The Lab
Global Innovation Lab for Climate Finance

IMPACT FINANCING FACILITY FOR CLIMATE-FOCUSED SOCIAL ENTERPRISES

INSTRUMENT ANALYSIS
SEPTEMBER 2023

Impact Financing Facility for Climate-Focused Social Enterprises

LAB INSTRUMENT ANALYSIS
September 2023

DESCRIPTION & GOAL

A credit guarantee mechanism that helps climate-focused social enterprises build a credit history and unlock commercial debt. The credit guarantee is twinned with technical assistance to help the enterprises absorb and repay credit.

SECTOR

Energy Access, Renewable Energy, Transport, Buildings, Waste, Sustainable Agriculture, Hygiene Services

FINANCE TARGET

Social enterprises that focus on climate action in healthcare, sustainable mobility, green buildings, green energy, sustainable agriculture, and waste management.

GEOGRAPHY

India

The Lab identifies, develops, and launches sustainable finance instruments that can drive billions to a low-carbon economy. The 2023 Lab cycle targets two thematic areas (gender and adaptation), three geographic regions (Brazil, India, and East & Southern Africa), and one global open slot.

AUTHORS AND ACKNOWLEDGEMENTS

The author of this brief is Arun Krishnan.

The author would like to acknowledge the following professionals for their cooperation and valued contributions including the proponents Vibha Sharma (Villgro) and Srinivas Ramanujam (VIllgro); and the working group members and experts: Jayant Prasad (cKers Finance), Pradeep Singh (Climate Policy Initiative), Mohan Kranti (Cyril Amarchand Mangaldas), Santosh Janakiram (Cyril Amarchand Mangaldas), HV Harish (ECube Investment Advisors), Rita Roy Choudhury (ECube Investment Advisors), Martin Lux (KfW), Ekta Mehra (KfW), Biswarup Banerjee (Ikea Foundation), Sharmila Chavaly, Mudit Jain (Tata Cleantech Capital), Pankaj Sindwani (Tata Cleantech Capital), Neeraj Menon (Trilegal), Ajay Rao (DFC), Rajiv Kumar (SIDBI), Simmi Sareen (Unitus Capital), Priya Shankar (Bloomberg Philanthropies), Puja Tewary (Bloomberg Philanthropies), RK Singh (SIDBI), Nakul Zaveri (LeapFrog Investments), Karthik Krishnan (FCDO), Chirag Mehta (Quantum Mutual Fund), Shailesh Vickram Singh (Massive Fund), Shubhashis Dey (Shakti Foundation) and Manasvini Raj (Cyril Amarchand Mangaldas).∂

The authors would also like to thank Barbara Buchner, Ben Broché, Kathleen Maedar, Rosaly Byrd, Angela Woodall, Elana Fortin, Josh Wheeling, Júlio Lubianco, and Samuel Goodman for their continuous advice, support, comments, design, and internal review.

The Lab's 2023 programs have been funded by the German, Canadian, US, and UK governments and Bloomberg Philanthropies. [Climate Policy Initiative](https://www.climatepolicyinitiative.org/) (CPI) serves as Secretariat and analytical provider.

Bloomberg Philanthropies

Canada

FinDev Canada

Federal Ministry for Economic Affairs and Climate Action

Department for Energy Security & Net Zero

DEPARTMENT OF STATE UNITED STATES OF AMERICA

CLIMATE POLICY INITIATIVE

SUMMARY

India now has over 63 million micro, medium, and small enterprises (MSMEs), growing at 18.5% annually (Mishra, 2023). However, only 15% of the MSMEs have access to formal credit (Global Alliance for Mass Entrepreneurship, 2022). Estimates show that India's credit gap for MSMEs stands at USD 250 billion (Ministry of Finance, 2022). This credit gap exists primarily because these enterprises have a non-existent credit history. Hence, financial institutions consider them a sub-prime category for lending.

The Government of India, development finance institutions (DFIs), and philanthropies have tried to address this issue using credit guarantee schemes. However, these schemes require that the enterprise have a credit history or provide collateral against loans.

Ensuring the success of climate-focused social enterprises is critical for India to achieve net zero by 2070. Many of them are MSMEs that lack a credit history and hence cannot avail themselves of formal credit.

The Impact Financing Facility for Climate-Focused Social Enterprises is a credit guarantee mechanism to help climate-focused social enterprises without a credit history to assess loans and build a credit history. This will subsequently unlock commercial debt for this segment. Technical assistance complements the facility to help the enterprises absorb and repay credit and reduce defaults.

The instrument meets all four of the Lab endorsement criteria:

- **Innovative:** India's first credit guarantee for climate-focused social enterprises (and their end-users) without a credit history.
- **Financially Sustainable:** By increasing leverage on the guarantee pool using data and risk analytics, origination fees from financial institutions, value capture from reduced default rates, and institutionalizing the credit guarantee in government schemes, financial sustainability can be achieved.
- **Catalytic:** This facility is expected to expand credit guarantees to serve enterprises that the formal financial system has not yet done. This will catalyze incubators and the government to introduce more such instruments for this underserved segment of borrowers.
- **Actionable:** A pilot conducted in 2021-23 provided credit to six enterprises that have not defaulted yet, helping prove the instrument's viability. Learnings from the pilot will inform the development of this instrument.

After the Lab's endorsement, Villgro will formalize an agreement with a financial institution (which will lend to selected beneficiaries), develop the beneficiary pipeline, and seek funding for capitalizing the pool for providing credit guarantee and technical assistance.

TABLE OF CONTENTS

CONTEXT

A lack of credit access is holding back India's climate-focused social enterprises, which are critical for achieving net zero.

MSMEs in India contribute 30% of the Gross Value Added and employ over 9.3 million people, making them the second largest sector in terms of employment in India (IBEF, 2022). The number of MSMEs in India has risen to over 63 million, increasing at a CAGR of 18.5%. However, only 15% of the MSMEs have access to formal credit, leaving a significant gap in the credit market. Banks have increased their velocity and volume of loan disbursals, but most MSMEs remain unimpacted. This gap exists due to the non-exposure to credit to these enterprises, which translates into a non-existent credit history, making them risky borrowers for institutional lending.

This sub-optimal allocation of credit creates several negative externalities in the Indian economy. The credit gap for MSMEs in India is estimated at USD 250 billion (RBI, 2019). To plug this gap, substantial credit allocation is required.

The Government of India has tried to address this through schemes such as the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) and Emergency Credit Line Guarantee Scheme (ECLGS). However, these schemes usually require the enterprise to have some credit exposure or collateral. As a result, 80% of MSMEs are still unable to access institutional credit (Layek, 2021).

Social enterprises, which form a subset within MSMEs, are often seen as a riskier borrower category since their purpose is achieving a social outcome rather than focusing on profitability. Despite their immense contribution and potential to create multiplier effects at various levels, they are deprived of funding.

