
Conexusus Impact Fund

LAB INSTRUMENT ANALYSIS

September 2020

DESCRIPTION & GOAL —

The only fund in Brazil designed to make federal subsidized credit lines greener, providing financial products and facilitating access to loans for cooperatives and SMEs that support sustainable production systems that keep forest standing.

SECTOR —

Sustainable land use, agriculture

FINANCE TARGET —

Institutional investors, commercial impact investors, family offices, foundations

GEOGRAPHY —

For pilot phase: Amazon and Northeast regions of Brazil

The Lab identifies, develops, and launches sustainable finance instruments that can drive billions to a low-carbon economy. The 2020 Global Lab cycle targets four specific sectors across mitigation and adaptation: nature-based solutions; sustainable agriculture for smallholders in sub-Saharan Africa; sustainable energy access; and sustainable cities, as well as three regions: India, Brazil and Southern Africa.

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SUMMARY

Reducing agriculture-driven greenhouse gas emissions is an important climate change mitigation measure for Brazil, especially considering the alarming deforestation rates the country is currently experiencing. The Conexsus Impact Fund shifts financing away from activities associated with deforestation and towards those that profit from keeping forests intact by unlocking Brazil's subsidized Pronaf¹ lines of credit to sustainable rural and forest-based enterprises. By helping these enterprises tap into Pronaf, over the course of its lifetime the Fund has the potential to reduce the pressure to deforest on over 2.5 million hectares of land storing approximately 900 million tons of CO₂, while also improving the socio-economic wellbeing of over 30,000 smallholders in Brazil.

The Lab Secretariat recommends endorsement of this instrument as it meets the Lab's four endorsement criteria:

- **Innovative:** The Fund is the only mechanism available that increases Brazil's Pronaf resources directed to sustainable production systems and economic activities.
- **Financially Sustainable:** Although the Fund operates within a Platform that will receive grants to provide technical assistance to borrowers, it is designed to attract impact and commercial investors from year one by placing a 30% junior tranche that leverages a 70% senior tranche.
- **Catalytic:** Much potential exists for the Fund to catalyze investments in community-led sustainable enterprises and their associated value chains throughout Brazil.
- **Actionable:** The proponent's strong presence in the Amazon and Northeast regions, pipeline identification, and financial commitments already in place for the junior tranche will drive it to achieve its implementation milestones.

The instrument is ready for implementation and can generate economic, environmental, and social returns amidst COVID-19, fostering green recovery in a country that has suffered significantly. With USD 2 million already committed for a COVID-19 Emergency Credit Line, the next step for the Fund is to secure an additional USD 8 million between concessional and commercial debt, plus USD 2 million in grants for technical assistance and impact monitoring. The USD 10 million Fund has the potential to leverage an initial USD 100 million of Pronaf in five years, with the goal of expanding to a USD 20 million fund to leverage USD 200 million (BRL 1 billion) in Pronaf over 10 years.

¹ In Portuguese, Programa de Fortalecimento da Agricultura Familiar, or Program to Strengthen Family Agriculture

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CONTEXT

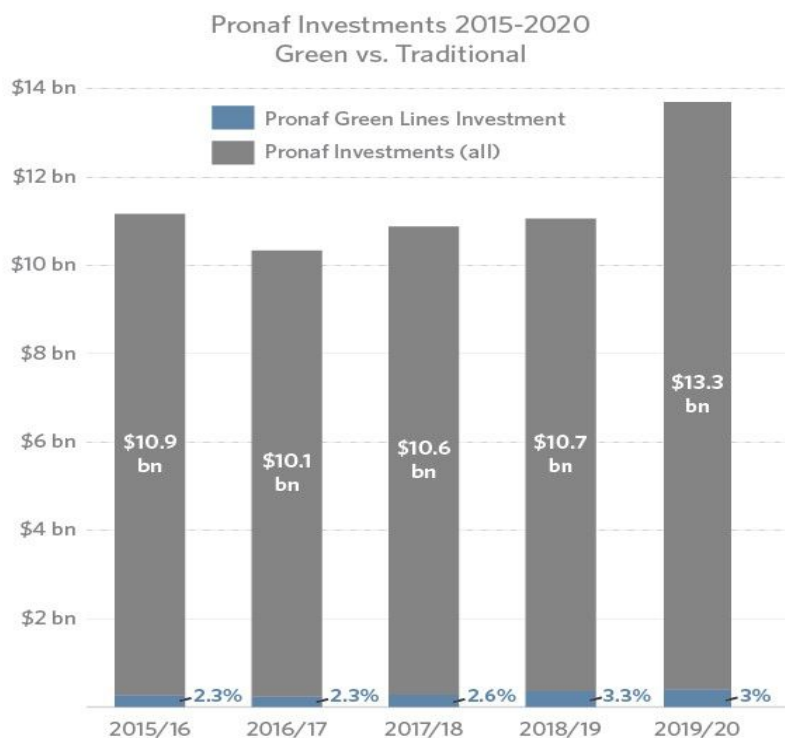
Although sustainable agriculture and forestry-based value chains can prevent deforestation and reduce CO₂ emissions, they are often unserved by subsidized rural credit lines in Brazil.

Brazil has made commitments to restore 12 million hectares of forests and 15 million hectares of degraded pasturelands by 2030 as a measure to meet its nationally determined contribution (NDC). Despite this, since 2018 the country has lost over two million hectares of native vegetation in the Amazon alone (INPE, 2020). Brazil's land use related greenhouse gas (GHG) emissions are increasing, mainly due to deforestation for livestock and agricultural purposes, which constituted 44% of the country's total emissions in 2018 (Angelo and Rittl, 2019; Butler, 2020). Much of this deforestation is taking place on the frontier between small-scale farmlands/pastures and native forests (Solidaridad, 2019).

Approximately 2.4 billion tons of carbon (ten times the emissions from land use change in Brazil in 2017) is stored in the remaining forests located on smallholder settlements in just the Amazon region (Pinto, 2020). Incentivizing sustainable smallholder agriculture and forestry-based value chains throughout Brazil can thus help keep remaining forests intact and combat the country's land use emissions.

Brazil has a dedicated credit line for small producers' in agriculture (called Pronaf), lending over USD 6 billion/year. However, only 2-3% of its annual funding goes to sustainable production systems (see Figure 1) (BACEN, 2020). Furthermore, between 2013 and 2015, 85% of the total amount of Pronaf resources in Amazonian states went to livestock (IPAM, 2017).

