September 2015

Increasing MSME access to climate finance

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Dalberg

1 | Executive Summary

An adequate response to the growing threat of climate change in developing countries requires more action from the private sector and from micro, small and medium enterprises (MSMEs) in particular.

Current measures responding to climate change are insufficient, and climate finance flows are less than half of what is required to mitigate, and adapt to, the effects of climate change. As the private sector is the main energy user and greenhouse gas producer, and will undoubtedly also require greater climate resilience to protect its business interests, it must take a greater role in climate action. MSMEs account for 90% of private businesses in developing countries and, therefore, even small changes to their operations have significant potential for impact.

This report provides an overview of potential design options for the Green Climate Fund's (GCF) MSME program. The Green Climate Fund (GCF) has recognised the importance of engaging MSMEs and has approved the creation of a specific MSME Program within its Private Sector Facility to increase MSME involvement in climate action. The GCF's MSME Program is currently in the design phase, and it is likely that before the end of 2015 the GCF Board will discuss (and potentially approve) a pilot version of the program. The report looks at three main design elements of an MSME program - barriers and solutions, investment focus and delivery options. It aims to guide the discussions around the MSME strategy while proposing specific objectives for the pilot program.

MSMEs tend to have limited access to climate finance due to weak policies, limited knowledge and awareness, or financial and economic barriers. Weak policies and financial infrastructure, as well as political instability, can limit the attractiveness of investing in MSMEs. A lack of awareness or knowledge of existing opportunities can be to blame for low uptake. Finally, financial products can be poorly suited to MSME investments, possibly because funding is difficult for intermediaries and MSMEs to access, or there are high costs and high risks associated with MSME lending.

The GCF's MSME program could help to overcome these barriers by supporting interventions that address each of these barriers. The GCF MSME Program could support the development of policies that can encourage and enable the flow of climate finance to MSMEs at the individual or business level or at national and international levels. This could include the development of clear and stable climate change strategies, pro-MSME and pro-green investment policies, green incentives for MSMEs, and the reduction of counterproductive fossil-fuel subsidies. In addition, the MSME Program could focus on improving knowledge and awareness by providing technical assistance programs or through matchmaking platforms that link investors with investees. The program could also support the provision of tailored financial products that facilitate MSME lending, such as risk-sharing instruments, or financial products designed for specific growth stages of MSMEs, such as seed, venture, or working capital.

Given the large number of informal MSMEs, it will be important to provide solutions that support the informal sector. The majority of MSMEs in developing countries, almost 300 million, are in the informal sector. Providers will find it difficult to increase access to climate finance for informal MSMEs using traditional financial products, particularly those requiring property as collateral or extensive credit histories. The MSME Program could therefore look for ways to support solutions for informal businesses, such as the use of alternative credit worthiness assessments or collateral sources.

To deliver solutions most efficiently, the MSME Program should channel finance through intermediaries, and could specifically target investment aggregators as an entry point to the MSME market. The small ticket size and large volume of MSMEs mean the transaction costs associated with working directly with MSMEs are likely to be prohibitively high. It is therefore likely that the most cost-effective approach for the GCF MSME Program is to work through financial intermediaries. Several options exist as to which types of intermediaries: the MSME Program could work through multilateral development banks to provide standardised products to micro-enterprises at scale, or, through local financial intermediaries to deliver highly specialised financial products in response to specific issues, or, through specialist foundations or funds to support startup businesses in early-stage roll-out of new technologies or innovative models.

The MSME program should prioritise investments for MSMEs at a country level. There are more than 350 million MSMEs in developing countries. At a global level, analysis suggests that there would be significant need for greening finance in the trade, agriculture, and manufacturing sectors. In addition, it is likely that the wastewater, small hydro, and water technology sectors will see large MSME participation. However, these needs vary by country, so priority setting and decision-making would require country-based analysis on the issues within each sector.

The MSME Program should use its piloting period to test approaches to tackle the challenges mentioned above while maximising learning before scale-up. The overarching objective of the pilot phase should be to test and refine the MSME Program's approach in preparation for full-scale implementation. To achieve this, the pilot program should test new approaches to solving issues and maximise learning (via strong M&E processes) to ensure that efficiency gains can be found early on before the program scales up. This means that the MSME Pilot Program should identify investments that can maximise MSME reach while reaching informal MSMEs (such as roll-out of alternative credit worthiness testing). The pilot program would also be a good opportunity to undertake more detailed sector analyses at country level to uncover specific investment opportunities.

Contents

EVALUATING THE RESOURCE MOBILISATION STRATEGIES AND SUSTAINABILITY OF NATIONAL CLIMATE CHANGE FUNDS.

2 Introduction

An adequate response to the growing threat of climate change in developing countries requires more action from all stakeholders but, in particular, a greater role for the private sector.

2 | Introduction

2.1 Report rationale

An adequate response to the growing threat of climate change in developing countries requires more action from all stakeholders but, in particular, a greater role for the private sector.

Specifically, the involvement of micro, small and medium-sized enterprises (MSMEs) will be vital. MSMEs account for a large share of GDP and employment around the world, and are therefore vital to help mobilize the volume of investments and implement the scope of activities required to move developing countries to a low-emission, climate-resilient development pathway.

There is currently no clear strategy for increasing MSME involvement in climate change action. The global response has been focused on the development of publicly driven funds, such as the Adaptation Fund, rather than mobilization of the private sector. The gap between policy needs and investment and funding opportunities for MSMEs in developing countries remains an uncertain feature of the landscape[1].

The Climate and Development Knowledge Network (CDKN) commissioned this report in response to these uncertainties. The report aims to facilitate a structured dialogue between a wide range of stakeholders, particularly focusing on those involved in the design and scale-up of the Green Climate Fund (GCF), around how to increase MSME involvement in climate action. The GCF has recognised the importance of engaging MSMEs and has approved the creation of a specific MSME Program within its Private Sector Facility. Discussions around the role of MSMEs are in their early stages. Over the next six months the GCF Board, along with the GCF Secretariat and advisors from the Private Sector Advisory Group (PSAG), will continue to develop the MSME Program's strategy. This report provides input to these discussions and aims to initiate a wider discussion on how to increase MSME access to climate finance. Specifically, this report puts forward a range of options for instruments and solutions that the GCF MSME Program could support, and also suggests how these might be delivered and where they might have the most impact.

[1] At the Adaptation Fund NIE / RIE / MIE workshop, Stakeholders agreed that engagement of the private sector will be necessary to mobilize the volume and rate of investments needed to build climate-resilient development, but identified that there is no clear strategy for how this could be achieved.

The key question the report aims to answer is, ***"What are the options available for the design of the GCF's MSME investment program?"***

2.2 Methodology

This report on increasing MSME access to climate finance was drafted by Dalberg Global Development Advisors. The project team used a combination of quantitative and qualitative analysis to develop the findings in the report. The data and information for this report came from a wide variety of sources, including existing literature, analysis, and expert interviews (see annex for list of interviewees).

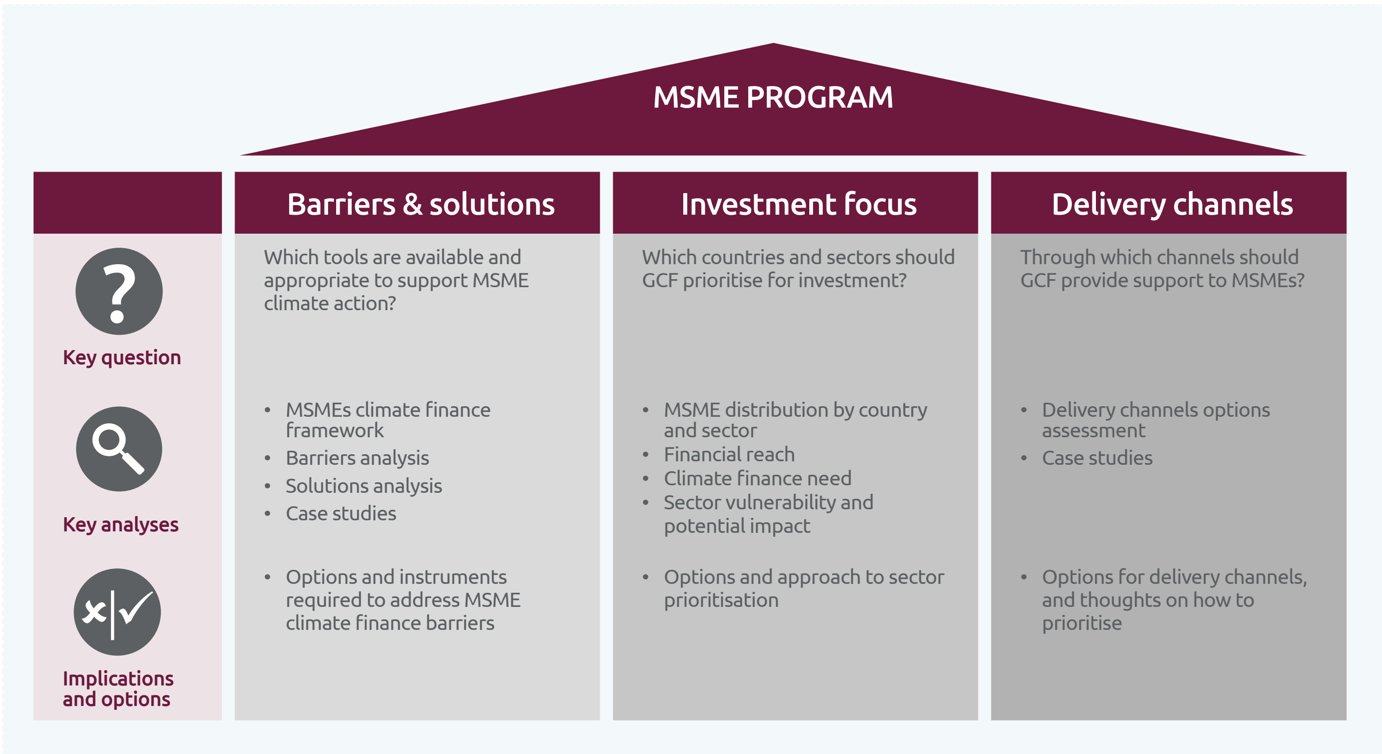
The report looks at the three main design pillars of an MSME program – barriers and solutions, investment focus, and delivery options – as outlined in Figure 1. Using this approach, the report aims to contribute to answering the key strategic questions around the design of the MSME program.

Barriers and solutions gives an overview of the challenges faced by MSMEs when accessing climate finance, and identifies possible solutions and examples of where these have been successfully implemented. A large amount of literature exists around how to address access-to-finance barriers for MSMEs, but there has been very little focus on specific climate finance for MSMEs.

Investment focus estimates the overall volume of support required for MSMEs, and presents an approach for prioritising support for MSMEs in specific sectors in developing countries.

Delivery channels provides an overview of the various options available for channeling funds to MSMEs. For each channel, the report gives a description of the advantages and disadvantages and case studies of where these delivery channel models are being used.

Figure 1: *Dalberg approach focuses on core elements of MSME Program design.*



3 Climate Finance Landscape

Private sector climate finance investment will need to grow significantly to reach the USD 1 trillion needed globally each year.

3 | Climate Finance Landscape

3.1 Climate finance flows

Climate change is likely to have an increasingly negative impact in developing countries in the future. It is expected to cause decreased agricultural yields, reduced freshwater availability and increased prevalence of storms.

This will result in the loss of lives and destruction of livelihoods and property, and will cause average GDP losses of around 8% in Least Developed Countries in 2030[2]. These effects will be most severe in developing countries, as they tend to occur in low latitudes where climate change damage is likely to be concentrated, and they have a larger share of their economies in sectors that are highly dependent on the climate.

The World Bank estimates that developing countries need USD 100 billion per year to adapt to the expected effects of climate change[3]. The UNFCCC estimates that developing countries require USD 400 billion per year to shift to green development paths[4].

Current climate finance flows to developing countries fall short of this requirement. In 2011 and 2012, only USD 182 billion in climate finance flowed into developing countries, representing a shortfall of USD 318 billion each year[5]. Despite the need for more climate finance, the annual total dropped to USD 165 billion in 2013, thereby increasing the shortfall to USD 335 billion[5]. The impact has been to restrict climate change mitigation and adaptation activities in developing countries, increasing their vulnerability to climate change effects.

3.2 Role of the private sector

The private sector is the largest energy user and greenhouse gas producer, and therefore will play a vital role in mitigation. The private sector will undoubtedly also require greater climate resilience to protect its business interests (including a wide range of factors beyond direct business assets, extending to resilience of employees and their families, consumers, infrastructure, supply chains, etc). Globally, the private sector spends USD 191 billion per year on climate mitigation and

[2] Climate Vulnerability Monitor 2nd Edition: A guide to the cold calculus of a hot planet, DARA and the Climate Vulnerable Forum.

[3] The Economics of Adaptation to Climate Change, The World Bank Group.

[4] Investment and Financial Flows to address Climate Change, UNFCC.

[5] The Global Landscape of Climate Finance 2013, 2014, Climate Policy Initiative.

adaptation, which represents more than half of all climate finance. Future private sector climate finance investment will need to grow significantly in the future if we are to reach the USD 1 trillion needed globally each year [6] (Figure 2). If the private sector share of climate finance remains constant, it would need to invest USD 580 million annually to keep the Earth on a 2°C emission path[5]. However, it is possible that even more will be needed from the private sector, as the public sector will likely be unable to provide the remainder of the USD 1 trillion.

MSMEs account for 90% of businesses in developing countries[7] and even small changes to behaviours, energy use, water consumptions, etc. have significant potential for impact. Greening MSMEs is essential to help move the private sector to a low carbon trajectory. Beyond this, some MSMEs provide essential climate technologies that have significant potential to drive mitigation and adaptation across economies. Due to their local networks in many developing countries, MSMEs are

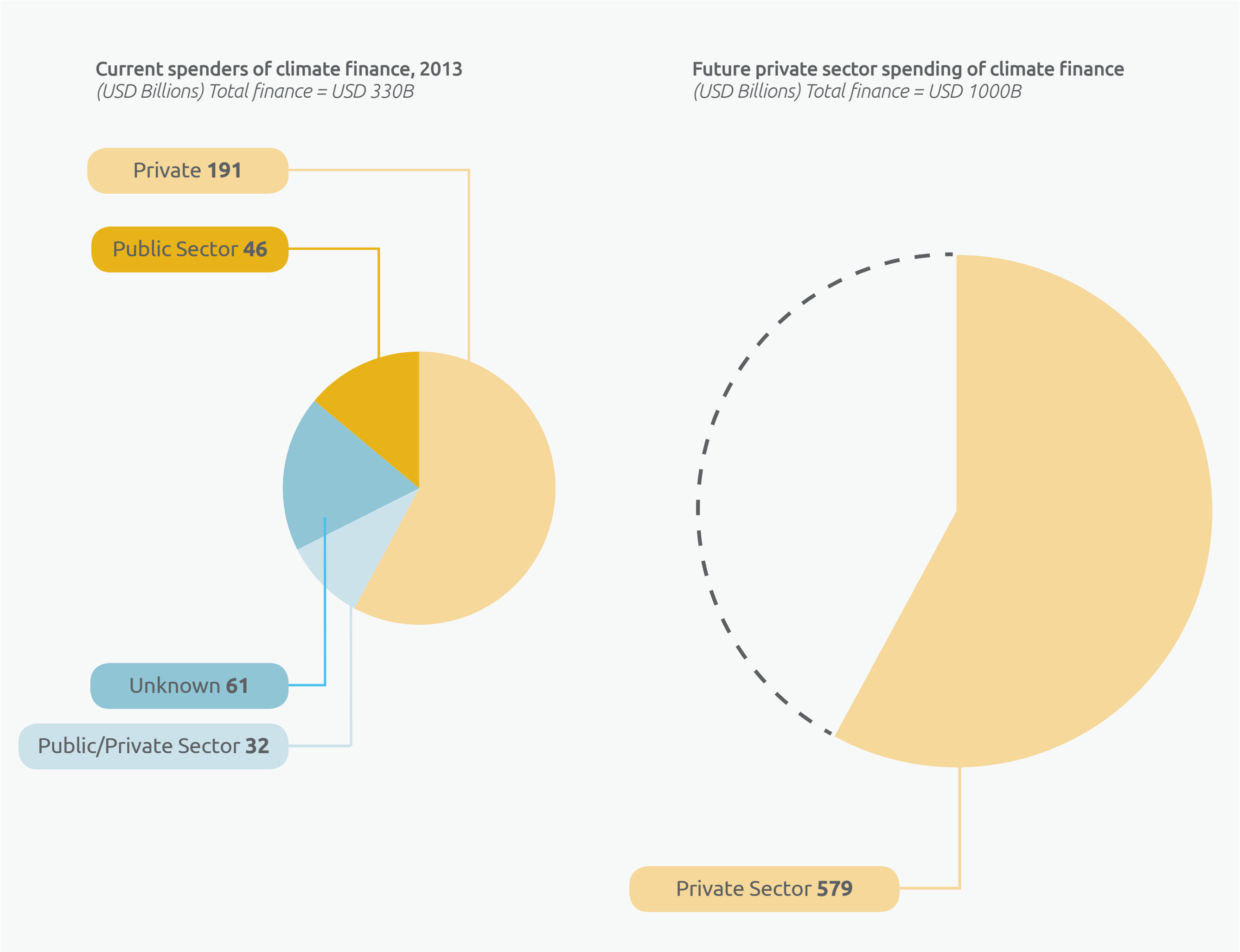


Figure 2: *Role of private sector in the spending of climate finance spending.*

[6] Energy Technology Perspectives 2014: Harnessing Electricity's Potential. International Energy Agency.