The Impact Financing Facility for Climate-Focused Social Enterprises has a credit guarantee mechanism that helps innovative, new-to-credit climate-focused social enterprises and their end-users unlock collateral-free commercial debt, build a credit history, and scale operations. The facility also offers technical assistance to assist borrowers to improve their financial performance and increase their ability to repay their debt. The goal is to enhance the bankability of the enterprises and their end-users despite not meeting conventional credit criteria, build their credit history within a short credit cycle to raise debt by themselves, and create social and environmental impact at scale.

The facility is led by Villgro, a social enterprise incubator founded in 2001 that has incubated over 300 startups and provided over USD 9 million in seed funding. Its goal is to play a catalytic role, supporting enterprises in their portfolio to establish a credit history, raise capital by themselves, and ultimately generate impact at scale.

CONCEPT

1. INSTRUMENT MECHANICS

A credit guarantee that enables new-to-credit climate-focused social enterprises and their end-users to avail credit and scale

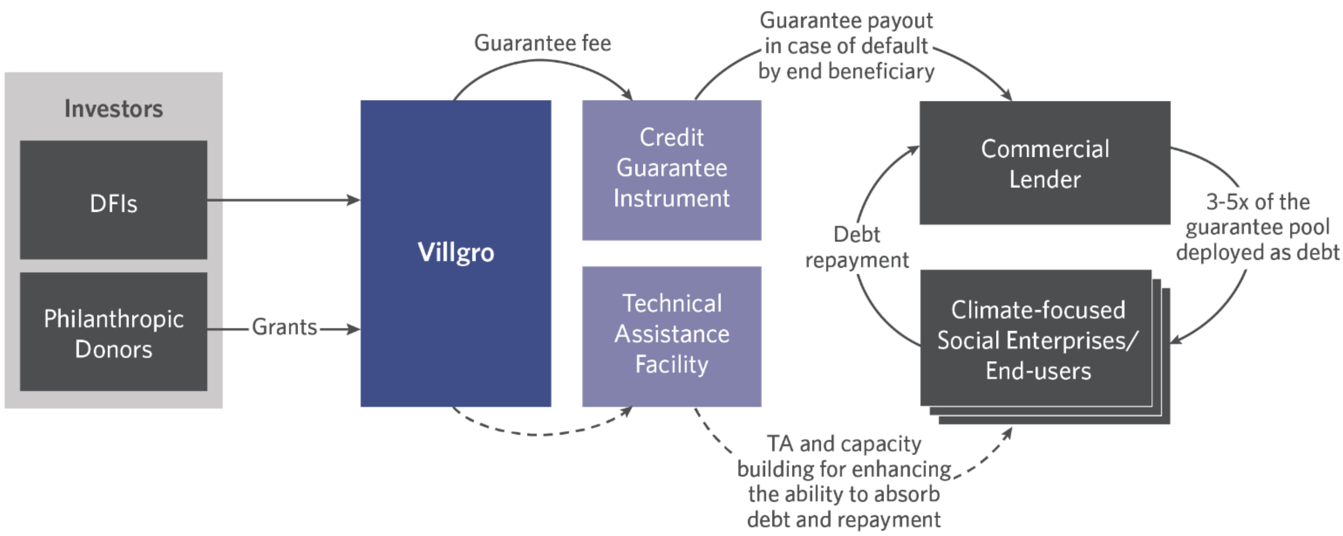
The facility is envisaged as a first-loss default guarantee (FLDG) whose guarantee pool is capitalized through donor grants. This is augmented by providing technical assistance (TA) to beneficiaries. The guarantee covers several beneficiaries and can be leveraged multiple times to lend.

Backed by the credit guarantee pool created by this facility, a commercial institutional lender lends to beneficiaries. This is essential because only licensed financial institutions can offer credit in India. The guarantee pool will be leveraged 3-5 times the size of the guarantee pool.

Villgro initially targets working capital loans, with plans to provide credit guarantees for other loans, such as asset and end-user financing. Over a few credit cycles, once the credit history of the beneficiary is established, they can approach commercial lenders for loans without credit guarantees. The objective of the facility is to graduate beneficiaries from being reliant on the facility to be able to avail loans from commercial lenders without reliance on the facility.

The instrument also targets end-users of these enterprises – especially those at the bottom of the pyramid (BOP.) These users face similar challenges as the enterprises – such as lack of credit history and consequent lack of access to credit. Financing end-users also helps climate-focused social enterprises expand their market, triggering a virtuous cycle of revenue growth, which improves their ability to absorb and repay credit.

Figure 1. Instrument Mechanics



1.1 KEY STAKEHOLDERS

- **Donors** are private philanthropies and DFIs providing grants to capitalize the initial guarantee pool and TAF. The guarantee pool and TAF will be replenished regularly until they become financially self-sufficient.
- **Villgro** intermediates the credit guarantee pool capitalization and provides technical assistance. Villgro also builds the pipeline of beneficiaries, doing preliminary due diligence before passing them on to the commercial lender.
- **Commercial lender** leverages the credit guarantee pool and provides loans, conducting their own due diligence to complement Villgro's preliminary assessment of potential beneficiaries.
- **Climate-Focused Social Enterprises** are the beneficiaries of the facility. The beneficiaries also include end-users of the enterprises' products and services. They are expected to build their credit history and graduate to other commercial lenders without credit guarantee support.

1.2 TARGET SECTORS

The instrument targets two broad thematic areas and multiple sectors within these thematic areas:

- **Gender & livelihoods**: focus on three areas: women-owned enterprises, women-centered product/service startups, and startups focusing on livelihood generation for women.
- **Circularity**: focus on enterprises providing products or services emphasizing circularity and carbon markets.

Under the thematic areas, the sectoral focus areas are healthcare, green energy, sustainable mobility, green buildings, green energy, climate-resilient agriculture, and waste management.

Table 1. Sectors considered

Sectoral focus areas	Sub-sectors considered[1]	Potential market size[2] (USD)
Healthcare	• Frugal Healthtech innovations • Cold supply chain • Innovative health insurance • Women's health services	>80 billion
Sustainable mobility	• Battery technology • Charging stations	>30 billion
Green buildings	• Climate-smart building materials • Water conservation technology and services	>50 billion
Green energy	• Energy-related applications giving rise to rural livelihoods • Distributed/rooftop solar • Biomass energy	>65 billion

[1] This is an indicative list – beneficiaries will not only be limited to these sub-sectors.
[2] Figures are the estimated market size in 2030 except green energy, which estimates total investment between now and 2030 for India to achieve net zero by 2070

	• Solar microgrids • Battery systems • Energy efficiency technology and service providers	
Climate resilient agriculture	• Animal feed • Water-efficient crops	>20 billion
Waste management	• Waste-to-energy • Circular economy	>45 billion

Several climate-focused social enterprises fall under these sectors, providing a wide array of products and services. Villgro's experience incubating hundreds of startups in a wide array of sectors will be useful in identifying beneficiaries, cost-effectively conducting due diligence, and recommending to the financial institution partner to lend to the selected beneficiaries.

