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Suggested citation: SEED (2020). Translating Climate Finance into Climate Action on the Ground. Leveraging the Potential for Small and Medium-sized Enterprises (SMEs). Berlin, Germany.

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LIST OF ABBREVIATIONS

ADB Asian Development Bank
AfDB African Development Bank

ASAP Agricultural Smallholder Adaptation Programme

BDS Business Development Services

CIF Climate Investment Funds
EIB European Investment Bank

FI Financial institution

FLDG First Loss Default Guarantee

GCF Green Climate Fund

GDP Gross domestic product
GEF Green Environment Facility

GHG Greenhouse gas

IDB Inter-American Development Bank

IFAD International Fund for Agricultural Development

IFC International Finance Corporation

IMM Impact measurement and management

ILO International Labour Organization

MDB Multilateral Development Bank

MFI Microfinance institution

MSME Micro-, small and medium-sized enterprise

NDC Nationally determined contributions

OECD Organisation for Economic Co-operation and Development

PoA Programme of Activity

SDG Sustainable Development Goal

SME Small and medium-sized enterprise

UGEFA Uganda Green Enterprise Finance Accelerator

UNDP United Nations Development Programme
UNEP United Nations Environment Programme

WBG World Bank Group

EXECUTIVE SUMMARY

The large-scale capital that bilateral and multilateral organisations, donors and private institutions commit in the form of climate finance is crucial for significantly reducing greenhouse gas emissions and enabling adaptation to the adverse impacts of climate change, particularly in emerging markets and developing countries. The efficient and effective delivery of climate finance, however, is complicated by the localised nature of climate change impacts and the vulnerabilities of particularly hard-hit communities (adelphi 2019a, 2019b).

As fundamental economic actors - accounting for over 35% of GDP contributions in emerging markets and around 50% of global employment (Alibhai et al. 2017) -, small- and medium-sized enterprises (SMEs) must and are well positioned to assume a greater role in addressing these localised climate-related challenges. In part, SMEs are particularly vulnerable to the effects of climate change due to their more limited access to resources and capacities to adapt (UNEP 2015, SEED 2020a). For example, many SMEs fail to have quick access to working capital in response to shocks. In 2020, SMEs were disproportionately affected by the economic shocks of the Covid-19 pandemic (Kamal Chaoui 2020, OECD 2020a). While the shorter-term impacts of Covid-19 provide an immediate added challenge to SMEs, discussions around "green recovery" point to the need for robust strategies that ensure long-term environmental sustainability, including by delivering climate change adaptation and mitigation solutions. Therefore, green recovery programmes - to secure economically and environmentally resilient and socially inclusive economies after the pandemic - should be devised to help accelerate a transformation to long-term resilience, including and particularly in response to climate change. Green recovery depends on global and national efforts to acknowledge the particular vulnerabilities and key role played by SMEs as the 'economic backbone' of economies.

Simultaneously, many SMEs in emerging markets and developing economies have proven their transformative capacities to adopt and innovate technologies and business models that enable communities to better adapt to and mitigate the impacts of climate change. As such, SMEs in emerging markets and developing countries offer great potential to deliver climate action from the ground up through (a) their embeddedness in local communities and inclusion of vulnerable groups (particularly women, youth and poorer urban and rural populations) in their value chains; and, (b) their diverse

roles as innovators (or "climate-smart" providers) or customers of and advocators for market-driven solutions for climate change mitigation and adaptation, such as clean energy technology, climate-smart agricultural practices and more.

Considering the diverse and central roles that SMEs play in climate action, efforts to improve access to finance for these key economic actors would enable SMEs across sectors to (a) invest in measures to improve their resilience to the adverse impacts of climate change; (b) maintain their operational stability and effectively adapt to economic shocks and climate risks; and (c) scale their delivery of climate change mitigation and adaptation solutions to the communities most impacted by climate change in developing countries and emerging markets.

Despite a growing commitment to financing SMEs through climate finance flows – particularly notable within the Green Climate Fund (GCF) and Global Environment Facility (GEF) –, this paper identifies gaps in current climate finance flows, which largely overlook the tremendous potential of SMEs to deliver climate action from the ground up. These gaps in climate finance include a lack of total fund allocation and project volumes dedicated to SMEs within climate finance flows; limited acknowledgement of the key role played by SMEs beyond the agriculture sector, as marked by a diversity of target sectors and purposes; and, underrepresentation of local financial institutions (such as microfinance institutions and local commercial banks) as recipient institutions for the effective and efficient delivery of capital to SMEs.

In this paper, the identification of these gaps in climate finance is based on a comprehensive review not only of current climate finance projects, but also of the contributions of SMEs to climate action, drawing on nearly twenty years of experience in providing incubation and acceleration programmes for eco-inclusive enterprises1 within SEED programmes as well as insights and good practices from the interrelated spheres of SME finance and green finance. Summarised in the table below, this paper provides climate finance practitioners and policymakers as well as local financial institutions and other SME intermediaries (such as incubators, accelerators, business development service (BDS) providers) with tangible recommendations to better understand and leverage the potential of SMEs in meeting climate action objectives from the ground up.

¹ Eco-inclusive SMEs at SEED refer to enterprises that are socially inclusive and environmentally sustainable, capturing climate change mitigation and adaptation as well as broader environmental contributions.

CLIMATE FINANCE PRACTITIONERS and **POLICY-MAKERS** must:

Collaborate especially with SME intermediaries (BDS, accelerators, incubators) to provide tailored support for SMEs around climate-related impact measurement and management (IMM) and finance-focused capacity building;

Advocate for a strong role of local financial institutions (FIs), for example by systematically screening and selecting projects to be financed through financial intermediaries (i.e. local commercial banks, microfinance institutions and others);

Integrate targeted technical assistance with concessional finance in order to equip local FIs with the necessary capacities and practical tools to assume their role delivering climate finance to SMEs;

Increase support for bottom-up development of climate finance instruments that leverage the expertise of local actors (financers, SME intermediaries and others) familiar with SMEs and their financing needs;

Support evidenced-based policy approaches that are backed by large-scale SME impact data aggregation, thereby recognising within NDCs and other frameworks the contributions of SMEs at scale to climate change mitigation and adaptation, while expanding efforts to mainstream green- and climate-related considerations within the financial sector.

LOCAL FIS (banks, MFIs) and **OTHER SME INTERMEDIARIES** (incubators, accelerators, BDS) must:

Recognise that SMEs as innovators or customers of climate change adaptation and mitigation solutions are an attractive and growing target group and thus a tremendous business opportunity for local FIs, especially since climate finance sources have a growing interest in supporting such enterprises;

Actively engage in expanding their knowledge of climate finance opportunities and available mechanisms while delivering tailored financing to meet SMEs' needs;

Must coordinate with SME intermediaries to benefit from a pipeline of finance-ready SMEs, while also exchanging with SME intermediaries on the financing needs of SMEs to design and deliver tailored financial solutions;

Incorporate innovative features into tailored product development and delivery, by leveraging trends such as fintech and equipping key players with tools to identify bankable investments.



1. INTRODUCTION

Effective and ambitious NDC implementation can benefit from greater attention to the role of an often overlooked yet impactful group of players for ambitious climate action: small- and medium-sized enterprises (SMEs). Despite goals put forward in the Paris Agreement and commitments by countries in their nationally determined

contributions (NDCs), the concentration of greenhouse gases in the atmosphere is rising (WMO 2020). It is therefore more important than ever for countries to step up their ambitions and advance the implementation of climate action commitments in the coming years, in part by leveraging the role of SMEs for climate action.

What is a small- or medium-sized enterprise (SME)?

There are various definitions of smaller enterprises across countries and organisations. This paper approaches SMEs based on the International Finance Corporation's (IFC 2012) working definition of micro-, small and medium-sized enterprises in the table below.² ³

Table 1: Defining SMEs

Indicator	Micro	Small	Medium
Employees	1 < 10	10 < 50	50 < 300
Total annual sales	<usd 100,000<="" th=""><th>USD 100,000 < USD 3 m</th><th>USD 3 m < USD 15 m</th></usd>	USD 100,000 < USD 3 m	USD 3 m < USD 15 m

Source: IFC (2012).

In line with this definition, this paper maintains that a core gap occurs in delivering the required business development support and financing as enterprises look to expand beyond the scale of "micro" into the realm of "small" and "medium" businesses. This "missing middle" gap, characterised by enterprises struggling to move beyond the start-up phase to expand their businesses – as well as environmental, social and economic impacts –, manifests in a lack of financially sustainable SMEs and higher failure rates at earlier stages of SME development (ADB 2016; CFF 2018; Khanna et al. 2017; OECD 2005). This financing gap is of central importance throughout this paper and must be addressed through strategies and approaches that expand the role of SMEs in climate action in order to realise the full potential of SMEs to deliver localised climate action.

In light of various climate and other development challenges (as exacerbated by Covid-19) across the globe, context-specific solutions for green economic recovery and resilience are required – and SMEs are well positioned to deliver these solutions. Much of the global population, particularly in developing and emerging markets, depends on jobs offered by SMEs (Alibhai et al. 2017, UNDESA 2020) – a sector disproportionately impacted by the current Covid-19 pandemic (Kamal Chaoui 2020, OECD 2020a). These stresses come in addition to increasing climate change-related risks that hit SMEs especially hard due to their limited resources and capacities to adapt (UNEP 2015, SEED 2020a). For example, many SMEs have lacked capex required to invest in energy efficient technologies or diversify

supplier networks in anticipation of climate and other risks along their supply chains. Additionally, these SMEs commonly lack access to the working capital needed to quickly respond to shocks. This effectively renders an entire economic segment double-burdened and highly vulnerable to both climate and other economic shocks. By focusing greater attention on SMEs within climate-related agendas, we can ensure that our economies are well prepared to rebound in a way that encourages long-term environmental sustainability and climate resilience while ensuring the economic integration of vulnerable groups. In order to address the vulnerabilities of many SMEs and the marginalised communities they integrate into their value chains, climate solutions must respond to socio-economic dynamics by (a) empowering groups

² An enterprise is ascribed a firm class when it meets at least one of the two indicators.

³ Other publications referenced in this report categorise (M)SMEs along differing indicators. Moreover, various sources only refer to SMEs, omitting micro-sized enterprises. We acknowledge the potential messiness of comparing and disaggregating data from different sources; however, in the absence of standardised publications, a better approach has yet to be developed.

⁴ Often referred to as the "valley of death".

most impacted by climate change and other shocks; (b) delivering locally embedded approaches that break down access barriers, particularly of rural communities and marginalised groups; and, (c) celebrating context-specific product and service innovation in the private sector – including by recognising the role of SMEs as innovators while replicating SMEs' products and services for climate change mitigation and adaptation.

