

# GEF-8 WORLD BANK PCN STAGE/GEF DATA SHEET

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## General Project Information

Project Title

Guarantee Mechanism for Renewable Biogas in India

Region

India

GEF Project ID

11068

Country(ies)

India

Type of Project

FSP

GEF Agency(ies):

World Bank

GEF Agency ID

Executing Partner

Small Industries Development Bank of India (SIDBI)

Executing Partner Type

Others

GEF Focal Area (s)

Climate Change

Submission Date

2/28/2023

Project Sector (CCM Only)

Renewable Energy

Taxonomy

Focal Areas, Climate Change, Climate Change Mitigation, Agriculture, Forestry, and Other Land Use, Renewable Energy, Financing

Type of Trust Fund

GET

Project Duration (Months)

180

GEF Project Grant: (a)

0.00

GEF Project Non-Grant: (b)

13,761,468.00

Agency Fee(s) Grant: (c)

0.00

Agency Fee(s) Non-Grant (d)

1,238,532.00

Total GEF Financing: (a+b+c+d)

15,000,000.00

Total Co-financing

705,000,000.00

PPG Amount: (e)

0.00

PPG Agency Fee(s): (f)

0.00

PPG total amount: (e+f)

0.00

Total GEF Resources: (a+b+c+d+e+f)

15,000,000.00

Project Tags

CBIT: No NGI: Yes SGP: No Innovation: No

## Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

1. **The Guarantee Mechanism for Renewable Biogas for India project** is designed to support India’s energy transition with particular focus on greenhouse gas (GHG) emission reductions, energy security, restoration of degraded land, and sustainable management of agricultural-residue and organic waste. The project is well aligned with India’s policies and budget interventions around compressed biogas and supports the sector to meet the ultimate objective of producing 15 million tonnes per annum of biogas that will lead to GHG emission abatement, across the value chain of Biogas, of about 82.2 MtCO<sub>2</sub>e per annum. This is equal to taking 17.4 million passenger cars off the road.
2. The project offers a unique market-based solution to unlock the potential of a very nascent sector with an array of climate and environmental benefits. The risk sharing facility (RSF) is an innovative structure to provide credit enhancement and risk mitigation of the biogas value chain to mobilize commercial financing to accelerate the development of up to 100 biogas plants. This is done through the World Bank’s own guarantee for \$150 million which will be used to capitalize the risk sharing facility (RSF), which in turn will provide \$150 million equivalent of guarantees in local currency to commercial banks’ lending to medium sized biogas developers. In parallel the project also provides technical assistance to better strengthen the value chain and improve the commerciality of the industry. Participating in the RSF, encourages commercial banks to enter a very nascent market while having some protection through the guarantee, which results in greater experience and comfort with the project cashflows. The ultimate objective of the project is for the success of the first 100 plants to catalyze investments in the sector and for India to reach the government target of 5000 plants with private financing. The concessional funding proposed in this GEF-8 NGI proposal, therefore, has high levels of additionality.
3. The project also caters to five key interventions that generate significant global environmental benefits, such as: (i) mobility and industrial sector decarbonization; (ii) restoration of degraded agriculture land; (iii) industrial and urban waste management (iv) agricultural residue management to reduce greenhouse gas emissions and air quality concerns; and (v) indirect support towards creating an ecosystem on circularity of plastics. As such, this innovative GEF-8 NGI proposal focuses directly on two of the five GEF Focal Areas, namely, Climate Change Mitigation (CCM) and Land Degradation (LD), as well as some in-direct links to the Chemicals and Waste (CW) focal area. In addition, the RSF also focuses on capacity building for the development of Gender-Responsive Bioenergy Policies to promote women’s participation in this nascent but fast-evolving segment as India moves towards energy transition.

## Indicative Project Overview

### Project Objective

The Project Development Objective (PDO) is to increase the installed capacity of biogas generation through priority market interventions.

## Project Components

### Component 1: Guarantee Mechanism for Renewable Bioenergy

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
13,761,468.00	700,000,000.00

Outcome:

- Access to Affordable Finance for Renewable Biogas Project Developers
- Improved Stability of Organic Feedstock Supply for Municipal Waste Biogas Projects

Output:

partial credit guarantees provided to commercial banks and Non-Banking Financial Companies (NBFCs) to scale up generation of biogas (100 projects supported)

\$550 million private capital mobilized for Biogas projects under GMRBI

- Clear Pathways to Development of Municipal Waste Management Projects in Leading Cities in India

### Component 2: Technical assistance to support the bankability of the entire Biogas value chain

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
	4,500,000.00

Outcome:

Enhanced bankability of the entire Biogas value chain

Output:

capacity building of municipalities in streamlining the upstream value chain of source segregation of waste for projects

development of regulations to support access to retail gas infrastructure by biogas plants;

capacity building in terms of managing the agri-residue and development of a robust value chain with state nodal es; and

training and capacity building of the participating financial institutions for assessment of biogas technologies and valuation.

### M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
	500,000.00

Outcome:

Effective project M&E

Output:

project results captured semi-annually

mid-term review

final evaluation

## Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1: Guarantee Mechanism for Renewable Bioenergy	13,761,468.00	700,000,000.00
Component 2: Technical assistance to support the bankability of the entire Biogas value chain		4,500,000.00
M&E		500,000.00
<b>Subtotal</b>	<b>13,761,468.00</b>	<b>705,000,000.00</b>
Project Management Cost		
<b>Total Project Cost (\$)</b>	<b>13,761,468.00</b>	<b>705,000,000.00</b>

Please provide justification

## Coordination and Cooperation with Ongoing Initiatives and Project

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

## Core Indicators

### Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
975965	0	0	0

### Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Cropland	975,965.00			

### Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

### Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

### Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

### Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4500000	0	0	0

### Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

### Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

### Type/Name of Third Party Certification

### Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4,500,000.00			

### Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

### Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

**Documents (Document(s) that justifies the HCVF)**

Title

**Indicator 6 Greenhouse Gas Emissions Mitigated**

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
<b>Expected metric tons of CO<sub>2</sub>e (direct)</b>	11630000	0	0	0
<b>Expected metric tons of CO<sub>2</sub>e (indirect)</b>	0	0	0	0

**Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector**

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
<b>Expected metric tons of CO<sub>2</sub>e (direct)</b>	11,630,000			
<b>Expected metric tons of CO<sub>2</sub>e (indirect)</b>				
<b>Anticipated start year of accounting</b>	2023			
<b>Duration of accounting</b>	15			

**Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector**

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
<b>Expected metric tons of CO<sub>2</sub>e (direct)</b>				
<b>Expected metric tons of CO<sub>2</sub>e (indirect)</b>				
<b>Anticipated start year of accounting</b>				
<b>Duration of accounting</b>				

**Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
<b>Target Energy Saved (MJ)</b>				

**Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
Biomass	170.00			

**Indicator 11 People benefiting from GEF-financed investments**



	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
<b>Female</b>	510			
<b>Male</b>	4,590			
<b>Total</b>	<b>5,100</b>		<b>0</b>	<b>0</b>

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

Area of land and ecosystem under restoration: In addition to the biogas, a Biogas plant produces fermented organic manure (FOM) which is a rich source of organic carbon for the soil. Under the RSF, it is intended to support an average 100 Biogas plants and associated projects in the value chain (or close to 880 tonnes per day of biogas production capacity), which can produce close to 1.6 MTPA of FOM which is rich for enhancing the Soil Organic Carbon (SOC). Under a conservative assumption of 50% of such FOM under effective use in agriculture fields, it will lead to area under restoration of 65,043 hectare / year and a total of 975,645 hectare under improved practices in 15 years. [12 tonne/hectare/year of FOM will help restore 0.2 tC/hectare/year. Increase of SOC leads to higher water retention in the soil, erosion control and improved carbon in the soil]. Today it is estimated that the SOC level in Indian soil is merely 0.3% or 3.6 tC/hectare, however, with the restoration practices in using of FOM from the biogas plants will help increase the SOC to the desired levels.