[7] The SME Banking Knowledge Guide, IFC.

uniquely positioned to deliver such technologies and services to the base of the pyramid and increase the resilience of the poorest populations.

Estimating the size and scope of the climate finance need for MSMEs is challenging. Existing analyses give estimates of the annual MSME credit gap at around USD 2.5 trillion[8] , and the annual climate finance gap at around USD 600 - 700 billion per year[9]. The climate finance gap for MSMEs is the intersection of these two estimates (Figure 3), but the amount required has not been estimated due to the absence of reliable and consistently monitored sources of data on earmarked financial flows to MSMEs. In the investment prioritisation section, this report pulls together existing data sources to make some high-level estimates of the need for MSME climate finance.

3.3 Role of the GCF

The GCF's objective is to "promote the paradigm shift toward low-emission and climate-resilient development pathways by providing support to developing countries to

[8]Two trillion and counting: Assessing the credit gap for micro, small and medium-size enterprises in the developing world, McKinsey & Company and IFC.

[9]The Global Landscape of Climate Finance 2014, Climate Policy Initiative.

Figure 3: *MSME climate finance gap.*

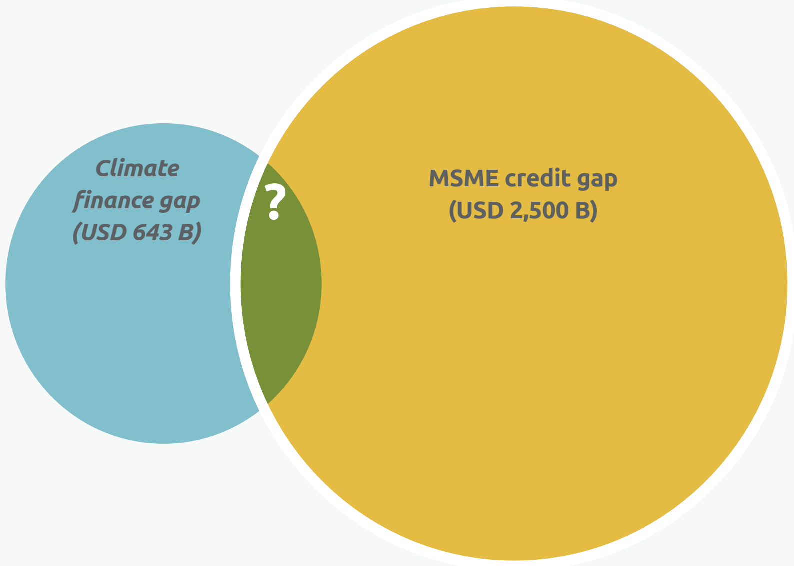


Table 1: *World Bank definitions of MSMEs (enterprise must meet at least two of three characteristics).*

Institutions use parameters including number of employees, annual sales and value of fixed assets to define MSMEs. This report defines MSMEs according to the World Bank definition, in which a business is classified as a MSME when it meets two of the three criteria outlined below.

Size	Employee number	Assets *(USD, M)*	Annual Sales *(US, M)*
Medium	<300	≤5	≤15
Small	<50	≤3	≤3
Micro	<10	≤0.01	≤0.01

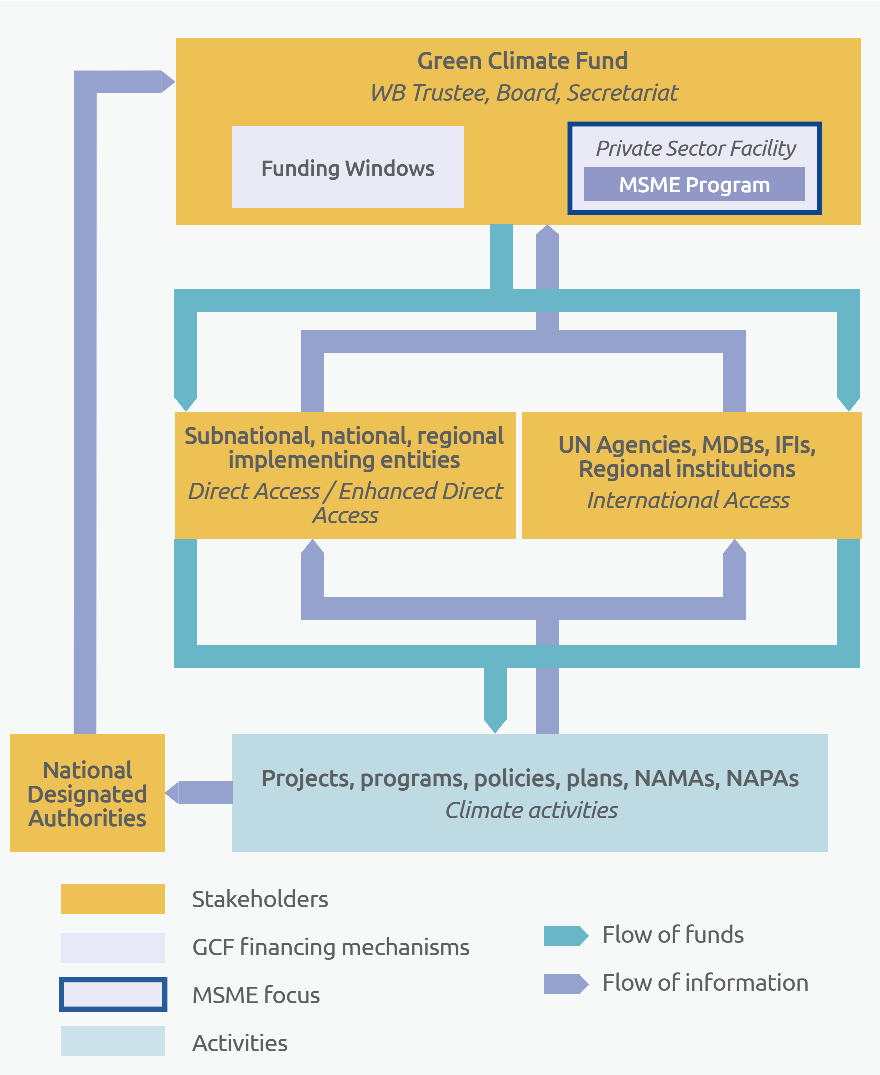


Figure 4: *The structure of the Green Climate Fund.*[13]

limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change"[10]. The fund will aim for a 50/50 balance between adaptation and mitigation activities, and will prioritise support for least developed countries (LDCs), small-island developing states (SIDS) and African states. The GCF also aims to make a significant allocation of funds to the private sector and to maximise private sector engagement.

To maximise private sector engagement, the Board established a PSF through which private sector-destined funds will flow. The PSF will enable the GCF to finance private sector mitigation and adaptation activities, and mobilize private sector capital.

One of the key aims of the Private Sector Facility (PSF) is to establish an MSME Program to promote the participation of local actors, including small- and medium-size enterprises and local financial intermediaries in climate mitigation and adaptation activities[11]. To achieve this, it was recommended that the Board establish a dedicated MSME Investment Strategy, allocate a portion of resources for MSMEs and create an MSME Program[12]. Through these activities, the GCF could significantly increase the amount of climate finance available for MSMEs and increase MSME involvement in climate change activities.

[10] Governing Instrument for the Green Climate Fund, Green Climate Fund.

[11] Governing Instrument for the Green Climate Fund, Green Climate Fund.

[12] Recommendations from the Private Sector Advisory Group: Private Sector Facility: Engaging Local Private Sector Actors, including Small-and Medium Size Enterprises, Green Climate Fund.

[13] Adapted from Business model framework of the Green Climate Fund, IDFC Concept Paper in association with UNDP.

4 Barriers and Solutions

The capacity for MSMEs to realise their potential role in climate action is restricted by a lack of access to climate finance.

4 | Barriers and Solutions

4.1 Overview

The capacity for MSMEs to realise their potential role in climate action is restricted by a lack of access to climate finance. This is due to three factors: weak enabling environments; limited knowledge and awareness of investment opportunities; inadequate financial products (Figure 5).

Figure 5: *Barriers and solutions to improving access to finance for MSMEs.*

	Description of the barrier	Solution set
Targeted financial products	The size and type of financial products does not meet the demand characteristics of MSMEs.	Scaling up and tailoring the supply of existing products to meet the demand, or designing new structures that can help to overcome barriers.
Reducing knowledge gaps and increasing awareness	At the consumer, MSME and financial intermediary levels, there is a lack of awareness and information which results in financing being unavailable to the sector.	Identifying marketing, communications and knowledge products which are required to build the credibility of the sector.
Improving the policy and enabling environment	Access to financial products is often limited or completely prevented by misaligned or poorly enforced policies.	Identifying policy priority directives, initiatives or areas which if addressed can unlock finance for the sector.

Each of these barriers exist within or between three main stakeholders groups: investors, intermediaries and MSMEs (Figure 6).

In the following section, the report maps out barriers and solutions across and between these stakeholders and provides case studies to illustrate how the challenge of MSME access to finance is being addressed in climate and non-climate sectors.

Figure 6: ***Key stakeholder interactions.***

Investors

Interaction:

- Investors provide intermediaries with financing (debt, equity, grants and risk products including guarantees and insurance), and information on financing opportunities and requirements
- Intermediaries provide investors with returns, and information on the performance of investments (financial and climate impact) and their financing needs

Intermediaries

Interaction:

- Intermediaries provide MSMEs with finance (loans, equity investments, grants, insurance), and information on financing opportunities and requirements
- MSMSEs provide intermediaries with returns or interest payments, and information on company activities and capacities, the performance of investments (financial and climate impact), and their financing needs
- Credit bureaus also provide information on MSMEs to intermediaries

MSMEs

Figure 7: *Barriers to improving access to climate finance for MSMEs.*

	Enabling environment	Knowledge and awareness	Financing
Investors	Weak financial architectures and political instability means investment in emerging markets is unattractive.	Poor communication channels between investors and intermediaries, which means investors are not aware of financing opportunities.	High risks associated with investing in intermediaries who on-lend to MSMEs make investments less attractive and more costly for investors.
Intermediaries	Weak financial infrastructure and limiting legal and regulatory frameworks limits intermediaries involvement in the MSME market.	Strict investor eligibility and reporting criteria make it difficult for intermediaries to access funds, and limited capacity in intermediaries means they cannot accurately assess MSMEs.	High transaction costs of MSME investments make investing in MSMEs unattractive and unprofitable.
MSMEs	Weak legal frameworks and prohibitive international trade laws in emerging markets limit MSME access to markets.	Poor communication between intermediaries and MSMEs means MSMEs do not know about financial opportunities, and limited technical capacity means it is difficult for MSMEs to meet application, eligibility and reporting criteria.	Insufficient collateral or credit history makes it difficult for MSMEs to access finance, and finance available is typically too short-term to be attractive for MSMEs.

Figure 8: *Solutions to improving access to climate finance for MSMEs.*

	Enabling environment	Knowledge and awareness	Financing
Investors	Strengthening financial infrastructure and climate policies and strategies will encourage green investments.	Creating match-making platforms will help to inform investors about green financing opportunities, and help to facilitate these investments.	Creating risk-mitigation mechanisms will improve the risk-return profile of green investments and unlock private investments.
Intermediaries	Adjusting legal and regulatory frameworks, and creating priority sector lending policies for MSMEs will encourage and push intermediaries into the market.	Creating match-making platforms will help to connect intermediaries with green capital, and technical assistance programs will improve their ability to on-lend finance to MSMEs.	Earmarking financing for green MSME investments will attract intermediaries to the market, and the creation of risk-mitigation mechanisms will reduce the cost of MSME transactions.
MSMEs	Facilitating and incentivising the use and production of high-quality climate technologies will encourage MSME involvement in climate action.	Creating match-making platforms will help to inform MSMEs of green financing opportunities, and technical assistance programs will improve their ability to take on financing.	Creating tailored MSME financing products will increase MSME demand for financing and improve their ability to access the finance.

4.2 Improving the policy and enabling environment

One of the major barriers limiting climate-related MSME investments is that the business environment and climate investment policies do not support or encourage climate-compatible investments in MSMEs (Table 2 overleaf). Weak policies, inadequate financial infrastructure and political instability can limit the attractiveness of MSME climate investments by increasing bureaucracy or reducing profitability.

Overcoming these challenges will require policies that address the challenges associated with financing MSMEs and the lack of regulations and incentives around providing green finance. Such policies range from administrative simplification and control of corruption, to tax and regulatory regimes to support MSME and green investments (Table 2 overleaf). These could be implemented by the government in close consultation with the private sector and civil society.

Weak climate policies reduce the attractiveness of climate-related investments. Many developing countries do not have a clear climate change strategy, making it difficult for investors to make long-term climate investments. Counterproductive fossil-fuel subsidies still exist in many countries, and in general taxes fail to adequately price pollution. Some subsidies for green technologies exist, but they tend to be limited in availability and accessibility and could further increase the competitiveness of green investments.

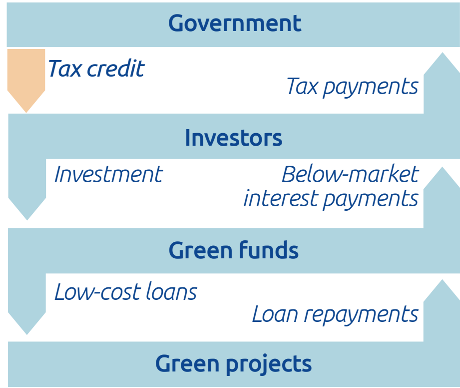
The development of national strategic plans for climate change could reduce investment uncertainty for investors. Well-defined national climate change polices should allow investors to identify government-backed green opportunities. Good policies should also identify ambitious renewable energy and adaptation targets, and identify investment opportunities to meet these targets.

Financial incentives to encourage green investment and discourage brown investments could help to make returns on climate investments more attractive relative to traditional investments. Tax credits and waivers could actively encourage green investment by offsetting the below-market return rates associated with some green investments, as is done in the Green Funds Scheme in the Netherlands. (Figure 9) Policies that discourage traditional brown

Figure 9: *Overview of the Green Funds Scheme implemented in the Netherlands.*[14]

Green Funds Scheme (GFS), Netherlands

The GFS is a tax credit scheme that encourages stakeholders to make green investments. The GFS allows investors to invest in specific funds that finance environmental projects. Investors receive a below-market interest rate on their investment, enabling the banks to offer cheaper loans to green projects. The lower interest rate is offset by a tax credit and a waiver on dividend and interest payments. As a result of the scheme, 250,000 investors have invested EUR 7 billion in green funds, funding 6,000 green projects.



Government legislation allows banks to provide low-cost loans to green projects by compensating owners of private capital with a tax credit.

Assessment		
	Key factors	Description
GCF criteria	Leverage	Achieved a 1:40 leverage ratio.
	Country-driven approach	Government-led initiative.
	Climate impact	6,000 projects have been funded resulting in an annual decrease of 0.5 Mt CO2 emissions.
Other	Scale	National-level initiative, with potential to be replicated in other countries.
	Sustainability	Self-sustaining.

Key successes and challenges

Key successes

- New stakeholders have been involved in the provision of green finance

Key challenges

- Knowledge of the scheme amongst potential investors is limited

[14] The Green Funds Scheme: A success story in the making, NL Agency, Ministry of Housing, Spatial Planning and the Environment (NL Agency, Ministry of Housing, Spatial Planning and the Environment).

Stakeholder	Barrier	Description	Solution and case study
Investors	Weak financial infrastructure	Financial systems in developing countries are less liquid than mature economies with a reliance on bank lending and underdeveloped stock markets. Investment exits are difficult to arrange, restricting the flow of funds into MSMEs in developed markets.	
Investors	Political instability	Political instability leads to raised investment risks, and fickle policies and regulations reduce long-term investor confidence.	
Investors	Weak climate policies	Weak climate policies in some developing countries fail to sufficiently price pollution, make green projects less competitive than polluting projects, introduce regulatory risk and increase uncertainty for private investors as governments may make sudden or retroactive changes to climate policies and support systems (e.g. reversal of clean energy subsidies).	**Develop national climate change policies** - Ethiopia's Climate Resilient-Green Economy.
Investors	Lack of long-term CC vision and targets	Countries sometimes do not have coherent country vision or targets for climate change, making it difficult for investors to identify green investment opportunities that align with national priorities.	**Incentivise green investments** - Green Funds Scheme, Netherlands.
Intermediaries	Weak financial infrastructure	International regulations around accounting, auditing standards, credit reporting systems, collateral and insolvency regimes are often created without considering MSMEs, which makes it difficult to lend to MSMEs.	**Adjust investment regulations** - SME Development Framework, Malaysia.
Intermediaries	Limiting legal and regulatory frameworks	Banking regulations limit the entry of intermediaries into the market limiting competition, reducing incentives for intermediaries to expand into underserved segments, such as MSMEs. Some regulations also impose interest rate ceilings, which prevent banks from covering MSME lending risks.	**Improve insolvency frameworks** - Insolvency reforms, Europe.
Intermediaries	Lack of financial policies that support green investments	Traditional sources of capital have increasing constraints on their ability to make long-term MSME investments due to impeding regulations around capital and risk requirements. Also, inadequate insolvency frameworks reduces intermediaries' willingness to provide credit to MSMEs in new and unproven business models.	**Develop pro-MSME or pro-green lending policies** - Priority Sector Lending, India; Framework Act on Low Carbon, Green Growth , Republic of Korea.
MSMEs	Limiting international trade laws	Unfavourable and inconsistent foreign and domestic rules and regulations limit MSME export potential, and their ability to compete on an international market. Typically, developing country MSMEs seeking to export to other countries will face significantly higher tariff rates.	**Promote free trade in green goods and services** - Asia-Pacific Economic Cooperation policy on green free trade.
MSMEs	Weak legal / enforcing frameworks	Lack of uniform standardisation and rating systems for products and services allows low quality products into the market, reducing the ability of quality MSMEs to compete and reducing consumer trust in the market.	**Create national standards for green goods and services** - IFC/World Bank's Lighting Africa initiative.
MSMEs	Counterproductive subsidies	Subsidies for fossil-fuel production and consumption still exist in many countries. Where available, subsidies for climate compatible development are often low and disbursement decisions and timelines are not transparent, reducing the incentive for MSMEs to enter the clean energy market, or consumers to switch to clean practices.	**End counterproductive subsidies and incentives** - Reform of fuel subsidies, Ghana.
MSMEs	Absence of market incentives	Absence of incentives such as advanced market commitments or power purchase agreements limits the incentives for MSMEs to get involved in the production of clean energy.	**Create green incentives for MSMEs** - GET FiT, Uganda.