While the potential for SMEs to achieve concrete climate action on the ground has been identified by key actors, such as the OECD (Koirala 2018) and the World Bank Group (WBG 2014), the contributions of SMEs to achieving climate goals has yet to be fully unders-tood and appreciated. Many countries have already or are currently seeking to align their national development priorities with their climate change responses, as expressed through their NDCs. The implementation of NDCs in the coming years represents a major opportunity for increased support of SMEs' roles in climate action. Further efforts are needed to direct climate finance flows to SMEs as key drivers of climate action from the ground up, by offering market-driven solutions (products, services and value chains) that are socially inclusive and in accordance with sustainable development goals (SDGs) (adelphi 2019a, 2019b).

This report (a) traces the role that SMEs take in climate action as innovators or customers of and advocators for solutions (products and services) to climate change adaptation and mitigation. The subsequent chapter (b) explains current financing challenges for SMEs in the "missing middle" and the significance of these barriers to enabling SMEs to realise their full potential as drivers of climate action. Thereafter, the paper (c) provides an analysis of gaps within current climate finance flows and the extent to which these flows reach SMEs. It ends by drawing on insights and good practices from the interrelated spheres of green finance and SME finance to offer (d) tangible recommendations for key stakeholders (climate finance practitioners and policy-makers as well as local financial institutions (FIs) and SME intermediaries) to deliver climate action from the ground up by scaling climate finance for SMEs.





2. EXPLORING THE ROLE OF SMEs IN CLIMATE ACTION

SMEs are regularly described as the "economic backbone" of countries' economies and considered indispensable to local, national and global development. They account for 95% of registered firms and over 50% of jobs worldwide, and contribute to well over 35% of GDP across emerging economies (Alibhai et al. 2017). Drawing on alternative data sources, the ILO (2019) finds that micro-sized and small enterprises' (including formal and informal sectors) employment share amounts to 40.4% in low-income countries, 29.2% in lower middle-income countries and 40.5% in higher middle-income countries.⁵

This economic importance of SMEs is reflected in their increased attention at the international policy level, especially during the Covid-19 pandemic. The G20 put SMEs on the agenda in 2015 and has since prioritised the question of how to best support SMEs for economic development (GPFI 2016). Other leading policy actors, including the ILO (de Kok et al 2013; ILO 2019), OECD (Koirala 2018; OECD 2018; 2020b; 2020c), WBG (Stein et al. 2013; Alibhai et al. 2017; Kumar 2017; WBG 2019) and the World Economic Forum (WEF 2016; 2020), have conducted considerable work on the importance of SMEs for the world economy and on the support these enterprises need to start-up and scale-up. Against the backdrop of the current COVID-19 pandemic, policy responses targeting SMEs feature strongly in the global spotlight (Kamal-Chaoui 2020; OECD 2020a). SMEs are the most severely affected business segment (or class) in the current economic crisis induced by the pandemic (OECD 2020a). This is due to shared characteristics like limited inventory, fewer cash reserves, smaller client bases and limited options for credit (ibid) as well as SMEs' overrepresentation in particularly affected industries, such as tourism and retail (Kamal-Chaoui 2020). The stabilisation of the global "economic backbone" will prove decisive for the international community in battling the shorter-term effects of the pandemic and longer-term impacts of climate change on the global economy in the years to come. While these are undoubtedly difficult times for SMEs, a SEED (2020b) report on the Covid-19 coping mechanisms of SEED-supported SMEs provides qualitative evidence of the resilience of SMEs in recent months. This resiliency of SMEs, marked by a strong entrepreneurial spirit and diverse expertise, can also be learnt from and leveraged in responding to climate change.

2.1. SMEs as enablers of socially sustainable⁶, inclusive climate action

SMEs can assume multiple roles in delivering climate action that includes vulnerable groups most impact by climate change while contributing to socially and environmentally sustainable development. Socio-economically marginalised populations often find themselves in downward spirals of intensified vulnerabilities due to climate change. Unhindered, climate change acts as a barrier to sustainable development disproportionately affecting vulnerable groups (IPCC 2014). According to a UNDP (2020) report on 107 low-income countries, one in five people are multidimensionally poor - meaning that they are deprived of multiple essential conditions in the fields of health, education and sustainable livelihoods. This deprivation renders the world's poor particularly exposed to and defenceless against the negative effects of climate change (IPCC 2014; Olsson et al. 2014, UNFCCC 2018). As a result, the poor are substantially threatened by climate changerelated deterioration of health, loss of livelihoods and displacement - thereby intensifying already experienced poverty and marginalisation.8 Among vulnerable groups, women are particularly affected by climate change-related impacts (IUCN 2015) while being especially limited in their adaptive capacities (Aguilar Revelo et al. 2015). This close relationship between climate change and sustainable development, summarised in Figure 1, has been widely recognised by international key actors and is enshrined in the 17 SDGs, of which seven directly address action on climate change. SMEs facilitate economic inclusion and livelihood benefits for the world's marginalised by offering employment as well as products and services to rural and urban communities, thereby contributing to socially inclusive, sustainable development.

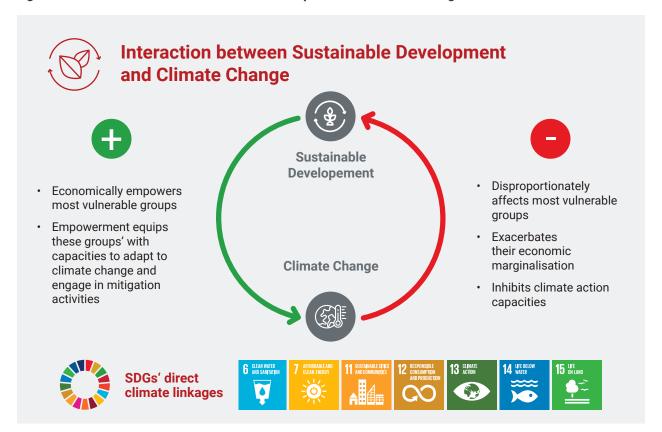
⁵ The ILO (2019) report subsumes assessments for medium-sized enterprises with large enterprise estimates. Since they cannot be disaggregated, the results were omitted in this report. For the disaggregation of country income classifications, see: https://blogs.worldbank.org/opendata/new-country-classifications-income-level-2019-2020#:~:text=The%20World%20Bank%20classifies%20the,calculated%20using%20the%20Atlas%20method.

⁶ Based on the seminal Brundtland Report Our Common Future (WCED 1987), "social sustainability" is regarded as one core pillar through which sustainable development – defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (ibid: 43) – is achieved. Social sustainability centres on aspects such as equitable incomes and adequate access to goods, services and employment (cf. Sachs 1999).

⁷ Vulnerability is defined here as "exposure to a marked decrease in standard of living" (Stiglitz 2014).

⁸ Projections estimate that between 2030 and 2050, a quarter million additional deaths will be attributed to climate-change related health issues annually (WHO 2018). A vast body of literature has analysed the already sizable effect that climate change has on the loss of livelihoods globally and its negative effects on the many millions that already suffer from forms of impoverishment (Olsson et al. 2014). Adding to this, it is estimated that up to 24 million people were displaced from their homes in 2015 because of sudden onset weather events such as droughts and storms (The Nansen Initiative 2015). While slow onset events such as desertification are unable to be measured sufficiently, their resulting impact on displacement is expected to be much larger (UNHCR 2018).

Figure 1: Interaction between Sustainable Development and Climate Change



Being locally embedded, SMEs facilitate climate action on the ground in rural and urban communities where groups are most vulnerable to climate impacts. SMEs do so by alleviating poverty: they create four out of five new formal jobs in emerging markets and absorb the lion's share of the informal workforce in low-income countries (UNDESA 2020). The employment opportunity offered by SMEs particularly empowers disadvantaged or vulnerable groups, such as women or youth (Alibhai et al. 2017; IIED 2016), and provides capacities to adapt to and mitigate climate change. Locally-based, grassroots climate action is found to be more effective and efficient at building trusted relationships with communities and involved institutions due to a better understanding of local realities and the involvement of socially marginalised groups (IIED 2017). Globally, the ILO (2017) reports that female fulltime permanent employees in the formal sector are more likely to work in SMEs (31%) than in larger firms (27%); and SMEs are more often led by female managers than larger businesses. With data indicating that the majority of SMEs is located in small settlements (World Bank 2013)9 , the employment effects of SMEs are particularly crucial within rural communities, where most of the world's poor live (UNDP 2020) and livelihoods, highly dependent on local natural resources, are increasingly affected by climate change (IPCC 2019). In rapidly expanding urban settings that are both troubled by rising economic inequality (Euromonitor 2013, 2017; UNEP 2015) and increased frequencies climate crises (Kjellén 2019, UNEP

2015), SMEs take a crucial role in absorbing large shares of formal and informal labour, thereby acting as a lever for inclusive development and adaptive resilience.

Despite the central role played by SMEs, the channels through which they assume key positions in the battle against climate change are insufficiently addressed in international policy frameworks and commitments. The Country Spotlight on Policy - Climate Change Mitigation and Adaptation Objectives on the following page presents two examples, from India and Uganda (where SEED actively supports SMEs), of national agendas for climate action and development. The spotlight reveals that SMEs are featured to varying degrees in the two countries' policy frameworks and initiatives: while Ugandan climate action policies acknowledge the private sector in a less pronounced way (with marginal focus on SMEs), India has explicitly recognised the pivotal climate action role of smaller enterprises in their NDC and translated this assertion into targeted large-scale initiatives aimed at supporting SMEs to fulfill their climate action potential. These examples illustrate the intrinsic strategic link between SMEs - as key private sector actors and levers of socially inclusive development - and achieving intersecting climate and socially sustainable economic development objectives, while also demonstrating the varying importance attributed to SMEs within national agendas and policy implementation.

⁹ Within the World Bank Group Support for Small and Medium Enterprises (2013) report, a survey on smaller businesses in Africa, Latin America and the Caribbean finds that more than half of micro-sized and small enterprises are located in rural settings, with the majority of surveyed countries having more than 70% of their formal micro-sized and small enterprises operating from rural areas (World Bank 2013).

Country Spotlight on Policy

Climate Change Mitigation and Adaptation Objectives

INDIA

SME relevance in policy

The country's NDC recognises the private sector to take a key role in tackling climate change, of which the country's a crucial SME landscape is supported with multiple initiatives like the **SME Cluster Program for Energy Efficiency and the New Ventures India (NVI)** initiative.