In addition, a biogas plants based on organic municipal solid waste (OMSW) leads to landfill restoration. The methodology includes that under the RSF facility a total of 20 organic municipal solid waste-based biogas projects will be developed. Large scale landfill has an area of 40 acres; therefore 20 projects can contribute towards 800 acres (320 hectares) of land restoration of the landfills is possible. Therefore, the total area considered under land and ecosystem restoration will be 975,965 hectares.

During the program, the primary methodology for tracking the extent of soil restoration will be based on the sales and application of fermented organic manure (FOM) from the biogas plants to agricultural fields. Typically, 12 tons per hectare of FOM are applied per year, based on farming practices, and this quantity will be used to assess the level of increased Soil Organic Carbon (SOC). In addition, a sampling exercise is expected to be carried out to assess the impact of FOM application on soil properties. This impact assessment will provide a scientific basis for the optimal application of FOM and its impact on soil conditions in India. Similarly, the reduction in landfills by the municipalities can be tracked based on adoption of waste segregation practices and extent of that waste being used for recycling.

Area of landscapes under improved practices: It is expected that the RSF facility can support 20 projects based on paddy straw with a biogas production capacity of 20 TPD. Cumulatively, this leads to a total 400 TPD of biogas production and 1.46 MTPA of paddy straw burning avoided from the agricultural fields. Rice residue burning results in extensive impacts both on and off farm, e.g., losses in soil nutrients, soil organic matter, production and productivity, air quality, biodiversity, and water and energy efficiency and negative impacts on human and animal health. Biodiversity conservation also gets enhanced through a decline in residue burning as it reduces fire damage to adjacent remnant vegetation and wildlife habitat including nationally significant species. It is estimated that under this program close to 4.5 million hectares of land can be put in under improved practices [4.8 tons of paddy produced per hectare leads to 299,300 hectare per annum avoided paddy burning or ~ 4.5 million hectares during the project lifecycle of 15 years]. Such practices are more prevalent in the states of Punjab and Haryana with the maps below that describes the areas where there are instances of paddy straw burning in the region; while the exact project location is not known but from the stakeholder interactions, these states intend to remain the focus area for implementation of paddy straw-based projects.

Greenhouse Gas Emissions Mitigated: To assess the GHG savings potential from the compressed biogas plants, an approach of Life Cycle Assessment (LCA) was used to evaluate environmental performance of such project throughout its life cycle. The potential

for greenhouse gas (GHG) emission reductions occurs across five distinct areas in the whole value chain of the Biogas industry, spanning from the acquisition of feedstock to the use of compressed biogas in the transportation sector, along with fugitive emissions.

The GHG emission reduction was assessed from the following equation:

$$ERed. = ESFU - EGPC - EVeh. - EFE + ESTF$$

where,

ERed. Net GHG reduction from Biogas production and use

ESFU Emission savings from feedstock utilization

EGPC Emissions from grid-based power consumption

EVeh. Emissions from vehicles transporting Biogas from production plant to gas stations, transportation of FOM and transportation of feedstocks

EFE Fugitive emissions from Biogas plant and transportation

ESTF Emission savings by utilizing Biogas as an alternative to CNG

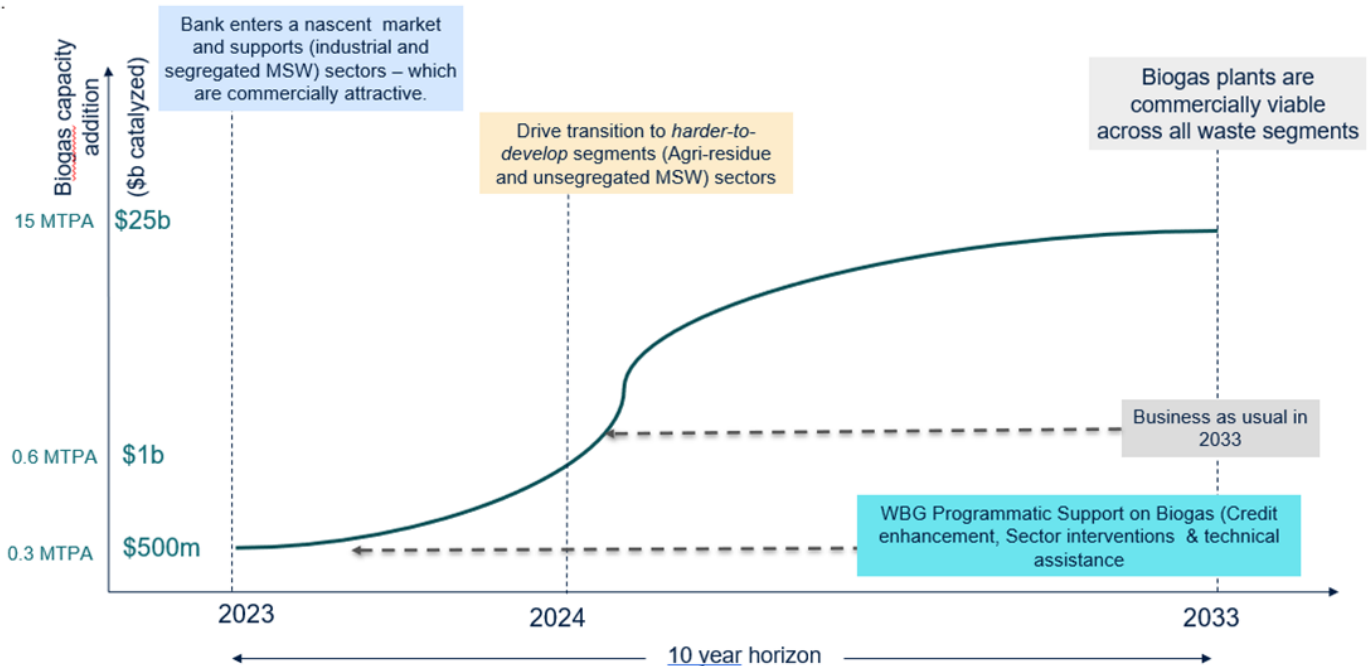
With that approach for pan-India basis, and considering distribution of feedstocks (anticipated for the initial 100 projects with a cumulative 0.3 MTPA or 170 MWeq of production capacity) and phasing of biogas plants coming online during the guarantee timeframe, can contribute to GHG reductions of 11.63 MtCO<sub>2e</sub> cumulatively during the project cycle of 15 years. The assessment of phasing of capacities and corresponding net emissions saving is showcased in tables below. A factor of 4.53 tons of CO<sub>2</sub> eq saved is used for emissions savings (per ton of CBG produced) which is derived based on the above-described methodology.

People benefiting from GEF-financed investments disaggregated by sex (count): The GEF – financed investments will help create direct and seasonal employment in the Biogas plants. Since certain feedstocks are seasonal in nature (paddy straw and press mud) it helps create additional seasonal employment associated with the Biogas plant. Under the program, the focus will be to promote women employment to the extent of 10% in the plant. This will help in total direct employment generation of 5100 individuals (male – 4590 and female 510).

## NGI (only): Justification of Financial Structure

Please describe the financial structure and include a graphic representation. This description will include the financial instrument requested from the GEF and terms and conditions of the financing passed onto the Beneficiaries.

**The S-curve below showcases the nascent stage of the CBG sector in India.** Currently, the projects are focused on aggregated industrial waste (i.e., press mud) and some municipalities which are ahead of curve in deploying waste segregation practices. However, a larger potential of biogas is from disaggregated feedstocks like agricultural residue, animal manure, and other high-rate digestion technology for processing other industrial wastes. The World Bank Group with the programmatic approach (credit enhancement, sectoral interventions, and technical assistance) would enable the transition to harder-to-develop segments to realize the overall biogas potential.