Table 2: *Investment, trade and climate policy barriers that restrict the flow of finance across the MSME financing chain and possible solutions.*[15,16,]

[15] Scaling-Up SME Access to Financial Services in the Developing World, IFC.

[16] Expert interviews.

investments, such as a carbon tax, can help to redirect investment from brown to green technologies. Policies that ensure the price of carbon remains high and stable could also help to change behaviours and investment decisions in the long-term[17].

Weak financial infrastructures in some developing countries limit the pool of finance available to MSMEs, and regulatory frameworks often reduce the attractiveness of MSME investments. Interest rate ceilings, weak insolvency regimes and collateral requirements are poorly aligned with MSME needs and capacities, and restrict expansion of intermediaries into MSME markets.

Investment regulations and insolvency regimes could be improved to increase the viability of MSME investments. International and national investment regulations could be adjusted by reducing MSME capital and collateral requirements, simplifying accounting, auditing standards and credit reporting requirements for MSMEs, and removing interest rate ceilings. These adjustments could make it easier for intermediaries to on-lend finance to MSMEs. Additionally, by updating insolvency regimes to outline a clear method for liquidation in which creditors are repaid and debts are discharged, intermediaries could be encouraged to invest in new and unproven MSME green business models.

The enabling environment could also be improved through pro-sector lending policies – the development of regulations that require a fixed percentage of lending to go to a particular sector. Governments could establish policies that require intermediaries to lend a certain proportion of credit to green projects and MSMEs. If these policies are coupled with regulations that allow increased entry of intermediaries into the market to promote competition and reduce margins on traditional lines, intermediaries could start to offer attractive products for green MSME activities. Pro-lending policies have been implemented in India, and the credit supply to agriculture, export and MSME sectors has been increased by an average CAGR of 20% in the last decade (Figure 10)[18].

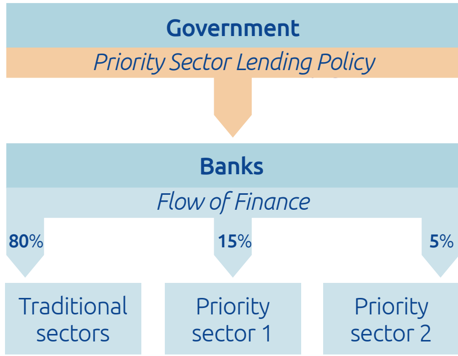
[17] The Green Funds Scheme: A success story in the making, NL Agency, Ministry of Housing, Spatial Planning and the Environment (NL Agency, Ministry of Housing, Spatial Planning and the Environment)

[18] Reprioritising Priority Sector Lending in India: Impact of priority sector lending on India's Commercial Banks, Nathan Associates Inc.

Figure 10: *Overview of the Priority Sector Lending policy implemented in India.*[18]

Priority Sector Lending policy, India

The Priority Sector Lending policy is a regulation requiring a fixed percentage of lending to be in underserved and target markets including the MSME sector. The objective of the policy is to increase the provision of finance to underserved markets, and increase the competitiveness of these markets. As a result of the policy, around 90 banks have lent INR 15 Trillion to priority sectors over 40 years.



The Priority Sector Lending policy means that banks must dedicate a certain proportion of their lending to underserved or target markets. (% are illustrative only).

Assessment

	Key factors	Description
GCF criteria	Leverage	USD 250 B has been lent to priority sectors by the private sector, without public sector funding.
	Country-driven approach	Government-led initiative.
	Climate impact	Does not specifically targeted toward climate changes.
Other	Scale	National-level initiative, with potential to be replicated in other countries.
	Sustainability	Self-sustaining, however there are concerns over its effect on the profitability of commercial banks.

Key successes and challenges

Key successes

- Credit supply for agriculture, exports and MSME sectors has been successfully increased by an average CAGR of 20% in the last decade

Key challenges

- The policy has high opportunity costs – bank lending choices are narrowed and loan repayments become dependent on a small set of specific sectors

To encourage MSME involvement with climate technologies, policies could promote the free trade of, and national standards for, climate technologies. Trade liberalisation of green technologies would remove prohibitive financial and nonfinancial import and export tariffs, which could facilitate MSME access to international markets. This could create a positive incentive for MSMEs to produce green technologies. Developing national standards for green technologies, as well as a rating and assessment procedure, could help to prevent poor-quality products from coming to market. This should allow MSMEs to produce high-quality, green technologies to compete effectively in the market and help to build trusting consumer markets.

A supportive enabling environment could also support MSMEs to undertake greening activities by providing green incentives and ending counterproductive subsidies. Developing national plans to phase out fossil-fuel subsidies or subsidies for brown technologies will remove market distortions toward fossil fuels and cause a shift by consumers and producers to green technologies and practices. MSMEs can also be incentivised to use and produce green technologies through feed-in tariffs. Developing a national feed-in tariff program that provides performance-based tariffs tailored for MSMEs would encourage MSMEs to shift to renewable energy sources and encourage MSMEs to enter into small-scale, clean energy production (Figure 11).

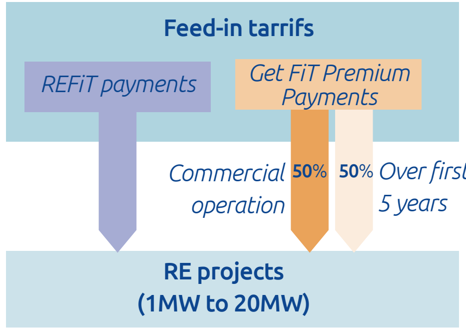
[19] GET FiT Uganda Annual Report 2014.

[20] Mobilizing Public and Private Funds for Inclusive Green Growth Investment in Developing Countries, IFC.

Figure 11: *Overview of the Get FiT Program in Uganda.*[19,20]

GET FiT, Uganda

The objective of GET FiT is to leverage private investment into renewable energy (RE) generation projects in Uganda. It aims to close the gap between the current RE feed in tariffs (REFiT) and the financial incentives needed by investors, through a results-based payment that tops up Uganda's REFiT and is front-loaded to the first 5 years of operation. The GET Fit portfolio has supported 17 projects to date, which produce 128 MW of renewable energy.



The GET FIT Premium Payment Mechanism provides additional cash flow to project owners in the early phase of debt repayment).

Assessment	Key factors	Description
GCF criteria	Leverage	Achieved a 1:5 leverage ratio.
	Country-driven approach	Joint development between the Government of Uganda, Uganda's Electricity Regulatory Authority and KfW.
	Climate impact	Anticipated emissions reductions of 11 Mt CO_2 over the 20-year lifespan of the program.
Other	Scale	Operational in Uganda, but plans to expand across East Africa.
	Sustainability	Fully funded by a single donor.

Key successes and challenges

Key successes

- The program has catalysed over USD 400 M of investments

Key challenges

- It has been difficult to integrate small renewables into the existing grid infrastructure, and legal and regulatory barriers (tax reforms and cross-border issues) have prevented projects reaching financial close

4.3 Reducing knowledge gaps and increasing awareness

Supply and demand for MSME climate finance can be restricted due to a lack of knowledge and awareness because either i) stakeholders are not aware of the opportunities or ii) they are aware, but do not fully understand or appreciate the opportunity.

The lack of awareness can be due to a wide variety of reasons that often relate to inadequate efforts to market available opportunities. A lack of knowledge and understanding of climate finance opportunities could be due to the inherently nascent nature of several climate technology markets. Specifically, investors might be reticent to invest in new technologies, or intermediaries and MSMEs might not have the skills necessary to fully assess all costs and benefits of a particular climate finance product (Figure 12).

Figure 12: *Access to climate finance barriers relating to a lack of knowledge and awareness.*

Barrier	Greening	Climate goods and services
Investors		
Lack of awareness of green opportunities	Investors do not know about the benefits of greening technologies, and intermediaries do not know about funds earmarked for energy efficiency investments.	Investors do not know about the potential financial returns and environmental benefits of climate goods and services, and intermediaries do not know about funds earmarked for climate compatible investments.
Lack of Capacity	Intermediaries lack experience in providing C02 emission reduction reports required by investments.	Intermediaries lack experience in providing C02 emission reduction reports required by investment.
Intermediaries		
Lack of awareness of green opportunities	MSMEs are not aware of the long-term impacts greening investments can have.	MSMEs do not know about specific products available for climate compatible activities.
Lack of Capacity	Intermediaries do not have the technical skills to assess the savings from energy efficiency investments, and MSMEs lack the capacity to provide CO2 emission reduction reports required by intermediaries.	MSMEs lack the capacity to provide CO2 emission reduction reports required by intermediaries.
MSMEs		

Matchmaking platforms and technical assistance programs are common ways of increasing knowledge and awareness. They can help to increase the flow of information between stakeholders to unlock capital and to increase the capacity of actors to give and receive finance. Access to a greater volume of more reliable information will help investors, intermediaries and MSMEs become more aware of, and confident in, MSME investment opportunities.

An effective green MSME matchmaking platform could have three main components – outreach, matchmaking and facilitation – as shown in figure 13. Through outreach, the platform could interact with stakeholders at all levels to provide information through online campaigns, workshops and conferences on green MSME investment opportunities. The REEP Investment Accelerator (Figure 14) is an example of a matchmaking program that has successfully connected MSMEs with investors.

Figure 13: *The structure of an MSME matchmaking platform.*

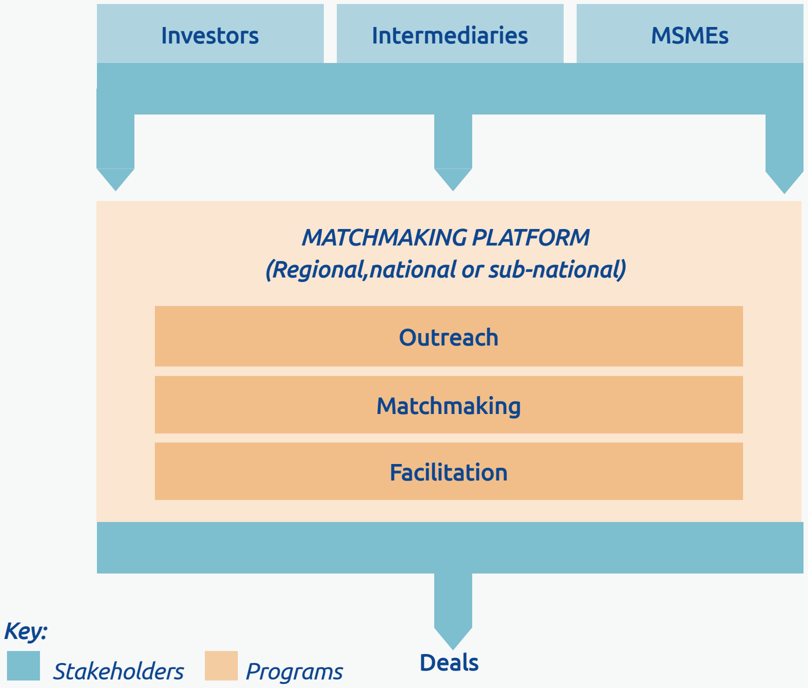
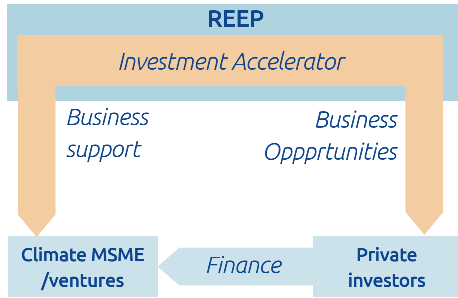


Figure 14: *Overview of the REEP Investment Accelerator.*[21]

REEP Investment Accelerator

REEP is an NGO that invests funds in MSMEs and ventures that have strong potential to generate clean energy market growth. The REEP investment accelerator aims to connect MSMEs with investors. MSMEs selected for the REEP portfolio are provided with business training and mentoring, and de-risking support to improve the viability of projects. MSMEs are then connected directly with private investors.



The REEP Investment Accelerator aims to connect early stage entrepreneurs and MSMEs with investors.

Assessment	Key factors	Description
GCF criteria	Leverage	n/a
	Country-driven approach	Works directly with local entrepreneurs, rather than through the government or national entities.
	Climate impact	Focuses exclusively on climate investments, and its portfolio has the potential for significant climate impact.
Other	Scale	Operates internationally, but is still in its early stages.
	Sustainability	Fully funded by several donors, and is a new initiative.

Key successes and challenges

Key successes

- REEP has brought in their first partner, CTI PFAN - a network of private investors active in the clean energy sector, and are running a "Phased financing facility"

Key challenges

- Vetting and selecting the best potential projects for support and presenting them to investors is challenging

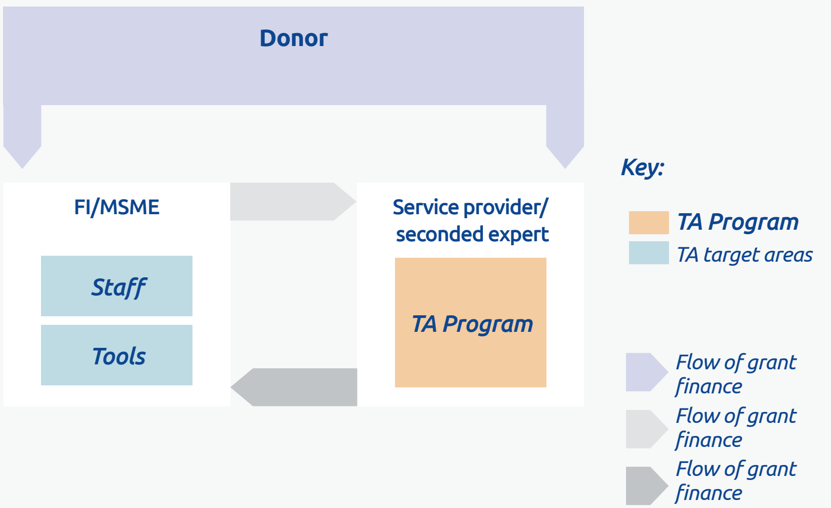
[21] REEP Annual Report 2013, 2014

Technical assistance (TA) programs aim to increase the capacity of stakeholders to access, process and relay accurate information, and build internal institutional capacities to meet financial and operational requirements. This could help intermediaries to offer specific green financial products and help MSMEs to access finance. One example of a MSME TA program is the Small Enterprise Assistance Fund Business Assistance Program (Figure 15).

The components, structure and financing of TA programs varies (Table 3 overleaf) and should be tailored to the needs of the recipient.

In general, TA programs focus on building staff capacities and ensuring that recipients have the tools required to execute activities. The modules used in TA programs are likely to include training on how to find, develop, execute, rep ort and troubleshoot business opportunities (Table 3 overleaf), but should be tailored to the capacity gaps of the recipient. TA programs are typically funded by donor grants, which may be stand-alone or coupled to other financial products. In general, donors are beginning to favour a co-financing model for TA programs, to ensure that recipients are encouraged build long-term institutional capacities.

Figure 16: *Technical assistance program structure.*

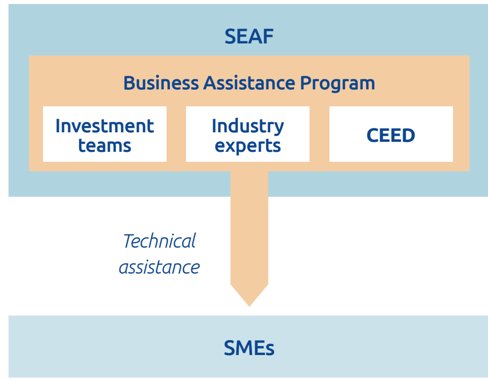


Note: Grant finance can flow either directly from the donor to the external facilitator, or can be given to an FI/ MSME, who then pays the external facilitator for their services. Staff may or may not be seconded from the external facilitator to the FI / MSME.

Figure 15: *Overview of the Small Enterprise Assistance Fund Business Assistance Program.*[22]

Small Enterprise Assistance Fund Business Assistance Program

The Small Enterprise Assistance Fund (SEAF) Business Assistance Program provides customized business assistance to SMEs in developing economies in fields including corporate governance, financial control and operations. SMEs receive business assistance through a network of partners including investment teams, industry experts and mentoring entrepreneurs. The program has supported 338 projects since its inception.



The SEAF Business Assistance program uses its international network of experts to provide customized business assistance to SMEs.