CARBON FOOTPRINT

- Third largest GHG emitter
- Second largest population
- Projected to starkly increase due to growing population, infrastructural development and resource usage



CLIMATE CHANGE IMPACT

- One of the most climate changeaffected countries
- Strong rise in prevalence of floods, landslides, water scarcity, extreme heat, cyclones



CLIMATE POLICY

- Four major climate mitigation and adaptation goals in its Nationally Determined Contribution (NDC)
- Ambitious national and state-level policy landscape such as the National Action Plan on Climate Change (NAPCC), the National Resource Efficiency Policy or the India Cooling Action Plan

Mitigation targets

- Increasing the non-fossil-based capacity from current 30% to 40% by 2030 by massively increasing investment in the renewable energy sector.
- Transformation towards a green(er) economy by reduing emission intensity of its GDP by 33-35% by 2030.
- Creating additional carbon sinks of around 2.5-3 billion tons of CO₂ through naturebased mitigation strategies.

Adaptation target

 Increasing the resilience of the most vulnerable sectors, particularly agriculture, water resources and coastline economies.

UGANDA

SME relevance in policy

Uganda's climate action efforts do not yet explicitly target SMEs. However, climate policies envisage the private sector to contribute to fulfilling the NDC's objectives, e.g. through the involvement in renewable energy technologies and energy efficiency



CARBON FOOTPRINT

- One of the lowest GHG emissions per capita in the world (1.39 tons CO₂, global average)
- NDC sets objective to decrease national GHG emissions by 22% in 2030 compared to business-as-usual (BAU) scenario



CLIMATE CHANGE IMPACT

- Uganda's climate is naturally variable and susceptible to drought and flood events
- Country is particularly vulnerable to climate change effects due to its economic dependence on agricultural sector



CLIMATE POLICY

- NDC with strong adaptation emphasis and focus on agriculture, energy, forestry and wetlands
- NDC is integrated into various national developmental commitments and guidelines, such as the Uganda Vision 2040

Mitigation targets

- Achieve 3200MW of renewable electricity geneartion by 2030, compared to 729MW in 2013.
- Increase forest cover to 21% in 2030 through forest protection, afforestation and sustainable biomass production.
- Increase wetland coverage from 10.9% to 12% by 2030 through demarcation, gazettement and restoration.

Adaptation target

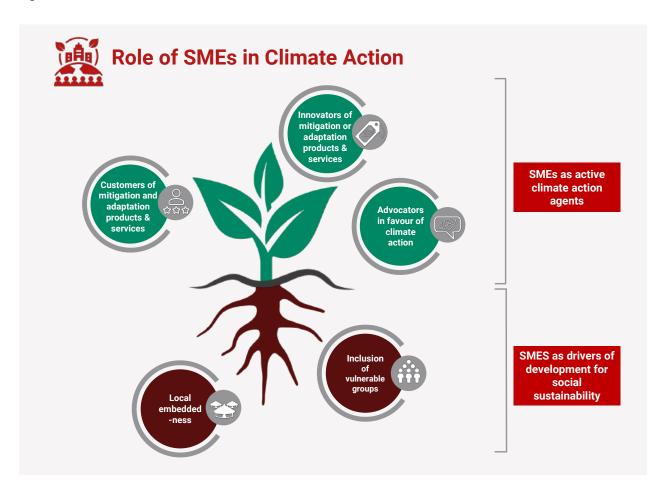
- Expand value addition, post-harvest handling and storage and access to markets, including mico-finance.
- Improve water supply, harvesting and storage to key economic sectors, especially agriculture, and domestic use.
- Increase the efficiency in the use of biomass in the traditional energy sector.

2.2. SMEs as climate solution innovators, customers and advocators

As vehicles for socially sustainable climate action, SMEs can take on various roles in meeting climate adaptation and mitigation goals. Following Figure 2, SMEs are (a) "climate-smart" innovators (or providers) of mitigation and adaptation products and services (from production, distribution, retail, installation, servicing and maintenance) and (b) customers of climate-smart products and services (Dalberg 2015; GCF 2020). In both capacities, SMEs have a strong role to play as (c) advocators, or voices in favour of climate action and raising awareness in their communities of the impacts of climate change. While SMEs must protect their operations and assets

from the impacts of climate change through their own adaptation measures, SMEs also benefit from new and emerging business opportunities around developing or manufacturing products and services for others to adapt to or mitigate the impacts of climate change (adelphi 2019a, 2019b) – as evidenced by their role as innovators. In all roles, SMEs are able to demonstrate that such climatesmart products and services make business sense and support local communities and vulnerable populations in mitigating the impacts of and adapt to climate change. This paper asserts throughout that the role of SMEs as climate-smart innovators offers particularly high-impact potential to contribute to climate action by marking a break with business-as-usual, transforming economies to climate-resilient and low-carbon futures.

Figure 2: Role of SMEs in Climate Action



Source: own illustration.

In their role as customers of products or services for climate change mitigation and adaptation, many SMEs need further support. Particularly in developing countries, climate change is already affecting major economic sectors such as agriculture through climate-related hazards, for example, droughts and other extreme weather events. For example, evidence drawn from a survey among SEED-supported SMEs operating in multiple economic

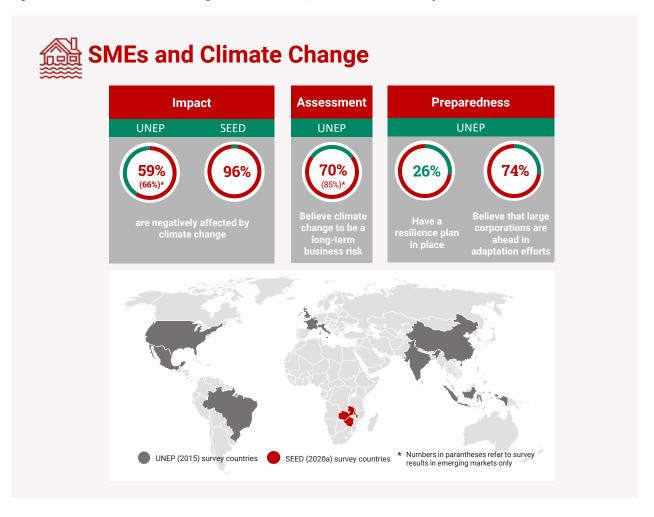
sectors show that 96% of surveyed businesses already battle with the adverse effects of climate change (SEED 2020a). This overwhelming degree of affectedness is set against an alarmingly low degree of preparedness. According to a UNEP (2015) survey of SME decision-makers in eleven developed and emerging markets, only 26% of smaller businesses have a strategy or plan in place to deal with potential climate-related risks. As a

¹⁰ The survey was conducted in early 2020 with 80 eco-inclusive SMEs that took part in different SEED programmes in Malawi, Zambia and Zimbabwe. The surveyed SMEs were in different development stages.

result, SMEs feel vulnerable. Only a quarter of decision-makers believe their business is well equipped to adapt to climate impacts, while over two thirds of respondents are worried about further climate impacts on their business – rising to 85% when looking exclusively at SME decision-

makers from emerging markets (ibid). To overcome these challenges summarised in **Figure 3**, solutions are urgently needed that enable capacity building and awareness raising among SMEs as well as improve access to finance to prepare and respond to climate-related risks.

Figure 3: SMEs and Climate Change: Affectedness, Assessment and Preparedness



Sources: Own illustration, employing data from UNEP 2015 and SEED 2020a.

Furthermore, greater attention should be paid to the role of SMEs as innovators of climate-related solutions in the private sector. While the role of SMEs as customers of products and services for climate change mitigation or adaptation is important to overcome the disproportionate vulnerabilities of SMEs to climate impacts across sectors, the magnitude and far reach of the climate change emergency necessitates SMEs to actively contribute to disruptive innovation (Fayolle 2019). Large businesses have typically been in the spotlight of calls for greater private sector involvement with climate action and sustainable development (IISD 2019). However, SMEs display significant capacities to innovate products and services that meet customers demand and can be effectively delivered to those most exposed to climate change effects (OECD 2017). This is due both to their ability to work outside of dominant paradigms of established firms (i.e. a break with business-as-usual)

as well as their local embeddedness and incorporation of vulnerable groups into their value chains as suppliers, employees, distributors and customers (ibid). SMEs are already innovating products and services that support climate change mitigation and adaptation. Such mitigation solutions range from last-mile distribution of clean energy for households and productive use, generation of energy-efficient fuel sources (e.g. waste-toenergy models), low-carbon construction and other green manufacturing materials, biodiversity conservation and restoration (e.g. community-managed carbon credits and reforestation), and more.11 These products and services contribute to renewable energy generation and energy efficiency benefits for households as well as other SMEs and larger-scale businesses. Regarding adaptation, SMEs are improving the climate resilience of smallholder farmers by offering bundled services for agricultural insurance, climate-resilient agri-inputs, solar-powered

¹¹ Drawing insights from SEED's enterprise database: https://www.seed.uno/enterprise-profiles

irrigation systems, trainings, etc.; green manufacturing SMEs are diversifying and improving the adaptive capacities of their value chains by sourcing climate-resilient agri- and recovered waste inputs; sustainable tourism SMEs are adapting their businesses to ensure the long-term resilience of wildlife and biodiversity to climate impacts; and more.

Due to their context-relevant products and services for climate change mitigation and adaptation, climate-smart innovators are "high-impact potential" pioneers within the enterprise ecosystem. In delivering some of the products and services mentioned above, "climate-smart" SMEs (or SMES as innovators) share common traits of local rootedness and the inclusion of vulnerable groups in developing countries and emerging markets - following SMEs generally across sectors. However, these innovators differ by translating their innovation potential into action by developing and applying innovative technologies, products and services for climate change mitigation and adaptation. In doing so, these climate-smart SMEs strengthen low-carbon economies and create green and climate-resilient jobs across their value chains. Despite insufficient and disaggregated data on climate-smart SMEs in developing and emerging economies, research found that in other geographies, such as the European Union and the United States, over one quarter of SMEs offer green products (Eurobarometer 2013). By aligning the development of products, services and employment opportunities with Paris Agreement commitments to climate action and in support of the SDGs (notably SDG 13 Climate Action), climate-smart SMEs mark a break with "business-as-usual" and are high-impact potential change-drivers in delivering business models from which more can be learnt and replicated.