1.3 KEY POLICY AND FINANCIAL CONDITIONS

After examining several financial instruments, a credit guarantee was shortlisted as the most efficacious instrument for assisting new-to-credit beneficiaries to avail credit. Credit guarantees can be leveraged to create a lending pool multiple times that of the guarantee pool. This helps make a much larger impact than concessional loans or other types of blended finance. Credit guarantees are the most prominent blended finance instruments used in India. They comprise 51% of the total number of blended finance instruments used in India between 2002 and 2023. This is because they are relatively simpler to execute from a regulatory perspective. Blending capital is challenging in India because concessional capital is considered charitable contributions and can flow only via a not-for-profit entity (Saxena & Joseph, 2021). Non-profits usually do not have licenses required to operate as financial institutions and hence cannot invest independently. They can, however, offer guarantees for financial institutions to lend to beneficiaries.

Table 2. Blended finance instruments developed in India between 2002-23

Instrument	Number	Value (USD million)
Guarantees & Insurances	40	1,877
Social Success Notes	11	178
Subordinate Debt	08	372
Grant	06	1,264
Development Impact Bond	05	38
Concessional Capital	05	907
Credit Line	01	250

Source: India Blended Finance Collaborative Deal Tracker

2. INNOVATION

Villgro's credit guarantee instrument uniquely combines technical assistance with a credit guarantee, addressing the lack of credit history and other barriers to credit access for climate-focused social enterprises.

2.1 BARRIERS ADDRESSED: SOCIAL ENTERPRISES' LACK OF CREDIT HISTORY

The instrument addresses three critical barriers to credit access for climate-focused social enterprises in India: lack of access to credit, lack of low-cost, high-quality due diligence, and the gap between formal debt providers and enterprises without credit scores.

Table 3. Barriers addressed

Barriers	Instrument value added
Lack of access to credit	Provide credit guarantee, which enables collateral-free debt to innovative, revenue-positive enterprises and their end-users without a credit history. Provide TA to enhance ability to service debt.
Lack of low-cost, high-quality due diligence	Villgro has rich data on the performance of the enterprises it has incubated in the past, which can be used to assess their quality and provide low-cost, high-quality due diligence. Enterprises outside Villgro's portfolio are eligible but will undergo preliminary due diligence before admission.
Gap between formal debt providers and beneficiaries without credit scores	Villgro's partnerships with financial institutions can bridge the gap between new-to-credit beneficiaries and formal lenders.

2.2 INNOVATION: CREDIT GUARANTEE FOR UNCOVERED ENTERPRISES

The instrument was compared with similar existing instruments (see the full list in the Annex) to evaluate its additionality and position in the market. Table 4 summarizes Villgro's approach vis-à-vis similar instruments:

Table 4: Credit guarantee instruments in India

Similar Instruments	Description	Differentiation
Rabobank Foundation + USAID credit guarantee	A USD 15 million loan portfolio guarantee for loans to organizations engaged in sustainable landscapes.	The proposed instrument focuses on a wider number of sectors.
Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)	Government of India's credit guarantee to catalyze the flow of institutional credit to micro and small enterprises.	The proposed instrument is less bureaucratic and favors enterprises without a credit history.

USAID-USDFC Partial Credit Guarantees	Partial credit guarantees, which cumulatively add up to USD 248 million in multiple sectors.	Most of these are partial credit guarantees, which are pari-passu. The proposed instrument will be a first-loss default guarantee covering a more comprehensive range of sectors.

2.3 CHALLENGES TO INSTRUMENT SUCCESS

The first challenge is ensuring that the instrument transitions from grant funding to achieve financial sustainability. This would be groundbreaking for this type of instrument in India, as almost all credit guarantee products have grant funding or government backing. Several models have been identified to make the instrument financially self-sufficient, as detailed in Table 5. In addition, the proposed credit instrument also looks at beneficiaries from a value chain perspective. This includes end-user financing and ensuring beneficiaries stay on track of the impact mandate by managing the pipeline selection.

Table 5. Models for recapitalizing the guarantee pool

Model	Payor	Explanation
One time/periodic registration fee	Beneficiary	Beneficiaries pay a fee to access the facility.
Guarantee fee proportional to loan	Beneficiary	Beneficiaries pay a guarantee fee as a percentage of the loan availed. The fee is bundled with the loan interest rate.
Origination fee	Commercial lenders	Commercial lenders pay a portfolio origination fee when beneficiaries graduate from the facility after achieving creditworthiness.
Success fee based on reduction in default rates	Commercial lender	Commercial lenders pay into the guarantee pool to reduce default rates through technical advisory from Villgro.

The risk of product development and success of the product is another challenge. Various credit products are available, and the challenge is introducing products that are both suitable for the beneficiaries and have low default risk. The product-market fit for each credit product can only be found by careful experimentation, iteration, and building on successful products. This process will also help reduce the default risk, ensuring that the credit guarantee instrument remains solvent.

The instrument also faces the risk of not being able to scale up. This can be addressed by partnering with multiple financial institutions, other incubators, and government-run programs. For example, the national government's Startup India initiative aims to catalyze the country's startup ecosystem and has committed INR[3] 100 billion (USD 1.21 billion) towards funding startups. This can be augmented by a credit guarantee scheme serving startups. The proposed instrument can be a prototype for the government to consider and scale up.

Figure 2 summarizes the risks to the instrument's success and strategies to address them.

[3] Exchange rate between INR and USD has been considered as INR 82.55 = USD 1

Figure 2. Risks and their mitigation

Graduation from grant funding	Product risk	Scaling
Risk that the capital used for the guarantee might not graduate from grant funding	Risk of failure when experimenting with the right product offering for the market	Risk that the instrument might not scale
1 Origination fee and related mechanisms	1 Build a base with proven products	1 Expand the program by tie-ups with multiple financial institutions
2 Increase leverage	2 Stress test new products before commercial introduction	2 Partner with other incubators and the government
3 More data; better risk analytics	3 Customize products for sectors	

MARKET TEST AND BEYOND

3. IMPLEMENTATION PATHWAY AND REPLICATION

Impact Financing Facility implementation builds on an ongoing pilot to capitalize a USD 3-5 million guarantee pool for social enterprises seeking loans.

Villgro is conducting a pilot program in India to test a new credit guarantee instrument, validate the concept, and analyze data. The Lemelson Foundation granted USD 85,000 to capitalize a first loss default guarantee instrument, which was then placed with Caspian Debt, a social impact investment fund based in India. Caspian Debt leveraged this amount to create a lending pool of USD 262,000, of which USD 232,000 has been lent to six beneficiaries. The average ticket size of the loans was USD 38,000, with interest rates ranging from 16-19%. The loans were mostly working capital loans with a repayment period of 18 months. There has been no default in the pilot, which is still ongoing.