Assessment

	Key factors	Description
GCF criteria	Leverage	n/a
	Country-driven approach	Works directly with individual SMEs, rather than through the government or national entities.
	Climate impact	Does not specifically target climate change, but targets companies with environmental impact.
Other	Scale	International, and has operated in 22 different countries since inception.
	Sustainability	Self-sustaining.

Key successes and challenges

Key successes

- SMEs that have received business assistance outperform GDP growth rates by 15% and employment growth rates by 24%

Key challenges

- Coordinating assistance between the network of partners and SMEs can be expensive

[22] Small Enterprise Assistance Funds; Impact Beyond Investment: SEAF's 2011 Development Impact Report

Table 3: *Typical TA modules for intermeidiares and MSMEs.*

TA recipient	Improve staff skills	Improve tools
Financial Intermediary	• Finding new business opportunities and developing a pipeline • Developing suitable financial products and services • Assessing MSMEs and businesses that use new technologies • Understanding and meeting monitoring and reporting requirements, including measuring climate impact of investments • Developing business relationships and troubleshooting capabilities	• Marketing and engagement strategies • Due diligence frameworks, and performance prediction models • Monitoring and evaluation frameworks • Early warning systems (to signal a failing investments) and corresponding decision trees
MSME	• Finding new business opportunities (greening and climate technologies) • Designing bankable projects • Improving financial literacy skills • Understanding and completing financial applications • Understanding and meeting monitoring and reporting requirements, including measuring climate impact of investments • Developing business relationships and troubleshooting capabilities	• Accounting frameworks • Monitoring and evaluation frameworks • Early warning systems (to signal a failing investment) and corresponding decision trees

4.4 Targeted financial products

There are three main barriers that result in existing financial products being poorly suited for MSME climate financing (Figure 17): funding is difficult for intermediaries and MSMEs to access; there are high costs and high risks associated with lending to MSMEs; and products are sub-optimally designed for MSME needs.

Figure 18 outlines the range of solutions that could be implemented to address these barriers and improve financial access and delivery channels, as well as reduce risk and structure products to match recipient requirements.

Figure 17: *Barriers resulting in financial products that are unsuitable for MSME climate financing.*

Barrier	Greening	Climate goods and services
Investors		
Funding is difficult for intermediaries to access	Onerous investor reporting requirements (CO2 emission reductions, climate impact, positive externalities) limit the demand for funding from intermediaries.	Onerous investor reporting requirements (CO2 emission reductions, climate impact, positive externalities) limit the demand for funding from intermediaries.
High cost and risk of lending to MSMEs	High default risk associated with investing in new technologies.	High default risk associated with investing in new technologies and nascent climate markets.
	Transaction costs are high due to the small ticket sizes associated with greening investments.	
Intermediaries		
Financing is difficult to access		MSMEs have unreliable cash flows due to weak consumer markets, so cannot access financing on the basis of income receivables.
Sub-optimal product design	Savings from greening investments take a long time to accumulate and becotver banks are often reliant on short-term liabilities and can only offer short-term financing.	There is a lack of working capital for climate relevant MSME start-ups.
MSMEs		

Figure 18: *Use of tailored financial products to overcome specific financing barriers .*

Interaction	Barrier	Solution		Examples
Investors	Funding is difficult for intermediaries to access.	Earmarked funding for MSME climate investments.		IFC / GEF Small and Medium Scale Enterprise Program.
		Simplified application criteria.		European DFIs.
	High cost and risk of lending to MSMEs.	Risk / cost sharing mechanisms for intermediaries.	Provision of concessional finance / grants.	Pilot Program for Climate Resilience.
Intermediaries			First loss investments.	Regional MSME Investment Fund for Sub-Saharan Africa (RegiMIFA).
			Guarantees.	European Investment Fund SME Initiative.
		Build MSME networks / aggregation points.		Nexus Carbon Finance, South-East Asia.
MSME	Financing is difficult for MSMEs to access.	Use alternative collateral sources or methods to assess credit worthiness.		ICICI Bank MSME program, India.
	Sub-optimal product design.	Provide tailored MSME financing products.	Products tailored for different stages of the MSME life cycle. Product or sector specific products.	Shell Foundation / OPEC responsibility Working Capital Energy Fund.
				The Global Innovation Lab for Climate Finance Energy Savings Insurance Program, Mexico (pilot).

4.4.1 Improving the accessibility of funds for intermediaries

Increasing the pool of available finance for on-lending by intermediaries could encourage intermediaries to enter the market. Earmarking funds for MSME climate investments could prevent competition for financing with larger, more attractive investments, and incentivise intermediaries to develop green investment practices for MSMEs. Funds could be earmarked for debt, equity, and insurance investments and products to encourage a range of lending practices. However, as banks are targeting MSMEs as a profitable sector, earmarked funding for green lending to MSMEs may distort the market. This should be carefully regulated, and the use of funding should be strictly monitored.

Alternatively, intermediaries could be encouraged to enter the market by improving the accessibility of funds by simplifying application criteria. This will help to reduce approval times to keep commercial actors interested. Simplification can be done at all stages of the interaction. First, application criteria should be clearly stated and should recognise that new players need to be able to access the market. Therefore, an overreliance on track record with MSMEs could be prohibitive. The assessment procedure should be transparent, and if an institution is rejected, the reason for their rejection must be clearly communicated to encourage reapplication. Lenders could provide autonomy to intermediaries over project selection to reduce decision timelines and improve efficiency. Finally, reporting metrics should be developed to align with institutional interests, capacities and business practices[23].

4.4.2 Reducing the cost and risk of lending to MSMEs

The high default risk often associated (or perceived) with lending to MSMEs – one of the biggest barriers facing investors and intermediaries – could be mitigated using risk-sharing mechanisms such as concessional finance, first-loss investments and guarantees. Risk-sharing mechanisms reallocate the risk of investments from commercial partners to public sector institutions. They could effectively encourage investments in green markets and MSME sectors where the perceived risk is higher than the actual risk. Risk management is critical in a relatively new industry such as MSME green banking, because there is less information on how to mitigate risks, and business models are unproven. However, the risks are not unique; they include credit, market, strategic and operational risks, which can be mitigated using traditional tools that are tailored for the green MSME market. Concessional loans and grants (Figure 19) could reduce the gap in the risk-return expectations of investors.

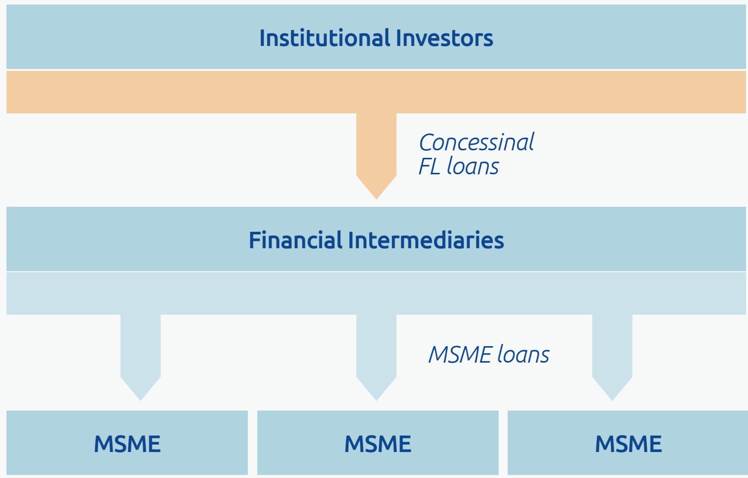


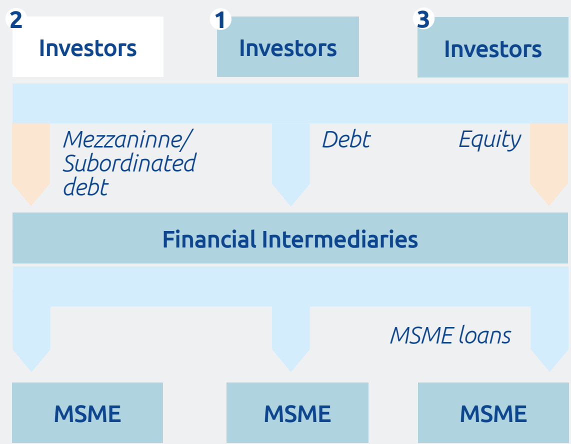
Figure 19: *Concession loans blueprint.*

[23] Expert Interviews.

The below-market interest rates of concessional finance allow investors to make higher risk investments without having to charge uncompetitive interest rates to borrowers. Concessionality can be linked to the achievement of desired results, through interest rate reductions or longer tenor. Concessional loans are widely used across the climate finance and development space, and are the instruments used by climate funds in the Pilot Program for Climate Resilience window (Figure 20). This program has helped to build agricultural practices and climate-resilient water supply systems in some of the world's most vulnerable countries.

First-loss investments mitigate risks for senior lenders and could attract more risk-averse investors to the market (Figure 21). By having different investor loss profiles, funds can attract a range of investors with different risk appetites, thereby increasing the range of active investors[25]. For example, the Regional MSME Investment Fund for sub-Saharan Africa (Figure 22 overleaf), is a multilayer fund that combines funds from multiple investors and invests in MSME lending institutions.

Figure 21: *First-loss investments blueprint.*

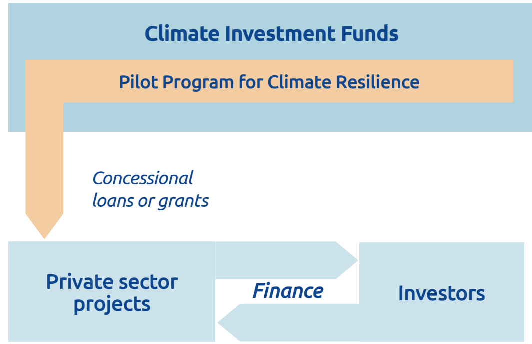


Note: numbers indicate the order of repayment in case of default.

Figure 20: *Overview of the Pilot Program for Climate Resilience.*[24]

Pilot Program for Climate Resilience

The Pilot Program for Climate Resilience is a targeted window of the Climate Investment Funds. Through this window, public and private sector projects that aim to increase climate resilience can access grants, concessional loans and technical assistance, which reduces project risk for private investors. Since 2013, the PPCR has provided USD 75 million in concessional finance to 12 private sector projects across 7 countries.



The PPCR provides concessional finance to private sector projects that increase climate resilience, which helps to attract other investors.

Assessment

	Key factors	Description
GCF criteria	Leverage	USD 1.1 B has attracted co-financing of USD 1.7 B.
	Country-driven approach	Assists governments to integrate climate resilience into their agendas.
	Climate impact	Builds climate resilience in the countries most vulnerable to climate change.
Other	Scale	International program across 18 countries.
	Sustainability	Funded by multi-donor trust fund and has a strong track record.

Key successes and challenges

Key successes

- PPRC has helped build agricultural practices and climate resilient water supply systems in some of the most climate vulnerable countries

Key challenges

- There was a lack of alignment between the country National Adaptation Program of Action and the PPRC in some countries

[24] Case Study Report: The Pilot Program for Climate Resilience in Nepal, Climate Investment Funds.

[25] Stimulating Investme Stimulating Investment in Emerging-Market SMEs, Financial Innovations Lab Report nt in Emerging-Market SMEs, Financial Innovations Lab Report.

Guarantees can provide intermediaries with partial or full insurance against investment risk. This enables financial institutions to enter new markets where the perceived risk is high, where they may otherwise have been unable to generate demand. Guarantees insure part of the amount invested, and recipients pay a fee to receive the guarantee coverage on their investments. The guarantee lowers the interest rate of loans or investments to levels that are more acceptable to MSMEs and motivates the financial institution to make more funds available to MSMEs. Guarantees can cover different investors and investments, as required (Figure 23). The European Investment Fund SME Initiative is an example of a program using guarantees to increase access to finance for MSMEs (Figure 24).

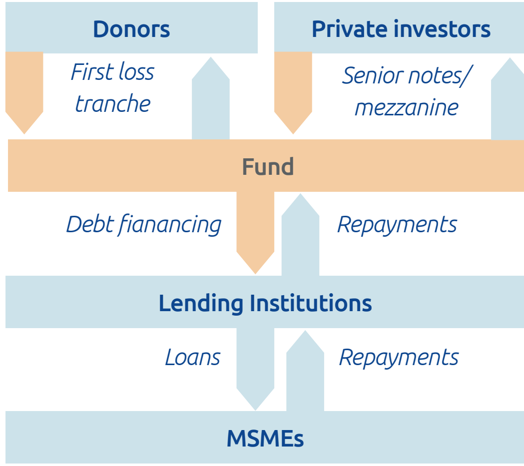
The high frequency and low value associated with MSME lending increases transaction costs. MSME networks or alliances could help to reduce the transaction cost by acting as leverage points to achieve economies of scale. The benefits of these networks for investors are three-fold: they provide ready-made investment opportunities as multiple MSMEs are encompassed under one body; they reduce the need for marketing as success stories spread rapidly amongst networks; they can provide a method of reaching informal MSMEs. Furthermore, there are substantial benefits for MSMEs. Networks or cooperatives enable informal enterprises to access finance and reduce the difficulties associated with adopting new technologies, as the network can provide technical assistance and implementation support[26].

[26] Regional MSME Investment Fund for Sub-Saharan Africa Annual Report 2013."

Figure 22: *Overview of the Regional MSME Investment Fund for Sub-Saharan Africa.*[26]

Regional MSME Investment Fund for Sub-Saharan Africa

The Regional MSME Investment Fund for Sub-Saharan Africa is a debt fund with a focus on financing microfinance institutions, local commercial banks and other financial institutions in SSA that serve MSMEs. It was founded as a public-private partnership aimed at combining funds from public and private investors, and is structured as a multilayer fund that reflects the risk-return requirements of investors. The fund has disbursed USD 150 million to 42 lending institutions, to over 195,000 micro clients in 17 countries.



The Regional MSME Investment Fund for SSA pools investment from a range of investors, and provides local currency debt financing to partner lending institutions that serve MSMEs.

Assessment

	Key factors	Description
GCF criteria	Leverage	Unavailable.
	Country-driven approach	Works through local and international intermediaries with limited government involvement.
	Climate impact	Does not specifically target climate change.
Other	Scale	Operates across Africa.
	Sustainability	Self-sustaining.

Key successes and challenges

Key successes

- 71% of the end clients receiving funding were female owners of SMEs

Key challenges

- Working with local currency increases the risk that investments are affected by volatile currencies

Figure 23: *The structure of guarantees.*

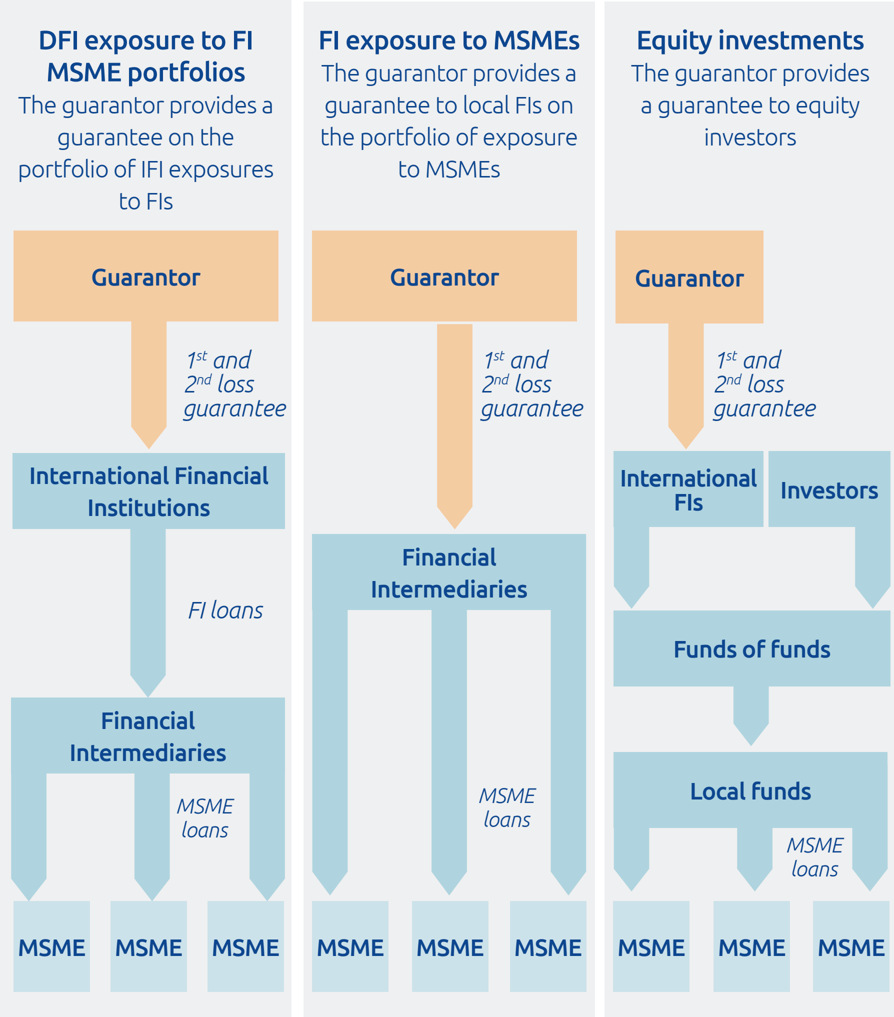
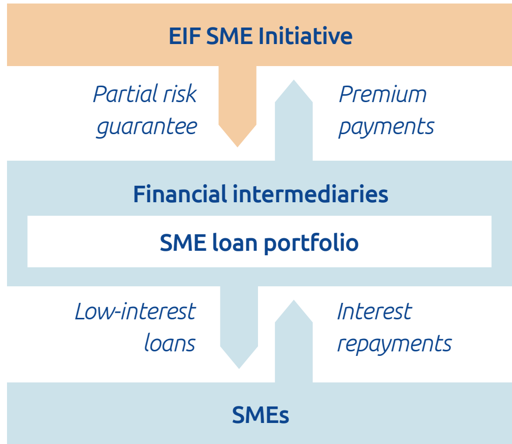


Figure 24: *Overview of the European Investment Fund SME Initiative.*[27]

European Investment Fund SME Initiative

The European Investment Fund SME Initiative aims to facilitate access to finance for SMEs by reducing the risk to financial intermediaries of lending to MSMES. Financial intermediaries are offered partial risk guarantees on their SME portfolios, and in return offer financing to SMEs with lower interest rates. Spain is the first country to implement this initiative, and it is still in its early phases.