Figure 1: Distribution of Pronaf Investments versus Pronaf Green Lines Investments (2015-2020)



Conexus Impact Fund will "green" Pronaf lines by paving the way for rural and forestry-based enterprises to access these subsidized resources. Operating under a broader Investment Platform, the Fund will offer simple financial products in conjunction with financial technical

assistance to overcome the barriers that enterprises in these fragmented value chains have to accessing Pronaf. The Platform will also provide deal origination support to ultimately leverage and shift Pronaf resources away from activities associated with deforestation and towards sustainable production systems, while also creating conditions for better structuring of these value chains.

CONCEPT

1. INSTRUMENT MECHANICS

Conexus Impact Fund provides technical assistance and simple financial products to rural and forestry-based enterprises, increasing the amount of affordable rural credit resources available to sustainable production systems.

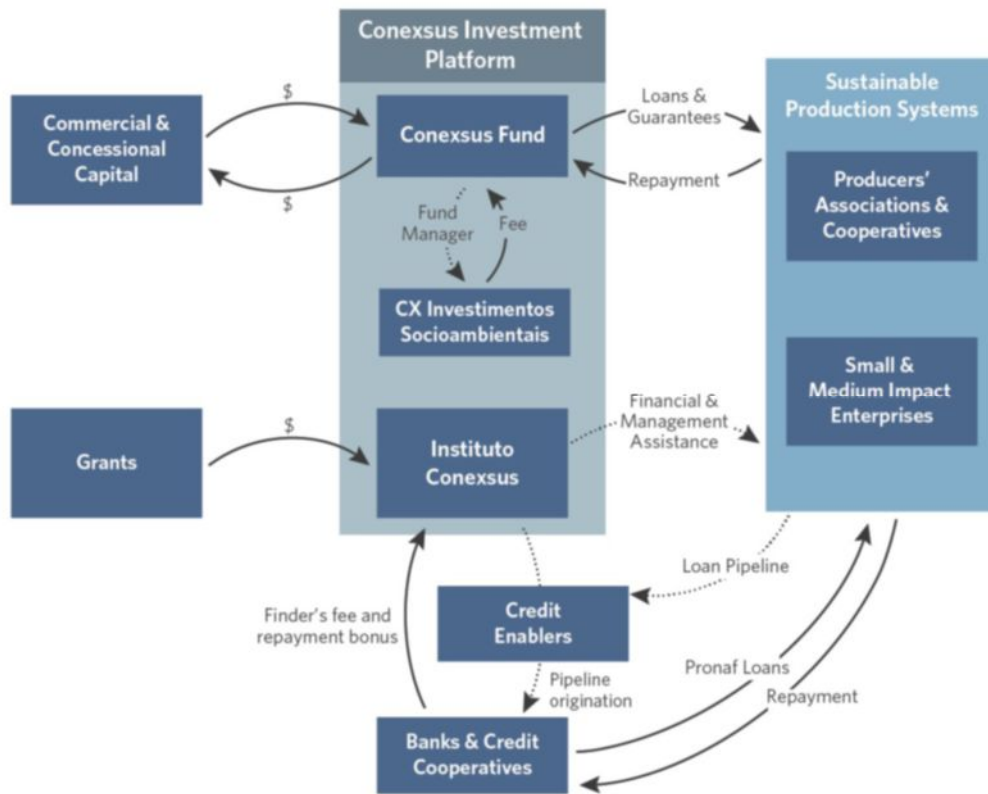
Conexus Impact Fund, operating within the Conexus Investment Platform, facilitates rural and forestry-based enterprises' access to Pronaf, a major Brazilian subsidized rural credit program that targets small producers and that has historically largely financed activities associated with unsustainable land use (mainly livestock). The Lab Secretariat estimates that each dollar invested in the Conexus Impact Fund would leverage ten dollars in Pronaf lending resources for sustainable production systems and forestry-based value chains.

1.1 INSTRUMENT DESIGN

The Conexus Impact Fund (the Fund) is the financial vehicle and one of three branches of a broader Investment Platform, the other two being Instituto Conexus (an NGO that works to incubate sustainable rural and forest community-led enterprises), and CX Investimentos Socioambientais (an expert consultant). Together these branches make up the instrument in its entirety, with three main components:

- 1) **The financial vehicle**, an initial USD 10 million blended finance fund, which will be constituted as a receivables fund (or a FIDC – Fundo de Investimentos de Direitos Creditórios, according to the Brazilian Securities and Exchange Commission). The Fund will raise capital from impact-driven and commercial investors. It will offer the following financial products to rural and forestry-based enterprises according to their different financial development phases and needs:
 - a. **Direct loans** of up to one year for working capital needs or more for capex purposes. Disbursed directly from the Fund, these loans will build credit history to access Pronaf. A percentage of these loans will also be directed at SMEs in these value chains that are typically ineligible for Pronaf.
 - b. **Credit guarantees** to help rural and forestry based-enterprises overcome guarantee requirements that are needed to access Pronaf credit lines.
 - c. **Credit recovery loans** are usually short-term and address an immediate cash flow need to comply with Pronaf requirements. They will be repaid once Pronaf resources are approved and disbursed.
- 2) **Financial management technical assistance** to develop community enterprises' financial knowledge and familiarity with subsidized credit lines. In addition to building enterprises' capacity to access Pronaf, this assistance will also support access to markets and ability to repay loans. This component is to be financed by grants.
- 3) **A formal network of "credit enablers,"** to connect banks to a pipeline of projects with an appetite for accessing Pronaf. This service, operated by Instituto Conexus, will support banks' capacity for deal origination in remote forest areas and sustainable value chains, in exchange for a finder's fee and an additional bonus for loans when they get repaid.

Figure 2: The Fund's Instrument Mechanics



1.2 TARGETED INVESTORS & KEY STAKEHOLDERS

1.2.1 INVESTORS

Concessional capital providers and impact investors will constitute the junior tranche of the Fund (first loss), serving as a risk buffer for the senior tranche composed by commercial investors. Grants from philanthropic institutions and concessional capital providers will finance the technical assistance and impact monitoring (provided by Instituto Conexus and an independent third party, respectively).

1.2.2 SMALL PRODUCERS ASSOCIATIONS AND SMALL & MEDIUM COMMUNITY-LED ENTERPRISES (RURAL AND FOREST-BASED ENTERPRISES)

The Platform will target cooperatives and community-led enterprises that restore forests, conserve existing native and secondary forests, and promote sustainable agriculture. The Fund will focus on enterprises that are interested in receiving Pronaf resources but that have not yet been able to access it. The proponent has surveyed over 1,000 potential associations, cooperatives, and enterprises in Brazil who could meet these basic criteria.