The potential of climate-smart SMEs to transform business-as-usual is evidenced through SEED's work from nearly two decades of promoting entrepreneursh'p for sustainable development globally. SEED has supported climate-smart enterprises in diverse sectors, ranging from SMEs offering last mile distribution of clean energy solutions to climate-resilient agribusinesses and conservation-focused enterprises. The 2018 SEED Low Carbon Award Winner Daily Dump and the 2015 SEED Africa Award Winner Village Energy (profiled in the Climate-Smart Enterprises Spotlight – Innovation Pathways on the following page) exemplify SMEs that take on the role of innovators and advocators of climate-smart products and services, while contributing to wider economic development in their communities.

Climate-Smart Enterprise Spotlight - Innovation Pathways



Climate Impact

Bengaluru, India

Reduces wet waste dumping on landfills by 40 tonnes per day, saving 4.34 tonnes of CO. per day that would otherwise be emitted by transportation of waste. Returns carbon and nutrients to the soil by composting.

Winner 2018

SEED Low Carbon Award

composter that is adapted for tight urban spaces. In addition to designing and selling home and community composters and related products & services, Daily Dump also raises awareness about composting and reducing waste through workshops and sessions in schools & communities.



Social Impact

Enables more than 46,000 families to compost at home and providing farmers with mineral-rich compost. Raised awareness to over 500,000 people about composting and zero-waste lifestyle.



Kampala, Uganda



SEED Africa Award Winner 2015



Proliferating the use of renewable energy to almost 100 villages technologiesand reinstating community trust in solar. Reducing carbon emissions and indoor air pollution from kerosene lighting by 25% and kerosene-caused accidents by 50%.



sustainable transition to clean energy.

Social Impact

as specialized after sales servicing and repair. Village Energy further recruits and trains technicians to build a regional servicing, distribution and supply chain network. Village Energy's solutions

have a significant impact on job creation, and help enable a

Create technician jobs in local communities, bring electricity to off-grid schools and increase lighting hours safely in households.



3. UNDERSTANDING SME FINANCING

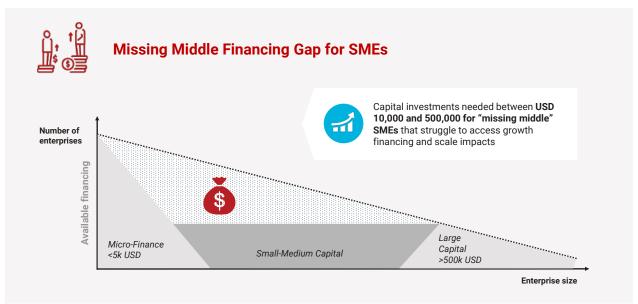
3.1. "Missing middle" financing gap

Despite the importance of SMEs for linking climate action and socially sustainable development, SMEs often face shortages in available capital and business advisory for financial planning and management as they grow. SMEs are largely underserved by FIs, instead relying heavily on private funds, grants and donations. They often struggle to access the scale of funding they require to sustain and expand their activities. This contributes to a "missing middle" of established and growing enterprises that are able to move beyond the scale of "micro" and are well positioned to make significant contributions to development (ADBI 2016; CFF 2018; IFC 2017; OECD 2005). This gap in financing is estimated to affect between 50-70% of formal SMEs in emerging economies (WBG 2017). Other estimates indicate that less than 1% of finance from global asset managers is currently being invested in SMEs in developing countries (ITC 2019).

Estimates suggest that around USD 1 trillion, widening to USD 2.6 trillion if informal SMEs are considered, is required to meet this gap (Alibhai et al. 2017).

Figure 4 illustrates this "missing middle" SME financing gap, where available SME financing tends to be dominated by smaller ticket sizes, shorter repayment periods and a lack of diversity of financing models tailored to SME needs (Dalberg 2020; ITC 2019; SACCA 2010). Furthermore, larger-scale capital (above the scale of microfinance) needed to move beyond the start-up stage tends to be reserved for a small sub-set of high growth SMEs. Despite varying definitions, the capital typically needed to address this financing gap is for investments of between USD 20,000 – 500,000 per enterprise with a medium to long-term time horizon or tenure – typically above the scale of microfinance and below that of traditional lenders and equity investors (DGGF 2016).

Figure 4: Missing Middle Financing Gap for SMEs



Sources: SEED 2020 adapted from SACCA 2010.

3.2. Challenges to SME financing

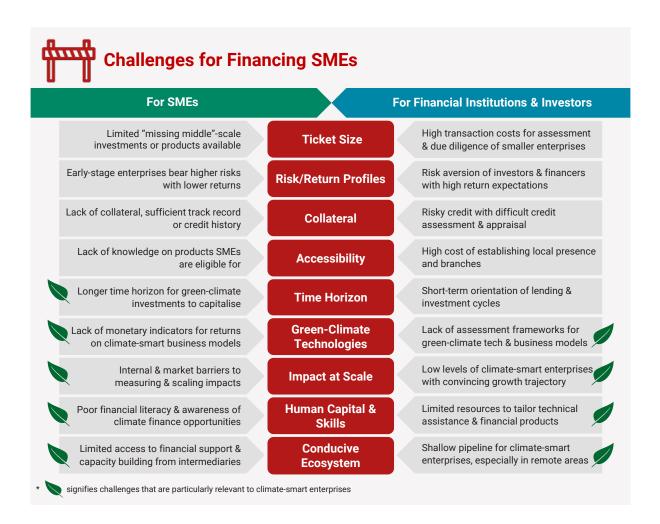
This "missing middle" of growth finance for SMEs hinders the capacity of the whole SME sector to realise its contributions to inclusive economic development and achieve climate as well as social impacts at scale. The "missing middle" gap is well evidenced with enterprises across all sectors. However, high-impact potential SMEs that directly address climate change through their products and services (climate-smart SMEs as innovators) tend to experience similar and

more pronounced barriers to accessing finance. This is due in part to the added lack of familiarity of FIs and investors with climate-smart business models and growth trajectories, which tend to involve (perceived) riskier technologies and longer timeframes to go to market (UNEP Inquiry 2017). **Figure 5** offers a typology of common challenges facing both SMEs and financers in financial product design and delivery to SMEs, with challenges that are especially evident among climate-smart businesses denoted with a green leaf. SMEs across sectors and business activities face barriers due to a

lack of compatibility of their desired level of financing, availability of financial data, investment projections and more with the financial offerings that currently dominate the financial sector (ITC 2019; IFC 2010; EY 2012; Dalberg 2020). Additionally, SMEs tend to lack the knowledge and awareness of financing opportunities plus the desired financial records and management structures. Similarly,

FIs and investors struggle to understand and respond to the financing needs of climate-smart SMEs with tailored financial products (IFC 2017; UNEP Inquiry 2016) that, for example, align lending requirements with readily available collateral, repayment periods with seasonality of businesses, enable investments in resource-efficient technologies and more (UGEFA 2020a, 2020b, 2020c).

Figure 5: Challenges for Climate-Smart SME Financing



Many of these challenges have been evidenced by SEED-supported, climate-smart enterprises globally as they look for financing sources to scale their activities. The financing journeys of *Daily Dump* (India, SEED Low Carbon Award Winner 2018) and *Village Energy* (Uganda, SEED Africa Award Winner 2015) – outlined in the *Climate-Smart Enterprise Spotlight – Financing Journeys* on the following page – are exemplary of the sometimes turbulent and various paths that climate-smart SMEs might follow in establishing and expanding their businesses.

Climate-Smart Enterprise Spotlight - Financing Journeys





Climate Finance Challenges

- Conducive Ecosystem
- Financial Skills
- Financial brokerage

Daily Dump India

Founded in 2006, **Daily Dump**'s idea of designing and producing terracotta composter systems for household use was primarily born out of the impact-driven desire to positively influence Indians and the ecology. In this context, the transformation into a financially sustainable enterprise structure with comprehensive financial skills was expressed as an initial challenge.

Within its enterprise journey, Daily Dump also experienced challenges while navigating in a financial landscape not sufficiently adapted to demands of climate-smart SMEs. A particular hurdle was the **lack of assessment frameworks** for climate-friendly and socially inclusive business models. In the absence of a conducive ecosystem targeting climate-smart enterprises and **insufficient financial brokerage** between enterprise and financial institutions, Daily Dump had to develop these skills on its own.

As a major first achievement, the enterprise reached its breakeven point in 2007. Thereafter, a grant over USD 7.000 by the **Chitrapur Heritage Foundation** in 2010, a loan over USD 2.000 by **Ankur Capital** in 2013 and a USD 5.000 **SEED Awards** grant in 2018 have supported the business development of Daily Dump. Currently, Daily Dump is dealing with the economic downturn due to the effects of the Corona virus.







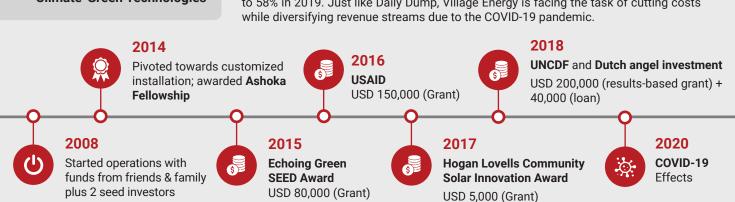
Climate Finance Challenges

- Security / Collateral
- Ticket Size
- Climate-Green Technologies

Village Energy Uganda

Village Energy originally started operating to locally manufacture and produce solar systems in Uganda in 2008 as mainly friends- and family-funded. In the first years, the team experienced difficulties in accessing finance opportunities, both for their lack of collateral and insufficient finance products for their business size, type and age. In 2014, they redirected Village Energy to providing customized installations and service and were awarded by becoming an Ashoka fellow. As two milestones in their business history, they were able to secure the Echoing Green SEED Award that totaled a USD 80.000 grant amount in 2015, and a USAID grant over USD 150.000 in 2016. These financial achievements were further accompanied by a Hogan Lovells Community Solar Innovation Award (USD 10.000). In 2018, Village Energy obtained a loan from Dutch angel investors over EUR 40.000, and a USD 200.000 results-based UN Capital Development Fund (UNCDF) loan. They are currently planning to expand partnerships with commercial banks for end user financing agreements.

The team of Village Energy has found it difficult to transform its business activities to be more financially sustainable. Due to business model consolidation and focusing on the most profitable business branches, they were able to increase sustainability from 20% to 58% in 2019. Just like Daily Dump, Village Energy is facing the task of cutting costs while diversifying revenue streams due to the COVID-19 pandemic.