**A US\$150 million IBRD Guarantee from the World Bank combined with US\$13.76 million Non-Grant Instrument (NGI) contingent liability support from the Global Environment Facility to mobilize private capital to scale up the generation of biogas.** The RSF seeks to assist the country in the mobilization of commercial financing in Indian Rupees (INR) for the development of biogas projects. Through the RSF, SIDBI will design and offer partial credit guarantees (sub-guarantees) to commercial banks and Non-Banking Financial Companies (NBFCs) (jointly called Participating Financial Institutions or (PFIs), providing commercial loans to biogas developers. SIDBI will establish and operationalize the RSF, in accordance with operational procedures agreed with the World Bank. The sub-guarantees will be structured to provide guarantee coverage of up to 65 percent on loans that are classified as non-performing assets (NPAs) as per Reserve Bank of India (RBI) regulations. The RSF will be capitalized using the US\$150 million IBRD Guarantee and supported with a proposed US\$13.76 million Non-Grant Instrument (NGI) contingent liability support at attractive concessional terms from the GEF. The RSF will charge sub-guarantee fees to commercial banks which will be sized on a cost recovery basis with an additional buffer through the NGI contingent support. In the event of a default by a Biogas developer on an underlying sub-guaranteed loan, the lending institution will call on SIDBI for a payment under the sub-guarantee agreement. The payment for such a call will be made from pools of funds comprised of initially, a) net income of the RSF used to pay out, followed by b) the US\$13.76 million GEF NGI being called (inclusive of fees), and finally, c) the IBRD guarantee. PFIs would be required to enter into sub-guarantee agreements with the Facility Manager (SIDBI) based on eligibility criteria.

The Risk Sharing Facility (RSF or Facility) is designed to be a self-sustaining facility housed within SIDBI i.e. all the operating costs of the facility are covered by the sub-guarantee fee charged by SIDBI to the PFIs who are using the guarantees as a credit enhancement or extra security for loans offered by PFIs to Biogas developers. SIDBI's role is to work with the WB to set up the facility, use their own staff to run the facility, build the pipeline, and manage the portfolio and make sure the losses are managed appropriately. There is no direct recourse to SIDBI's own balance sheet under the RSF model. However, after the 15 year period of the RSF, SIDBI and GoI could choose to extend the RSF through their own capital. The following are the revenues and costs of the RSF:

## Revenues:

- Sub-Guarantee fees charge by SIDBI to PFIs (who in turn add or pass-down as fees or cost of borrowing to the biogas project developers)
- Interest from deposits

## Costs

- Overhead and Admin costs of SIDBI to run the facility: Net of costs covered through the Technical Assistance from grant funding
- Guarantee fees to IBRD: these are standard fees as per IBRD policies
- Guarantee fees to Government of India (as per current regulations)
- NGI fees to GEF
- Payment of sub-guarantee calls under the facility

The sub-guarantee fees charged to the PFIs and ultimately passed down to the borrowers has to be affordable to the Biogas developers so the benefits in terms of interest rate reduction and collateral savings have to be greater than the fee. Market soundings indicate that the maximum recurring sub-guarantee fee would be 150bps, while the maximum upfront fee would be 100bps. The fee has also been optimized to cover any payments of losses and ensure some reflows back to the GEF NGI.

## Payment of Losses or Non-Performing Assets (NPAs)

As per Reserve Bank of India (RBI) regulations, loans become NPAs after 90 days of continuous non-payment as per the loan agreement. Given the nascency of the biogas sector, there is no sector specific date on losses, defaults, or credit quality. As a result, the team used NPA data following credit ratings of MSMEs from CRISIL to estimate a base case level of losses. The ratings and corresponding cumulative loss levels are as follows:

## Default Rate Assumptions

Rating Category	AAA	AA	A	BBB	BB	B	C
CRISIL Default Rates	0.00%	0.03%	0.13%	0.69%	3.43%	8.43%	21.77%

The project eligibility criteria will require the credit rating of borrowers to be at a level BB or above. From discussions with commercial banks, they are unlikely to lend to borrowers under distress (falling in the B or C category).

The base case model assumes that the maximum expected losses would be 7.00%, which includes a large buffer from the BB default rate built in due to potential sector risks that may arise, particularly in the first 3 years of the facility. The most optimal scenario is a situation with no calls on the guarantee. The Partial Risk Sharing Facility for energy efficiency, designed in a similar manner also run by SIDBI since 2012, has had over 40 sub-guarantees issued and zero defaults.

In the event of an NPA, and a sub-guarantee being called, the first pool of funds utilized would be the cash balance available through the risk sharing facility (RSF) itself. If there are insufficient funds in the cash balance of the RSF to meet the NPA calls, SIDBI would then draw on the GEF NGI contingent liability funds (US\$ 13.76 million) as a second payout source of funds. If the combination of the cash balance, and the balance of the GEF NGI becomes insufficient to payout the PFIs due to NPAs of Biogas project developers, then, SIDBI would call on the IBRD Guarantee as the third and last resort. In this structure, the GEF NGI would not be a cash injection into the facility like a typical grant, but rather act as contingent support. However, a call on the GEF NGI funds is mitigated by the cash reserves SIDBI will have built up from sub-guarantee fees and interest from deposits. Hence when it comes to the payment of losses, the cashflow waterfall would include 1) payment from the RSF cash reserves; followed by 2) the GEF NGI funds; and finally 3) IBRD Guarantee. The sub-guarantees are provided on the back of the IBRD Guarantee. Given the nascency of the sector there is a risk that some early-stage projects could have calls as the policy measures on de-risking the value chain are implemented. As the IBRD Guarantee is not reinstatable as per World Bank policy, early stage calls on the RSF Guarantee that have to do with temporary issues such as lagging policy implementation, feedstock disruptions etc., that result in a call on the IBRD Guarantee, would reduce the overall corpus of guarantees SIDBI can issue and thus negatively impact the private capital mobilized (PCM). The GEF NGI instrument is an important tool to ensure these temporary issues do not impact the broader target for PCM. Thus, the additionality from the GEF NGI is critical to the success and sustainability of this critical project with significant potential for delivering multiple Global Environmental Benefits (GEBs).

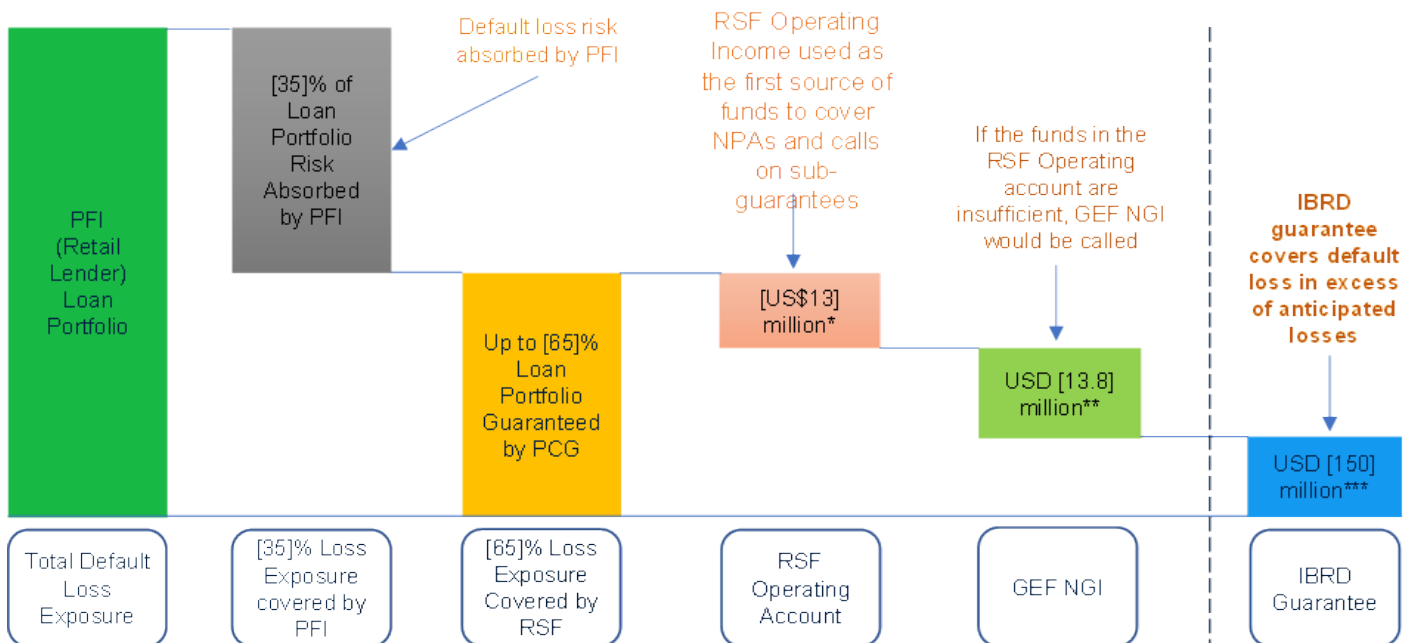
#### *Risk Management and Portfolio Governance:*