The Impact Financing Facility for Climate-Focused Social Enterprises builds on the pilot in several ways. First, the guarantee pool and lending pool will be larger. Second, a wider range of loan typologies will be considered. Third, the financial sustainability of the instrument will be a key focus area.

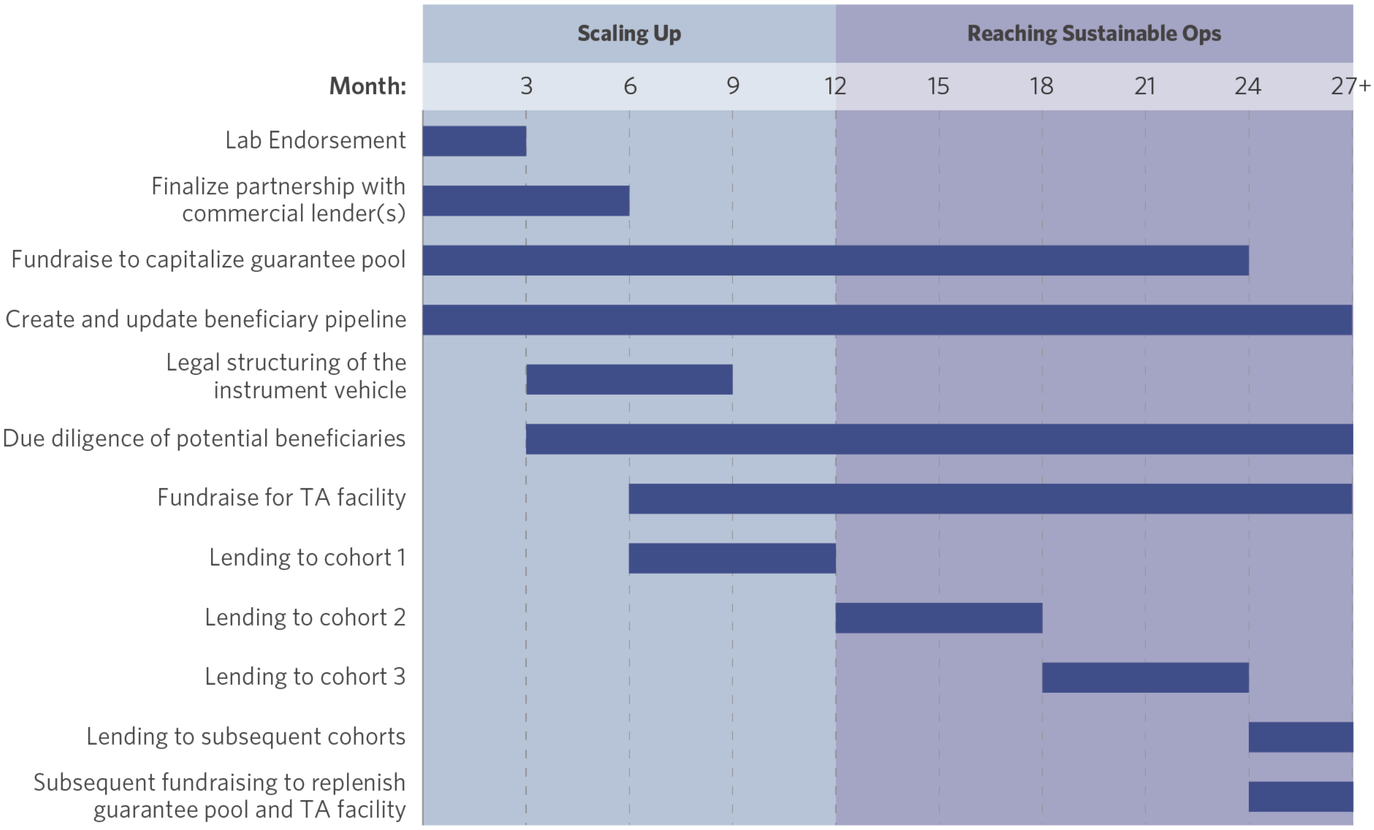
The target market of the instrument is India because of the large and growing number of MSMEs, especially social enterprises, and because of the large number of startups in India. A growing number of startups utilize climate-focused technologies or create products or services related to climate action.

The implementation pathway includes finalizing the partnership with a commercial lender, creating a pipeline of potential beneficiaries, and raising capital for the guarantee pool. Raising money to fully capitalize the USD 3-5 million pool is expected to take up to two years. The first few cohorts of beneficiaries will be gradually chosen over this period. The size of the full cohort of beneficiaries will depend on the size of the guarantee pool, the rate of its drawdown (due to defaults and operational expenses), and its subsequent replenishment. The grants for technical advisory will be raised separately to keep it separate from the guarantee facility.

The challenge of creating a partnership with a commercial lender is expected to be minimized, as a pilot is already ongoing. The challenge of creating a high-quality pipeline of beneficiaries and conducting due diligence is mitigated by the fact that Villgro already has a high-quality pipeline because it is an incubator. However, the instrument will not be limited to enterprises incubated by Villgro and will be open to any eligible social enterprise and its end-users. Villgro will conduct due diligence on whichever beneficiaries have been selected. This may be augmented by additional due diligence, which the commercial lender may conduct.

In terms of replication, with the success of this facility, other incubators can replicate this idea in India and globally. In addition, the government can create a guarantee pool accessible to new-to-credit enterprises and end-users. This will not only help replicate the instrument but also scale it up.

Figure 3. Implementation roadmap



4. FINANCIAL IMPACT AND SUSTAINABILITY

4.1 QUANTITATIVE MODELING

The facility was modeled, and sensitivity analysis was done to understand the response of the facility to various levers such as loan defaults, allocation of the guarantee pool to various loan types, the introduction of fees and expenses such as a guarantee fee, interest on the pool, operating expenses, and technical assistance costs. The model assumes that the pool will be drawn down by defaults and replenished annually to make up for this draw-down.

Working capital loans, asset loans, and end-user loans were considered. Their interest rates, repayment period, and grace period for repayment vary, as shown in Table 6. The guarantee pool is assumed to be fully capitalized over two years. After the guarantee pool's full capitalization, the pool is considered to be replenished annually.

Table 6. Loan types considered

Loan types	% of lending pool to be deployed	Upper limit of individual loan (INR mn)	Interest rate p.a.	Repayment period (grace period of repayment) in months
Working capital loans	40%	5	14%	12 (3)
Asset Loans	40%	10	16%	24 (6)
End-user loans	20%	2	18%	24 (3)

An initial guarantee pool of INR 250 million (USD 3 million) was considered, which would be capitalized over two years. A sensitivity analysis was done to understand the quantum of replenishment required for the guarantee pool and the number of loans it can enable of various types by varying the leverage of the guarantee pool.