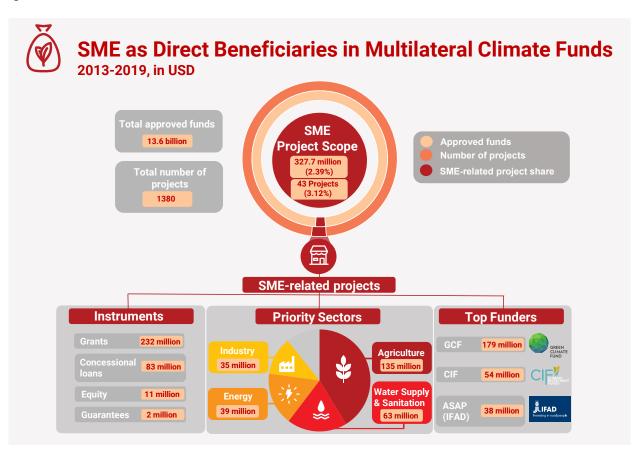
4. FINANCING SMEs FOR CLIMATE ACTION

4.1. Analysis of climate finance gaps

Despite a growing commitment to financing SMEs through climate finance (addressed later in this chapter), climate finance has to-date largely overlooked the role of SMEs for climate action. The following review of climate finance flows targeting SMEs reveals some compelling examples of successfully financing SMEs through climate funds, while noting remaining gaps in the (a) inclusion of diversity of SMEs with high impact potential

for climate action as target beneficiaries; (b) total funding allocated and overall project volumes targeting SMEs; and, (c) absorption of capital by local FIs to effectively and efficiently deliver tailored financing to SMEs – central for mainstreaming climate finance within the financial sector. The gaps outlined in this section serve the basis for drafting targeted recommendations in **Chapter 5** to fulfil growing commitments to leveraging the role of SMEs for climate action.

Figure 6: SMEs as Direct Beneficiaries in Multilateral Climate Funds



Source: own illustration, employing data from the Climate Funds Updates Database (2020).

Following Figure 6, data from the Climate Funds Update database as of February 2019¹² and a review of central multilateral climate finance funds¹³ reveals that the explicit integration of SMEs within multilateral climate fund projects still remains marginal. For the period

of 2013 to February 2019, projects clearly addressing SMEs as primary beneficiaries are underfinanced and underrepresented when compared with the broader range of target beneficiaries of climate finance.

14 SMEs received only 2.4% (USD 327 million) of the total approved funding

¹² The Climate Funds Update database stores project information of 23 multilateral climate funds. For a complete list of funds, see: https://climatefundsupdate.org/the-funds/. The latest version of the database features projects approved as of November 2019.

¹³ Case-level research was conducted for projects commissioned by the GCF, GEF, Climate Investment Funds (CIFs), Adaptation Fund and the International Fund for Agricultural Development's (IFAD) Adaptation for Smallholder Agriculture Programme (ASAP).

¹⁴ Of the 28 SME-related projects that contained detailed recipient information, only two listed local FIs as primary recipients, while the majority of primary recipients are public or governmental actors (78%). This is largely in line with findings on climate finance recipients by the Climate Policy Initiative (CPI 2019), who find the majority of sources going to public entities, while 13% directly reach private partners.

budget¹⁵ and constituted a marginal 3.1% of climate funds' total projects¹⁶. Within this small subset of SME-related climate fund projects, the largest funders were the GCF, CIF and IFAD's Adaptation for Smallholder Agriculture Programme with USD 179, 54 and 38 million in funding, respectively. Regarding the scope of projects addressing SMEs as primary beneficiaries, projects directly aimed at reducing the SME financing gap have received USD 121.1 million, constituting roughly one third of the approved funding volume for all SME-related projects. Comparing these numbers with the USD 13.6 billion that was approved for multilateral climate funds during the same time, it is clear that current funding falls short in addressing SME financing needs while acknowledging the transformative power of these private sector actors to deliver ground-up climate solutions¹⁷.

The current SME-focused project landscape in multilateral climate funds disproportionately targets SMEs that are involved in agricultural value chains. As indicated in Figure 6, SME-related projects predominantly target the agricultural sector with project volumes amounting to USD 135.2 million, followed with a large volume of water and sanitation, industry and energy projects with USD 62.6, 39.7 and 35 million, respectively. SME-related agricultural projects largely aim to build the adaptive capacities and strengthen the climate resilience of agricultural smallholders and agribusinesses addressing topics of water availability, soil conservation, risk insurance schemes and meteorological monitoring systems. Water and sanitation projects by SMEs generally centre on the establishment and upgrading of water irrigation systems for agricultural producers. Similarly, half of the examined SME-related energy projects focus on agribusinesses. Projects in the industrial sector total only 12.9% of the overall SME-related project volume. Among these non-agricultural projects, the GEF acts as the main funder. As outlined in Chapter 2.2, climatesmart SMEs are innovating products and services to deliver both climate change mitigation and adaptation solutions to their customers across a range of activities and impact areas, including beyond agriculture. SMEs that are not involved in agricultural production - for example, within broader areas of clean energy, waste management, transport, eco-tourism and manufacturing - thus are underserved in the narrow project landscape of the majority of climate finance flows.

Adding to the aforementioned rather limited scope of climate finance investments targeting SMEs - largely concentrated in the agriculture sector -, there is a gap in total project funding volumes dedicated to SMEs compared with other beneficiaries. Budgets for SMEfocused projects are 30% smaller relative to the volume of overall multilateral climate fund projects. The image of SMEs being overlooked in climate finance solidifies when extending the scope to Multilateral Development Banks (MDBs). An investigation of project databases from the African Development Bank (AfDB), Asian Development Bank (ADB), Inter-American Development Bank (IDB) and WBG reveals that SME-focused projects account for only 3% of all projects and 1.35% of the total amount of funding approved.¹⁸ With the exception of projects commissioned by the WBG, projects aimed at SMEs as primary beneficiaries across MDBs have project volumes of, at best, 40% relative to the respective MDBs' overall average project volumes.

Finally, climate finance flows have only marginally enlisted local FIs (microfinance institutions (MFIs) and banks) to deliver capital to SMEs, thus discounting the importance of these financial actors for mainstreaming climate finance in the financial sector. A great deal of international attention has been devoted to discussing and calculating available amounts of climate finance, and dedicating finance for specific climate purposes meaning for various mitigation or adaptation purposes. Less attention is paid to the institutions through which it is most effective and efficient for distributing available finance to maximise positive climate-related impacts. The GEF Private Sector Facility's first strategic pillar involves "[expanding] the use of non-grant instruments" while calling on a greater role for local FIs, particularly lenders (GEF 2018). Similarly, the GCF's MSME pilot programme has called on private finance to meet the needs of (M)SMEs across sectors. However, taking the GCF example, since 2016, only three funding proposals have been approved within this pilot programme.¹⁹ Further exploration is required to determine the reasons for this low level of accepted proposals. Additionally, all approved proposals are a noteworthy step in acknowledging the central role of (M)SMEs and local FIs for climate action. These GCF-funded projects employ credit lines and a risksharing facility in collaboration with local FIs and span investments in renewable energy and energy efficiency across sectors in Mongolia, adaptation by agricultural enterprises in Latin America, and women entrepreneurs in agriculture in Ghana. That said, credit lines remain the

¹⁵ The Climate Funds Update database only considers multilateral climate funds' direct funding and does not contain information on the often considerable co-financing resources.

¹⁶ The data was extracted by running simple term search of SMEs and SME-related terms. It must be noted here that imprecisely phrased project titles are therefore omitted, potentially biasing the results. There were multiple findings of potentially SME-related projects that were too generically titled to conclude with certainty what they entail. Also, it must be noted that many agricultural and rural projects are obviously influencing SMEs and their mitigation and adaptation strategies, however, they were omitted due to their lack of directly mentioning SMEs.

¹⁷ Note: When taking into account the latest Climate Funds Update database version including data up until November 2019, for the period between February and November 2019, the share of SME-related projects in total approved funding rose to 7.8% (153.47 million) and a higher number of SME-related projects in multilateral climate funds' project portfolios (5.55%) is found. This could indicate an uptake interest by multilateral climate funds to cater for SMEs' climate action needs, but further in-depth analysis would be needed to validate this claim.

¹⁸ Findings were obtained by adopting the same methodology as with multilateral climate fund projects.

¹⁹ https://www.greenclimate.fund/project/fp114, https://www.greenclimate.fund/project/fp048, https://www.greenclimate.fund/project/fp028

dominant vehicles for SME financing through local banks in the context of development cooperation (including climate finance), typically channelled through on-lending schemes involving commercial banks as intermediaries (Alibhai et al. 2017). Varied financial mechanisms – moving beyond credit lines to include financial facilitation mechanisms that, for example, respond to seasonality or other constraints that SMEs experience in available capital for loan repayments – can ensure that committed finance is effectively delivered to SMEs. In developing and deploying such mechanisms, the pivotal role of local Fls must be leveraged further.

4.2. Commitments for Climate Finance for SMEs

Efforts to expand the role of the private sector through SMEs (particularly high impact potential, climate-smart SMEs) offer great potential to scale the delivery of inclusive, market-driven climate change adaptation and mitigation solutions. There is a common and growing commitment to expanding the role of the private sector within existing climate finance flows, sometimes by addressing SMEs in particular. Notably, as one key example, the GCF's MSME Pilot Programme (launched in 2016) made a commitment to improving access to finance for SMEs with the GCF Board allocating USD 200 million:

"[in order] to achieve its objective of promoting a paradigm shift towards low-emission and climate-resilient development, demand from micro, small and mediumsized enterprises (MSMEs) for climate change activities will be of key importance. GCF will use its resources to improve MSMEs' access to finance." (GCF 2016)

The GCF taps into private and public finance flows including to "create co-financing opportunities with both international financial entities and locally based entrepreneurs to fund mitigation, and increasingly, adaptation activities" (GCF 2020). Similarly, the Global Environment Facility's (GEF) private sector work within its Private Sector Facility, identified in the current four-year investment cycle (GEF-7) in 2018 two strategic pillars, including to "mobilise the private sector as an agent for market transformation". This desire to expand the role of the private sector calls for a more pronounced role for SMEs within the "wide variety of private sector actors that vary in their industry, focus, size and approach to environmental issues using a mix of intervention models" as key entities capable of breaking with business-asusual (GEF 2018). The landmark report from the Business and Sustainable Development Commission (BSDC 2017) indicated that the pursuit of inclusive and sustainable business models could unlock at least USD 12 trillion per year by 2030 in new business while generating upwards of 380 million jobs, particularly in developing countries. These commitments are reflected in the trend in global climate finance flows showing a steady growth SMEs as private sector beneficiaries and levers in the paradigm shift to climate-smart, inclusive economies. However, these efforts to expand the inclusion of SMEs as climate finance beneficiaries must address the aforementioned gaps in climate finance flows in order to achieve impacts at scale and effectively translate committed funds into capital delivered to SMEs on the ground.