1.3 SUSTAINABLE PRODUCTION SYSTEMS

The Platform will screen rural and forestry-based enterprises against eligibility criteria to determine if they meet operational and sustainability criteria with an overall objective of supporting alternatives to soy, livestock, and other value chains that threaten native forests and ecosystems. As such, the Fund will prioritize activities that promote sustainable agriculture, agroforestry systems, and production and harvesting of goods that depend on standing forests. It will target a cacao, açaí and Brazil nut value chains initially, in addition to other forestry-based products and those produced in agro-ecological systems.

Enterprises will also be screened and monitored using impact-related criteria and their risk-return profile to assess the socio-economic and environmental impact that they aim to deliver (see Annex 1 for a set of due diligence and impact assessment criteria).

2. INNOVATION

The Conexus Impact Fund is the only fund in Brazil designed to “green” Pronaf, providing financial products and facilitating credit access for rural and forestry-based enterprises that promote sustainable agriculture and value chains that keep forests standing.

2.1 BARRIERS ADDRESSED: CHALLENGES TO FINANCING RURAL AND FORESTRY-BASED ENTERPRISES

The Conexus Impact Fund addresses the main barriers preventing subsidized financing from reaching sustainable agriculture and forestry-based products' value chains. These barriers include:

Limited financial knowledge and familiarity with Pronaf. The Fund will provide financial management assistance, helping rural and forest-based enterprises to better understand Pronaf's credit approval process and strengthening their capacity in accounting, cash-flow management, documentation, and governance.

Requirements to access lines of credit (credit history, credit scoring, risk assessments). Financial offerings will help enterprises meet cash flow needs and build a financial track record, requirements that often prohibit enterprises from accessing low-rate lines of credit.

Financial institutions' limited familiarity with forest areas and value chains other than soy and cattle. By partnering with leading banks that provide Pronaf and creating a network of “credit enablers” within these regions and unstructured value chains, the Fund will help build a pipeline of sustainable agriculture and forestry-based projects for local banks. Risk assessments will also support banks' ability to evaluate businesses in these value chains.

2.2 INNOVATION: GREENING PRONAF

While other credit lines and funds exist to support sustainable production in Brazil, Conexus Investment Platform's Fund is the only blended finance fund with the specific objective of greening existing Pronaf credit lines.² The innovative nature also rests in the Platform itself, which combines financial products with targeted financial management assistance. To understand the Platform's uniqueness, the Lab Secretariat identified and analyzed comparable existing instruments (see Annex 2 for the full list). The Fund, as a part of the Platform, distinguishes itself from other instruments with the following components:

Focus on Pronaf and sustainable production systems. Although there are funds that either work to leverage Pronaf resources or that finance sustainable agriculture, no fund combines both these aspects in an attempt to increase the amount of Brazilian Pronaf resources that go towards keeping forests intact, as the Platform does.

² Rather than focusing on only increasing the existing Pronaf “eco” or “verde” lines of credit for investments (long-term loans for capex which so far have had very limited uptake, as Graph 1 shows), the Fund has the objective of greening the overall Pronaf program, and specifically, the credit lines for working capital (short-term loans for inputs and operations), which make up the majority of Pronaf resources, in amount and in area. <https://www.climatepolicyinitiative.org/publication/the-impacts-of-rural-credit-on-agricultural-outcomes-and-land-use/>.

Targeting rural and forestry-based sustainable enterprises in Brazil. The Platform's approach is unique in working alongside rural and forestry-based sustainable enterprises to build their businesses, enabling them to better manage their finances and thus access competitive loans. The Platform's long-term strategy is to build and then partner with strong, sustainable enterprises that can conserve Brazilian forests. This approach largely differentiates the Platform from other instruments in Brazil.

Connecting banks to pipeline. The Platform's established and ongoing network of credit enablers is not found in other similar funds in the region.

MARKET TEST AND BEYOND

3. IMPLEMENTATION PATHWAY AND REPLICATION

Conexus Impact Fund has committed USD 2 million for a COVID-19 emergency credit line for its initial client base. The Fund will seek an additional USD 8 million for pilots in Brazil's Amazonian and Northeastern states.

3.1 PILOT IMPLEMENTATION

3.1.1 EMERGENCY CREDIT LINE RESPONDING TO COVID-19

The initial project pipeline of the Fund is an emergency credit line of USD 2 million in response to the COVID-19 pandemic. Funding for this credit line has already been secured from Fundo Vale, Good Energies Foundation, B3 and USAID, constituting the Fund's junior tranche. Rural and forestry-based sustainable enterprises impacted by the pandemic are receiving up to 24-month loans ranging from USD 10,000 to USD 40,000 for working capital needs. This credit line is ensuring that some of the Fund's initial potential clientele base remains operating given cash-flow restrictions during the pandemic and create the Fund's financial track record. The emergency credit line will serve 100 to 120 community-led enterprises and cooperatives.

3.1.2 POST-EMERGENCY CREDIT LINE

The Fund will work to secure an additional USD 8 million (for a total initial fund capitalization of USD 10 million), targeting rural and forestry-based enterprises more broadly. Initially, it will focus on projects in the Amazonian and Northeast states of Brazil and on three main value chains (açai, Brazil nuts, and cacao), for which the proponent already has a good assessment of the estimated annual working capital needs and in-depth credit know-how.

Outside these three value chains, the Fund will also open to other value chains engaged in sustainable agriculture or activities that keep forests intact, including barú nut and oils, as well as other fruits and vegetables produced agro-ecologically or in agroforestry systems.

Figure 3: Map of target geographies in main value chains



3.2 KEY IMPLEMENTERS

The Conexsus Investment Platform is the implementing structure of the Fund and consists of:

Instituto Conexsus: The non-profit, and instrument proponent, will provide technical assistance to community-led rural enterprises, using its experience in supporting rural business development and financial advisory services. It will also support project pipeline and deal origination, and oversee the fund manager.

CX Investimentos Socioambientais: Alongside Instituto Conexsus, this entity will be responsible for the project pipeline origination (providing recommendations on which assets to include in the portfolio), while also providing expert advisory services to the fund manager.