The EIF SME Initiative provides partial risk guarantees to cover the SME portfolio of financial intermediaries.

Assessment

	Key factors	Description
GCF criteria	Leverage	Expected to achieve a 1:4 leverage ratio.
	Country-driven approach	Country programs are set up through an agreement between EC, EIB and the national government.
	Climate impact	Does not specifically target climate change.
Other	Scale	Recently launched in Spain but has plans to expand to other EU member states.
	Sustainability	Fully donor funded, no track record.

Key successes and challenges

Key successes

- The program began in January 2015, so is yet to record any major successes

Key challenges

- It is a new initiative, so getting buy in from more of the EU member states might be a challenge

[27] European Investment Fund SME Initiative.

MSMEs with similar business models or activities can be aggregated into a network or cooperative (Figure 25), such as Nexus Carbon for Development – a cooperative for small enterprises that provides climate technologies (Figure 26). All MSMEs pay a membership fee to belong to the network or cooperative, and operate with external partners through a central coordinating body. The coordinating body represents the members and interacts with financiers to secure services or create opportunities for its members. The cooperative relays the services or opportunities to its members and supports them in their application or implementation.

4.4.3 Improving the accessibility of funds for MSMEs

The majority of MSMEs, and informal MSMEs in particular, cannot access credit using traditional approaches. Typically, they do not have sufficient collateral or credit history to secure debt and do not have sufficient capacities to meet application or reporting criteria. Non-traditional lending approaches, such as "soft" information on the MSME or growth-orientated securitisations (Table 4 - page 31), allow financial institutions to use information other than financial statements or traditional collateral to assess repayment prospects.

Figure 25: *MSME aggregation points blueprint.*

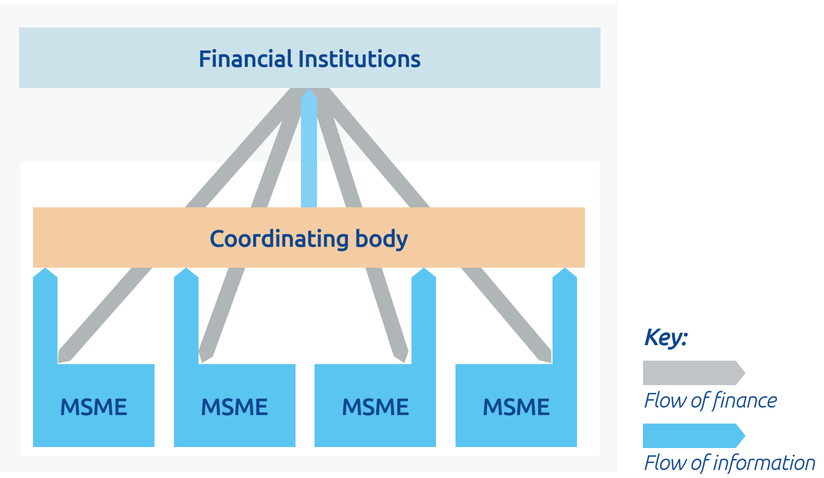
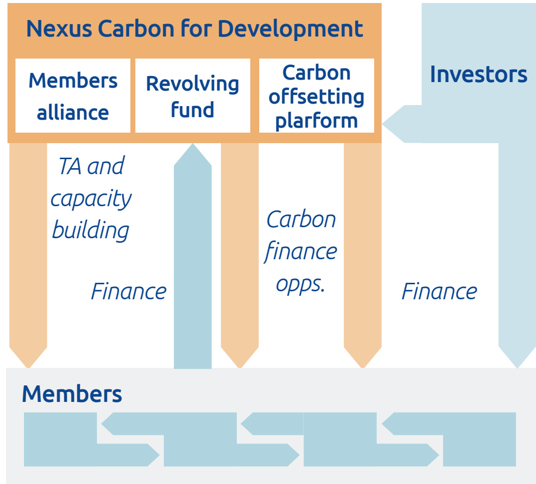


Figure 26: *Overview of Nexus Carbon for Development.*[28,29]

Nexus Carbon for Development

Nexus is a cooperative for small NGOs or social enterprises that supports vulnerable communities by providing climate technologies. The Nexus network allows members to scale-up activities by facilitating their access to appropriate financing, such as carbon finance. The cooperative structure allows members to share expertise and services, and access technical assistance and international funding opportunities. Nexus has 21 members operating in over 58 countries.



The Nexus cooperative provides support to NGOs in its network through the Nexus cooperative and its accompanying fund.

Assessment	Key factors	Description
GCF criteria	Leverage	Unavailable.
	Country-driven approach	Works with individual NGOs or social enterprises.
	Climate impact	Aims to reduce GHG emissions by 10 Mt by 2020.
Other	Scale	International cooperative with members from over ten countries.
	Sustainability	Self-sustaining.

Key successes and challenges

Key successes

- Nexus is the first global climate cooperative of development organisations

Key challenges

- Currently, the majority of Nexus' revenue is from grants because core activities have not started generating sufficient revenue to cover costs

[28] Annual Report 2012, Nexus Carbon for Development.

[29] Expert interviews.

Lending approach	Description	Screening policy	Monitoring
Small business credit scoring	FIs use hard information on the MSME and/or its owner obtained from credit bureaus to infer future loan performance.	Based on the output of a loan-performance prediction model.	Observations of timely repayments.
Relationship lending	Institutions use soft information on the MSME, owner and community to infer future loan performance.	Based on the decision, recommendation and observation of the loan officer.	Observation of the enterprise's performance.
Factoring	Institutions use valuations of the accounts receivable as collateral to evaluate repayment prospects.	Based on the quality of the enterprise's clients.	Institution owns the accounts receivable.
Asset-based lending	Institutions use valuations of the assets pledged as collateral to evaluate repayment prospects.	Based on the liquidation value of the subset of assets pledged as collateral.	Value of assets assessed regularly, to ensure liquidation value exceeds credit exposure.
Leasing	Institutions use valuations of the assets leased as collateral to evaluate repayment prospects.	Based on the value of the asset leased.	Observation of timely repayments.

Table 4: *Lending approaches targeted to MSMEs.*[30]

[30] A more complete conceptual framework for SME finance, Berger and Udell, 2006.

This will enable financial institutions to lend to a greater proportion of MSMEs and increase their MSME market size. For example, when ICICI Bank in India re-launched its SME strategy to incorporate a less traditional assessment program, the size of its SME portfolio tripled (Figure 27) [31].

4.4.4 Providing tailored MSME financing products

The specific needs of MSMEs change depending on their stage in the growth cycle (Figure 28). Products can be tailored to each stage. Early stage MSMEs will require non-collateralised capital from investors with significant risk appetite such as 'angel' investors, foundations, or grants from donors or development banks. MSMEs undergoing rapid expansion with new products (or in new markets) will often require debt finance linked to venture capital or specific expansions and projects to help the business grow quickly. This could come from investors such as venture funds, development banks or commercial banks. Most MSMEs will require working capital, particularly in rapidly growing markets, and this could be made widely available from development or commercial banks or funds like the ResponsAbility Energy Access Fund (Figure 29) [32, 33].

Alternatively, finance providers could create products that cater to specific MSME greening needs. These products could be sector specific (e.g., to encourage the manufacturing sector to make water efficiency investments) or product specific (e.g., to allow businesses to purchase solar water heaters with low-cost credit). These products can be sophisticated, but standardised, so that intermediaries can quickly roll out a range of products. To achieve standardisation, intermediaries should segment MSME clients according to their needs and apply a set of standardisation criteria to products for each segment. They would also need to assess the greening needs and opportunities within each sector.

[31] Financing Small and Medium Enterprises – the Indian experience, Central Bank of Egypt.

[32] Conservation Finance: Moving beyond donor funding toward an investor-driven approach, Credit Suisse, WWF and McKinsey & Company.

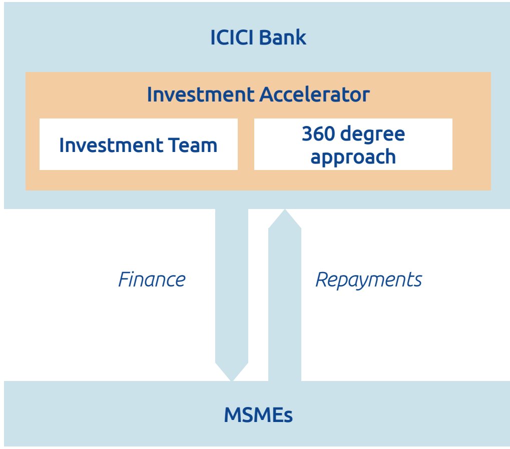
[33] Greening SMEs by enabling access to finance: Strategies and experiences from the Switch-Asia Programme. Scaling-up study 2013. SWITCH-Asia Network Facility.

[34] International Finance Corporation: The SME Banking Knowledge Guide.

Figure 27: *Overview of the ICICI Bank MSME Program, India.*[34]

ICICI Bank MSME program, India

The ICICI Bank MSME program provides nontraditional financial services to MSMEs. To evaluate credit risk, the program uses market segmentation and a "360 degree" approach. Credit scorecards (based on industries, linkages or market segments), SME value analyses, relationship manager site visits and personal references are used to evaluate the credit worthiness of each MSME. ICICI has an MSME client base of almost 1 million enterprises.



The ICICI Bank MSME program uses alternative sources to evaluate credit worthiness of MSMEs and provides nontraditional services.

Assessment	Key factors	Description
GCF criteria	Leverage	Unavailable.
	Country-driven approach	Local approach for local markets, but limited government involvement.
	Climate impact	Does not specifically target climate change.
Other	Scale	National level, and serves 1 million SMEs.
	Sustainability	Self-sustaining.

Key successes and challenges

Key successes

- The relaunch of the SME strategy in 2003 tripled the banks overall SME loan portfolio and its revenues

Key challenges

- MSMEs borrow at low rates, so a high volume of MSME loans are required to make the strategy profitable

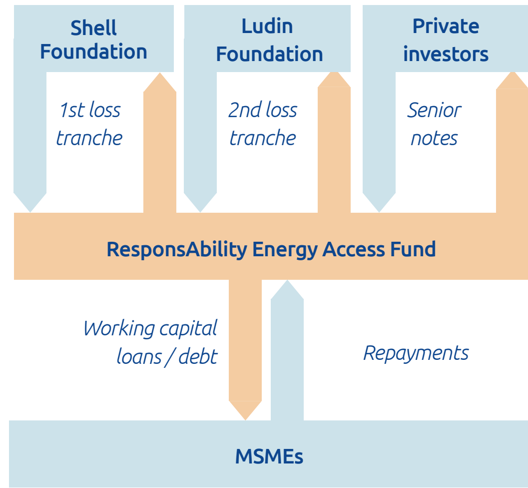
Figure 28: *Typical financing needs across the MSME growth cycle.*

	Early-stage development	Testing business model	Scaling-up	Commercialisation
Description	• Developing and refining products	• Initial roll out of new product (or into new market)	• Replication of sales at larger scale	• Improving cost and revenue structures to become fully sustainable
Financing need	• R&D investment and product testing Working capital	• Capital investment • Working capital	• Capital investment • Working capital	• Capital investment • Working capital
Instruments required	• Grants • Seed capital	• Grants • Seed capital • Early stage venture capital	• Project finance • Venture capital • Equity investments	• Debt financing • Equity financing
Investors	• Angel investors • Foundations/ funds	• Angel investors • Foundations/ funds	• Equity funds • Development banks • Commercial banks	• Equity funds • Development banks • Commercial banks

Figure 29: *Overview of the ResponsAbility Energy Access Fund.*[35]

ResponsAbility Energy Access Fund

The ResponsAbility Energy Access Fund Energy is a revolving fund that will provide working capital loans and longer term debt to MSMEs producing and distributing modern energy products. The fund aims to demonstrate the manufacturers of low-cost energy products could accelerate their growth if they have access to flexible credit, and the fund has been established after a successful pilot. Additionally, the fund has a tiered capital structure to catalyse participation from private sector investor. It is projected to grow to USD 200 million over the next seven years and improve the livelihoods of over 50 million people.



The ResponsAbility Energy Access Fund will provide working capital loans in initial stages, and longer-term debt in later stages, to MSMEs manufacturing and distributing energy products.

Assessment

	Key factors	Description
GCF criteria	Leverage	Unavailable.
	Country-driven approach	Will work directly with manufacturers and distributors, so will have no direct government involvement.
	Climate impact	Expects to offset over 3 Mt CO2 by 2020.
Other	Scale	Plans to operate internationally.
	Sustainability	Donor funded, but will be self-sustaining because it will provide loans and receive repayments.

Key successes and challenges

Key successes

- The pilot fund catalysed the sale of over 800,000 solar lights and 100,000 cook stoves in less than 2 years

Key challenges

- Assessing the risks associated with funds investing in MSMEs is complex

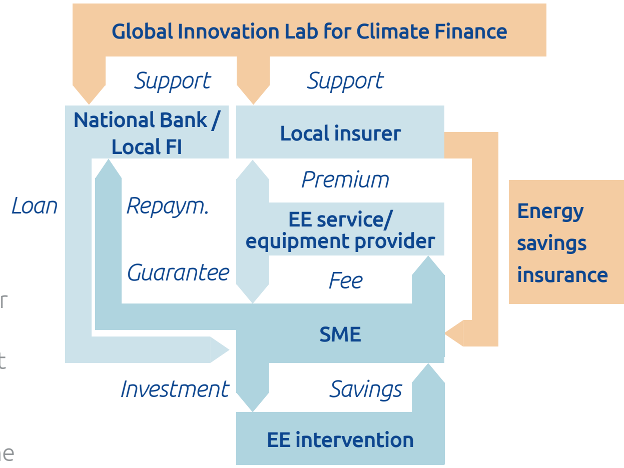
[35] responsAbility Summary, Shell Foundation.

As understanding and experience with each sector increases, finance providers may offer bundled products. This could include coupling loans with lines of credit so MSMEs can offer consumer finance for climate technologies or insurance products that encourage MSMEs to undertake mitigation or adaptation activities by covering the risk of failure of these activities (e.g., Energy Savings Insurance Program, Mexico (Figure 30)).

Figure 30: *Overivew of the Energy Savings Insurance Program, Mexico.*[36]

Energy Savings Insurance Program, Mexico (pilot)

The Energy Savings Insurance Program aims to scale up SME's investment in energy efficiency (EE) by mitigating the risk that EE investments may not pay themselves off. The scheme will work with local insurers to provide insurance to cover projected energy savings for EE investments. Energy service / equipment providers offering guarantees for the performance of their products would purchase the insurance for their guarantee. If EE savings are not realized, the insurance pays out to the SME and the SME retains a portion of performance fees from the provider. The insurance program will be coupled to complementary products for SMEs. The program is ready to pilot in Mexico.



The REEP Investment Accelerator aims to connect early stage entrepreneurs and MSMEs with investors.

Assessment

	Key factors	Description
GCF criteria	Leverage	Anticipated 1:4 leverage ratio for the program in Mexico.
	Country-driven approach	Involves National Development Banks as coordinators.
	Climate impact	Potential annual emissions reductions of 27 - 234 Mt CO2, if the program expands as planned.
Other	Scale	Pilot in Mexico, but plans to expand to BRICS, and the next 11 countries with the largest EE potential.
	Sustainability	Self-sustaining.

Key successes and challenges

Key successes

- The program is still in its initial phases, so is yet to record any major successes

Key challenges

- The program is still in its initial phases, so main challenges remain to be seen

BRICS = Brazil, Russia, India, China and South Africa

[36] Energy Savings Insurance, The Global Innovation Lab for Climate Finance.

5 Investment Prioritisation

Support could be given to MSMEs to allow them to conduct a range of greening activities, or to MSMEs producing climate technologies.

5 | Investment Prioritisation

5.1 Introduction

This section uses existing data sources to demonstrate how the GCF's MSME Program could prioritise support to specific sectors. It is intended to suggest possibilities about prioritising investments between sectors or technologies and types of support (rather than as a specific recommendation to invest in one sector or technology over another). To come to a firm decision over which sectors or technologies to prioritise, one should use in-depth country, sector, and technology analysis to confirm or reject initial prioritisation hypotheses. The scope of this analysis is limited to using existing data to form a high-level view of prioritisation, and the project team did not undertake in-country analysis or validation.