The model revealed that as leverage increases, the default value also increases. Hence, there is a faster depletion of the guarantee pool with increased leverage. This also causes a lumping of loan disbursals because, in the first quarter of every year, more loans would be provided due to the guarantee pool being replenished.

In addition, the increased default value will also increase the amount required to replenish the guarantee pool. The number of loans enabled with increasing leverage, on the other hand, increases with an increase in leverage to a certain point. Beyond that point, the number of loans enabled decreases due to the default payout rising in value due to the increased number of loans. Optimal leverage balances the practicality of replenishing the guarantee pool and the number of loans it enables.

Table 7. Sensitivity analysis on the guarantee pool by varying leverage

Leverage	Annual average replenishment of guarantee pool (INR mn)	Average number of loans enabled per annum
2	8	47
4	16	79
6	23	85
8	29	66
10	33	31

The guarantee pool's replenishment requirement also increases as the default rate increases at a constant leverage. Table 8 shows the sensitivity analysis on the guarantee pool of INR 250 million (USD 3 million), whose leverage was maintained at a constant rate of 5X. The number of loans enabled decreases with rising default rates. Hence, the instrument must focus on reducing default rates by various means, including providing technical assistance to beneficiaries.

Table 8. Sensitivity analysis on the guarantee pool by varying default rate

Portfolio default rate	Annual average replenishment of guarantee pool (INR mn)	Average number of loans enabled per annum
2%	7	97
4%	15	87
6%	24	80
8%	34	70
10%	45	58

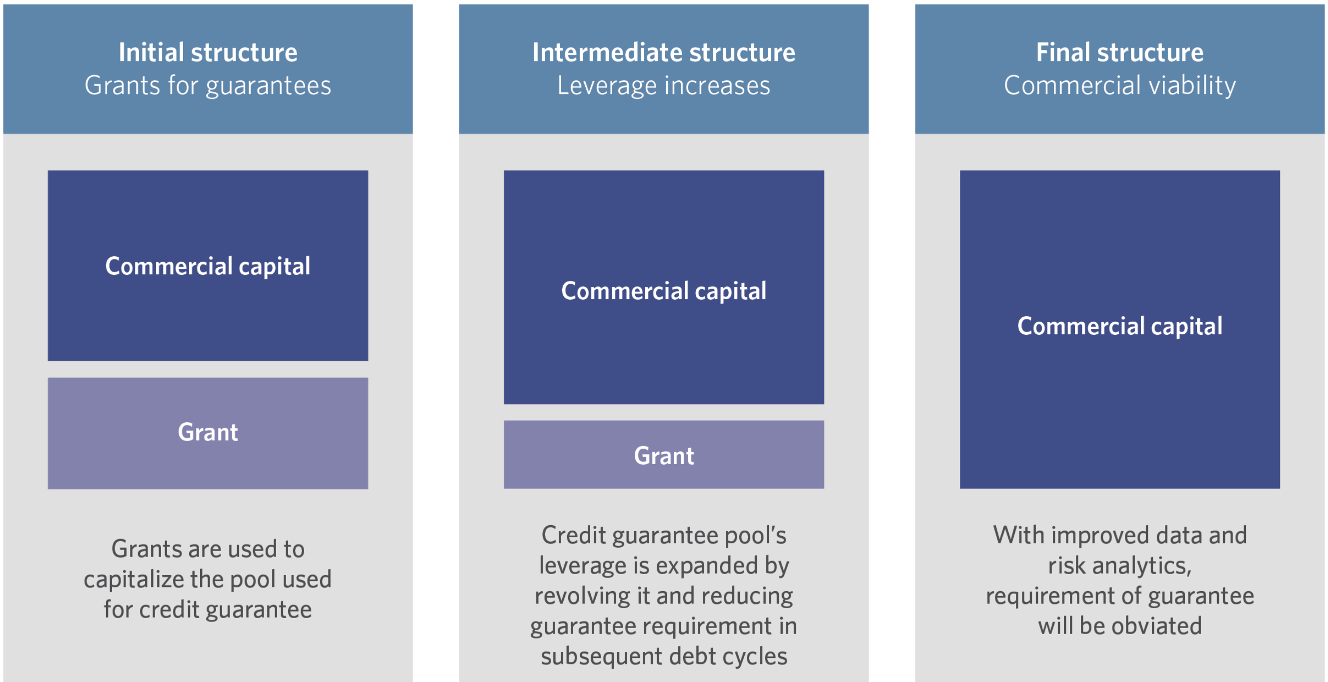
4.2 PRIVATE FINANCE MOBILIZATION AND REPLICATION POTENTIAL

Philanthropic grants and funding from DFIs will initially capitalize the credit guarantee pool and TAF. The guarantee pool will be used to provide a portfolio guarantee for debt. The guarantee pool will be locked up till the debt is repaid. Once repaid, the amount will be released and can be used to guarantee debt again. Defaults on the debt will cause a drawdown in the guarantee pool. The guarantee pool must be replenished annually to avoid being depleted.

With improved data and risk analytics, the leverage on the guarantee can be increased; hence, a greater amount of debt can be provided for the given guarantee pool. As more social enterprises borrow using this facility, commercial lenders will see the possibility of lending to social enterprises without a credit history as a potential market. Some financial services companies in India have already begun lending to enterprises without a credit history. This market can grow, and eventually, commercial lenders can lend without a credit guarantee.

Villgro's instrument provides a basis for governments and other incubators to design similar guarantee instruments. The Government of India, for example, can introduce a credit guarantee and institutionalize it as part of the Startup India program or similar programs. This will ensure greater leverage and sustainability of such a scheme.

Figure 4. Financial sustainability of the instrument



5. ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACT

Gender, livelihoods, and circularity would be the key impact areas of the instrument across multiple sectors.

The instrument impacts the gender, livelihoods, and circularity thematic areas. The gender and livelihood thematic area proposes incorporating a gender lens throughout the facility such that gender outcomes demonstrate a business value for all stakeholders. This includes:

- Improving access to markets and finance for women-led climate-focused social enterprises.
- Creating livelihood opportunities for women in the rural value chains - such as micro-entrepreneurs, asset owners, sales agents, etc.; and urban areas – such as owners of charging infrastructure, waste collection, recycling units, etc.
- End-user financing to catalyze the adoption of such technologies by women consumers.

The circularity thematic area looks to maximize value from products throughout their lifecycle.

The credit guarantee instrument will take inspiration from Sustainable Development Goals (SDGs) to set social and economic targets. Some relevant metrics that will be considered for the instrument are shown in Table 9.