CHAPTER 5

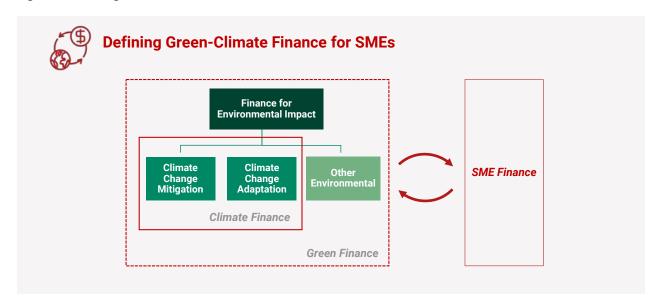
Insights and Lessons Learned from Green and SME Finance

5. INSIGHTS AND LESSONS LEARNED FROM GREEN AND SME FINANCE

To overcome the aforementioned gaps, leaders involved in climate finance policy and practice can learn from good practices in both the SME finance and green finance spheres. Figure 7 depicts how (a) green finance²⁰ and (b) climate finance²¹ are nested concepts. While green finance takes a broader definition of environmental impacts than climate finance, green finance initiatives – such as the EU taxonomy for sustainable finance (2018) and the IFC's Sustainable Banking Network (2019) – have effectively facilitated a central and growing role for private finance and local FIs. Green and climate finance can draw from (c) SME finance insights to inform tailored financing that meets the needs and constraints of smaller enterprises as innovators and customers of

climate change mitigation and adaptation solutions. Importantly, to date, green and SME finance agendas have largely taken place in isolation, with little coordination or substantive actions to unite these spheres (UNEP Inquiry 2016) – though efforts to further align these spheres are escalating. There are proven financial and non-financial mechanisms from across these nested concepts that, when heeded, can offer valuable insights into how to more effectively deliver finance to high (climate) impact potential SMEs across sectors. Examples from these spheres will be referenced throughout this chapter and serve as the basis for drafting targeted recommendations to inform climate finance.

Figure 7: Defining Green-Climate Finance for SMEs



Source: Adapted from UNEP FI Inquiry (2016).

5.1. Approaches to scale climate finance for SMEs

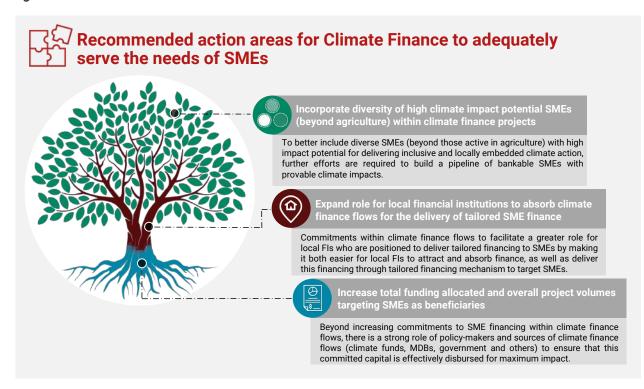
Solutions are needed to expand the role of climate finance in realising the full impact potential of SMEs, thereby overcoming the climate finance gaps summarised in Figure 8. The remainder of this chapter shares insights and frames recommendations for filling these gaps through collaborative multi-stakeholder engagement. The following sections offer insights into (a) effectively

identifying and delivering climate finance to a pipeline of high impact potential climate-smart SMEs, while (b) leveraging the expertise of local FIs for the absorption and delivery of climate finance to such high-impact SMEs. This is followed by a review of (c) policy measures and approaches for translating increased total volumes of climate finance committed to SMEs into achieving desired climate-related impacts at scale.

²⁰ Green finance is defined here by borrowing from Volz et al. (2015), referring to "all forms of investment or lending that consider environmental effect and enhance environmental sustainability".

²¹ Climate finance is understood as finance from public, private and alternative sources of funding that aim at facilitating mitigation and adaptation actions that address climate change, particularly dedicating capital from developed to developing and emerging economies (UNFCCC 2020).

Figure 8: Recommendation Areas



5.1.1. Incorporate a diversity of high climate-impact potential SMEs within climate finance flows

Quality business development support for SMEs that focuses on impact monitoring and management (IMM) and financial planning and management can help to create a pipeline for climate finance flows of bankable, high-impact SMEs across sectors. Climate finance practitioners and policy-makers should expand their focus to SMEs across sectors and business activities (moving beyond a predominant focus on agribusinesses and smallholder farmers) through (a) building evidence of the climate impact potential of SMEs across sectors; and (b) supporting local FIs to access this pipeline of bankable SMEs with demonstrated climate adaptation or mitigation impacts, including through integrating technical assistance alongside concessional finance for such local FIs.

To facilitate a pipeline of high impact potential SMEs across sectors, SMEs need to be supported to better understand, assess, monitor and communicate their climate impacts – as well as related social and economic impacts. Many green and social enterprises deliver significant climate impacts to the communities in which they work, but lack the capacities to isolate, measure and track these impacts. Concurrently, many SMEs fail to "market" their climate impact contributions and thus remain outside the radar of climate finance. Following the example of the EU sustainable finance taxonomy and its categorisation of business activities (largely focused on the EU context), solutions are required that systematically categorise and track SME impacts in developing

countries and emerging markets. Examples within the impact investing space, such as the IRIS+ System from the Global Impact Investing Network (GIIN)22, can be expanded with the support of climate finance experts to categorise impacts and streamline processes for impact measurement and management (IMM) by SMEs themselves. IMM is not only central to securing proof of the transformational potential of SMEs to contribute to climate action, but also to proving the related socially and economically sustainable co-benefits of these enterprises, including their job creation potential and bankability. Drawing on the impact assessment work adopted by the Uganda Green Enterprise Finance Accelerator (UGEFA), greater efforts can be made to trace SME impact chains and aggregate impact data across technologies, business activities, national and international agendas (UGEFA 2020a, 2020b, 2020c). Verified climate impacts can open up additional revenue streams for SMEs, for example by facilitating access to carbon markets. For example, VNV Advisory and GIZ developed a Programme of Activities for waste management enterprises, which is currently being registered with the Gold Standard in order to unlock carbon revenue for enterprises.²³ This solution offers a streamlined and easy-to-use approach for facilitating SMEs' access to certification, thereby verifying the carbon market relevance of smaller- scale waste SMEs. Further details on this solution are highlighted in the Climate Finance Solution Spotlight below. The expansion of IMM approaches and tools that are context-relevant and easy-to-use for SMEs operating in emerging markets will deliver the proof required to fully acknowledge the role of SMEs in socially inclusive climate action.

²² IRIS+ is a widely accepted system for measuring, managing and optimising investors' impact. The system is aligned with the UN SDGs and multiple other major frameworks and conventions and provides extensive and evidence-backed metric sets and generally accepted impact indicators (GIIN 2020).

23 https://www.seed.uno/articles/plcf-india-2018-giz-vnv

Climate-Smart Enterprise Spotlight - Innovation Pathways

SEED Practitioner Labs Climate Finance India

Gold Standard Programme of Activity

PROBLEM

Waste management is a central challenge across Indian cities with projected dramatic increases of waste generation with simultaneously low levels of waste processing and treatment (SEED 2018). In light of this development, waste management enterprises like **Daily Dump** are coming up with innovative closed-loop business models. Yet, many of these enterprises fall behind their potential due to a lack of capital and financial instruments to scale-up their businesses. While India's emerging carbon market could offer an opportunity to fill this gap, carbon revenue models have not realized the potential of SMEs to offer bottom-up solutions to the climate emergency. SMEs are often unable to access carbon revenues due to transaction costs, administrative burdens and missing capacities to meet requirements.

INNOVATION PATHWAY

It is in this context that during the SEED Practitioner Labs Climate Finance India in 2018, the Gold Standard Programme of Activity (PoA) for Waste Management start-ups was designed by the German Corporation for International Cooperation (GIZ) and VNV Advisory. The PoA is an umbrella programme that bundles several emissions-reducing activities that can earn carbon credits. It enables carbon revenue for SMEs including small-scale projects involved in waste management in key community-oriented areas such as households and commercial waste. The pilot unlocks an additional revenue stream for waste management start-ups by enabling it for the carbon market which they would otherwise

be prevented from accessing due to the constraints mentioned above. It does so by establishing an extensive portfolio of projects with fast growing emission reduction potential; thereby reducing time and certification efforts as well as regulatory risk for waste-enterprises and investors. Through these channels, debt and collateral costs are lowered for waste-enterprises, in turn attracting additional financial options gained by credibility and recognition. The due diligence process underlying the PoA certifies the enterprises with verified emission reductions (VER) which could proof beneficial to access further capital by serving as a guarantee for loans. Finally, the PoA serves as a pilot that adds towards developing the carbon market in India and aims to influence policy makers to include waste as a priority sector.



by GIZ and VNV Avisory

Additionally, allocating climate funds to scale access to targeted finance-focused business advisory will enable pipeline-building for bankable SMEs that are ready to effectively absorb and sustainably deploy climate finance. Drawing on lessons from SME finance and green enterprise support, business development services and incubation to acceleration programmes support SMEs to not only understand their climate and related impacts, but also to become investment-ready while making informed financial decisions for the future of their businesses. Financial support (grants, debt or equity) for climatesmart SMEs is more effectively utilised for business growth and long-term sustainability when paired with tailored, finance-focused non-financial support. Sound financial planning and management skills are central to enabling greater access to finance for SMEs (OECD 2018). Innovative business support methods, such as investor matchmaking, storytelling and "toolified" (tool-based) peer learning approaches can help aspiring entrepreneurs and growing SMEs to critically self-assess the risks and benefits of different sources of capital while preparing to communicate their impacts and bankability to financers (SEED 2018b). In addition to business development service (BDS) providers and business consultants, banks have also taken a more active role in delivering business advisory to develop a pipeline of bankable SMEs, for example within the Stanbic Bank incubator programme.²⁴ However, often these financers require further support, in the form of technical assistance or tailored trainings, to tap into the opportunities offered by green-climate finance and deliver finance to a pipeline of bankable SMEs. Climate finance policy-makers and practitioners should dedicate funding and leverage existing enterprise support programmes to support SMEs across sectors to become bankable and effectively use capital to scale their positive climate-related impacts.