Local financial institutions: The Platform will partner with local financial institutions and credit cooperatives that provide Pronaf loans, connecting them to pipeline. The Platform is negotiating a credit-enablers' contractual agreement with Banco da Amazônia (BASA) and will pursue contractual partnerships with other major financial institutions and Pronaf providers, including Banco do Brasil, Banco do Nordeste, Cresol, and others.

Credit enablers: Hired by Instituto Conexsus, a team of credit enablers, individuals with Pronaf knowledge and credit experience in the targeted sustainable production systems and related value chains, will connect financial institutions to rural and forest-based enterprises looking to access Pronaf credit lines (many of which will have received financial and technical assistance from the Platform).

Cooperatives/Associations: The Fund will partner with Brazilian smallholder cooperatives to reach a wide range of possible borrowers and projects. These partnerships include cooperative coalitions such as the União Nacional das Cooperativas de Agricultura Familiar e Economia Solidária (Unicafes), Conselho Nacional de Populações Extrativista (CNS), Bem Diverso Program by Embrapa/UNDP, among other civil society organizations.

End buyers: As a way to ensure market access, the Platform will engage with end-buyers including a large online marketplace for sustainable rural and forestry-based products coming from small producers in Brazil. Instituto Conexsus also works to connect rural enterprises with buyers identified through the *Negócios pela Terra*³ program, with commercial partnerships already made with large companies in food, cosmetic, and other retail in these supply chains.

Geospatial tools/software providers: Organizations that have expertise in geospatial tools and software (such as Terras App Solutions) will inform additional due diligence criteria as well as support efforts to monitor the environmental impact, particularly the actual CO₂ emission reductions and associated forest cover that will be maintained over time related to the loans provided by the Fund, ensuring compliance with the Platform's overall mission of preserving forests and promoting sustainable livelihoods in Brazil.

3.3 IMPLEMENTATION TIMELINE

The pathway to implementation is composed of three main phases:

Figure 4: Implementation Timeline



3.4 IMPLEMENTATION CHALLENGES

The table below lists the main implementation challenges the Fund may encounter, along with their management strategies.

Table 1: Implementation Challenges

Implementation Challenges	
Challenge	Mitigation Strategy
Ability to be sustained as registered fund due to high ongoing operational costs	The Fund will be constituted once: <ul style="list-style-type: none"> - There is commitment for the 30% junior tranche - Selected fund manager shows there will be financial commitments for the senior tranche
Limited experience in managing a receivables fund and identifying investors	- Hire a specialized fund manager, with strong credit background and investor portfolio, working with the expert consultant (CX Investimentos Socioambientais).
Pipeline identification/generation	- The Platform will implement a business readiness program and will launch additional public calls with a goal to develop business readiness for up to 400 community-led enterprises

³ In 2019, Instituto Conexsus mapped several companies and retailers throughout Brazil as a part of the Negócios Pela Terra program. <https://negociospelaterra.conexsus.org/>

	<ul style="list-style-type: none"> - Partnerships with other technical assistance providers can help identify and connect the Platform with pipeline - Possible intermediate step: issue a local bond to pre-defined investor & constitute Fund as operational capability is created
Reliance on grant resources to provide technical assistance and co-support the credit enablers program	<ul style="list-style-type: none"> - The proponent is submitting grant proposals with DFIs & donors - Technical assistance program will have a limited time frame - Platform will partner with other technical assistance providers - Credit enablers program¹ will reach breakeven in year four
Political / regulatory changes (i.e. changes in Pronaf)	Although the Platform aims to leverage Pronaf, its long-term goal is to build relationships with enterprises throughout the supply chain and provide longer-term debt, equity, or joint ventures, to ultimately strengthen and structure these value chains
COVID-19 related challenges (unstable financial times and fundraising challenges)	<ul style="list-style-type: none"> - The emergency credit line is a pro-active measure to attend to target clientele already suffering economic consequences - Incorporate guidance into technical assistance on business measures to adapt to this "new reality" - Fundraising strategy should reinforce green-recovery premises (supporting recovery of rural & forestry-based economies, maintaining existing jobs & income of vulnerable populations)

4. FINANCIAL IMPACT AND SUSTAINABILITY

4.1 QUANTITATIVE MODELING

4.1.1 MODEL INPUTS AND METHODOLOGY

The instrument, modeled as a 10-year receivables fund with the main goal of leveraging Pronaf resources to green value chains, will offer five different financial products which reflect the varying financial needs identified in these value chains by the proof of concept in 2019⁴ as well as an assessment made by the proponents in light of the COVID-19 pandemic.

The average loan sizes, terms, and interest rates charged will be standardized according to each product's characteristics as well as to the Fund's overall goals. **Interest rates offered by the Fund's products will be competitive when compared to those estimated to be used by middlemen,⁵ while also taking into account the nature and risk that these loans carry.** The main inputs used for each of these lines are described in Annex 3.

4.1.2 TYPES OF CAPITAL AND RETURNS

The Fund is expected to raise an initial USD 10 million (BRL 50 million) for the pilot, of which 30% will come from impact or concessional investors (junior tranche) and 70% from private/commercial investors (senior tranche). With financial products' current defined interest rate, the Fund's base scenario provides a fixed return of 4.2% to the senior tranche, and a return of 7.2% to the junior tranche holders.

4.1.3 DEFAULT RATES

The financial model works with a baseline default rate of 6%, a value higher than estimated rural credit default rates⁶ to account for the very unstructured nature of these value chains. However, this rate does not take into consideration the support these enterprises will receive: financial management technical assistance provided by the Platform, access to markets, and

⁴ The proponent implemented a proof of concept in 2019, where BRL 850,000 in loans and technical assistance were provided to 17 enterprises, succeeding to leverage more than BRL 4.6 million in Pronaf resources and co-investors.

⁵ As this instrument aims to tap into very unstructured value chains, there is very limited documented information on interest rates or price discounts for which these producers are subject to. Moreover, these rates are not meant to be competitive to Pronaf credit lines, but rather to similar products that enterprises may use in not being able to access Pronaf.

⁶ Rural credit default rates in Brazil have ranged between 0.5% and 3.0%, depending on the product and guarantees associated. While studies point that default rates from Pronaf are somewhat higher, there is a lack of robust data to confirm or reject this.

loans to other segments of those value chains ("direct loans 2"). These features will create a favorable environment to increase existing demand for these products and mitigate potential default throughout the years. With help from financial mentoring, most of these loans will be repaid once the enterprises access Pronaf resources.

In order to show sensitivity and corresponding IRR, the Lab Secretariat has mapped a number of default scenarios below to demonstrate the impact that a variation on default rates may have on the returns to the junior tranche. Default rates here are applicable to the entire portfolio, with no distinctions being made for different financial products.