Figure 31: *The categories of climate finance support for MSMEs.*

We assess two types of climate finance

Categorization		Description

Climate finance to MSMEs	Greening the operations of MSMEs in all sectors	• Relates to finance that is used to help 'normal' businesses green their operations most commonly via use of resource efficiency methods or behavioural changes
		• Support could be prioritised for greening MSMEs in sectors that have:
		  • *A large number of MSMEs*
		  • *High potential for climate impact (large volume of GHG emissions or stated high vulnerability to climate change)*
		  • *A significant credit gap*

	MSMEs providing climate technologies	• Relates to support for MSMEs that operate with climate technology sectors i.e., MSMEs providing operations and maintenance in the wastewater technology sector
		• Support could be prioritised for MSMEs producing or distributing climate technologies that have:
		  • *A large number of MSMEs*
		  • *High potential for climate impact (large volume of GHG emissions reductions or large reduction in vulnerability to climate change)*
		  • *A significant credit gap*

5.2 Categorizing climate finance

This analysis focuses on two types of climate finance for MSMEs (explained further in Figure 31):

- **Support to MSMEs in all sectors to help "green" existing operations.** This relates to financially supporting businesses to reduce the carbon footprint, or increase the adaptive capacity of, their operations, regardless of sector, most commonly via improved resource efficiency, reduced emissions or other behavioural changes.
- **Support to MSMEs working in climate technology sectors.** This relates to financially supporting MSMEs to stimulate business growth or entry into new markets or products.

5.3 Sector prioritisation for greening finance

Support could be given to MSMEs to allow them to conduct a range of greening activities. Such activities could include reducing energy use by supporting a switch to energy-efficient approaches for lighting, buildings, and refrigeration; reducing emissions by supporting a switch to renewable energy sources (either external or in-house); or improving water conservation by supporting behavioural change towards pollution and water use.

For the purpose of prioritising support for greening finance, we categorize MSMEs into 11 sectors (see annex for sector definitions). We then prioritise each sector according to relevance to MSMEs, potential financial need and potential for climate impact. The number of formal and informal MSMEs in each sector is used to estimate relevance to MSMEs. Potential financial need is estimated by assuming all MSMEs will need a loan for greening activities, and there will be a 1% penetration rate per year. Potential climate impact is assessed using annual CO2 emissions data by sector.

The trade sector has the most MSMEs (140M), followed by agriculture (90M) and manufacturing (50M) (Figure 32). Within each sector, around 80% of MSMEs are informal. "Unserved" MSMEs are those that need credit but do not have any access, and underserved MSMEs have a loan or credit line, but find financing a constraint to growth. The greatest number of underserved and unserved MSMEs are also in the trade sector.

If one assumes that MSMEs in all sectors will require financing for greening, and one also assumes that an average-size loan is required for 1% of all MSMEs in developing countries per year, the total annual finance requirement for greening would be USD 45 billion (Figure 33).

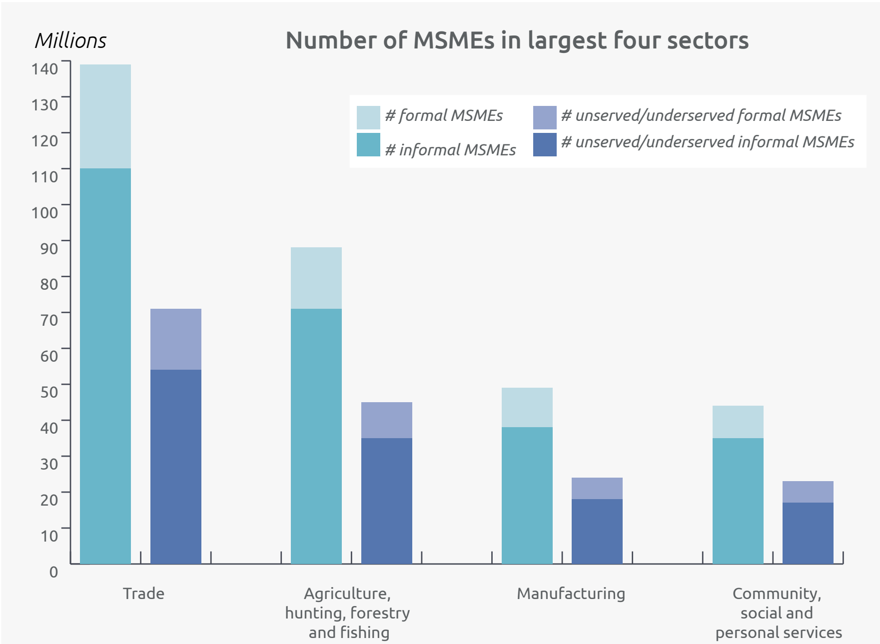


Figure 32: *Total number of formal, informal and unserved or underserved MSMEs in developing countries by sector (4 sectors with highest number of MSMEs only).*

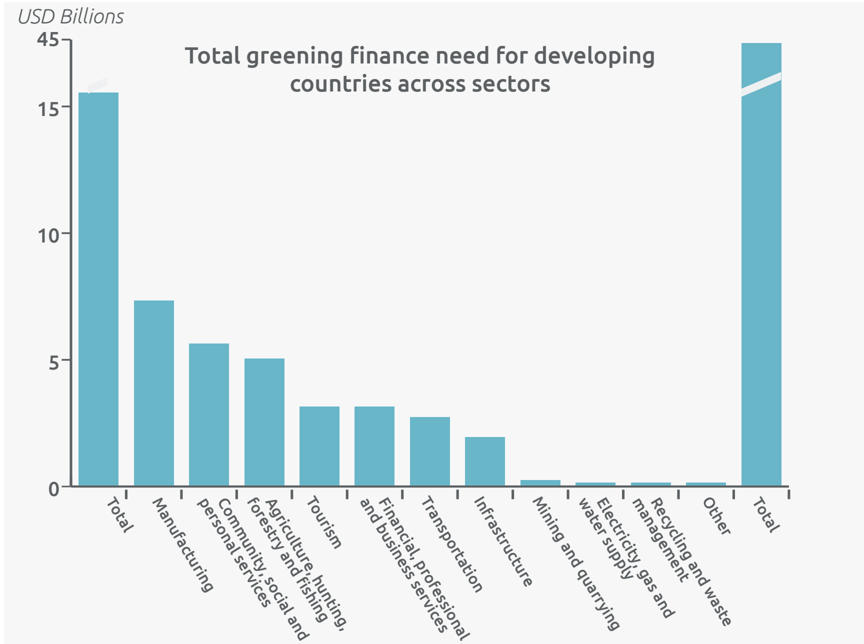


Figure 33: *Total greening finance need for developing countries across sectors.*

The overall sector prioritisation is shown in Figure 34 and is ordered primarily based on number of MSMEs per sector. A secondary level of prioritisation could reflect the relative mitigation potential of each sector. In that case electricity, gas and water, manufacturing, and agriculture produce the greatest volume of greenhouse gas (GHG) emissions [37]. However, emissions data were not available for all sectors and would therefore be misleading to prioritise using this parameter.

Figure 34: *Sector prioritisation for greening finance in developing countries.*

Sector	Climate impact	Relevance to MSMEs			Finance
	GHG emissions 2010 (MtCo2eq)	# MSMEs (M)	# Informal MSMEs (M)	# MSMEs unserved or underserved (M)	Greening finance need (2015, USD B)
Trade	n/a	139	54	71	15.5
Agriculture, hunting, forestry and fishing	3,600	88	35	45	5.4
Manufacturing	3,700	49	19	25	6.9
Community, social and personal services	n/a	44	17	23	5.6
Transport, storage and communication	1,500	19	7	10	2.7
Financial, professional and business services	n/a	14	5	7	2.9
Tourism	n/a	12	5	6	3.1
Infrastructure	n/a	7	2	3	2
Mining and quarrying	n/a	2	1	1	0.2
Electricity, gas and water supply	6,000	1	0.3	0.4	0.1
Other	n/a	1	0.3	0.5	0.1
Recycling and waste management	n/a	0.1	0.03	0.01	0.1
Total	**n/a**	**375**	**145**	**192**	**45**

[37] The Shift Project Data Portal, Energy and Climate Data.

5.4 Sector prioritisation for climate technology MSMEs

MSMEs play an important role across the value chain of 15 climate technologies (see Annex 8.1 for definitions)[38]. Support given to climate technology MSMEs can have many objectives. For example, one objective could be to support MSMEs with new technologies (or those breaking into new markets) through early growth phases by using risk capital. Alternatively, support to climate technology MSMEs could aim to support businesses in rapid growth phases with working capital or project finance.

We prioritise MSME climate technology sectors according to three factors: size of the MSME opportunity, financial need and emissions abatement potential. We estimate the number of MSMEs working in that industry by combining the projected revenue for each sector by an estimate of the number of MSMEs supported per dollar. Financial need is calculated as the proportion of these MSMEs that are underserved or unserved. Abatement potential is the potential volume of greenhouse gases avoided by each technology.

InfoDev estimates that USD 160 billion each year will flow to MSMEs working in climate technology sectors in development countries over the next decade[39]. Based on this figure, we estimate that approximately 720,000 MSMEs would be active in climate technology sectors. Specifically, and based on this InfoDev data, wastewater, small hydro and water technologies have the largest potential MSME opportunities (Figure 35)[39].

Figure 35: *Number of MSMEs that could be involved in each technology in developing countries.*

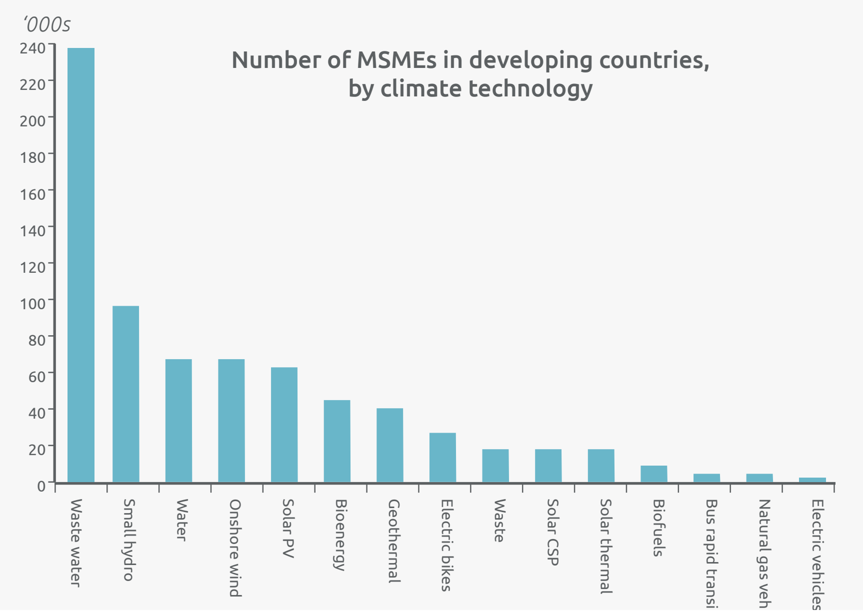
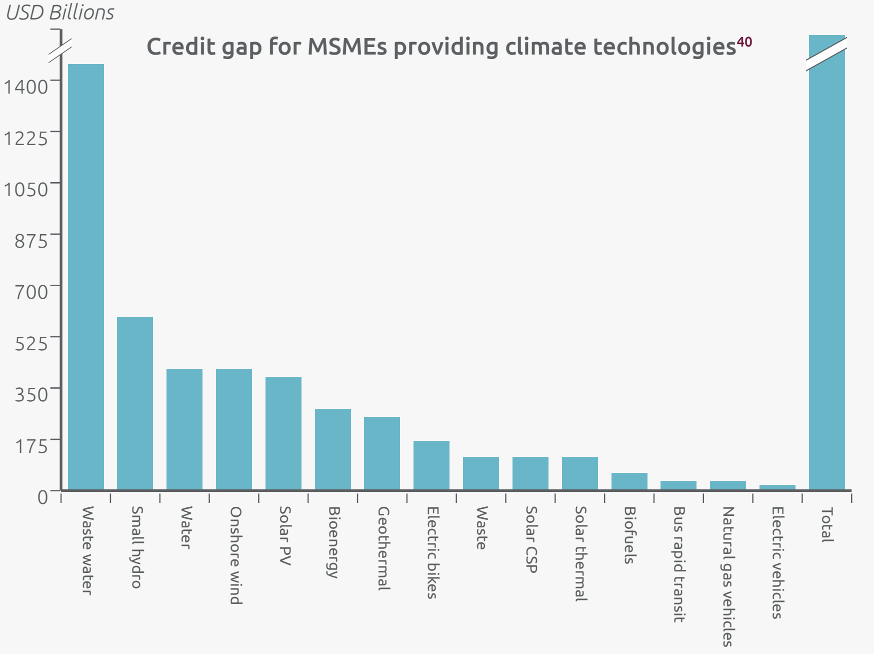


Figure 36: *Credit gap for MSMEs providing climate technologies.*



[38] Building Competitive Green Industries: The Climate and Clean Technology Opportunity for Developing Countries, infoDev Climate Technology Program.

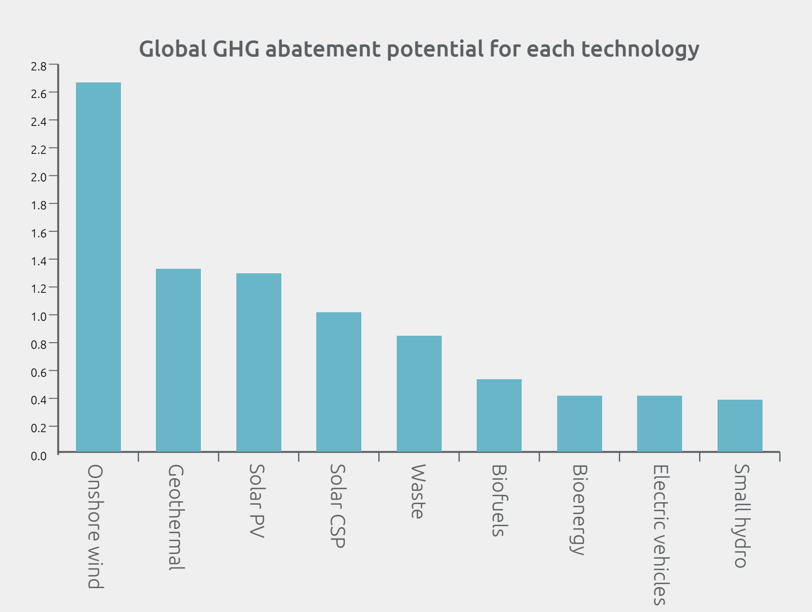
[39] The projected revenue in each sector is taken directly from the following publication - Building Competitive Green Industries: The Climate and Clean Technology Opportunity for Developing Countries, infoDev Climate Technology Program.

[40] Total greening finance need per sector was calculated by multiplying the number of MSMEs in the sector by average loan size, and multiplying by a 1% penetration rate. This assumes all MSMEs require support for greening.

Taking these assumptions on the number of MSMEs in climate technology sectors, we apply country-wide rates of financial need (the portion of MSMEs that are unserved or underserved). Using this approach, the credit gap for MSMEs providing climate technologies is approximately USD 4-5 billion across developing countries[41].

The overall prioritisation of climate technologies is shown in Table 5 and is ordered based on the number of MSMEs supported by each sector. It is important to note that priority-setting based on the number of MSMEs supported is clearly not the only approach to making investment decisions. If one were to prioritise those technologies that have the largest abatement potential, then onshore wind, geothermal and solar PV would rank first, second and third (Figure 37)[42].

Figure 37: *Global GHG abatement potential for each technology.*



Type of technology	Projected market share[38]	Abatement potential40 ($GtCO_2eq$)	Total enterprise ('000s)	Enterprises that need credit ('000s)	Credit gap (2015, USD M)
Wastewater	33%	-	238	135	1,450
Small hydro	13%	0.4	96	55	590
Water	9%	-	67	38	410
Onshore wind	9%	2.7	67	38	410
Solar PV	9%	1.3	63	36	380
Bioenergy	6%	0.4	45	25	270
Geothermal	6%	1.3	40	23	250
Electric bikes	4%	-	27	15	160
Waste	3%	0.8	18	10	110
Solar CSP	3%	1.0	18	10	110
Solar thermal	3%	-	18	10	110
Biofuels	1%	0.5	9	5	50
Bus rapid transit	1%	-	4	3	30
Natural gas vehicles	1%	-	4	3	30
Electric vehicles	0%	0.4	2	1	10
Total	**100%**	**8.8**	**717**	**406**	**4,370**

Table 5: *Prioritisation of climate tehcnologies.*

[41] The projected revenue in each sector is taken directly from the following publication - Building Competitive Green Industries: The Climate and Clean Technology Opportunity for Developing Countries, infoDev Climate Technology Program.

[42] Pathways to a low-carbon economy: Version 2 of the global greenhouse gas abatement cost curve, McKinsey & Company.

6 Delivery Channels

The GCF MSME Program should deliver MSME finance through a range of financial intermediaries.