5.1.2. Expand the role of local financial institutions to absorb and deliver climate finance to SMEs

Local financial intermediaries (banks, MFIs) have proven important for connecting international (climate) finance with local SMEs – for example through on-lending of loans through credit lines in particular –. This is due to the knowledge of such financers about the local context and the country-specific financing landscape (ITC 2019). These financial actors also have the potential to bridge the gap between the smaller "missing middle" sums

²⁴ https://www.sbincubatorgh.org/

that SMEs require and the large sums that investors are interested in investing by aggregating smaller ticket sizes (ibid). Further leadership from the financial sector within the "missing middle" hotspot of desired financing is needed. Climate finance policy-makers and practitioners can expand commitments to and place greater emphasis on the role of local FIs that regularly work with SMEs to (a) effectively absorb climate finance and (b) efficiently deliver tailored financing to SMEs for climate action, thereby supporting a paradigm shift in the financial sector to mainstream climate considerations in traditional lending practices.

Local FIs (banks, MFIs and others) that are increasingly financing SMEs across sectors need to assume a more central role as climate finance intermediaries, i.e. as recipients of international climate finance capital that is then delivered to SMEs. Many commercial banks are already "downscaling" (or moving "downstream") to serve SMEs through more appropriate ticket sizes and lending requirements (Dalberg 2020; e-MFP 2018). This strategic move is partly in response to competition among banks and government support to build credit infrastructure and break down regulatory and legal barriers to SMEs' access to finance, including through credit guarantee schemes (IFC 2010; EY 2012). Banks in emerging markets are also instituting SME units to facilitate investments in smaller enterprises. Within these units, in particular, efforts have been made to adjust financial risk management policies to respond to the particular constraints of SMEs, notably of credit risk and risks of high costs to serve clients (IFC 2010). Similarly, MFIs are increasingly exploring opportunities to "upscale" their product offerings to meet the financing needs of SMEs as they move beyond the typical ticket size of microfinance (e-MFP 2018). Fundamentally, banks and MFIs are thus recognising the valuable customer base offered by SMEs across sectors and adjusting their business policies and practices in response to market trends in SME demand and with the support of government initiatives. This paradigm shift with a growing role for local FIs can be leveraged by the climate finance sphere to more effectively channel climate finance flows into intermediaries that are familiar with delivering smaller ticket sizes with more amenable lending conditions to SMEs.

To enable local FIs to assume their role as central intermediaries in the delivery of climate finance to SMEs, financial mechanisms tailored and accessible to SMEs are needed. Standardised credit lines, the primary vehicle for development finance, can be expanded on through innovative financing and funding facilitation mechanisms that support financers to better address the needs of SMEs. SME finance and green finance insights highlight that innovative financing mechanisms, such as evergreen funds (providing incremental funding), specialist equity markets and green bonds, help early stage businesses to meet their growth financing needs

while making environmentally sustainable investments in their businesses (UNEP Inquiry 2017; Dalberg 2020). Concessional and innovative finance (for example, recoverable grants or pay-for-success convertible notes) have proven to be viable pathways for niche enterprises, like climate-smart businesses, to meet their financing needs (Dalberg 2020). High interest rates and risk securitisation requirements, including prohibitive collateral requirements, can be addressed with concessional climate finance that facilitates risksharing between public and private financiers through funding facilitation mechanisms, such as a first loss default guarantee (FLDG). FLDGs are a common instrument integrated in financing solutions for SMEs. The FLDG financing instrument developed by TATA Cleantech reduces the collateral requirements for SMEs offering rooftop solar systems to access loans.²⁵ SMEs facing seasonal cash flow fluctuations (especially within agro-processing or manufacturing) often struggle to have cash-at-hand in line with traditional lending cycles and repayment requirements. UGEFA, in consultation with commercial banks, has developed a cash flow gap cover mechanism to de-risk banks' investments in such SMEs. If an SME is unable to make a loan payment due to fluctuations in cash flow caused by the seasonality of production, this mechanism engages a third party service provider to step in to offer a one-off cover of the loan payment, thereby abating the initial risk aversion of financers. Furthermore, issues that SMEs face with insufficient credit history and financial records that trap these enterprises in the "missing middle" are increasingly being addressed with fintech solutions. The example of a Green SME Scorecard, developed by FinMark Trust, demonstrates how alternative data (such as phone payments or supplier invoices) can be used to overcome limited credit histories of SMEs that adopt green technologies in their businesses.²⁶ These examples point to various opportunities to innovate financial mechanisms for the delivery of climate finance to SMEs - offering insights to move beyond dependencies within climate finance on credit lines, which sometimes overlook challenges (such as seasonality of cash flow cycles or available data) with delivering available capital to a pipeline of bankable SMEs.

Drawing on these examples of innovative finance, local FIs need to be supported through knowledge sharing and capacity building to capitalise on the opportunity for financing SMEs through climate finance. The role of local FIs in allocating capital from climate finance can be strengthened by technical assistance that builds the awareness, capacities and the motivation of FIs, as well as reduces overall transaction costs associated with SME financing. One approach is to involve SMEs in their various climate action roles and other local actors in the bottom-up development of climate finance mechanisms that are tailored to SME needs. The Climate Finance Solution Spotlight on an Irrigation System

²⁵ https://www.seed.uno/articles/plcf-2020-india-tata-cleantech 26 https://seed.uno/articles/plcf-south-africa-2019-finmark-trust

Microleasing for High-Value Crops on the following page highlights how the combination of awareness raising among smallholder farmers, integration of seasonally-based repayments and bundling agri-inputs with clean energy technology can deliver adaptation solutions to smallholder farmers across Uganda. This solution benefits from the intimate and varied knowledge among the solution developers of smallholder farmers' needs and constraints as well as the buy-in of local banks to offer end-user financing. Furthermore, hands-on climate finance trainings that target FIs – following the example of SEED, CliFit²⁷, NABARD²⁸ and UGEFA – can equip FIs' management and officers with the know-how and tools to implement existing and develop new, innovative financing

instruments. Fls are already benefitting from practical tools that simplify funding application process and eligibility checks, especially useful in identifying climatesmart or green technologies that Fls are less familiar with financing. For example, the European Investment Bank's (EIB) EEQuest²⁹ offers banks a web-based solution for automated, low-cost and efficient eligibility checks for energy efficiency investments by SMEs, thereby reducing the transaction costs associated with due diligence procedures, particularly useful for on-lending procedures of high volume credit lines. Such solutions have also made it easier for SMEs to learn about and access financing that is tailored to their profiles and investment desires.

Climate-Smart Enterprise Spotlight - Innovation Pathways

SEED Practitioner Labs Climate Finance Uganda

Irrigation System Microleasing for High-Value Crops

PROBLEM

SMEs, including small-scale agribusinesses, are the cornerstones of the Ugandan economy. However, productivity and crop value issues, exacerbated by the increasing occurrence of weather-related shocks and a lack of farm assets (such as irrigation solutions), have a destabilising effect on the sector and food security in Uganda. The main barriers to access to irrigation solutions in Uganda include high costs of irrigation system technology, lack of coordination between financers and tech providers, and limited distribution channels for tech and climate-smart agriculture education.

INNOVATION PATHWAY

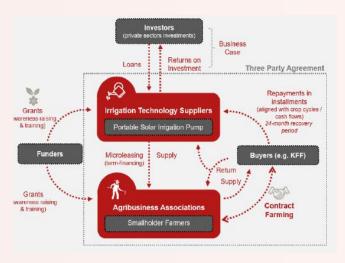
Developed by **Swisscontact**, the Irrigation System Microleasing for High-Value Crops is an innovative product that:

- 1. provides low-risk microleasing for irrigation systems,
- aligns climate-smart technology payments with crop cycles and
- 3. decentralizes deliveries of bundled agricultural inputs.

It thereby mitigates investment risk for farmers and financial institutions, increases agricultural produce profits and engages the private sector to maximise returns on investment in productive farm assets (specifically irrigation) in the agriculture sector. The product design is directly targeting adaptive capacities for Ugandan small-scale agribusinesses by decreasing dependencies on rain-fed irrigation with

resource efficient climate smart-irrigation technologies. The microleasing financing mechanism further enables the creation of decentralised networks of suppliers and service teams, improving rural area's access to irrigation finance.

Part of product prototype is the support of the pilot phase development of solar-powered portable irrigation pumps and the provision of financial mechanisms for smallholders. SMEs such as **Village Energy** benefit from the increased demand and awareness of solar-powered climate-smart irrigation systems and the growing momentum for banks to invest in financing last mile distribution of solar solutions.



²⁷ CliFit is a training toolkit developed by adelphi with financial support from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) under the framework of the CF Ready Programme on behalf of the German Federal Ministry of Development and Economic Cooperation (BMZ). CliFit provides tailor-made support for countries to build a coherent national framework for climate finance.

²⁸ The National Bank for Agriculture and Rural Development (NABARD) is an Indian government-owned financial institution mandated to conceptualise and implement financial inclusion and development of agricultural and other rural economic activities.

²⁹ https://www.seed.uno/articles/plcf-india-2018-tara

5.1.3. Increase total funding allocation and overall project volumes targeting SMEs

To adequately realise the impact potential of SMEs through climate funds, a considerable increase in total project funding to a wider range of project areas (across sectors as well as climate change mitigation and adaptation purposes) is needed. An increase in climate finance available to SMEs will be justified by proof of both the climate impact potential of SMEs and the efficiency and effectiveness benefits of channelling climate finance through local financers. On this basis, efforts are required by climate finance policy-makers and practitioners at the national and international levels to (a) develop enabling policies and frameworks for coordinated recognition of the role of SMEs in climate action; and (b) scale SME data management for data-driven, conducive policy support and systematic screening for high impact potential projects and programmes targeting SMEs.

Supportive policies and frameworks that acknowledge and strengthen the role of SMEs in climate action in line with NDCs and related national commitments - are needed. Drawing on examples from the green finance sphere, the proliferation of national green financing policies and frameworks that target action by the financial sector is accelerating the implementation of green financing policies within local Fls. National sustainable finance policy frameworks, such as Brazil's Green Protocol and Environmental (and Social) Risk Assessments (BNDES 2008), China's Green Credit Guidelines (CBIRC 2012), Pakistan's Green Banking Guidelines (SBP 2017), Indonesia's National Roadmap for Sustainable Finance (OJK 2015, 2017) or Vietnam's Green Credit Guidelines (SBV 2015), have laid the groundwork for FIs in the respective countries to develop their own internal policies and processes for green finance - much of which overlaps with national climate change adaptation and mitigation initiatives. Frontrunners in the financial sector have directly integrated environmental, social and governance (ESG) principles and processes for business facilitation (product and service development) and environmental risk management into their own banking policies, drawing on the EU sustainable finance taxonomy (EU 2018), UN Principles of Responsible Investment (PRI 2020) and Global Reporting Initiative standards (GRI 2020), amongst others (SBN 2019; Dalberg 2015; OJK 2017; UNEP Inquiry 2017). These examples point to the strength of robust frameworks and supportive policies to define bankable, environmentally sustainable investments and incentivise financers' business development in green finance. The upcoming revision and ongoing discussions around effective NDC implementation offers a significant opportunity for climate finance policy actors to highlight the role of SMEs in climate action and align implementation plans with approaches that enable SMEs to taken on a greater role in climate action.