Table 2: Sensitivity analysis based on varying default rates

Sensitivity	Base Scenario	Scenario 2	Scenario 3	Optimistic Scenario
Initial Default Rate	6.0%	7.5%	9.5%	5.0%
Final Default Rate	3.0%	3.5%	3.5%	3.0%
Return to Junior Tranche	7.2%	3.5%	-2.7%	9.0%
Return to Senior Tranche	4.2%	4.2%	4.2%	4.2%

While the junior and senior tranche are expected to fund the loan portfolio, accommodating different investors' appetites for risk/return, USD 2 million in grants will be raised to fund the first three years of the technical assistance program, the implementation of the credit enablers' program, and the first two years of the impact monitoring system. These grants will come from philanthropic entities and DFIs.

It is important to note that the technical assistance component is essential in the initial stages of the Platform. It will strengthen enterprises in the medium/long-term and increase financial institutions' ability for Pronaf deal origination. The necessity of technical assistance will decrease over time, as these rural and forestry-based enterprises build their capacity for financial and business management, access more credit, including Pronaf resources, independently, achieve returns, and expand (see Annex 4 for the proponents' grant strategy).

4.1.4 POTENTIAL FOR SCALE AND/OR REPLICATION

In terms of scalability and mobilization potential, despite its small size, the pilot USD 10 million Fund has the potential to direct USD 100 million in Pronaf towards forestry-based value chains, by leveraging ten dollars in Pronaf resources for every one dollar invested by the Fund. Yet more opportunity exists to expand the Fund and thus leverage more of Pronaf. Based on credit demand identified by the "Conexus Challenge" program,⁷ over USD 50 million annually exists in loan opportunities for forestry-based enterprises and USD 400 million annually in business opportunities in these value chains. Thus, once the Fund is able to provide suitable returns for both concessional and private investors over the initial three-five years, the goal is to expand the Fund to USD 20 million, leveraging USD 200 million (BRL 1 billion) in Pronaf over 10 years. However, looking past this end goal, the Fund does have the potential to be scaled indefinitely until it meets the market potential, fulfilling the demand for Pronaf credit mapped by the Conexus Challenge, and in effect, opening more of Pronaf resources to sustainable and forestry-based enterprises.

⁷ In 2018, Instituto Conexus mapped more than 1000 community-led sustainable enterprises in Brazil through the "Conexus Challenge." Data on this mapping can be found at <https://desafioconexus.org>

Moreover, since the Fund will also allocate a portion of its loan portfolio to SMEs that have interest in credit but are not eligible for Pronaf loans, the Fund can increase its lending capacity to address credit needs outside of Pronaf, as a strategy for portfolio risk mitigation and competitiveness. This can foster the demand side of these value chains' products and further strengthen them.

4.2 RISKS TO FINANCIAL SUSTAINABILITY

There are several potential risks that the instrument may encounter in becoming operational and financially sustainable. Below is a table with these risks along with their management strategies.

Table 3: Risks to Financial Sustainability

Risks to Financial Sustainability	
Risk	Mitigation Measures
Lack of demand for technical assistance and credit	<ul style="list-style-type: none"> - Conexsus Challenge has mapped over 1000 institutions for their acceleration and business readiness program - Established COVID19 Emergency Credit line that received over 165 applicant institutions in 3 months - Partnerships with players in key value chains, identifying borrowers & fostering demand - Instituting "credit enablers" with banks providing Pronaf
Capital raising from concessional and commercial investors proves to be difficult	<ul style="list-style-type: none"> - 2/3 of the concessional capital required to complete 30% of the Fund's junior tranche has been raised - Actively discussing with experienced fund managers to identify institutional investors for the Fund's senior tranche
Non-payment from borrowers & lower returns to concessional capital	<ul style="list-style-type: none"> - Ongoing business & financial assistance even before loans are approved to support borrowers in managing their cash-flows and making repayments - Most of the Fund's loans will be repaid with resources from Pronaf - Financial monitoring via integrated accounting systems - Dual due diligence from advisory agency and fund manager - Contract design & co-guarantees - Portfolio diversification (by sector, region, loan size, type of business)
Products do not reach markets	<ul style="list-style-type: none"> - Loan selection criteria will give preference to institutions with market access, and product liquidity/demand - Partnerships with end-buyers of main value chains already established - Technical assistance to build commercial capabilities

5. ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACT

The Fund has the potential to keep 900 million tons of CO₂ emissions out of the atmosphere, as well as to build resilience and improve the well-being of 30,000 smallholder households

5.1 ENVIRONMENTAL IMPACT

Through building up the value chains that profit from standing forests rather than deforesting, Conexsus Impact Fund has the potential to generate significant climate mitigation and resilience impacts. The Fund will contribute to reducing the pressure that smallholders may experience to convert forested areas to cropland and pastures by providing them the tools needed to unlock affordable financing for sustainable production systems and associated forestry value chains. The Fund will provide continued capital and strengthen the foundation of these value chains, offering alternatives to livestock or unsustainable agriculture. This in turn

will reduce pressure to convert forests and thus over time avoid deforestation of over **2.5 million hectares** of forest and native vegetation in the Amazon and Atlantic Forests, supporting the conservation of an area half the size of Costa Rica. Considering native forests and agroforestry systems store high levels of carbon,⁸ the Lab estimates that the Fund could contribute to keeping between **900 million to 3.3 billion tons of CO₂ emissions** stored in the forest (see Annex 5 for the calculation methodology).⁹ This upper range is equivalent to Japan, Germany, and Russia's combined annual CO₂ emissions.

Platform and Fund implementation includes measurement of actual CO₂ emission reductions and associated forest cover maintenance over time through geospatial data (Landsat 8, Sentinel 1 and 2), plus a set of additional socio-environmental impact indicators as part of the overall Conexsus Platform Impact Monitoring System under development.

Considering deforestation is directly connected to loss of agricultural productivity, the Fund will also contribute to soil health, water quality, and maintenance of biodiversity, increasing overall ecosystem health and climate resilience of up to 2.5 million hectares.