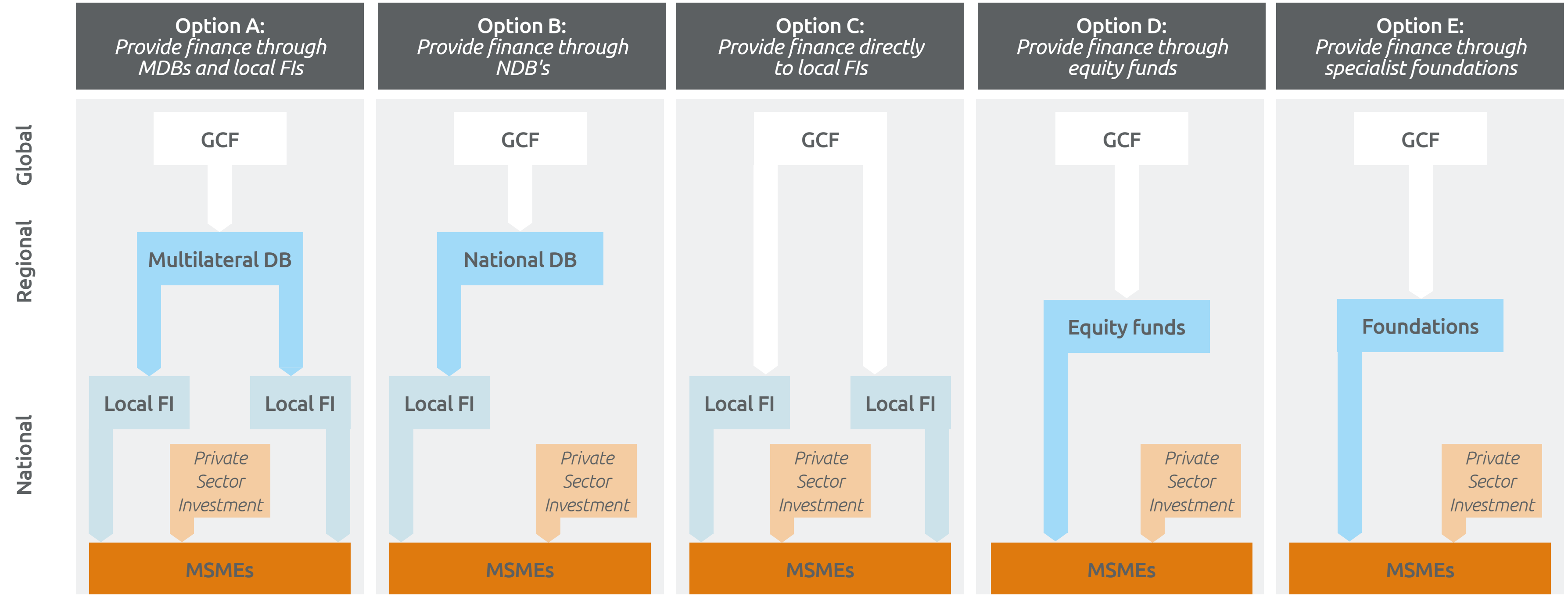
6 | Delivery Channels

6.1 Overview

Due to the small ticket size and high volume of investees, the transaction costs associated with working directly with MSMEs are likely to be prohibitive to working directly with MSMEs. It is likely that the most cost-effective approach for the GCF MSME Program to deliver finance to MSMEs is through financial intermediaries. Many intermediaries around the world already work with MSMEs, and each has relative advantages and disadvantages.

This section highlights five possible options for delivering finance to MSMEs through intermediaries (Figure 38). Much of the discourse around access to the GCF has focused on direct versus international approaches. The options outlined here include both approaches. For instance, working through local financial institutions (FIs) would be considered as part of the direct approach, and working through multilateral development banks would be considered as part of the international approach.

Figure 38: *Options for delivering finance to MSMEs.*



This section broadly describes each delivery channel across the following four parameters (Table 6). First, the type of strategic objectives each option may lend itself to. Second, how well the delivery channel aligns with the GCF's investment criteria (acknowledging that there could be outliers within each group)[43]. Third, the range of instruments available through each channel. And finally, the internal GCF skill set required to successfully work through each channel.

6.2 Delivery channel options and case studies

Each delivery channel option provides relative advantages and disadvantages, and it is likely that the GCF's work to support MSMEs would be most effective by using multiple channels. For example, working through MDBs would potentially enable the MSME Program to scale-up quickly and to provide standardised products to micro-enterprises, but might avoid taking high risks on potentially transformational MSME technologies. On the other hand, working directly with local FIs could facilitate highly specialised financial products in response to specific issues, but might require greater oversight from the GCF. Going directly through specialist foundations or funds offers the ability to support early-stage roll-out of new technologies or innovative models, taking on significant risk, but provides less ability to scale and requires greater in-house specialist skills.

Several examples of organisations within each delivery channel category are shown in Table 7. This serves purely to give examples of the types of organisations that are considered within each delivery channel options (rather than recommendations for one program versus another).

Table 6: *Assessment of potential MSME Program delivery options.*

Delivery option	Assessment	Relevant instruments
Option A: GCF provides finance through MDBs and local FIs [44]	• Likely to be good for rolling out more general climate finance products across multiple sectors, countries, regions • Likely to score higher on climate impact and leverage • Likely to score lower on risk and efficiency • Requires fewer specialist skills due to interaction with limited number of partners, all of whom already have well-established procedures and track records	• Grants / guarantees • Debt • Technical assistance
Option B: GCF provides finance through NDBs	• Likely to be good for rolling out climate finance products on a single or multi-sector basis within a given country • Likely to score higher on efficiency • Likely to score lower on risk and long-term impact • Requires some specialist skills as NDBs will probably partner with a small number of local FIs or other investors • GCF may provide technical assistance directly to NDBs and may perform hands-on rigorous M&E	• Grants / guarantees • Debt • Technical assistance
Option C: GCF provides finance directly to local FIs	• Likely to be good for rolling out highly specific climate finance products on a single or multi-sector basis within a given country • Likely to score higher on efficiency • Likely to score lower on risk and long-term impact Requires specialist skills due to working with a large number of local FIs that might not regularly interact with development financiers • Will require"hand-holding" in some circumstances, and ongoing M&E	• Grants / guarantees • Debt • Technical assistance
Option D: GCF provides finance through equity funds	• Likely to be good for supporting the growth of MSMEs in one or more sectors, countries or regions • Likely to score higher on risk and long-term impact • Likely to score lower on climate impact (due to limited scale) • Requires specialist equity investment skills due to higher risk level of investments, and to ensure partners have solid project selection criteria and sufficient ongoing M&E processes	• Grants / guarantees • Debt • Technical assistance
Option E: GCF provides finance through specialised foundations	• Likely to be good for nurturing early-stage MSMEs to scale-up cutting edge technologies or to provide • Likely to score lower on climate impact and leverageRequires specialist skills to ensure partners have solid project selection criteria and sufficient ongoing M&E processes	• Grants / guarantees • Technical assistance

[43] Key investment criteria include maximising long-term climate impact, leveraging private sector capital, providing finance that is complementary to existing efforts, and supporting high-risk, high-potential opportunities.

[44] Climate Funds could also play the role of MDBs.

Organisation	**Current programs**	Size (USD M)	MSMEs served	Climate Focus	EQ	PRI
Option A GCF provides finance through MDBs and local FIs						
International Finance Corporation (IFC)	China Utility-based Energy Efficiency Finance (CHUEE) Risk Sharing Facility[45] : Provides risk guarantees and technical assistance to local banks to cover their green finance loans to SMEs.	22.3 (levarged 557.5)	>1,000	X	X	X
	Global SME Facility[46]: Mobilizes concessional and commercial funding from donors and IFIs for financial intermediaries and provides them structural and technical assistance to expand finance to SMEs.	50	600,000			
Inter-American Development Bank (IDB)	Improving the Competitiveness of SMEs through appropriate financing[47]: Provides a grant to support the development of a specialised financial intermediary in Guyana and Suriname and develops their MSME lending markets.	3	50		X	
	Eco-micro program [48,49]: Provides technical expertise and grant money to microfinance institutions to promote the development of green financial instruments in Latin America.	2	Pilot phase – first results available 09/2015	X		
African Development Bank (ADB)	African Guarantee Fund[50]: Provides partial credit guarantees and technical assistance to financial institutions in support of their SME financing activities to stimulate financing to SMEs in Africa.	50	Not available		X	X
Global Environment Facility (GEF)	Clean-Tech Program for SMEs[51]: Uses a competition to identify highly promising SMEs working in climate change, provides them prize money and technical assistance, and connects them to potential investors, customers and partners.	~8[52]	Not available	X		
Option B: GCF provides finance through NDBs						
Development Bank of the Philippines (DBP)	Retail lending for Micro and Small Enterprises[53]: Provides loans to formal enterprises with a capitalization below USD 0.3 million.	Not available	Not available			
	Sustainable Entrepreneurship Enhancement and Development Program[53]: Simplifies and speeds up the credit process for MSMEs and provides them credit facilities.	Not available	Not available			
Nacional Financera Mexico (Nafinsa)	Nafin Guarantees Program[54]: Provides guarantees to the SME portfolio of intermediaries that finance small enterprises supplying goods and services to public sector agencies and first-tier companies.	8,308	330,000			
	Energy Efficiency Financing Program for SMEs[54]: Provides soft loans and technical assistance for SMEs in the service sector interested in improving energy efficiency.	26	Not available	X		

Table 7: *Examples of current programs for each delivery option.*

[45] China Utility-based Energy Efficiency Program (CHUEE) Brochure, IFC; expert interview.

[46] Strengthening Middle-Income Country Engagement, IFC.

[47] www.iadb.org (accessed May 2015).

[48] www.ecomicro.org (accessed May 2015).

[49] Expert interviews.

[50] www.africanguaranteefund.com (accessed May 2015).

[51] Fostering Clean Technology Innovation in Emerging and Developing Countries, GEF, UNIDO.

[52] Estimate based on the plan that each country will receive USD 1-2M in funding from GEF.

[53] www.devpnkphl.com (accessed May 2015).

[54] www.nafin.com (accessed May 2015).

Organisation	Current programs	Size (USD M)	MSMEs served	Climate Focus	EQ	PRI
Development Bank of Rwanda (DBR)	**SME Guarantee Fund :**[55] Provides a 10-year guarantee to the SME portfolio of participating financial intermediaries.	Not available	Not available			
	Refinancing Microfinance Institutions[55]: Provides refinancing and capacity building for micro finance institutions.	Not available	Not available			
Option C: GCF provides finance directly to local FIs						
Banco do Nordeste (Brazil)	**CrediAmigo Program[56]:** Provides microcredit to entrepreneurs in the formal and informal sectors of Brazil's northeastern region. Individual clients are organized into groups with an average size of five individuals, referred to as solidarity groups, who provide collateral or a loan guarantee through a group repayment pledge.	2,640	1,700,000			
ICICI Bank (India)	**MSME "Beyond lending approach" :** Provides non-traditional financial services such as cash management and advisory services to MSMEs in addition to loans and equity.	-	1,000,000			
NedBank (South Africa)	**Nedbank Small Business Incubator Fund[57]:** Provides funding, banking services, networking opportunities and business training to SMEs, prioritising those that contribute to environmental and social sustainability.	Not available	Not available	X	X	

Table 7: *Examples of current programs for each delivery option (cont.)*

Organisation	Current programs	Size (USD M)	MSMEs served	Climate Focus	EQ	PRI
Option D: GCF provides finance through equity funds						
Bamboo Finance	Commercial private equity firm that invests in business models that benefit poor communities in developing countries. Launched a solar energy fund for developing countries in 2014[58].	250	46	X		
Small Enterprise Assistance Funds	International investment firm that provides growth capital and financial assistance to early-stage entrepreneurs in underserved developing countries[59].	>250	338[60]			
EcoEnterprises Fund	Impact investment fund that provides growth capital to small companies addressing environmental and social challenges[61].	50	30[62]	X		
Mustard Capital Partners	Private equity fund that invests equity and debt into SMEs in West Africa for financial and social returns[63].	32	17			X
Option E: GCF provides finance through specialised foundations						
Lundin Foundation	Philanthropic organisation that provides risk capital to high-potential SMEs and grants to early stage SMEs in developing countries[64].	13	46			
Small and Medium Enterprise Foundation, Bangladesh	Non-profit Organisation established by the government of Bangladesh that implements government policy strategies, facilitates financial support from financial intuitions and provides technical and capacity support for SMEs in Bangladesh[65].	0.4	752			
Shell Foundation	Independent charity focused on solving global development challenges. Provision of finance for SMEs is one of the focus areas of the foundation and it has supported initiatives such as the Serving SMEs in MENA program and the Grofin SME fund[66].	Not available	Not available			

[55] www.brd.rw (accessed May 2015).

[56] A Multilateral Donor Triumphs over Disbursement Pressure: The story of Microfinance at Banco do Nordeste in Brazil, CGAP.

[57] www.nedbank.co.za (accessed May 2015).

[58] www.bamboofinance.com (accessed May 2015).

[59] www.seaf.com (accessed May 2015).

[60] Number of investments made between inception – 2011 (date of most recent, available impact report)

[61] www.ecoenterprisesfund.com (accessed May 2015).

[62] EcoEnterpises first fund invested in 23 sustainable businesses, and the second fund currently has investments in 7 funds.

[63] www.mustardgh.com (accessed June 2015).

[64] www.lundinfoundation.org (accessed May 2015).

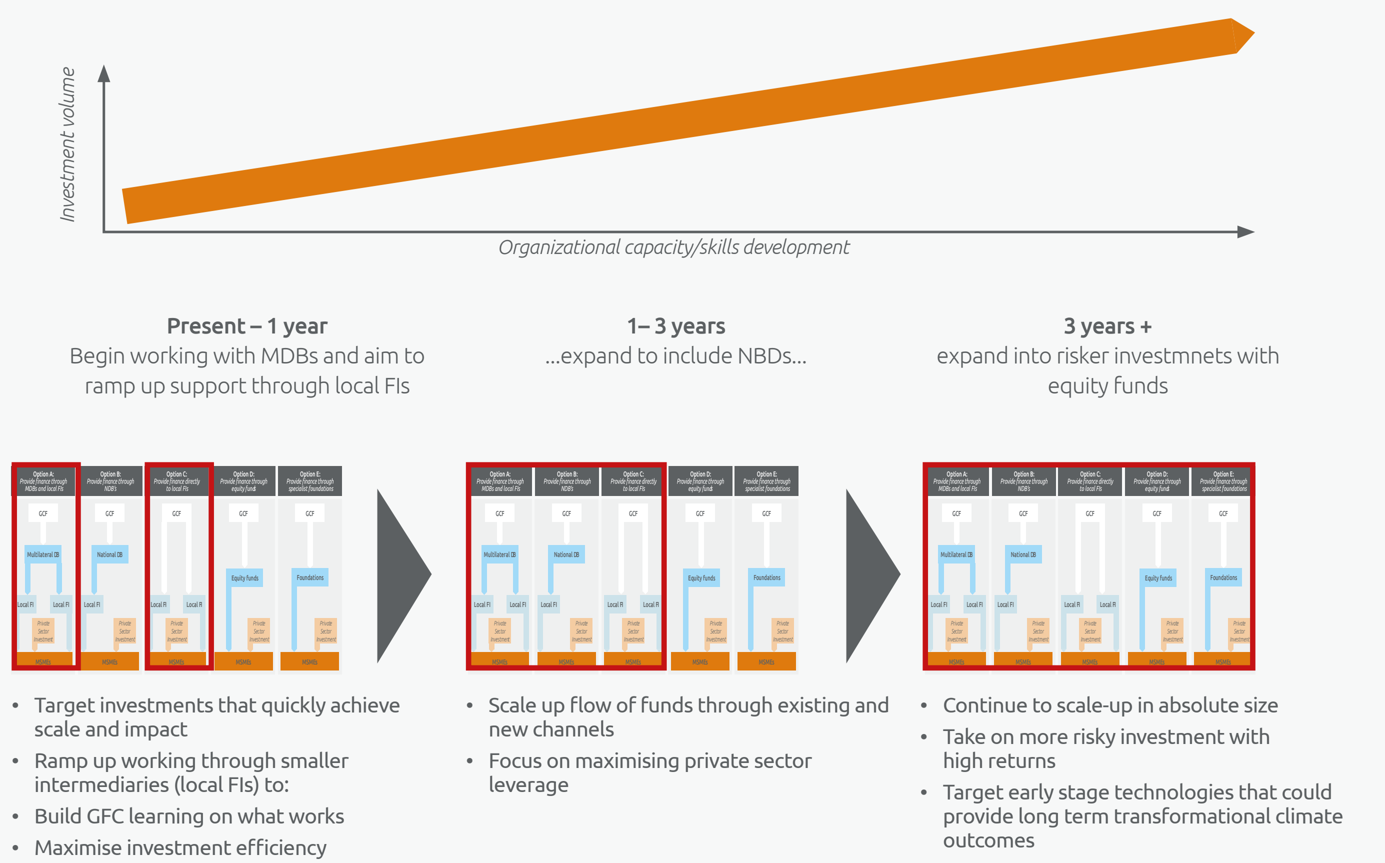
[65] www.smef.org.bd (accessed May 2015; figures taken from "Status of Credit Wholesailing Program (CWS) on 31 March 2015).

[66] www.shellfoundation.org (accessed May 2015).

The most appropriate delivery channels may change over time as the GCF and its partners evolve and gain experience tackling different problems (Figure 39). As an example, whilst the GCF is in its early stages, it may prioritise reaching scale for immediate results. If so, it may wish to work through MDBs on more traditional MSME lending programs. It may also focus on learning and capacity building, with a view to achieving long-term impact, so could simultaneously pilot working with local financial intermediaries. In the medium-long-term, the GCF could grow its in-house skill set, and take on more high-risk investments that would enable it to work with smaller scale, more innovative MSME intermediaries (equity funds or specialist foundations).

It should be noted that one of the main challenges of working through intermediaries is that the GCF can only partner with accredited entities. As such, a list of preferred intermediaries will not necessarily lead to additional delivery options for the GCF. This is particularly pertinent when considering working through local FIs. It is important to note that several immature or domestically focused institutions may not implement environmental and social safeguards, one of the requirements of GCF accreditation. This represents a significant hurdle for many local FIs.

Figure 39: *Use of delivery channels over time.*



[66] www.shellfoundation.org (accessed May 2015).

7 Implications

The GCF should support activities that improve enabling environments, increasing knowledge and awareness, and provide tailored financial products.