In support of evidence-based policy and framework development, coordinated and large-scale SME data collection, management and dissemination will allow policy-makers, climate fund sources and local FIs to acknowledge and finance the growth of SMEs that drive climate action. In particular, climate funds can benefit from developing an evidence-based categorisation or assessment framework for high impact potential SMEs. This would enable climate finance actors to systematically screening and select proposals and FIs that are best positioned to deliver socially inclusive climate action. Chapter 2.2 outlined a variety of high impact potential business models adopted by climate-smart SMEs that offer last mile energy solutions, employ climate-smart agricultural and manufacturing inputs, enable communityled biodiversity conservation and reforestation, and more. However, to date, there is surprisingly limited data aggregated and shared with policy-makers and financers on the environmental (and more specifically climate change mitigation and adaptation) impacts of SMEs, particularly in developing countries and emerging markets. This lack of comprehensive data can be attributed to the overwhelming number of SMEs, lack of convincing incentives and tools for SMEs to track their environmental (and social) impacts, ambiguities or limited consensus around appropriate impact indicators, and difficulties with tracing informal SMEs in developing and emerging economies. Previous attempts to quantify SMEs' environmental impacts have focused either on local emissions tracking in cooperation with SMEs (e.g. Climate Smart 2019) or approximations of their environmental impacts by applying other economic indicators as proxies (e.g. Calogirou et al. 2010). Efforts to collaboratively collate data-driven evidence on the role of SMEs for climate action can ease the identification of bankable investments that meet climate finance impact requirements. For instance, the Indian government maintains a MSME Databank (Ministry of MSME 2020), which collects diverse data from MSMEs across the country. This databank serves as a valuable reference point while testing and adapting targeted policies and frameworks that enable these enterprises to grow. A Green MSME Finance Tool, developed by TARA, was designed to leverage such available data in order to bridge knowledge gaps in understanding the impact potential of innovative green technologies.30 In developing this tool, public and private sector actors (notably private sector associations and government departments for SME or private sector development) that work directly with SMEs will play a central role in scaling the use of evidence from across industry sectors of SMEs' environmentally-relevant activities and technologies. This tool compiles a list of verified climate solutions offered by SMEs based on an assessment of this cross-sectoral SME data. Multiplying such solutions for SME data aggregation and application will enable evidence-based climate change mitigation and adaption policy agendas.

Furthermore, the design of green recovery measures in response to Covid-19 must recognise the intrinsic importance of SMEs' role in socially inclusive, resilient and climate-smart development. The economic crisis caused by the Covid-19 pandemic has necessitated extensive stimulus packages globally. SMEs, as the hardest hit businesses, have featured prominently in rescue and rebound measures (McKinsey 2020). Using this crisis as an opportunity for environmentally sustainable (and climate-smart) restructuring of our economies in the long-term, many international and country-level policy-makers have included green recovery measures in their crisis recovery advocacy and commitments (OECD 2020; European Commission 2020; G20 2020). With this paradigm shift towards more socially inclusive economies, climate finance actors are increasingly recognising financing opportunities and responsibilities by innovating funding mechanisms tailored to SMEs' crisis needs while supporting these enterprises to scale their environmental, social and economic contributions (Global Innovation Lab for Climate Finance 2020). However, these financial instruments that target green

recovery and include SMEs are still limited in number and largely in a nascent development stage. Thus, more can be done by climate finance actors to facilitate green recovery that reaches communities in developing countries and emerging markets while addressing major climate change mitigation and adaptation needs – including by expanding total funding volumes and financial mechanism innovation for SME financing. Such efforts could also involve a more active role of climate finance practitioners and policy-makers in advocating for SMEs as key levers in delivering green recovery that overcomes the longer-term implications of climate change.





6. CONCLUSIONS

This paper has traced the role of SMEs in climate action and employed insights from the green finance and climate finance spheres to inform the future actions of key climate finance actors. Climate finance policymakers and practitioners in particular (as well as FIs and SME intermediaries) have been called on to leverage the potential of SMEs to deliver inclusive climate action in developing and emerging markets. SMEs have been recognised as key players for economic development and major contributors to the SDGs. Yet, they only receive limited attention regarding their current and potential future role in achieving Paris Agreement goals. This is despite the fact that SMEs substantially contribute to combatting climate change through their roles as local agents for market-driven climate action among socioeconomically and climate vulnerable groups, acting as innovators or customers and advocators for climatesmart solutions (i.e. delivering and adopting products and services for climate change adaptation and mitigation). As countries continue to enhance and implement their NDCs, there is a major opportunity to consider more explicitly how SMEs - particularly the "high impact potential" SMEs as innovators - can help to facilitate and improve the implementation of NDCs on the ground.

However, many SMEs continue to struggle with accessing the finance needed to invest in climate-resilient practices and/or scale their delivery of mitigation and adaptation solutions to their customers. Access to finance an issue that is even more pronounced for SMEs offering products and services that directly contribute to climate resilience and reducing greenhouse gas (GHG) emissions. As locally embedded entities, SMEs need tailored financing products in order to leverage and scale their roles in climate action. The delivery of such finance solutions can benefit from the expertise and infrastructure offered by local FIs (banks, MFIs) and SME intermediaries (accelerators, incubators, BDS providers). Additionally, the climate

finance community can assume a more active role in supporting SMEs through climate finance flows. A review of existing climate finance flows revealed (a) low levels of total funding and overall project volumes dedicated to SMEs, (b) prioritisation of agricultural SMEs with little cross-sectoral acknowledgement of SMEs' diverse climate change adaptation and mitigation contributions, and (c) nascent engagement of local financial institutions (banks and microfinance institutions) to effectively and efficiently deliver tailored SME finance. Importantly, there is a strong and growing commitment (notably within the GEF and GCF) to expand climate finance delivered to SMEs.

The expansion of climate finance to SMEs depends on multi-stakeholder engagement to effectively design and facilitate access to growth capital for SMEs in their various climate action roles, with key action areas summarised in Figure 9. In order to leverage climate finance to overcome the "missing middle" SME financing gap and realise the full potential of SMEs, SME ecosystem actors (FIs, investors, intermediaries and others) must collaborate with climate finance practitioners and policymakers. Climate finance sources (international climate funds, MDBs or governments) need to recognise the role of SMEs for climate action while increasing the capital dedicated to SMEs across sectors. At the same time, innovative financial mechanisms are required that enable overall fund volumes committed to SMEs at the global level to be effectively delivered as smaller ticket sizes to SMEs. This can be achieved by developing a greater role for local FIs to absorb international climate finance capital and deliver financing to SMEs on the ground. Additionally, SME intermediary organisations – business development service (BDS) providers, incubators, accelerators and others working directly with SMEs - can assume a greater role in building a pipeline of and selecting high impact, investment-ready SMEs as target beneficiaries of climate finance.



Summary of Recommendations

CLIMATE FINANCE PRACTITIONERS and **POLICY-MAKERS** must:

Collaborate especially with SME intermediaries (BDS, accelerators, incubators) to provide tailored support for SMEs around climate-related impact measurement and management (IMM) and finance-focused capacity building;

Advocate for a strong role of local financial institutions (FIs), for example by systematically screening and selecting projects to be financed through financial intermediaries (i.e. local commercial banks, microfinance institutions and others);

Integrate targeted technical assistance with concessional finance in order to equip local FIs with the necessary capacities and practical tools to assume their role delivering climate finance to SMEs;

Increase support for bottom-up development of climate finance instruments that leverage the expertise of local actors (financers, SME intermediaries and others) familiar with SMEs and their financing needs;

Support evidenced-based policy approaches that are backed by large-scale SME impact data aggregation, thereby recognising within NDCs and other frameworks the contributions of SMEs at scale to climate change mitigation and adaptation, while expanding efforts to mainstream green- and climate-related considerations within the financial sector.

LOCAL FIS (banks, MFIs) and **OTHER SME INTERMEDIARIES** (incubators, accelerators, BDS) must:

Recognise that SMEs as innovators or customers of climate change adaptation and mitigation solutions are an attractive and growing target group and thus a tremendous business opportunity for local FIs, especially since climate finance sources have a growing interest in supporting such enterprises;

Actively engage in expanding their knowledge of climate finance opportunities and available mechanisms while delivering tailored financing to meet SMEs' needs;

Must coordinate with SME intermediaries to benefit from a pipeline of finance-ready SMEs, while also exchanging with SME intermediaries on the financing needs of SMEs to design and deliver tailored financial solutions;

Incorporate innovative features into tailored product development and delivery, by leveraging trends such as fintech and equipping key players with tools to identify bankable investments.

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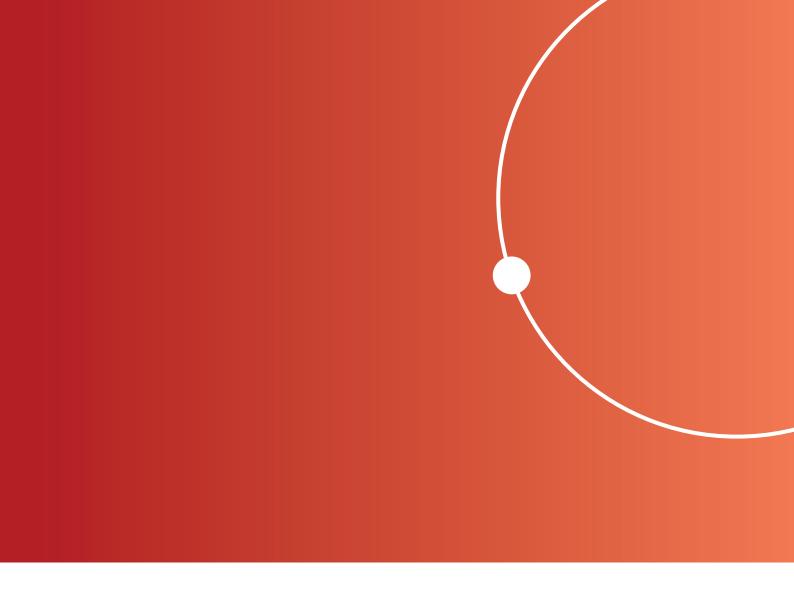
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