One of the key risk management elements of the project is to issue the IBRD Guarantee of US\$150 million in three allotments. Each allotment will be US\$50 million with the first one released once all the conditions to effectiveness of the guarantee have been met. The subsequent allotments are expected to be released as the project pipeline develops and expected to be at 18 to 24-month intervals. Each US\$50 million will have some preconditions to effectiveness including but not limited to: (i) proof of project pipeline; (ii) loss levels below a predetermined level below the base case assumption of 7.0%; (iii) management of environmental and social safeguards; (iv) projects meeting other monitoring and evaluation requirements. The breaking up of the IBRD Guarantee effectiveness allows for the RSF to have distinct check points during which the project progress and risks can be assessed. If the losses are deemed too high, this structure allows for a braking mechanism to be employed prior to more losses materializing, which pauses the issuance of new guarantees until sector issues and other factors resulting in higher-than-expected losses are addressed. This also limits the risk of depleting the GEF NGI, while ensuring the long-term sustainability of the RSF.

Even once the full guarantee amount is effective, the World Bank team would continue to get regular monitoring reports of the facility, and will closely monitor the facility revenue stream, the number of NPAs

the projects are facing, and ultimately the ending cash balance of the facility. As a part of their responsibility as implementing entity, SIDBI will have to ensure performance of the sub-guarantee portfolio. If the NPAs are too high SIDBI can either cease to issue new guarantees (thereby limit the exposure of both GEF and the World Bank) and/or deploy more stringent project credit ratings and risk management practices. While the objective of the RSF is to mitigate credit risk so more private capital can flow to Biogas projects, the operations manual will also include measures to pause and flag and systemic or sectoral issues that need to be addressed that would result in excessive losses.

### Illustration of Waterfall Approach in RSF Sub-Guarantee Claims Processing



The GEF-8 NGI funds (US\$13.76 million) will form a critical element of the structure to ensure long term sustainability of the facility as it provides SIDBI an additional layer of defense prior to the IBRD Guarantee being called. The project has an eight-year availability period in which new guarantees can be issued for new projects.

**The proposed GEF NGI funding will have an impactful additionality into the project. Without this GEF-8 NGI contingent liability support, the annual sub-guarantee fee to be charged to the PFIs would have to increase to [2.70]% from [1.50]% which will substantially increase the burden on the PFIs and in turn the Biogas plant developers, and ultimately affect the achievement of the project development objectives.**

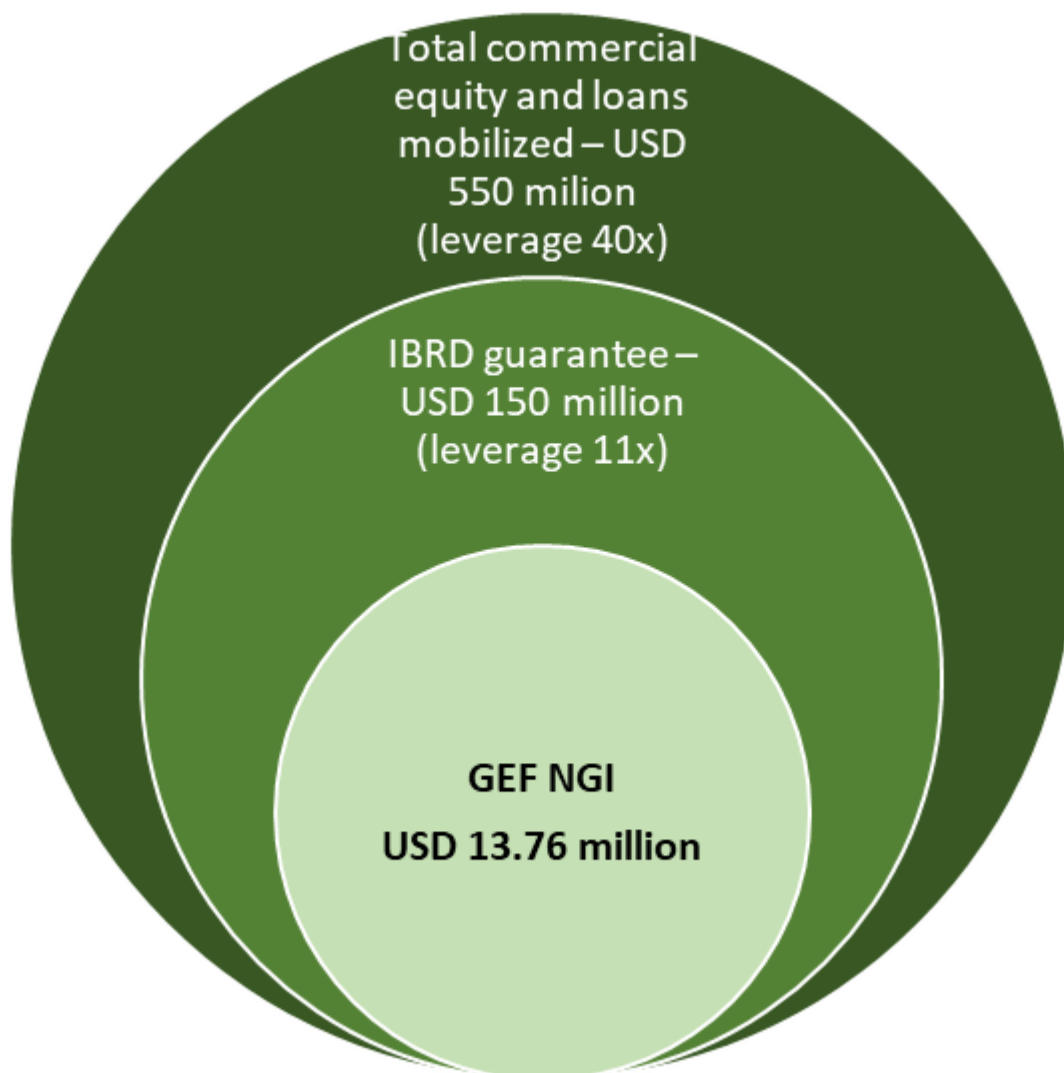
As indicated above, the Risk Sharing Facility (RSF) is designed to be self-sustaining, meaning that the sub-guarantee fee charged to PFIs, alongside other revenues to the Project (e.g. income from money market instruments on cash balance), are deemed sufficient to cover all losses. To evaluate the adequate level of the GEF-8 NGI fee, the World Bank team considered its additionality towards the affordability and competitiveness of the RSF and seek only the required minimum level of concessionality to enhance the effectiveness of the RSF. **As a result, this proposal submission relies on a GEF-8 NGI contingent liability support priced at 10 bps recurring annual fee and no upfront charge fee.** The rationale of this pricing follows the following elements:

- **No upfront charge:** During the early years of the project, the sub-guarantees are expected to be deployed gradually over a period of 8 years (ramp-up period) which will impact the project's income generation capacity, and any upfront fee would negatively affect the RSF financials. Therefore, to help the Project scale-up in the initial years, the GEF-8 NGI (guarantee) will come with no upfront cost.
- **Annual recurring fee of 10 bps:** An affordable GEF-8 NGI is significantly important for lowering the RSF cost to the PFIs as they are deemed to pass the sub-guarantee fee through their loan pricing. Having a lower RSF cost implies that borrowers (the Biogas plant developers) will face lower sub-guarantee fees and a lower all-in cost of financing for the development of Biogas plants. Current Government of India and World Bank Policies have limited scope to reduce fees as each institution is charged a recurring fee of 60bps. If the GEF NGI fee were to even increase to 50 bps, the sub-guarantee fee paid by the borrowers would have to increase to 155 bps in order to ensure the same principals and structure holds. Market feedback has provided clear feedback that this is too high of a cost for participants to bear. Therefore, the high concessionality of the GEF is an important tool in making the facility sustainable.
- **Reflows:** in the base case, the RSF will reflow US\$2.3 million back to GEF at the end of the 15 year project period. However, as indicated above, the base case calculations include a conservative default rate of 7.00% which is more than double the default rate of current BB rated borrowers. The risk management and portfolio governance measures indicated above, will help reduce the losses and allow for maximum reflows back to GEF for the amounts of the GEF NGI utilized.