7 | Implications

The GCF's MSME Program is currently in the design phase, and it is likely that a pilot version of the program will be discussed and potentially approved by the GCF Board before the end of 2015. The implications presented in this sector, formed as a result of the many interviews and internal analyses completed during this study, are written predominantly with the design of the Green Climate Fund's MSME Program in mind. The implications aim to guide the discussions around the MSME strategy while proposing specific objectives for the pilot program.

In order to successfully catalyse climate action among MSMEs, the GCF can support interventions across three key areas:

- **Improvements to the enabling environment.** Many options exist to support policies that can encourage and enable the flow of climate finance to MSMEs. For example, at the national level, the GCF could support the development of clear and stable climate change strategies, strengthened financial infrastructure, and pro-MSME and pro-green investment policies. It could also support the development of green incentives for MSMEs, as well as national standards for climate technologies. At the international level, stakeholders could support free trade in green technologies and the reduction of counterproductive fossil-fuel subsidies[67].
- **Increasing knowledge and awareness.** The GCF could support MSME climate finance provision by focusing on improving knowledge and awareness of the opportunities. For example, it could support matchmaking platforms to link investors with investees. It could also support technical assistance programs for investors, intermediaries, or MSMEs to improve understanding of the opportunities and how to access them.

[67] It should be noted that the GCF may potentially undertake policy interventions through its readiness window, in which case the options here could be incorporated into that support.

- **Providing tailored financial products.** The opportunities for support in this area are multifaceted. The MSME Program could encourage intermediaries to provide finance to MSMEs by earmarking funding and by using simplified applications and reporting requirements. It could finance risk-sharing instruments such as concessional finance, grants and first-loss investments to reduce the cost and risk of MSME investments. It could also invest through MSME aggregation points to maximise efficiency of working with small Organisations, and it could test alternative credit worthiness methodologies to lend to informal businesses. Finally, the MSME Program could provide financial products based on the growth stage of MSMEs, such as focusing on providing seed funding to new MSMEs or working capital to rapidly expanding businesses.

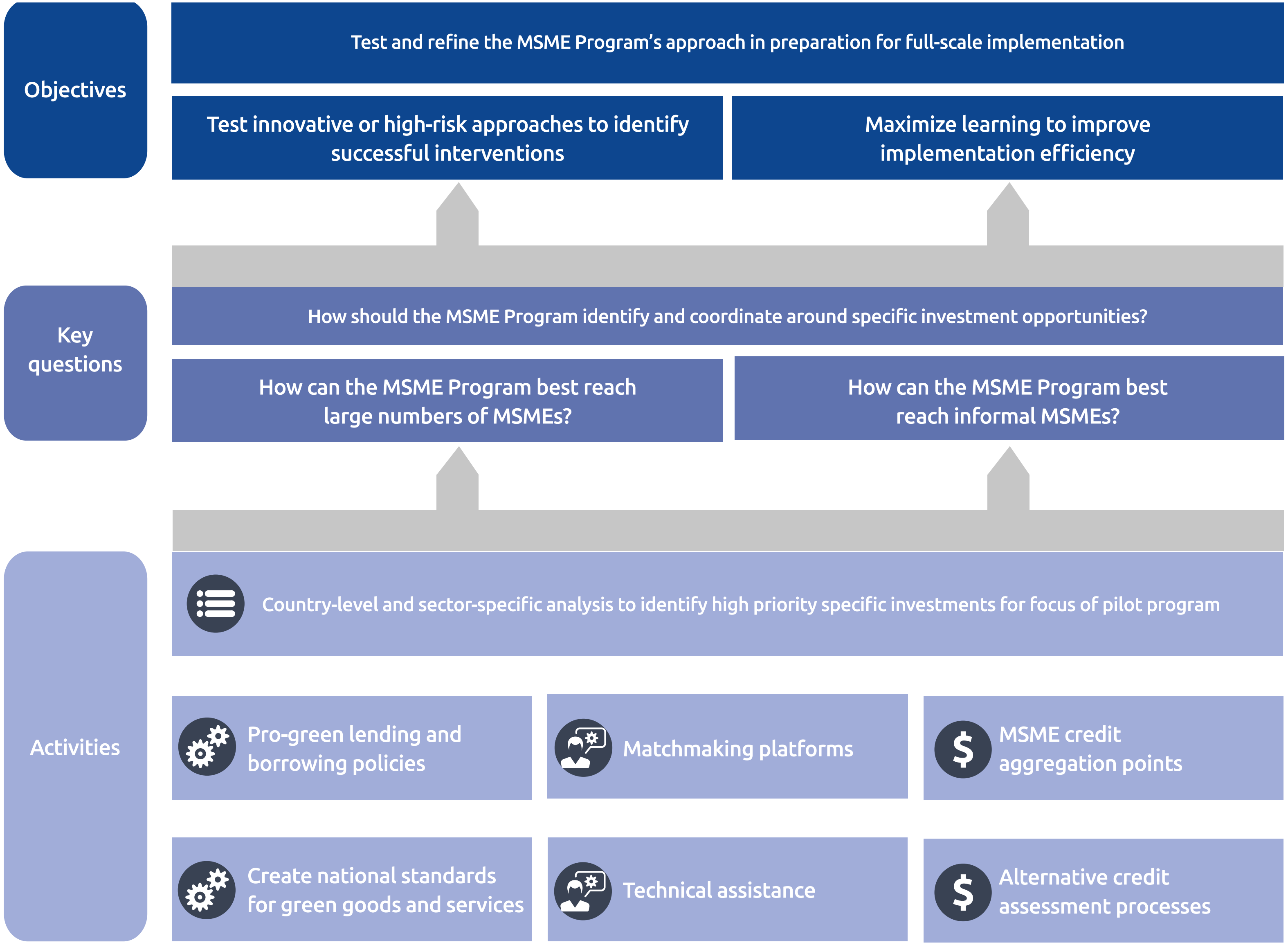
The GCF's MSME Strategy will clearly require more than the ability to support the range of interventions mentioned above. From the analysis conducted in this study, there are several others considerations:

The MSME Program should find ways to maximise efficiency of MSME investing. There are more than 350 million MSMEs in developing countries, predominantly in trade, agriculture and manufacturing. The transaction cost of interacting with large numbers of entities with small ticket sizes means the GCF will need to find ways to maximise efficiency of lending and investing. Practically speaking, this means prioritising investments through those intermediaries that have demonstrable efficiency advantages, or alternatively, targeting investment aggregators as an entry point to the MSME market.

The MSME Program should look for ways to invest in the informal sector. The majority of MSMEs in developing countries, almost 300 million, are in the informal sector. Providers will find it difficult to increase access to climate finance for informal MSMEs using traditional financial products, particularly those requiring property as collateral or extensive credit histories. The GCF could look to find ways to support solutions for informal businesses, such as the use of alternative credit worthiness assessments or alternative collateral sources. Crucially, the informal sector requires a supportive enabling environment, such as suitable policies around property or expanded credit information systems.

Country- and sector-level analysis should determine specific programs within the MSME Program. This study provides a high-level view of sector-level priorities for greening finance and of prioritisation of climate technologies. At a global level, the analysis suggests that there would be significant need for greening finance in the trade, agriculture and manufacturing sectors. It is also likely that the wastewater, small hydro and water technology sectors will see large MSME participation. However, priority setting and decision making for individual countries would require a more in-depth look at the issues within each sector at country-level in order to uncover the specific investment opportunities.

Figure 40: *MSME Program Theory of Change.*



For example, country-level analyses might find a significant demand for off-grid, mini-solar plants among manufacturing MSMEs in several countries. Subsequently, the GCF could support improvements to the enabling environment, increased knowledge and awareness of these opportunities and the provision of tailored financial products. It could also decide upon the most appropriate delivery channel for such support (i.e., type of Organisation and geographical remit).

The pilot phase of the GCF's MSME Program provides an opportunity to test approaches to tackle the challenges mentioned above while maximising learning before scale-up. The overarching objective of the pilot should be to test and refine the MSME Program's approach in preparation for full-scale implementation. Further, the pilot program should reduce the uncertainty around achieving the main challenges likely to be faced by the full-scale program. There are two components to this. First, the pilot program should test new approaches to solving issues while in a relatively safe, small-scale, environment. Second, it should maximise learning to ensure that efficiency gains can be found early on during scale-up. Practically, this means that the MSME Pilot Program should identify investments that can maximise MSME reach while reaching informal MSMEs. These investments should be made within the bounds of a strong M&E framework to ensure all key lessons can be extracted and used in future investments. The pilot program would also be a good opportunity to undertake more detailed sector analyses at country level to uncover specific investment opportunities. The efforts of the pilot program could then focus around a coordinated approach to support a stronger enabling environment, increased knowledge and awareness, and the provision of tailor financing products.

8 Annex

8.1 Expert interviews

Table 8: *Interviewees.*

Name	Organisation
David Bresch	Swiss Reinsurance Company Ltd.
Amal Lee Amin	E3G (Civil Society)
Aurelio Souza	Winrock international (civil society)
Rodrigo Violic	Banco BICE
Duncan Abel	Nedbank
Jens-Christian Stougaard	PensionDanmark
Avril Benchimol Dominguez	IDB
Matt McClymont	IDB
Arantza Loza	IDB
Alfredo Idiarte	IDB
Duncan Gromko	IDB
Katalin Solymosi	IDB
Michelle Kaminski	CIDA
Paul-Vande Logt	Dutch MoFa
Jakob Haugaard	DANIDA
Tomonori Sudo	JICA
Henning Wuester	IRENA
Kevin Gardner	DFID
Santiago Lorenzo	WWF
Karen Orenstein	Friends of the Earth

Name	Organisation
Inez Couzinet	DAI Consulting
Tammy Newmark	EcoEnterprises
Lizzie Teague	Root Capital
Christine Eibs-Singer	CES Global
Uwe Weber	SWITCH-Asia Network Facility
Christian Grossmann	World Bank
Corazon Conde	ADFIAP Consulting
Dan Potash	Private Financing Advisory Network
Barbara Buchner	CPI
Nick Godfrey	New Climate Economy
Shelagh Whitley	ODI
Robert Youngman	OECD
James Cameron	Climate Change Capital
Samuel Bryan	Nexus Carbon for Development
Madhu Yalamarthi	Ethiopian Agricultural Transformation Agency
Antongiulio Marin	European Commission, DG Climate Action

8.2 Definitions of sectors

Table 9: *Definition of sectors.*[67]

Sector	Description
Agriculture, forestry, hunting and fishing	Extraction of vegetable and animal resources.
Community, social and personal services	Services provided by businesses and public administration to individuals or the community.
Electricity, gas and water supply	Provision of electric power, natural gas, steam supply and water supply.
Financial, professional and business services	Provision of financial intermediation; activities focused on business sector.
Infrastructure	General construction, renovations, repairs, of buildings and civil engineering.
Manufacturing	Transformation of materials, substances or components into new products.
Mining and quarrying	Extraction of naturally occurring minerals.
Recycling and waste management	Processing of waste and scrap into secondary raw material.
Tourism	Provision of services to individuals traveling for leisure.
Trade	Wholesale and retail sale of any type of goods; services related to the sale of merchandise.
Transport storage and communications	Provision of passenger or freight transport; postal activities and telecommunication.

[67] Sectors are adapted from UNSTAT International Standard Industrial Classification of All Economic Activities, Rev. 4.

Table 10: *Definition of climate technologies.*[38]

Sector	Description
Wastewater	Treatment and redistribution of wastewater and sewage.
Small hydro	Production and distribution of hydroelectricity generating power up to 10 MW.
Water	Water treatment and purification
Onshore wind	Production and distribution of wind technologies situated on land.
Solar PV	Production and distribution of solar photovoltaic technologies.
Bioenergy	Production and distribution of renewable energy made available from materials derived from biological sources.
Geothermal	Production and distribution of energy harnessed from earth's core.
Electric bikes	Production and distribution of motorcycles powered by electricity.
Waste	Municipal solid waste management.
Solar CSP	Production and distribution of renewable energy produced from concentrated solar power systems.
Solar thermal	Production and distribution of renewable energy produced by harnessing solar energy to generate thermal energy.
Biofuels	Production and distribution of renewable energy produced from living organisms or their waste produce.
Bus rapid transit	Development, operation and maintenance of bus transit networks.
Natural gas vehicles	Production, distribution and maintenance of vehicles powered by compressed natural gas or liquefied natural gas.
Electric vehicles	Production, distribution and maintenance of vehicles powered by electricity.

8.3 Overview of investment prioritisation model

Figure 41: *Model for prioritising sectors.*

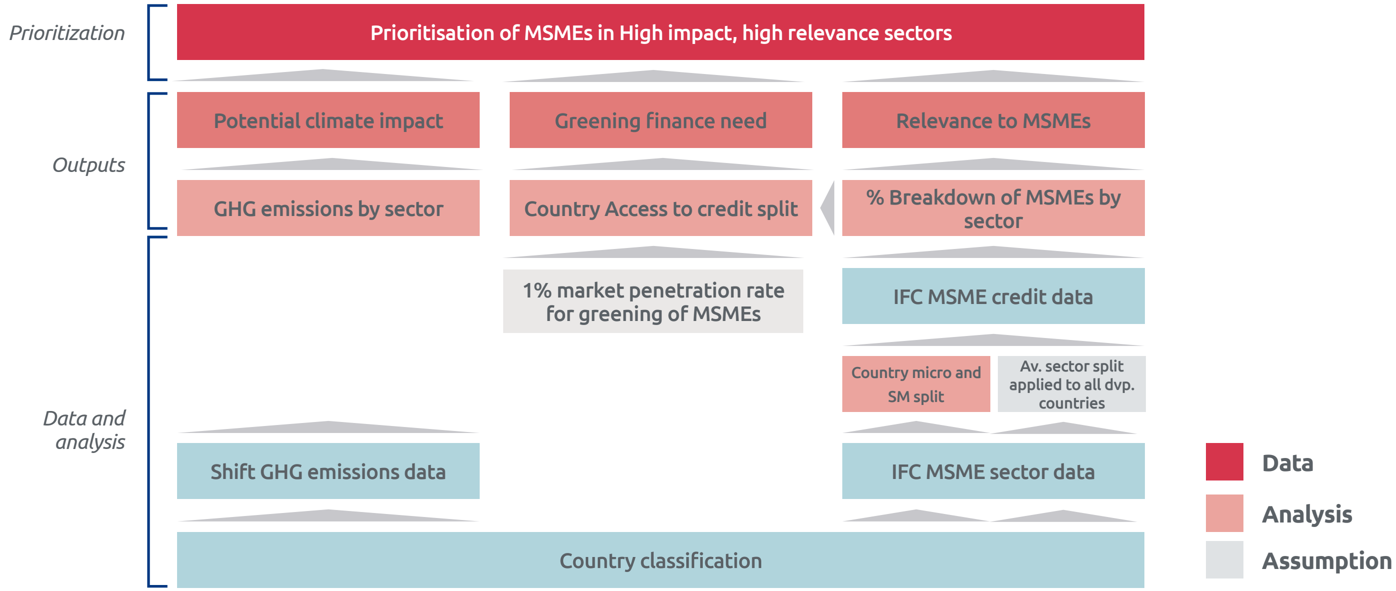
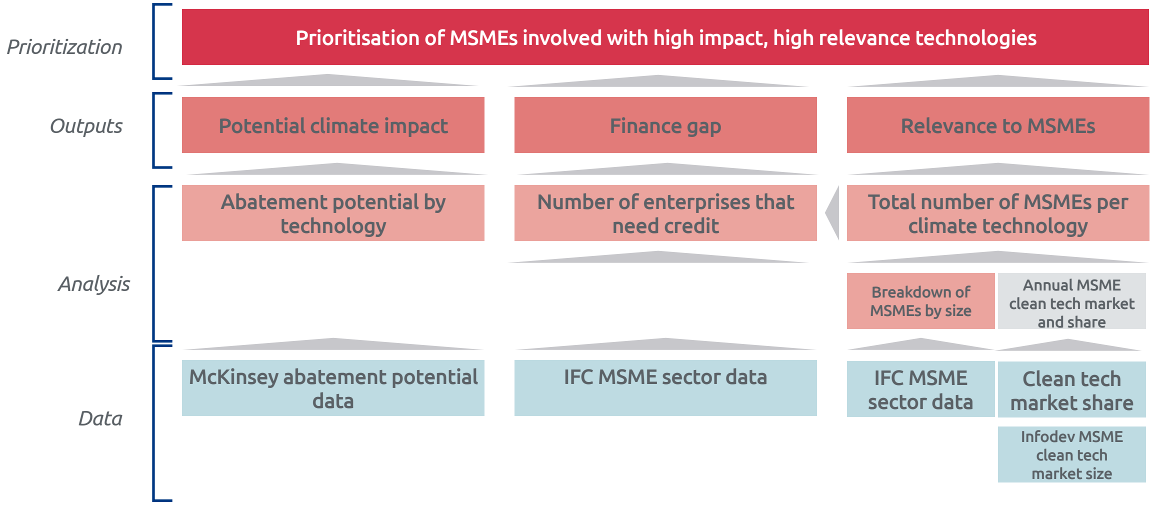


Figure 42: *Model for prioritising climate technologies.*



Increasing MSME access to climate finance

1 "The Climate and Development Knowledge Network is a project funded by the UK Department for International Development (DFID). It is managed by an alliance of organisations led by PricewaterhouseCoopers LLP (PwC), and including Fundación Futuro Latinoamericano, INTRAC, LEAD International, the Overseas Development Institute, and SouthSouthNorth".

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