5.2 SOCIAL AND ECONOMIC IMPACT

The Fund's emergency credit line has the objective to help community businesses that were affected by COVID-19. This line of credit will reach between 100 -120 institutions currently under credit approval process. Outside of the emergency credit line, at scale the Lab estimates that the USD 10 million Fund has the potential **to reach up to 30,000 smallholder households over time** in the priority value chains, supporting their economic well-being and climate resilience. These value chains have recognized social and economic benefits for forestry-based producers and farmers, particularly when compared to livestock or soy. For instance, cacao in agroforestry systems can generate six times the income per hectare compared to livestock in the Amazon (Braga, 2019). Furthermore, providing resources for sustainable production systems (such as agroforestry) can augment and diversify smallholders' income, and increase their food security (Celentano et al., 2020). This in effect builds resiliency to climate shocks and reduces exposure to climate risks.

The Conexsus Investment Platform works to achieve several of the Sustainable Development Goals (SDGs), including:

- SDG 1 (No Poverty) – The Fund will allow for better financial conditions for small producers and combat poverty in already vulnerable populations
- SDG 8 (Decent Work and Economic Growth) – The Fund will contribute to better financial conditions and access to affordable credit lines of small producers, thus enabling them to maintain work and grow their economic activities
- SDG13 (Climate Action) – The Fund will support livelihoods that depend on standing forests, and as such will be instrumental in reducing the pressure to deforest for alternative livelihoods that could resort to deforestation.
- SDG 15 (Life on Land) – By maintaining native forests or financing restoration related activities through agroforestry or agro-ecological rural systems, the Fund will support the quality and health of soil and water resources, as well as maintenance of biodiversity

⁸ One hectare of native forests in the Amazon can store on average 485 tCO₂ per hectare. Agroforestry systems with cacao as one of the main trees (in native forests) can store on average 120 tC per hectare (440 tCO₂ per hectare) (Pinto, 2020).

⁹ The lower value in this range is the productive area, or number of hectares that are already being used for açai/cacao/Brazil nut and is the land associated with credit use. The upper value in this range is the rest of the forested area in settlements that are protected and not being used for cultivation, but could potentially face pressure to be deforested.

- SDG 17 (Partnerships) – The implementation of the Fund relies on forging effective partnerships that will support the structuring and consolidation of green value chains

NEXT STEPS

Immediate next steps following endorsement are:

1. Conclude disbursement of COVID-19 emergency credit line, securing an initial possible project pipeline for the Fund
2. Design the final governance structure for the Fund defining roles and responsibilities including the selection of fund manager to work alongside the CX Investimentos Socioambientais, the expert consultant in the fund structure
3. Define the institution that will provide technology and monitoring capabilities for impact measurement
4. Advance ongoing negotiations with grant providers for technical assistance resources, the Fund's structuring and legal fees, and impact monitoring methodology and technology
5. Set up the process for credit enablers and conclude negotiations with BASA

The launch of the Conexsus Impact Fund with a FIDC structure should happen within a year once negotiations with concessional capital providers and donors are concluded. The Conexsus Impact Fund is ready for implementation and given the consequences of COVID-19, can foster green recovery and generate economic, environmental, and social returns.

REFERENCES

Angelo, Claudio and Carlos Rittl. (2019). *SEEG 2019, Análise das Emissões Brasileiras de Gases de Efeito Estufa e suas implicações para as metas do Brasil*. Observatório do Clima. Available at http://www.observatoriodoclima.eco.br/wp-content/uploads/2019/11/OC_SEEG_Relatorio_2019pdf.pdf

Banco Central do Brasil (BACEN). (2020). Matriz de Dados do Crédito Rural-MDCR: Linhas verdes do Pronaf comparadas com o total financiado de Investimento. Available at <https://www.bcb.gov.br/estabilidadefinanceira/micrrural>

Braga, Daniel Palma Perez. (2019). Quão bem os agricultores familiares podem viver na Amazônia: uma análise de meios de vida e conservação florestal de pequenos produtores de cacau e gado na Amazônia Oriental. Tese de Doutorado, Escola Superior de Agricultura Luiz de Queiroz, Universidade de São Paulo, Piracicaba. doi: 10.11606/T.11.2019.tde-22082019-101655

Bueno, T. (2017, outubro 18). *Programa ABC enfrenta desafios para sua implementação e falta de resultados*. Observatório ABC. <http://observatorioabc.com.br/2017/10/programa-abc-enfrenta-desafios-para-sua-implementacao-e-falta-de-resultados/>

Butler, R. A. (2020, agosto 16). Deforestation in the Amazon. Mongabay.

Carroll, T., Stern, A., Zook, D., Funes, R., Rastegar, A., & Lien, Y. (2012). Catalyzing smallholder agricultural finance. *Dalberg Global Development Advisors*, 48.

Celentano, D., Rousseau, G.X., Paixão, L.S. et al. (2020). Carbon sequestration and nutrient cycling in agroforestry systems on degraded soils of Eastern Amazon, Brazil. *Agroforestry Systems*. doi: 10.1007/s10457-020-00496-4

Instituto Nacional de Pesquisas Espaciais (INPE). (2020). TerraBrasilis. Available at: <http://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/amazon/increments>

Instituto de Pesquisa Ambiental da Amazônia (IPAM). (2017). Boletim Amazônia em Pauta. Available at: https://ipam.org.br/wp-content/uploads/2017/04/boletim_pauta_n7-Pronaf.pdf

Júnior, J. R. de C. S. (2019). Evolução do crédito rural nos últimos anos-safra | Carta de Conjuntura. *Carta de Conjuntura - Ipea*, 43. <http://www.ipea.gov.br/cartadeconjuntura/index.php/2019/05/evolucao-do-credito-rural-nos-ultimos-anos-safra/>

McCreless, M. (2017). Toward the Efficient Impact Frontier. *Stanford Social Innovation Review*, Winter 2017, 49–53

Monitoramento do Desmatamento da Floresta Amazônica Brasileira por Satélite. (2020). Coordenação-Geral de Observação da Terra - PRODES. <http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>

Pinto, Erika de Paula P., Maria Lucimar de L. Souza, Alcilene M. Cardoso, Edivan S. de Carvalho, Denise R. do Nascimento, Paulo R. de Sousa Moutinho, Camila B. Marques and Valderli J. Piontekowski. (2020). Assentamentos Sustentáveis na Amazônia: o desafio da produção familiar em uma economia de baixo carbono. UN Comissão Econômica para a América Latina e o Caribe (CEPAL) and Instituto de Pesquisa Ambiental da Amazônia (IPAM). Available at: <https://ipam.org.br/wp-content/uploads/2020/05/AssentamentosSustentaveisNaAmazonia.pdf>

