investments with potential adverse impacts on Indigenous people as defined by IDB's Environmental and Social Performance Standard 7.

		IDB and EEs will develop and rollout consultation and stakeholder engagement strategies with indigenous peoples and communities consistent with IDB's Environmental and Social Performance Standard 7.
ESPS8	Projects involving adverse impacts on cultural heritage.	Investments will protect cultural heritage from the adverse impacts of project activities and support its preservation. and will promote the equitable sharing of benefits from the use of cultural heritage consistent with IDB's Environmental and Social Performance Standard 8.
ESPS 9	Gender equality	Sub-Projects must be designed to achieve inclusion from Sub-Project-derived benefits of people of all genders, sexual orientations, and gender identities consistent with IDB's Environmental and Social Performance Standard 9. Investments must be designed to minimize risk of sexual and gender-based violence in affected communities and workers consistent with IDB's Environmental and Social Performance Standard 9.
ESPS 10	Stakeholder engagement and information disclosure	Borrowers will comply with IDB requirements for stakeholder engagement and information disclosure consistent with IDB's Environmental and Social Performance Standards 1 and 10.

166. For financial intermediation activity I.1, each participating NDB and LFI will manage the supported portfolio by applying a specific E&S Management Framework (ESMF) to be approved by the IDB during Sub-project preparation. The ESMF will include the Programme's applicable requirements, as follows:
- National applicable E&S laws and regulations;
 - IDB Exclusion List;
 - Category A high risk projects screening;
 - No deforestation policy; and
 - IDB's September 2020 Environmental and Social Policy Framework (ESPF), as applicable.
167. In order to do so, IDB review will focus on improving EEs' capacity and commitment to assure adequate level of safeguards implementation. IDB will review any existing E&S Management System (ESMS) for every selected LFI that will provide funding to projects under the Programme. As part of the ESMS review, IDB will follow the IDB E&S procedure and apply its Platform for the Analysis of Institutional Capacity (PACI) tool to identify needs to capacity building and institutional strengthening in ESG aspects.
168. For a complete description of the components of the E&S risk and impacts assessment and management approach applied by the IDB in both the preparation and execution of the Programme, see Annex 6.

G.2. Gender assessment and action plan (max. 500 words, approximately 1 page)

169. Women play a fundamental role in the Amazon. As users of forest products and guardians of traditional knowledge, women have always been involved in the region. Nevertheless, their access to forest resources and the economic benefits generated by the biodiversity is limited compared to men's. The countries included in the Programme present significant gender gaps for women due to cultural and structural barriers, which are exacerbated in rural areas and among indigenous and afro-descendant women. Just recently, some of those gender gaps have been widened due to the COVID-19 crisis. ECLAC estimates that female participation in the workforce in 2020 in LAC will be 46%, a decrease of 6 percentage points compared to 2019. This means that about 12 million women left the regional workforce due to job destruction.

170. Women also face barriers to access the financial sector, the lack of access to capital being the main reason women-led businesses fail. Currently, the supply of gender-lens financial products in LAC is limited since only a few fund managers consider gender in their investment analysis. Despite this, a gender-lens investing for women-led business is emerging in various types of assets in LAC through bonds, microfinance and specific lines of credit and technical assistance to SMEs run by women.
171. The participation of Amazon women in the bioeconomy presents multiple gaps related to pre-existing inequality conditions of women's livelihoods and economies in the region. Some of the gaps that women face in the bio-business value chains are related to ownership of productive assets (land, animals, capital); distribution of the use of time in productive and household tasks; access to formal economies; equitable distribution of investments and profits; access to information and technology, little leadership in economic projects and difficulties to access working spaces traditionally assigned to men.
172. The Gender Action Plan has been designed to contribute to reducing the existing gender gaps and overcome many of the barriers women face in the bio-business value chains and the financial sector. The Programme will design a platform to promote women's access to bio-business financial services through training, a community of women entrepreneurs, studies of pre-feasibility of value chains, support to expand their business and to transition from the informal to the formal sector, among other activities. On the other hand, the Programme will work with LFIs to incorporate a gender-lens in their portfolio through gender awareness trainings, the identification of bottlenecks to integrate gender in their services and products, and the creation of credit programs specific for women, among others.
173. The gender assessment and action plan have been developed with IDB staff and several gender and diversity specialists working in Colombia, Perú and Washington D.C. A gender study on bio-business value chains that is been carried out in Peru will further inform the implementation of the gender assessment and gender action plan (see Annex 8).