The GEF NGI is proposed with the following features:

- **Type of instrument and seniority:** Guarantee serving as contingent financing
- **Amount:** USD 13.76 million (excluding agency fees – total is USD 15 million)
- **Reimbursement agreement:** In case of a call on the GEF NGI, the Program Manager reimburses (at the end of the Project's life, i.e. 15 years) any utilized GEF NGI's cumulative amounts called up to the maximum cash balance amount available after servicing any outstanding IBRD called amount, and other operating expenditures for the closure of the RSF.
- **Maturity:** fifteen years (duration of the RSF)
- **Fees:** 10 bps recurring annual fee; no additional upfront charge

The GEF NGI will be part of the total financing provided to the Project. With the USD 150 million secured from WB, the leverage ratio for the GEF guarantee (USD 13.76 million) to WB financing for the RSF alone is 1:11 (and 1:18 for the entire MPA). As previously mentioned, the Project will unlock commercial loans worth approximately USD 550 million, resulting in a leverage ratio for the GEF NGI to total commercial financing of 1:40. The below figure depicts the leveraging of the GEF NG.



**The RSF will be established by the Small Industries Development Bank of India (**

**A. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES**

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The project supports the GEF-8 CCM Programming Directions objective 1.1, efficient use of raw materials and circular economy by supporting technologies that better utilize biomass waste resources, lower fugitive methane emissions and generate lower-carbon products, namely fermented organic manure (FOM)) and renewable biogas as a substitute for fossil fuels in transport and industrial applications. The project investments strictly prioritize generation of bioenergy produced by anaerobic decomposition of organic waste including agricultural waste, municipal waste, and industrial waste streams such as sugarcane press mud.



The project is closely aligned with the Government of India (GoI) priorities and commitments to multilateral environmental agreements, including the United Nations Framework Convention on Climate Change (UNFCCC) and United Nations Convention to Combat Desertification (UNCCD). With a goal to adopt a climate-friendly and cleaner path for economic development, at UNFCCC COP26, India announced plans to mitigate climate change by achieving net-zero carbon emissions by 2070. According to the updated Nationally Determined Contribution (NDC), India is now committed to reducing the emissions intensity of its GDP by 45 percent by 2030, compared to 2005, and to achieving approximately 50 percent of cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030. In addition, India's Land Degradation Neutrality (LDN) target is to achieve a state of no net land degradation and restoration of 26 million hectares of degraded land by 2030.

Demonstrated by several initiatives under National Biofuels Policy, a program specific to industrial scale biogas projects i.e., Sustainable Alternative Towards Affordable Transportation (“SATAT”) has been developed to support development of 5000 biogas plants which is also supported by blending targets (5%) of bio-methane in gas grid replacing fossil fuel usage. In addition, the entire scheme is focused on utilizing waste to produce energy and therefore it helps urban waste management, reduce crop burning and manure management which are contributors towards fugitive GHG emissions.

## B. POLICY REQUIREMENTS

### Gender Equality and Women’s Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

### Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

### Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: No

Civil Society Organizations: Yes

Private Sector: Yes

### Provide a brief summary and list of names and dates of consultations

#### Summary and list of names and dates of consultations:

Historically, there are multiple small scale biogas plants in India, and India has overseen the deployment of more than 5 million household biogas units for clean cooking. However, with increased dependency on LNG imports and price volatility, the GoI is focusing on development of large-scale compressed biogas plants which can contribute to the mainstream sectors such as transport, commercial and industrial users. To finance such large-scale biogas plants which is still a nascent sector in India, commercial banks attribute significant risk in lending, resulting in lack of affordable financing. Some of the risks include the disaggregated feedstock source and establishment of corresponding value chain along with offtake of biogas and organic manure. Under the multi-phase approach in this project, the World Bank will work on various sectoral interventions needed to support this sector. It is understood that several projects have been able to mitigate the above risks, still those are unable to move forward due to high collateral issues being asked by commercial banks. **The program instruments are aimed to increase the flow and terms of commercial financing available for the sector.**

Since a biogas project involves a value chain which covers gas distribution companies, farm and rural economy (aggregation of agriculture & animal waste), municipalities and other such institutions, a study was conducted to understand the viewpoints of various stakeholders involved. The stakeholders covered include **project developers (60+), offtakers, technology and engineering companies, feedstock aggregators, village level entrepreneurs, policy makers, academic & social institutions, and financing institutions.** The key objectives were to understand stakeholder consultations to understand the challenges towards developing an ecosystem and understand the financial instrument which can be implemented to support the sector. Such stakeholder's consultation was from different geographies as the market conditions and value chain involved can be varied.

The stakeholder consultation conducted under the project were primarily one-to-one consultation along with some trainings and workshops organized for a similar group of stakeholders, as interventions required for each stakeholder category can be different to enable the ecosystem. Under the stakeholder consultations the following were consulted:

Stakeholders	Associated value chain	Stakeholders consulted	Stakeholder categorization as per GEF guidelines
CBG project developers	CBG plant development	60	Private Sector
Commercial Banks	Financing institutions	12	Private and Public Sector
Biomass aggregating companies	Upstream feedstock supply	2	Private Sector
Village level entrepreneurs, farmers	Upstream feedstock supply	24	Indigenous Peoples and Local Communities
Custom Hiring Centers	Upstream feedstock supply	10	Civil Society Organizations
Technology and Engineering companies	CBG plant development	10	Private and Public Sector
Equipment suppliers	CBG plant development	15	Private Sector
State Nodal Agencies	Policy makers	8	Civil Society Organizations

Oil and Gas marketing companies	Downstream offtake of gas	7	Private and Public Sector
Academic and Research	Academic and Research	20	Civil Society Organizations
Social Institutions	Social Institutions	5	Civil Society Organizations
<b>Total</b>		<b>173</b>	

The insights from various stakeholder discussions and workshops were instrumental in assessing the bottlenecks being faced by the project developers i.e., requirement for collateralization for projects by commercial banks. Identification of such bottlenecks led to understanding key solutions needed to unlock the market by providing better financing terms. Such discussions have led to an understanding that there will be a need of a multi-phase approach to address sectoral and policy issues and there could be a need for possible financial interventions in the domain of aggregation, organic manure offtake or developing renewable gas grid infrastructure.

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

## Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

## Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

## Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

## C. OTHER REQUIREMENTS

### Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

## ANNEX A: FINANCING TABLES

### GEF Financing Table

#### Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
World Bank	GET	India	Climate Change	NGI	Non-Grant	13,761,468.00	1,238,532.00	15,000,000.00
<b>Total GEF Resources (\$)</b>						<b>13,761,468.00</b>	<b>1,238,532.00</b>	<b>15,000,000.00</b>

### Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

false

PPG Amount (\$)

PPG Agency Fee (\$)

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
<b>Total PPG Amount</b>						<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Please provide justification

### Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
<b>Total GEF Resources</b>					<b>0.00</b>

### Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCM-1-4	GET	13,761,468.00	705000000

<b>Total Project Cost</b>		<b>13,761,468.00</b>	<b>705,000,000.00</b>
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## Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	World Bank	Guarantee	Investment mobilized	150000000
GEF Agency	World Bank	Grant	Investment mobilized	5000000
Private Sector	Project developers	Equity	Investment mobilized	165000000
Private Sector	Commercial banks	Loans	Investment mobilized	385000000
<b>Total Co-financing</b>				<b>705,000,000.00</b>

Describe how any "Investment Mobilized" was identified

Investment mobilized includes a US\$150 million IBRD Guarantee, a \$5 million grant from the World Bank Energy Sector Management Assistance Program (ESMAP), projected \$165,000,000 equity contribution from biogas project developers and projected \$385,000,000 in medium-to-long term debt provided by commercial banks participating in the project. The estimation of private capital mobilized is based on 65% guarantee, and a debt-to-equity ratio of 2.33x.