Solidaridade. (2019). "Smallholders crucial to preserving the Amazon rainforest." Available at <https://www.solidaridadnetwork.org/news/smallholders-crucial-to-preserving-the-amazon-rainforest>

ANNEX

Annex 1: Examples of Possible Screening and Impact Monitoring Criteria

Table 1a: Screening Criteria for Project Selection

Possible Screening Criteria for Project Selection for the Fund
<p>Organization readiness</p> <ul style="list-style-type: none"> • Enterprise has at least one (1) year of operations demonstrated by regular financial statements** • Enterprise has an active CNPJ • Enterprise must be able to show <i>fiscal compliance</i>**
<p>Adoption of sustainable production systems</p> <ul style="list-style-type: none"> • Enterprise is engaged with producers that are implementing or willing to implement sustainable production systems* in the above-mentioned value chains (to be verified and monitored with geospatial tools) • Enterprise manages or sources from farmers managing diversified agroforestry or perennial agricultural systems • Enterprise is engaged with forest-based products' value chains that are dependent on extracting them from native trees and standing forests (i.e. Brazil nut) • Enterprise manages or sources from rural and forest community enterprises that adopt one of the above production systems
<p>Business Model potential</p> <ul style="list-style-type: none"> • Economic viability and growth potential • Revenues generation capacity • Preference given to enterprise that are already engaged with off-takers of "differentiated" products that deliver socio-environmental benefits to communities producing/supplying such goods
<p>Participatory governance</p> <ul style="list-style-type: none"> • If enterprise is a cooperative or a formal association of farmers, the enterprise must be made up of at least 20 members • Adequate governance • Preference to enterprises led by vulnerable populations such as indigenous groups, quilombolas, settlers, and other traditional peoples. • Preference given to enterprises led by women and young people
<p>Capacity building potential</p> <ul style="list-style-type: none"> • Enterprise is interested in accessing subsidized loans from public lender (i.e. Pronaf) • Enterprise is committed to implement plan of action for best practices in management and accounting transparency
<p>Environmental contribution</p> <ul style="list-style-type: none"> • Number of hectares conserved or managed by small producers benefiting from loans • Preference given to key value chains in the Amazon (Brazilian Nut, acai, and cocoa), Northeast (cocoa) and Brazil (sustainable production systems)
<p>Compliance with Forest Code and Environmental Regularity</p> <ul style="list-style-type: none"> • Enterprise manages or sources from farmers that have Cadastro Ambiental Rural (CAR) and if not will be willing to issue the CAR, or other documents associated to collective use (Protected Areas such as Conservation Units or Indigenous Land). • Enterprise manages or sources from areas that are not embargoed or associated with illegal deforestation.
<p>Social and Labor compliance</p> <ul style="list-style-type: none"> • Enterprise should be willing and able to incorporate or develop new tools/ processes, particularly in compliance with practices that do not rely on child labor or slavery work
<p><i>*where sustainable production models vary based on value chain and will be evaluated based on existing best practices to determine that sustainable activities are undertaken (i.e. for cacao value chain the sustainable activities will include planting/use of shade trees; cacao and perennial crop intensification; agroforestry systems used, etc.)</i></p>
<p><i>**In case Enterprise is not compliant with some of the criteria above, they should be willing to check these criteria through the Technical Assistance program</i></p>

Table 1b: Suggested methodology for scoring projects for Fund's loan portfolio (Impact vs Returns)

The suggested approach below consists of developing a set of criteria and from there derive a scoring system to each rural/forestry based enterprise. Such scoring system would support the decision making process for portfolio allocation that balances credit risk with socio-environmental impact that the fund aims to generate¹⁰.

Possible Methodology for Scoring Fund's Loan Portfolio	
<p>1. Likelihood that the rural/forestry-based enterprise has to access any kind of loan</p> <ul style="list-style-type: none"> • If able to access loans from financial institutions – lower “impact” related score • If able to access loans from similar organization as the Conexsus Impact Fund – medium “impact” related score • If only able to access loans and/or TA from the Conexsus Investment Platform – high “impact” related score 	
<p>2. Engagement of rural/forestry-based enterprise with potential off-takers and/or need the Platform's support</p> <ul style="list-style-type: none"> • If has already off-takers lined up – lower “impact” related score • If has the internal capacity to engage in commercial transactions – medium “impact” related score • If only able to access markets through the support of the Platform– high “impact” related score 	
<p>3. Once above two are assessed, the rural/forestry-based enterprise will be evaluated in terms of:</p> <ul style="list-style-type: none"> • Revenues generation capacity • Potential forest coverage that is able to support based on the area that sources its produce • How engaged its suppliers are with sustainable production models or it is willing and have the technical capacity to foster those practices • Number of producers that depend on the agricultural enterprise for their livelihoods • Number of additional producers that could be associated with the agricultural enterprise based on loans offered • Additional benefits provided to associated producers (school and health care support, price premiums, storage facilities, others) 	
<p>4. Finally, the agricultural enterprise would be evaluated from a pure credit and risk/return perspective, its role in balancing out the risk/return profile of the portfolio, its operational cost vis-à-vis its potential return (and not default) to the fund</p>	

¹⁰ This suggested methodology is based on the impact assessment work developed by another rural impact investment fund (Root Capital). (McCreless, 2017).

Annex 2: Comparable Instruments to Conexsus Impact Fund

Comparable Instruments		
Name	Geography	Differential from Conexsus Fund
Fundo Garantidor BNDES	Brazil	In concept stage. Provides guarantees. Could be parallel/ complementary to Conexsus Fund
Programa Menos Juros	Santa Catarina, Brazil	Designed to facilitate access to Pronaf. No specific focus on sustainable practices. No TA provided
Proagro Mais	Brazil	Federal climate risk guarantees for Pronaf smallholder farmers. No specific focus on sustainable agriculture/ forest products
Credit Guarantees Fund	Brazil	Gov't sponsored guarantee funds across Brazil. Not focused on smallholders, cooperatives, and/or associations
Parceiros pela Amazonia (PPA)	Amazon	Accelerator to mobilize investors for impact businesses selected via public calls. Profile is mostly small private enterprises, not necessarily cooperatives or associations
Programa ABC	Brazil	Federal line of credit. Bureaucratic and hard to access. Lack of capacity to evaluate proposals at local level ¹¹
BRDE Fundo de Aval	SE, Brazil	Targets Pronaf Mais Alimentos credit lines. No specific focus on forestry value chain and no TA components
Root Capital	Global (yet not Brazil)	Similar objective, but does not have operations in Brazil, and thus no specific focus on leveraging Pronaf
Moringa Fund	Global, Brazil	Similar mission, but not leveraging Pronaf. Focus on agroforestry. Equity and quasi-equity. Large ticket size
Sitawi	Brazil	A social bank that give loans for working capital between BRL 50-70K. The amounts are limited. No TA involved