Table 9. Specific SDG targets of the instrument

SDG	Specific Targets	Relevant sectors/themes
5 GENDER EQUALITY	• Target 5.6: Universal access to reproductive rights and health • Target 5.7: Equal rights to economic resources, property ownership, and financial services • Target 5.8: Promote the empowerment of women through technology	Gender & livelihoods, healthcare
6 CLEAN WATER AND SANITATION	• Target 6.3: Improve water quality, wastewater treatment, and safe reuse • Target 6.4: Increase water-use efficiency and ensure freshwater supplies • Target 6. a: Expand water and sanitation support to developing countries	Green buildings, waste management
7 AFFORDABLE AND CLEAN ENERGY	• Target 7.1: Universal access to modern energy • Target 7.2 Increase global percentage of renewable energy • Target 7.3: Double the improvement in energy efficiency • Target 7. b Expand and upgrade energy services for developing countries	Green energy, green buildings
8 DECENT WORK AND ECONOMIC GROWTH	• Target 8.4: Improve resource efficiency in consumption and production • Target 8.10: Universal access to banking, insurance, and financial services	Circularity, waste management, climate resilient agriculture
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	• Target 9.1: Support local engagement in water and sanitation management • Target 9.3: Increase access to financial services and markets • Target 9.4: Upgrade all industries and infrastructures for sustainability	Waste management
11 SUSTAINABLE CITIES AND COMMUNITIES	• Target 11.1: Safe and affordable housing • Target 11.2 Affordable and sustainable transport systems • Target 11.3 Inclusive and sustainable urbanization • Target 11.6: Reduce the environmental impacts of cities	Green buildings, sustainable mobility
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	• Target 12.2 Sustainable management and use of natural resources • Target 12.4: Responsible management of chemicals and waste • Target 12.5 Substantially reduce waste generation	Waste management, circularity

13 CLIMATE ACTION	• Target 13.3: Build knowledge and capacity to meet climate change	All thematic areas and sectors relevant to this instrument
17 PARTNERSHIPS FOR THE GOALS	• Target 17.3: Mobilize financial resources for developing countries • Target 17.7: Promote sustainable technologies to developing countries	All thematic areas and sectors relevant to this instrument

Since the instrument will deal with a wide range of sectors and industries, the instrument will have broad-based measures of social and environmental impact and customized metrics for each of the beneficiaries. Table 10 details the broad-based environmental, social, and economic benefits the instrument aims to achieve in five years.

Table 10. Broad-based goals for the instrument

Metric	Potential impact (2023-28)
No. of end beneficiaries (end-users)	25,000
No. of gender-centered jobs enabled (includes women-owned enterprises)	7,500
No. of livelihoods enabled	10,000
Reduction in emissions	50,000 tCO_2e
Reduction in water waste	350 million liters

For the pilot of this instrument, customized metrics were used to measure the impact on beneficiaries. Similarly, Villgro will develop customized metrics for each selected beneficiary depending on their products or services.

An impact monitoring system will lower the cost of due diligence. Ideally, the impact should be measured at source, which optimizes the cost of measurement throughout the value chain. Villgro tracks all business and impact metrics of its incubatees using its proprietary software, VITALS (Villgro Information Tracking and Learning System). This can be customized and expanded to cover the beneficiaries of the credit guarantee facility.

5.1 ENVIRONMENTAL IMPACT

Six enterprises were part of the pilot implemented for the instrument. Customized metrics with specific impact measurement metrics were evolved for each enterprise.

One of the pilot's beneficiaries is involved in converting food and agri-waste to produce bio-manure and biogas. The credit guarantee allowed the beneficiary to meet the working capital needs of a new plant it had set up. Table 11 provides an example of the environmental metrics being tracked for the beneficiary during the fiscal year of 2022-23 when they were under the pilot program.

Given the diverse sectors that this instrument will cater to, metrics will be customized for each beneficiary.

Table 11. Customized impact metrics tracked for a beneficiary of the pilot project

Metric	Potential impact (2023-28)
Waste processed during the period	18,419 MT
Sale of biogas	301 MT
Emissions avoided	10,105 tCO_2e

Source: Villgro

5.2 SOCIAL AND ECONOMIC IMPACT

Customized social and economic impact metrics were developed for each of the beneficiaries of the pilot program. Table 12 provides an example of these metrics being tracked for a beneficiary producing intensive aquaculture systems. The beneficiary received working capital loans to support the requirement of a technical product that positively impacts land and water use by avoiding intensive aquaculture and preventing marine deforestation.

Table 12. Customized impact metrics tracked for beneficiary of the pilot project

Metric	Impact
Increase in income for farmers	35%
Number of women farmers benefitted	46%
Reduction in land usage	2.5x
Reduction in water usage	2.5x
Supply chain value loss reduction	Less than 2% loss on post-harvest
Number of Farmer Producer Organizations engaged	60
Number of wholesalers engaged	13

Source: Villgro

6. NEXT STEPS

Villgro is solidifying a partnership with a financial institution to lend to selected beneficiaries. In parallel, Villgro is pitching to private philanthropies and DFIs to capitalize the guarantee pool and TAF. Villgro, being a social enterprise incubator, already has a robust pipeline of potential beneficiaries. Screening criteria are being developed to funnel the potential beneficiaries and select the initial batch. Villgro will continue to seek funding periodically to replenish the guarantee pool and TAF until the financial sustainability strategy yields fruit and the pool can be sustained without external support. Villgro is also developing the capacity-building and technical assistance package for beneficiaries.

7. REFERENCES

AgriculturePost. (2020, Sep 10). *Centre sets target of covering 100 lakh ha in 5 years under micro irrigation*. Retrieved from https://agriculturepost.com/farm-inputs/centre-sets-target-of-covering-100-lakh-ha-in-5-years-under-micro-irrigation/

Atal Innovation Mission. (2022). *ANIC Millet Challenge*. Retrieved from https://aim.gov.in/anic-millet-challenge.php

Bridge to India. (2023, May 12). *India Residential Rooftop Solar Market 2023.* Retrieved from https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:c663b161-3948-319c-866f-a0eab5c604ce

Care Ratings. (2022, Jul 18). *Pharma Players' FY23 Profitability Margins May See 200-250 bps Dip.* Retrieved from https://www.careratings.com/uploads/newsfiles/18072022025528_Pharma_Players_FY23_Profitability_Margins_May_See_200-250_bps_Dip.pdf

cKinetics. (2015, Feb). *VOW: Value out of Waste.* Retrieved from https://www.ckinetics.com/publications/Value%20Out%20of%20Waste_2015.pdf

Economic Times. (2016, Nov 3). *India's energy efficiency market at Rs 1.6 lakh crore: World Bank*. Retrieved from https://economictimes.indiatimes.com/industry/energy/power/indias-energy-efficiency-market-at-rs-1-6-lakh-crore-world-bank/articleshow/55228858.cms

Emobility+. (2022, Oct 19). *India's EV Charger Market Set To Boom At CAGR Of 46.5% Between 2022 And 2030 – Report*. Retrieved from https://emobilityplus.com/2022/10/19/indias-ev-charger-market-set-to-boom-at-cagr-of-46-5-between-2022-and-2030-report/

Expert Market Research. (2022). *Indian Animal Feed Market Outlook*. Retrieved from https://www.expertmarketresearch.com/reports/indian-animal-feed-market

Financial Times. (2022, Jun 3). *Tata Power bets on microgrids for rural power supply in India*. Retrieved from https://www.ft.com/content/c386e619-8114-43f2-a468-e7768538992d?sharetype=blocked

Frost & Sullivan. (2022, Mar 2). *India's Increasing Demand for Transportation Services Expedites Shared Mobility Market Growth*. Retrieved from https://www.frost.com/news/press-releases/indias-increasing-demand-for-transportation-services-expedites-shared-mobility-market-growth/

Global Alliance for Mass Entrepreneurship. (2022). *Road to Recovery.* LEAD Korea University.