## ANNEX B: ENDORSEMENTS

### GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
Project Coordinator	Nuwan Suriyagoda	2/27/2023	Prajakta Ajit Chitre	+6565171252	pchitre@worldbank.org

### Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

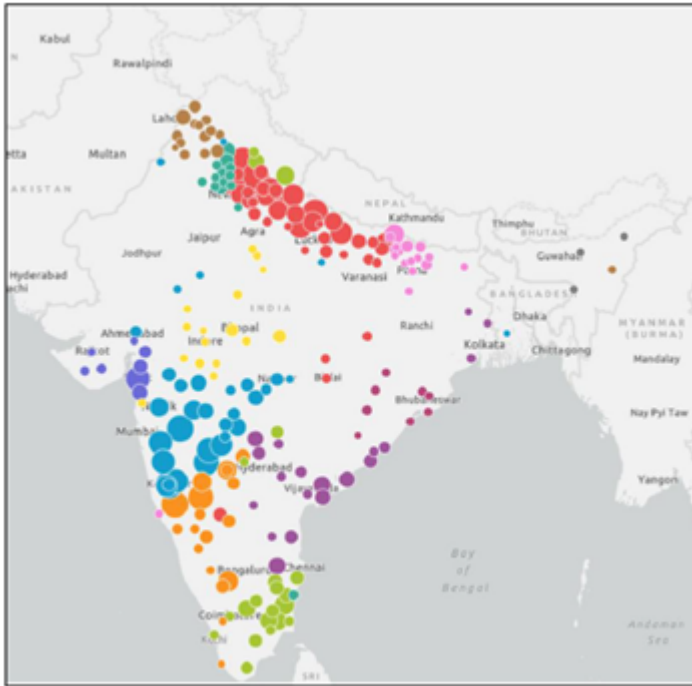
Name	Position	Ministry	Date (MM/DD/YYYY)
Neelesh Kumar Sah	Joint Secretary	Ministry of Environment, Forest and Climate Change	5/9/2023

**NGIs** do not require a Letter of Endorsement if beneficiaries are: i) exclusively private sector actors, or ii) public sector entities in more than one country. However, for NGI projects please confirm that the agency has informed the OFP of the project to be submitted for Council Approval

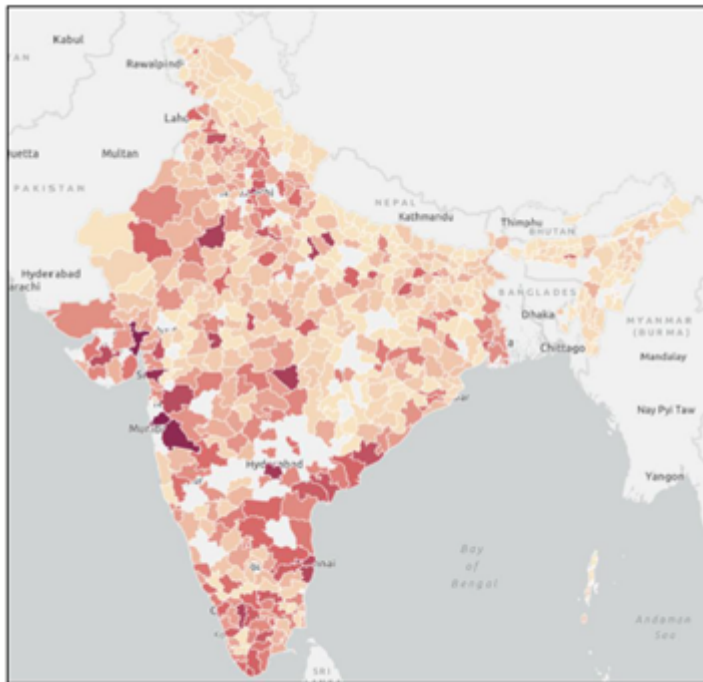
Yes

## ANNEX C: PROJECT LOCATION

Please provide geo-referenced information and map where the project interventions will take place



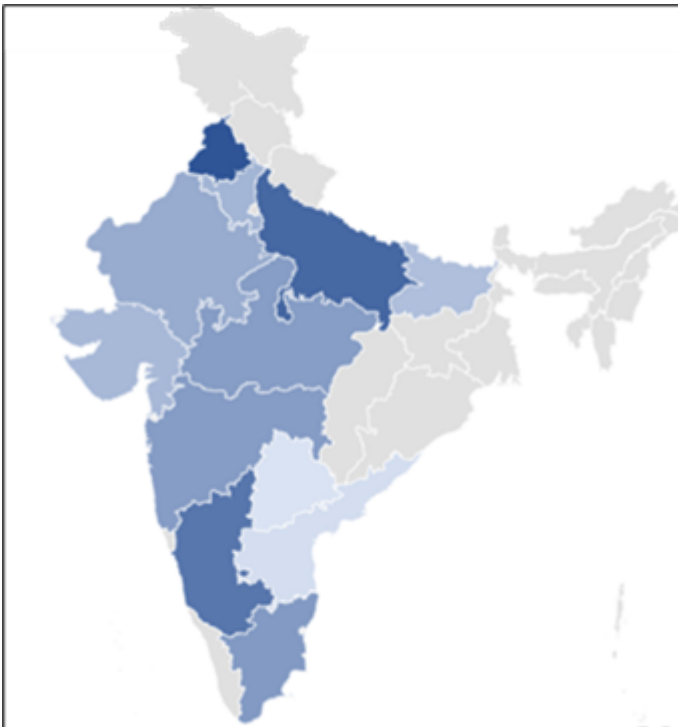
Mapping of biogas potential from **Press Mud**



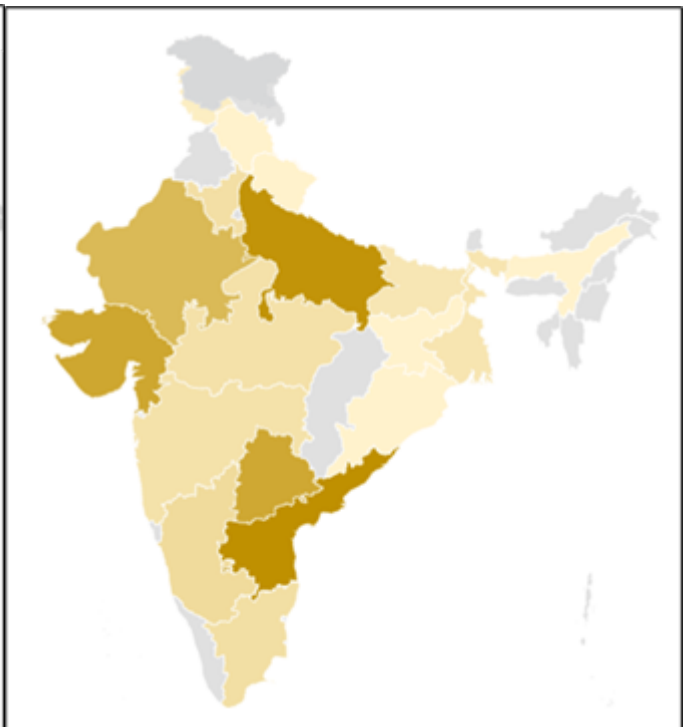
Mapping of biogas potential from **MSW**



Mapping of biogas potential from **Spent wash**



Mapping of biogas potential from agri-residue



Mapping of biogas potential from animal waste

**Note – Project location**

Considering the variety of feedstocks which can support production of biogas, for the risk sharing facility, the project location under consideration is pan-India.

However, if we consider geographical mapping of different feedstocks, some states in India like Uttar Pradesh, Punjab, Maharashtra and Karnataka can potentially see more projects as compared to other states. In addition state specific policies on compressed biogas also plays an important role.