G.3. Financial management and procurement (max. 500 words, approximately 1 page)

174. Disbursement of Programme resources to the IDB under the FAA would be subject to the IDB having approved the allocation of Programme resources to reimbursable (sovereign guaranteed loans) or non-reimbursable (technical cooperation and investment grants) Sub-projects and following the effectiveness of the corresponding Subsidiary Agreements for such operations –if such agreements are needed.
175. In credit operations financed under Component I.1, financial management considerations included in the OR to be approved prior to disbursements shall be consistent with policies and operational standards of the IDB and the corresponding EE, and abide by the laws and financial regulation of the country in which funds are being used. Loan resources will be disbursed to the corresponding EE as an advance of funds or as reimbursement of expenses at any time within the established loan disbursement period, in accordance with IDB policies. In all cases, the portfolio of sub-loans to be recognized by the Programme will be subject to revision by the IDB in order to proceed with each disbursement. Investment grant resources could be disbursed upfront, provided that conditions established in the financial agreement between the IDB and the corresponding EE have been fulfilled. These conditions may include a requirement to create a specific account to which funds will be transferred exclusively for the execution of the Programme or limits to the volume of GCF resources to be disbursed in advance. Conditions will be determined on a case-by-case basis for each participant country. EEs will be required to submit audited financial statements within 120 days after the closing of each fiscal year throughout the execution period, as per standard IDB practice. Financial statements shall be duly audited by an independent firm acceptable to the IDB and in compliance with local regulation. EEs are also required to prepare and submit periodical reports (at least annually) including financial information and compliance with eligibility criteria for sub-loans, as well as progress with regards to the development objectives based on a set of predefined results indicators. Non-reimbursable resources may be deployed by IDB either through technical cooperation or investment grants.
176. The financial management and oversight of any of the above-mentioned operations, including reporting requirements, will follow IDB policies and procedures, and applicable AMA and FAA requirements, which would be reflected as needed in any Subsidiary Agreements. The Subsidiary Agreements will require that use of GCF proceeds be for eligible activities under the applicable components of the Programme,

will establish the disbursement period and will establish other implementation requirements, including regarding the executing structure of GCF funded activities within the EE.

177. When acting as EE, IDB will apply its own policies for hiring of individual consultants and/or procurement of consulting and other services and will require other EEs to use applicable IDB's procurement policies for their use of GCF funds (see Section B.4).

G.4. Disclosure of funding proposal

No confidential information: The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.

With confidential information: The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence. Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

full copy for internal use of the GCF in which the confidential portions are marked accordingly, together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and

redacted copy for disclosure on the GCF website.

The funding proposal can only be processed upon receipt of the two copies above, if containing confidential information.

H. ANNEXES

H.1. Mandatory annexes

- Annex 1 NDA no-objection letter(s) Letters from Brazil, Colombia, Ecuador, Guyana, Peru, and Suriname.
- Annex 2a Feasibility study
- Annex 2b Feasibility study (Excel)
- Annex 3a Economic analyses (Excel)
- Annex 3b Description and Summary Results of Economic Analysis
- Annex 3c Regional Regenerate Assumptions Model (Excel)
- Annex 4 Detailed budget plan
- Annex 5 Implementation timetable including key project/Programme milestones
- Annex 6a Environmental and Social Analysis and Environmental and Social Management Framework
- Annex 6b ESS disclosure form Draft (Published in English, Spanish, Portuguese and Dutch by IDB by September 3rd, 2021)
- Annex 7 Citizen Stakeholder Engagement Plan and Socialization Phase I
- Annex 8a Gender assessment
- Annex 8b Gender and Diversity action plan
- Annex 9 Legal Due Diligence
- Annex 10a Procurement policies to be applied
- Annex 10b 18-month tentative Procurement plan
- Annex 11 Monitoring and evaluation plan
- Annex 12 AE fee request
- Annex 13 Co-financing commitment letter, *[IDB Board approvals for national or regional sub-projects occur after GCF Board approval. A FAA clause to be included]*
- Annex 14 Term sheet

H.2. Other annexes as applicable

- Annex 15 Evidence of internal approval [\(template provided\)](#)
- Annex 16 Map
- Annex 17 Multi-country Programme information
- Annex 18 Appraisal - Not applicable
- Annex 19 Procedures for controlling procurement by third parties - Not applicable

- ☒ Annex 20a Financial Capacity Management Assessments - First level AML/CFT (KYC) assessment
- ☒ Annex 20b Institutional Assessment and Definition of Executing Entities
- ☒ Annex 21 Operations Manual
- ☒ Annex 22a Carbon Methodologies and Assumptions
- ☒ Annex 22b GHG calculations
- ☒ Annex 23 Overview Projects and Program Initiatives in the Amazon
- ☒ Annex 24a Country Commitment Assessments Climate, REDD+, Bioeconomy
- ☒ Annex 24b Country Commitment Assessments Bioeconomy
- ☒ Annex 24c Country National Determined Contributions Alignment
- ☒ Annex 25a Financial instruments and justification of utilization of investment grants
- ☒ Annex 25b Comparative Leverage Grant vs Guarantee
- ☒ Annex 26 List of References
- ☒ Annex 27 Comments and questions by the independent Technical Advisory Panel and responses by the accredited entity