Grand View Research. (2022). *India Health Insurance Market Size, Share & Trends Analysis*. Retrieved from https://www.grandviewresearch.com/industry-analysis/india-health-insurance-market-report

IBEF. (2020, Nov 30). *Digital Healthcare to Witness Exponential Growth in India*. Retrieved from https://www.ibef.org/blogs/digital-healthcare-to-witness-exponential-growth-in-india

IBEF. (2021, Oct 26). *Medtech Sector in India*. Retrieved from https://www.ibef.org/blogs/medtech-sector-in-india

IBEF. (2022, October). *The Indian MSME Sector*. Retrieved from https://www.ibef.org/blogs/india-s-msme-sector

IEA. (2022, Jan 10). *India's clean energy transition is rapidly underway, benefitting the entire world*. Retrieved from https://www.iea.org/commentaries/india-s-clean-energy-transition-is-rapidly-underway-benefiting-the-entire-world

IFC. (2017, Nov 26). *Climate Investment Opportunities in South Asia - An IFC Analysis*. Retrieved from https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/climate+business/resources/final+climate+investment+opportunities+in+south+asia+-+an+ifc+analysis

India Blended Finance Collaborative. (n.d.). *IBFC Deal Tracker*. Retrieved from https://blendedfinanceindia.org/ibfc-deal-tracker/

International Trade Administration. (2022, Oct 7). *India Water and Wastewater Treatment Industry*. Retrieved from https://www.trade.gov/market-intelligence/india-water-and-wastewater-treatment-industry#:~:text=Demand%20for%20high%2Dend%20treatment,(CAGR)%20of%209.7%20percent

Layek, D. S. (2021). *Access to Credit for Indian MSMEs*. Retrieved from UNCITRAL: https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/EN/wasme_access_to_credit_for_indian_msmes.pdf

Market Watch. (2023, May 17). *India Biogas Market Outlook: Expansion Strategies and Development Trends by Top Companies and Forecast 2029*. Retrieved from https://www.marketwatch.com/press-release/india-biogas-market-outlook-expansion-strategies-and-development-trends-by-top-companies-and-forecast-2029-2023-05-17?tesla=y

Markets&Markets. (2022, Mar). *Road Safety Market by Solution*. Retrieved from https://www.marketsandmarkets.com/Market-Reports/road-safety-market-93636585.html

Ministry of Finance. (2022, Mar). *Strengthening Credit Flows to the MSME Sector.* Retrieved from https://loksabhadocs.nic.in/lsscommittee/Finance/17_Finance_46.pdf

Mishra, R. (2023, February 19). *MSMEs will be critical sector for pushing India's growth in next 25 years*. Retrieved from Business Today: https://www.businesstoday.in/magazine/economy/story/msmes-will-be-critical-sector-for-pushing-indias-growth-in-next-25-years-heres-why-369004-2023-02-05

MoHUA. (2021). *Circular Economy in Municipal Solid and Liquid Waste.* Retrieved from https://mohua.gov.in/pdf/627b8318adf18Circular-Economy-in-waste-management-FINAL.pdf

NCGTC. (n.d.). *Credit Guarantee Scheme for Stand Up India (CGSSI)*. Retrieved from https://www.ncgtc.in/sites/default/files/cgssi_one_pager_about_eligibilty_checks.pdf

OPPI. (2016). *India's Pharma Supply Chain: Does the Industry Have What It Takes to Win?* Retrieved from https://www.indiaoppi.com/wp-content/uploads/2019/12/Indias-Pharma-Supply-Chain-Does-the-Industry-Have-What-It-Takes-to-Win.pdf

Precedence Research. (2023, Feb). *Transportation Analytics Market*. Retrieved from https://www.precedenceresearch.com/transportation-analytics-market

RBI. (2019, Jun). *Report of the Expert Committee on Micro, Small and Medium Enterprises.*

Soni, S. (2023, January 24). *Financial Express*. Retrieved from https://www.financialexpress.com/industry/sme/msme-fin-cgtmses-complexities-need-simplification-overhaul-to-boost-msme-credit-sbis-soumya-kanti-ghosh/2959019/

Transparency Market Research. (2020). *India Biomass Market*. Retrieved from https://www.transparencymarketresearch.com/india-biomass-market.html

TransUnion CIBIL, Google. (2021). *Credit Distributed.* Retrieved from https://www.transunioncibil.com/content/dam/transunion-cibil/transunion-google-credit-distributed-report.pdf

World Bank. (2022, Nov 30). *A Greener Cooling Pathway Can Create a $1.6 Trillion Investment Opportunity in India, says World Bank Report*. Retrieved from https://www.worldbank.org/en/news/press-release/2022/11/30/a-greener-cooling-pathway-can-create-a-1-6-trillion-investment-opportunity-in-india-says-world-bank-report

Yahoo News. (2023, Feb 8). *India Lithium-Ion Battery Market to Worth US$ 25,309.59 Million by 2031*. Retrieved from https://finance.yahoo.com/news/india-lithium-ion-battery-market-123000249.html