So while the facility will be available for all kind of feedstocks and geographies, **some specific states may remain focus states aligned with interest from investors.**

#### ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

**(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.**

#### ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Principal Objective 2	No Contribution 0	Significant Objective 1	Significant Objective 1



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ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3
Influencing Models	Demonstrate innovative approaches	
	Transform policy and regulatory environments	Support towards developing policy and regulations towards grid connectivity, offtake of manure
	Strengthen institutional capacity/decision-making	Institutional capacity building to enable project appraisal supporting PFIs
Stakeholders	Private sector	Commercial Banks, Investors, Project Developers, Entrepreneurs, Individuals, SMEs, Gas offtakers
	Local communities	Village level entrepreneurs and farmers
	Civil society	NGOs, Academia, State Nodal Agencies, Custom Hiring Centers, Social Institutions
Capacity, Knowledge and Research	Learning	Case assessments of existing models implemented in India and global models on FOM utilization
	Enabling Activities	Pipeline development workshops, long term offtake contract development, organic manure offtake
	Knowledge Generation and Exchange	Workshops, trainings
	Capacity Development	Workshops and trainings with commercial banks, project developers, entrepreneurs
Gender Equality	Gender results areas	Women led biogas developers; women employed / trained in offices
Focal Area/Theme	Land degradation	Improving soil organic carbon with use of fermented organic manure
	Capacity, knowledge and research	Capacity building, trainings, dissemination of learnings and knowledge
	Climate change	Generation of clean, renewable, bioenergy
	Chemicals and wastes	Reduction of air pollutants, ground pollution, municipal waste management reduction of landfills and leachates

Level 1	Level 2	Level 3
Influencing Models	Demonstrate innovative approaches	
	Transform policy and regulatory environments	Support towards developing policy and regulations towards grid connectivity, offtake of manure
	Strengthen institutional capacity/decision-making	Institutional capacity building to enable project appraisal supporting PFIs
Stakeholders	Private sector	Commercial Banks, Investors, Project Developers, Entrepreneurs, Individuals, SMEs, Gas offtakers
	Local communities	Village level entrepreneurs and farmers
	Civil society	NGOs, Academia, State Nodal Agencies, Custom Hiring Centers, Social Institutions
Capacity, Knowledge and Research	Learning	Case assessments of existing models implemented in India and global models on FOM utilization
	Enabling Activities	Pipeline development workshops, long term offtake contract development, organic manure offtake
	Knowledge Generation and Exchange	Workshops, trainings
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	Climate change	Generation of clean, renewable, bioenergy
	Chemicals and wastes	Reduction of air pollutants, ground pollution, municipal waste management reduction of landfills and leachates

## ANNEX G: NGI RELEVANT ANNEXES

### Annex G.1: Template for Indicative Financial Termsheet

Instructions. This termsheet to be submitted with the PIF/PFD should include sufficient details to allow a financial expert to understand and judge the financial viability of the proposed investments. Indicative terms and conditions should be used when specific details are not yet available. An equivalent termsheet used for internal Agency purposes is acceptable but must include sections on Currency Risk, Co-financing Ratio and Financial Additionality.

Project/Program Number title	GUARANTEE MECHANISM FOR RENEWABLE BIOGAS IN INDIA

<b>Project/Program Number</b>	WB Project ID P179178 / GEF TBD
<b>Project/Program Objective</b>	The Project Development Objective is to increase the installed capacity of compressed biogas generation in India through the mobilization of sustainable and affordable commercial financing and strengthening the capacity of relevant institutions
<b>Country</b>	India
<b>Agency presenting the Project</b>	The World Bank
<b>Project Financing</b>	<p><b>The project consists of S\$150 million IBRD Guarantee and US\$13.76 million donor funds (to be secured) to mobilize private capital to scale up the generation of biogas.</b></p> <p>Through this proposal, the World Bank is seeking the GEF NGI to serve as contingent liability support to the Risk Sharing Facility.</p> <p>The RSF will offer partial credit guarantees to commercial banks and Non-Banking Financial Companies (NBFCs) (jointly called Participating Financial Institutions or PFIs), providing commercial loans to Biogas developers (or project sponsors). The credit guarantees will be structured to provide guarantee coverage of up to 65 percent on loans that are classified as non-performing assets (NPAs) as per Reserve Bank of India (RBI) regulations. These regulations imply consistent overdue payments of more than 90 days. Payments for losses on account of such commercial loan defaults will be made from pools of funds comprised of a) initially net income of the RSF b) subsequently, the GEF NGI contingent liability c) finally, the IBRD guarantee. PFIs would be required to enter into sub-guarantees with the Facility Manager (SIDBI) based on eligibility criteria well designed to minimize the risk of default.</p>
<b>Currency of the Financing</b>	The NGI instrument sought is a USD 13.76 million (excluding agency fee) contingent liability. If actionable, proceeds will be released by GEF in USD dollars and converted by the Program Manager into INR at ongoing rate to cover the losses registered.
<b>Currency risk</b>	<p>Payments made by GEF will be in US\$ only.</p> <p>In the event NPAs materialize that are above the cashflows of the RSF, the amount required to cover these NPAs will be converted from INR to US\$, at the exchange rate at the time to determine the amount to be drawn from the GEF NGI. At the end of the facility life, if there are sufficient funds in the RSF, the drawn amounts in US\$ will be due back to GEF in the form of reflows in US\$.</p> <p>The RSF pricing has been based on the base case model which assumes an exchange rate depreciation of 4.13% based on the 10-year historical average. GEF would only be exposed to currency risk if the exchange rate depreciates further.</p>

<p><b>Co-financing ratio</b></p>	<p>The project will benefit from USD 150 million of IBRD guarantee, \$5 million ESMAP technical assistance grant, and an expected \$550 million private capital mobilized (\$165 million equity from project developers and \$385 million medium-to-long term debt from commercial banks)<sup>[11]</sup>. Based on this, the GEF NGI co-financing ratio is 1:51 (IBRD and ESMAP plus private capital mobilized).</p>
<p><b>Financial additionality and minimum concessionality of GEF resources</b></p>	<p>GEF NGI is an integral part of the Program serving to the affordability and the competitiveness of the Program.</p> <ul style="list-style-type: none"> <li>• The GEF NGI contingent liability support is critical to ensuring the long-term sustainability and affordability of the RSF. While the model accounts for a certain level of losses in the facility, the GEF NGI will provide an additional buffer that would ensure SIDBI can keep issuing guarantees on the back of the full corpus of the World Bank Guarantee of USD 150 million. This is important given the nascency of the biogas industry.</li> <li>• IBRD guarantee annual fee is of 60bps. The GEF NGI is priced at [10] bps to bring down the blended cost of the sub-guarantees to the ultimate borrowers and projects.</li> <li>• As these fees are passed by the Program Manager to the beneficiaries of the RSF (the PFIs), lowering the guarantee fee lowers the annual Partial Credit Guarantee fee to be charged by the Program Manager to the PFIs, and ultimately the project developers, which renders the project more affordable and attractive</li> <li>• The proposed pricing of the GEF NGI has been selected to ensure the affordability of the program. The pricing is aligned with that of other similar instruments structured previously from other donors such as CTF and GCF.</li> </ul>
<p><b>Use of proceeds</b></p>	<p>Compressed biogas (CBG/biogas) provides an alternate renewable fuel that reduces natural gas import dependency. It drives resource efficiency, while simultaneously reducing air pollution as it replaces fossil fuels, mitigates GHG emissions including methane and creates new economic value chains. Foremost, it contributes to curbing air pollution by creating an alternate monetary stream for the waste that otherwise is burnt in open fields or sent to landfills. Biogas offers a sustainable, renewable energy alternative; displacing fossil fuel particularly natural gas consumption in key sectors such as transportation and industry.</p>