¹¹ (Bueno, T., 2020)

Annex 3: Main Inputs and Assumptions for the Financial Model

Financial Product	Purpose	Amount	Term	Average Interest Rate	% of Portfolio
Credit Recovery	Short term loans usually to pay taxes or debts that are preventing them to have all require items to access Pronaf	\$10,000	1 year (6m. interest)	12.4 %	4%
Guarantee 1: Pronaf Working Capital	Up to 20% of total amount of Pronaf requested is lent by the fund to be held in an escrow account as a guarantee deposit the bank providing Pronaf	\$12,000	1 year (6m. interest)	7.1%	5%
Guarantee 2: Pronaf Investment	Same as above	\$20,000	Up to 5yrs (6m interest)	8.4%	31%
Direct Loan 1: Coops & Associations	Working capital or Investment loans, to create credit and/or in addition to Pronaf	\$25,000	2yrs (principal & interest every 6m.)	7.8%	40%
Direct Loan 2: Small & Medium Agricultural Enterprises	Between working capital and investment related loans to institutions that do not access Pronaf but supporting these value chains either boosting demand or logistics and so on	\$100,000	2 yrs (principal & interest every 6m.)	10.1 %	20%

Initial assumptions for the financial model

1. The financial model developed considers 6-month periods for 10 years
2. Investments into the fund totaling USD10mn are evenly distributed across five years, USD2mn every year, from both junior and senior tranche investors proportionally
3. The five-year time frame takes into account how long negotiations can take with concessional capital providers, particularly development finance institutions, which can be a target for the Fund. It also accommodates the learning curve expected for scaling up the Platform in its capacity in loan pipeline generation.
4. Also loans offered by the fund start being disbursed during the first six months of the fund, whereas there could be some time lag until such disbursements are made
5. The different default rate scenarios consider 100% loss on the loans, no recovery costs were considered, nor a portion of loans recovered to minimize losses
6. The model does not consider delays in loan re-payments, it assumes loans are paid back on its deadline
7. The main costs for the Platform
8. The financial model considers the following:
 - o main revenues for the Platform are (1) the "Expert Consultant Fee" that will be paid by the Fund Manager to CX Investimentos Socioambientais and (2) financial revenues coming from grants invested and not yet disbursed
 - o main costs for the Platform are (1) technical assistance program (2) credit enablers program (3) impact monitoring and (4) Overall administrative costs
9. The financial model does not consider yet revenues that will come from the credit enablers program responsible for loan origination to Pronaf lenders and loan repayment bonus as these details are in negotiation at the time of writing this report
10. Exchange considered: USD1 = BRL5

Annex 4: Strategies foreseen by Instituto Conexsus to decrease its reliance on grants

While the implementation of the Platform's technical assistance program alongside the Fund will require USD 2 million dollars over the course of 10 years, Instituto Conexsus has already raised USD250K for the next 2 years. Moreover, as financial mentoring and business development and support is Instituto Conexsus' main line of business, they have been so far very successful in raising resources to support these activities with their annual budget for 2019 and 2020 surpassing the USD 2 million per year mark. Therefore, their initial reliance of grants will not be prohibitive of ensuring the fund's financial sustainability.

In addition, Instituto Conexsus has laid out a revenue model strategy that combines grant resources with revenues coming from the platform's business model that includes (a) a fee for pipeline origination through "Credit Enablers" and (b) an "Expert Consultant" fund management fee to the expert consultant. Below is the strategy for decreasing reliance on grants:

- The Platform will engage with other institutions in these value chains that already provide technical assistance to the Fund's potential target base, therefore over time it will save resources for additional technical assistance that would be needed.
- The Fund will foster long term relationships with the institutions that they will be initially providing technical assistance, therefore optimizing these resources over time, associated with the fund's disbursements.
- As the platform will be working with end-buyers to connect them with rural and forestry-based enterprises and create business opportunities, some of the technical assistance costs could be paid by these off-takers.
- The Fund structure contemplates a "Expert Consultant Fee" that will be paid to CX Investimentos Socioambientais and, as the fund increases in size, such fee will be able to cover most administrative costs.
- The Credit Enablers program will be paid with a loan origination fee plus a bonus from the bank when loans are fully repaid. According to Instituto Conexsus business plan, the program will break even at the end of year three.

Annex 5. Methodology for Climate Impact Analysis

The Fund's potential climate impact was calculated based off of a sample from Conexsus' 2019 proof of concept project. The number of hectares directly and indirectly impacted by the proof of concept was established per cooperative/association (where the amount of land under productive use was considered directly impacted and the amount of under protection was indirectly impacted).

A range of tons of carbon stored in the productive areas was given based on what type of agriculture or land use being done on that land (for example, 120 tons of carbon per hectare was designated for agroforestry systems, while 132-167 tons of carbon per hectare for native forests or land used for gathering of Brazil nut).

An average of tons of carbon stored per hectare was then calculated based on these estimates, with two values: 95 tons of carbon per hectare stored in those lands under direct impact (i.e. those under productive use), and 161 tons of carbon per hectare stored in the lands under protection (forested area in smallholder settlements that is not being used for cultivation but that could potentially face pressure to be deforested). This is equivalent to 349 tCO₂ per hectare for land directly impacted and 1284 tCO₂ per hectare indirectly impacted, based on the assumption that each ton of carbon is equal to 3.67 tons of carbon dioxide.

The Lab Secretariat along with the proponents used these figures to determine how many tons of carbon could remain in the ground (vegetation) thanks to the Fund's pilot project of USD 10 million. The proponents initiated a mapping of the Fund's potential clientele based the Conexsus Challenge and the interest received for the COVID19 emergency credit line, determining that the Fund can reach 25,000 – 30,000 smallholders.

Using the assumption that each smallholder has 100 hectares of land, this can reduce pressure to deforest 2.5 million hectares of forests in Brazil. Given the above values estimated for potential of carbon stored per hectare, the Lab Secretariat thus estimated that the Fund can avoid the equivalent of 900 million tons of CO₂ on lands directly impacted by the Fund (i.e. productive lands), or 3.3 billion tons of CO₂ on land indirectly impacted (protected forests on smallholder lands not currently being cultivated).