8. ANNEXURES

8.1 GUARANTEE FINANCE INSTRUMENTS INTRODUCED IN INDIA BETWEEN 2002-2022

Deal Name	Year	Duration (years)	Sector	Capital Commitment	Stakeholders
Climate Smart fund: Blended Finance structure involving an International Foundation and mid-sized NBFC	2022	5	Climate Action	USD 3.6 Mn catalyzed by a partial guarantee	Confidential
Funding to Women FPOs: Blended Finance structure involving an International Foundation and mid-sized NBFC	2022	5	Agriculture	USD 11.25Mn catalyzed by a partial guarantee	Confidential
IIT Delhi-360 ONE Foundation Livelihood generation through skilling project under SAMRIDH initiative	2022	3	Health, Livelihood	Mobilized additional USD 0.5 mn using ~30% partial risk guarantee; USD 0.04Mn as interest-linked incentives	IPE Global, IIT Delhi, Implementing Entity undertaking training, 360 ONE Foundation
CDC Microfinance COVID-19 Response Program	2021	4	Livelihoods	USD 43 Mn total portfolio with 18-30% guarantee cover	MFIs: Annapurna, Arohan, Chaitanya, Asa, Fusion, Aashirvad
CIIE.CO - FinTech incubator	2021	1	Financial Services	Mobilized ~ USD 1.7Mn as loans using ~USD 0.25Mn as grant as first loss tranche	CIIE.CO, 360 ONE Foundation
USAID- USDFC Clean Energy Partial Credit Guarantee	2021	7	Energy	USD 43 Mn with 50% pari-passu guarantee	NBFC
USAID-USDFC AgTech Partial Credit Guarantee	2021	9	Agriculture	USD 37 Mn with partial guarantee	NBFC
USAID-USDFC AgTech Partial Credit Guarantee	2021	7	Agriculture	USD 15 Mn with partial guarantee	NBFC
USAID-USDFC AgTech Partial Credit Guarantee	2021	9	Agriculture	USD 3 Mn with partial guarantee	NBFC
USAID-USDFC COVID Response Partial Credit Guarantee	2021	2	Financial services	USD 50 Mn with 50% pari-passu guarantee	Private Bank

USAID-USDFC COVID Response Partial Credit Guarantee	2021	2	Financial services	USD 100 Mn with 50% pari-passu guarantee	Private Bank
Agtech Portfolio Guarantee - Small NBFC	2020	3	Agriculture	USD 2 Mn with partial guarantee	Agtech startups
Dell Foundation Loan Guarantee to Caspian Debt	2020	5	Financial services	USD 20 Mn credit facility, with partial risk guarantee support	Caspian Debt
Guarantee for Social Enterprise [Transaction name confidential]	2020	2	Livelihoods	Total fundraising of USD 1 Mn +	Sattva, Sambhav Foundation
NBFC - Foundation Guarantee [Transaction Name confidential]	2020	3	Financial services	Total fund of USD 5.6 Mn	-
Rabo Foundation-Nabkisan Portfolio Guarantee	2020	3	Financial services	USD 3.7 Mn with partial guarantee	Secondary FPOs, federations, agri SMEs, agtech companies, mature FPOs
Villgro Loan Guarantee	2020	4	Agriculture	USD 0.26 Mn mobilized with a first loss tranche of USD 0.085 Mn	IQ EQ Corporate Services (Mauritius (this is backed by IIEF -Impact Innovators and Entrepreneurs Foundation),
Agtech Portfolio Guarantee - Mid-size NBFC	2019	3	Agriculture	USD 2 Mn with partial guarantee	Agtech startups
Rabo Foundation-NBFC Portfolio Guarantee	2019	2	Agriculture	USD 3.2 Mn with partial guarantee	Early stage FPOs
USAID- USDFC Clean Energy Partial Credit Guarantee	2019	9	Energy	USD 20 Mn with 50% pari-passu guarantee	NBFC
USAID-USDFC Clean Energy Partial Credit Guarantee	2019	9	Energy	USD 75 Mn with 50% pari-passu guarantee	Private Bank
USAID-USDFC Forestry Partial Credit Guarantee	2019	9	Climate action	USD 12 Mn with partial guarantee	NBFC
USAID-USDFC Forestry Partial Credit Guarantee	2019	9	Climate action	USD 3 Mn with partial guarantee	NBFC
USAID-USDFC WASH Partial Credit Guarantee	2019	9	WASH	USD 71 Mn with 50% pari-passu guarantee	Private Bank
USAID-USDFC WASH Partial Credit Guarantee	2019	9	WASH	USD 10 Mn with 50% pari-passu guarantee	NBFC

USAID-USDFC WASH Partial Credit Guarantee	2019	9	WASH	USD 1 Mn with 50% pari-passu guarantee	NBFC
Rabo Foundation-Post Harvest Guarantee	2018	4	Agriculture	USD 2.7 Mn with partial guarantee	FPOs
Sindicatum Renewable Energy Company	2018	7	Energy	2 INR denominated bonds of IN R 951 Mn and INR 1,585 Mn, listed on the London Stock Exchange, with full guarantee	-
USAID-USDFC Healthcare Partial Credit Guarantee	2018		Health	USD 5 Mn with 50% pari-passu guarantee	NBFC
Citibank Financing Women Entrepreneurs in India	2015	5	Livelihoods	USD 10 Mn loan facility with partial guarantee	Citibank, Ujjivan, Financial Services, Overseas Private, Investment Corporation
USAID-USDFC Multisector Partial Credit Guarantee	2015	8	Financial services	USD 35 Mn with 50% pari-passu guarantee	NBFC
USAID-USDFC Multisector Partial Credit Guarantee	2015	8	Financial services	USD 10 Mn with 50% pari-passu guarantee	NBFC
Northern Arc Pooled Bond Issuance/ Pooled Loan Issuance	2014	8	Financial services	~USD 450 Mn over multiple issuances with over 80 originators	-
Rabo Foundation-Full Guarantee Facility	2013	2	Financial services	USD 0.07 Mn with full guarantee	FPOs

Source: India Blended Finance Collaborative

8.2 THEORY OF CHANGE

GOAL

Enhance and accelerate India's pathway towards net zero by expanding the universe of enterprises contributing to the goal.

IMPACT

Build credit history and accelerate cash flows for climate-focused social enterprises and their end users which can be scaled up and replicated by commercial lenders

OUTCOMES

- **Create a paradigm change in the financial marketplace** by expanding credit guarantee schemes for a new market segment
- **Establish climate-focused social enterprises and their end users** as a distinct segment for commercial capital to invest in
- **Accelerate the path towards net zero** by expanding the pool of innovative climate-focused social enterprises and their end users
- **Adopt and replicate investments with meaningful impact** at scale
- **Center gender and financial inclusion** in the development of innovative climate finance instruments

KEY AUDIENCES

- Philanthropies
- Private finance institutions
- Development banks
- Additional audiences

OUTPUTS

- **Robust pipeline** Enterprises/end users that have undergone basic due diligence stand to gain the most from the facility
- **Stress test, fund/finance the instrument** and make it ready for deployment
- **Find the right instrument-beneficiary fit -** Develop a sandbox for testing instruments that can fit beneficiary needs at various stages
- **Enable the creation of credit history** for beneficiaries by deploying debt backed up by a credit guarantee
- **Enable the adoption of innovative technology** by the bottom of the pyramid and other unserved markets
- **Enhance capacity** of beneficiaries which makes them better equipped to absorb and repay debt
- **Applying a gender lens** to climate-focused social enterprises to ensure equity

ACTIVITIES

- **Due diligence -** Create a pipeline of beneficiaries (enterprises and end users)
- **Design and develop** the financial instrument
- **Build stakeholder coalition** to implement the instrument
- **Build capacity** of the beneficiaries
- **Launch and scale up** the credit-guarantee pool