	<p>However, financial institutions have a high risk-perception of the sector, which is reflected in a combination of higher interest rates and collateral requirements. Therefore, commercial loans remain unaffordable for many borrowers that would otherwise contribute to scaling up of the sector.</p> <p>The RSF supports the acceleration of biogas capacity installation through the mobilization of private capital. Through the mobilization of financing for up to 100 Biogas plants, the project also caters to four key interventions that generate significant global environmental benefits. (i) mobility and industrial sector decarbonization; (ii) restoration of degraded agriculture land; (iii) industrial and urban waste management to both reduce greenhouse gas emissions and air quality concerns; and (iv) agri-residue management which will address air quality concerns, particularly in the northern belt of India.</p>
<p><b>Financing instruments requested from GEF TF (other than grants)</b></p>	<p>The World Bank team is requesting GEF NGI funding to reinforce the Risk Sharing Facility Structure.</p> <p>The USD 13.76 million GEF NGI will serve as contingent liability callable (in USD terms) to cover any Project deficit registered by the Program over the course of the 15 years.</p> <p>Features of the GEF NGI sought by the WB:</p> <ul style="list-style-type: none"> <li>a) Type of instrument and seniority: contingent liability to be drawn in the event of NPA payments exceeding the amounts in the RSF operating accounts.</li> <li>b) Amount: USD 13.76 million (plus agency fees to GEF – total is USD 15 million)</li> <li>c) Instrument: contingent liability support</li> <li>d) Reimbursement agreement: In the event of a drawdown on the GEF NGI during the life of the facility, the structure assumes that any cash available in the facility at the end of year 15 will be reflowed back to GEF up to the amounts drawn. The reflows in the base case at US\$2.3m which is based on a highly conservative default rate of 7% which is more than double the default rate of BB rated borrowers (this is the floor rating of borrowers and projects eligible to avail of the RSF).</li> <li>e) Maturity: 15 years (duration of the Program)</li> <li>f) Contingent liability premium: [10] bps</li> </ul>
<p><b>Financing requested from the GETF in the</b></p>	<p>Not Applicable.</p>

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<b>form of Grant for Technical Assistance</b>	
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[1] This estimation is based on 65% guarantee, and a debt-to-equity ratio of 2.33x.

## Annex G.2: Reflows table

Instructions. Any financial returns, gains, interest or other earnings and remaining principal will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. and the GEF Non-Grant Instrument Policy.

Item Data	
GEF Project Number	TBD
Estimated Agency Board approval date	11-July-2023
Investment type description	<p><b>The project relies on US\$150 million IBRD Guarantee and a US\$13.76 million donor support (for which the GEF NGI is requested) to mobilize private capital to scale up the generation of biogas.</b> The RSF will offer partial credit guarantees to commercial banks and Non-Banking Financial Companies (NBFCs) (jointly called Participating Financial Institutions or PFIs), providing commercial loans to Biogas developers (or project sponsors). The credit guarantees will be structured to provide guarantee coverage of up to 65 percent on loans that are classified as non-performing assets (NPAs) as per Reserve Bank of India (RBI) regulations.</p> <p>GEF NGI will act as contingent liability to support the Risk Sharing Facility structure.</p>
Expected date for start of investment	Second half of 2023
Amount of investment (USD GEF funds)	US\$13.76 million
Amount of Co-Financing	The project will benefit from a WB USD 150 million guarantee, a \$5 million ESMAP grant, and will lead to the development of [80-100] plants with a total capex of USD 550 million <sup>[12]</sup> financed entirely with private capital, bringing cumulative co-financing to \$705 million.
Estimated Return	<p>The GEF NGI is priced at [10] bps annual fee.</p> <p>In the event of any amounts drawn from the GEF NGI, these amounts will be due at the end of the facility life of 15 years.</p>



The GEF NGI sought is a contingent liability instrument of USD 13.76 million with the following features:

- Upfront cost: 0 bps
- Annual recurring fee: 10bps

The fee table is presented below:

Year of the program	Fees paid to GEF in USD thousands
Year 1	15.0
Year 2	15.0
Year 3	15.0
Year 4	15.0
Year 5	15.0
Year 6	15.0
Year 7	15.0
Year 8	15.0
Year 9	15.0
Year 10	15.0
Year 11	15.0
Year 12	15.0
Year 13	15.0
Year 14	15.0
Year 15	15.0
<b>Total</b>	<b>225.0</b>

Fees paid to GEF are of USD 15 thousand per year, amounting to cumulative USD 225 thousand at the end of the Project.

Maturity	The Program will be run over a period of 15 years.
Estimated reflow schedule	The reflows (NGI fees) will be paid semi-annually. This corresponds to 30 payments of USD 7,500 over the course of the Project.
Repayment method description	The Agency shall pay to GEF the US Dollar Amount of the aggregate Guarantee Fees within thirty (30) calendar days of the end of each semi-annual period.
Frequency of reflow payments	Semi -annual Fees payable by the Program

First fees repayment date	6 months after the beginning of the Program. Program is deemed to be launched on the second half of 2023. Exact date of first repayment will be defined upon fixing the date of the launch of the Program
First repayment amount	First repayment corresponds to first semi-annual fee payment of USD 7,500.
Final fees repayment date	At the end of the Project (i.e. 15 years)
Total principal amount to be paid-reflowed to the GEF Trust Fund	In the event of a drawdown on the GEF NGI during the life of the facility, the structure assumes that any cash available in the facility at the end of year 15 will be reflowed back to GEF up to the amounts drawn. The reflows in the base case at US\$2.3m which is based on a highly conservative default rate of 7% which is more than double the default rate of BB rated borrowers (this is the floor rating of borrowers and projects eligible to avail of the RSF).
Total interest/earnings amount to be paid-reflowed to the GEF Trust Fund	Total of GEF NGI Fees and reflows amounts, if any.

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[1] This estimation is based on 65% guarantee, and a debt-to-equity ratio of 2.33x.

### **Annex G.3: GEF Agency Eligibility to Administer Concessional Finance**

The GEF Agency submitting the PIF or PFD will demonstrate its capacity and eligibility to administer NGI resources as noted in the NGI Policy, summarized below:

### **Annex C: Partner Agency Eligibility to administer Concessional Finance – World Bank**

The GEF Agency submitting the PIF or PFD will demonstrate its capacity and eligibility to administer NGI resources as described below:

*1. A GEF Agency is eligible to administer projects using non-grant instruments if it can demonstrate the following:*

**a) Ability to monitor compliance with non-grant instrument repayment terms;**

The World Bank Group Financing and Accounting Trust Funds and Loan Operations department supports an appropriate fiduciary control framework for Bank lending and donor funds. It performs several key financial operation activities related to: loan origination, compliance, disbursements, accounting, and analytics for IBRD/IDA and Trust Funds. The department consists of WFA Client Services (WFACS) and WFA Corporate Services and Accounting Support (WFAAS).

WFACS provides client services and related loan operation support to internal and external clients. WFACS provides services related to loan origination and disbursement, advisory and clearance support for project preparation and implementation, project-level fiduciary and loan portfolio management, and regional and country level loan operations activities.

WFAAS supports both WBG Trust Funds and Loans portfolios with a range of services that cover: (i) providing advice on the design and implementation of new trust funds and related policies and procedures, and (ii) conducting activities associated with establishment and closure of loans or trust funds, including account creation and maintenance, accounting and reporting, and help desk functions.

**b) Capacity to track financial returns (semester billing and receiving) not only within its normal lending operations, but also for transactions across trust funds;**

As noted above, the World Bank Group supports an appropriate fiduciary control framework for Bank lending and donor funds. The World Bank Group maintains separate records and ledger accounts in respect of the GEF Funds.

**c) Experience and positive track record with the use of non-grant instruments.**

The World Bank Group has been operating for more than 75 years and is one of the world's largest sources of funding and knowledge for developing countries. It consists of five institutions with a common commitment to reducing poverty, increasing shared prosperity, and promoting sustainable growth and development. The **International Bank for Reconstruction and Development (IBRD)** lends to governments of middle-income and creditworthy low-income countries. The **International Development Association (IDA)** provides financing on highly concessional terms to governments of the poorest countries. The **International Finance Corporation (IFC)** provides loans, equity, and advisory services to stimulate private sector investment in developing countries. The **Multilateral Investment Guarantee Agency (MIGA)** provides political risk insurance and credit enhancement for cross-border private sector investors and lenders.

In FY 2022, the World Bank Group committed \$104.37 billion in financing to partner countries. The World Bank (IBRD and IDA) has been extending loans and other non-grant financing to countries since 1946. IBRD's net commitments in FY 2022 totaled \$33.07 billion, all of which were non-grant. IBRD's net loans outstanding totaled \$227.1 billion at the end of FY 2022.

The Bank Policy,