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INCLUSIVE GREEN FINANCE (IGF) WORKING GROUP

SME FINANCE (SMEF) WORKING GROUP

GREEN TRANSITION MEASURES FOR MSMEs

SPECIAL REPORT

CONTENTS

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Togolese woman watering a field in Karsome, Togo. (Alamy Stock Photo)

EXECUTIVE SUMMARY

Climate change poses significant threats to MSMEs, especially in developing countries, affecting their competitiveness, performance, and sustainability. With MSMEs representing a substantial portion of businesses worldwide, inclusive green finance (IGF) policies are crucial to empower them in climate mitigation and adaptation efforts. Women-owned/led MSMEs (WMSMEs), in particular, face heightened vulnerabilities to climate change impacts.

MSMEs face unique challenges and are impacted differently by climate change given their varying sizes and operational environments. Although there has been progress in the development of MSME-centric IGF policies and regulations, this report identifies various barriers (from the policy, access to finance, and risk management side) for MSMEs and highlights specific challenges faced by WMSMEs which hinder their access to green finance.

Despite acknowledging the importance of holistic IGF policies, policymakers and financial regulators encounter challenges such as data scarcity, the limited applicability of green taxonomies to MSMEs, and a lack of proportionate regulation to support MSMEs in their green transition. Significant barriers also exist in accessing finance, including limited tax incentives, higher costs of green financing for MSMEs, and insufficient or limited risk sharing mechanisms. Obstacles to risk management and resilience include a limited green culture among MSMEs and a lack of knowledge on integrating climate risks into their green financing strategies.

The diversity of MSMEs and the environments in which they operate call for varied IGF policies, products, services, and transmission channels that can help MSMEs and their clients transition to a low-carbon economy, build resilience against climate shocks, and adapt to climate change. This includes green finance initiatives in national financial inclusion strategies (NFIS), environmental and social risk management (ESRM) guidelines, green taxonomies, MSME green credit risk guarantee schemes, and refinancing schemes, among others.

Despite the myriad barriers facing MSMEs, their immense potential in climate mitigation and adaptation can help promote a green ecosystem, translating into multiple business opportunities in green sectors such as renewable energy, sustainable agriculture, and waste management.

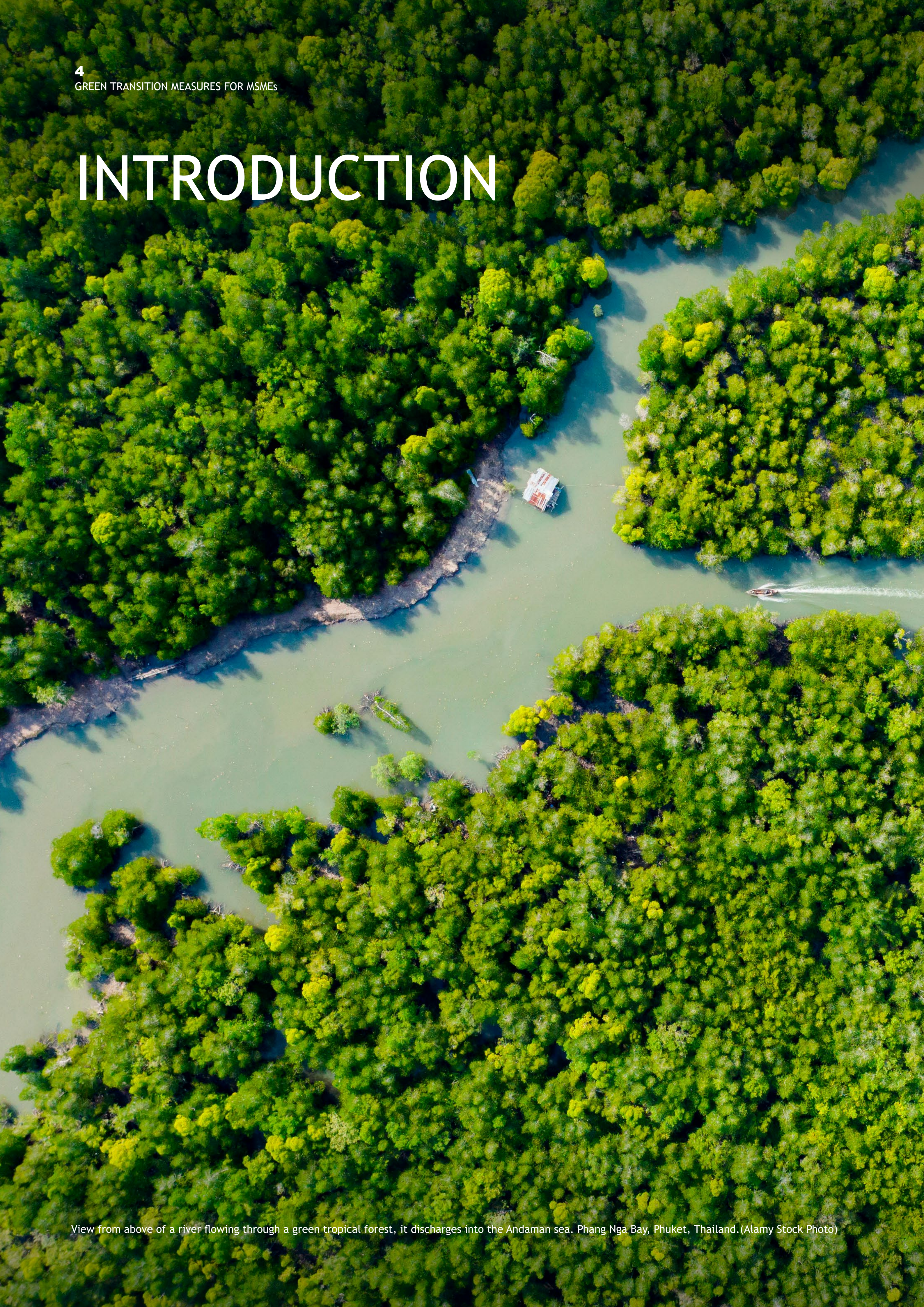
This report offers recommendations across three thematic areas:

- policy and strategy development,
- access to finance and support for MSMEs, and
- risk management and resilience.

It emphasizes the need for quality disaggregated data, inclusive green taxonomies and IGF policies, and proportional regulation, among others. Financial access can be enhanced through incentives and a comprehensive policy package for MSMEs, including blended finance and thematic bonds. In parallel, risk management measures should involve developing climate-related financial disclosure standards, integrating environmental and social risk in credit policies, and implementing MSME and climate responsive supervisory frameworks.

In conclusion, empowering MSMEs as agents of change in building an inclusive and sustainable economy requires concerted efforts from policymakers, financial regulators, financial institutions, and development partners. By implementing targeted interventions and promoting collaboration, stakeholders can facilitate the green transition of MSMEs and contribute to climate resilience and environmental sustainability on a global scale.

INTRODUCTION



View from above of a river flowing through a green tropical forest, it discharges into the Andaman sea. Phang Nga Bay, Phuket, Thailand.(Alamy Stock Photo)

This special report on Transition Measures for Micro, Small, and Medium Enterprises (MSMEs) is a collaborative effort involving AFI's Inclusive Green Finance Working Group (IGFWG) and the Small and Medium Enterprise Finance Working Group (SMEFWG).

It consolidates insights from interviews, internal surveys, and desk research to assess the multifaceted barriers faced by MSMEs in accessing green finance and how financial services contribute to their resilience. The objective is to facilitate a greater understanding among policymakers and financial regulators of the role of MSMEs and Women MSMEs (WMSMEs) in the climate mitigation and adaptation value chain, thereby shaping Inclusive Green Finance (IGF) policies that enhance their demand for and access to green finance.

Characterized by an increased frequency and severity of extreme weather-related events, climate change poses universal challenges with potential systemic consequences for the financial sector.[1] Financial policymakers recognize that financial exclusion exacerbates the impacts of climate change, particularly affecting developing countries and vulnerable groups, including women and MSMEs. In the last 50 years, 69 percent of worldwide deaths caused by climate-related disasters occurred in least developed countries (LDCs), while in 2019, for instance, they accounted for less than four percent of total world greenhouse gas (GHG) emissions.[2] However, the lack of an accredited definition for MSME, categorization of green MSMEs, and absence of transparent disclosure mechanisms for the MSME sector, among other issues, impedes green financing to MSMEs.

MSMEs "represent about 90 percent of businesses and more than 50 percent of employment worldwide".[3] However, according to the SME Finance Forum, around 41 percent of formal MSMEs (131 million) in developing countries have unmet financing needs amounting to USD5 trillion.[4]

MSMEs face compounded challenges from financial exclusion and climate change, which impacts competitiveness, performance, economic growth, and sustainability. Moreover, natural disasters, which are occurring more frequently, are hard to manage and very expensive occurrences for MSMEs. They affect infrastructure, business continuity, and employee health and well-being, among others.[5] For example, during the 2011 Thailand floods, at least 550,000 MSMEs and two million jobs were affected.[6] These challenges are exacerbated by the fact that many of these MSMEs work outside of the formal sector making it even harder to access formal financial services and climate-related insurance.

Inclusive Green Finance (IGF) has been defined by AFI as a set of financial policies, regulations, and products that support environmentally sustainable practices while ensuring equitable access to financial services. IGF aims to address climate change and environmental degradation by promoting green practices, technologies, and resilience among those who are often most affected by environmental challenges: low-income individuals, micro, small, and medium-sized enterprises (MSMEs), and other vulnerable groups.

IGF goes beyond conventional green finance by focusing on inclusivity, ensuring that the transition to a greener economy doesn't leave behind those who have limited financial resources or access.

It encompasses a range of initiatives, including green credit, green insurance, and other financial products designed to facilitate sustainable practices among MSMEs and individuals. IGF also aims to strengthen resilience against climate-related risks by supporting preparedness, adaptation, and recovery efforts in a way that benefits the broader community.

The word green is used in this report to refer to a company that is making sustainable choices by implementing energy-efficient processes, using or recycling its materials, reducing waste, and reusing materials.

MSMEs require green finance for a range of purposes, including greening their business operations, building resilience, and providing green goods and services. They

1 UNSGSA. 2023. Inclusive Green Finance: A Policy and Advocacy Approach. Available at: https://www.unsgsa.org/sites/default/files/resources-files/2023-05/UNSGSA_Inclusive_Green_Finance_Policy_Note.pdf

2 UNCTAD. 2022. UNCTAD sets out actions to support least developed countries in the global low-carbon transition. Available at: https://unctad.org/news/unctad-sets-out-actions-support-least-developed-countries-global-low-carbon-transition#:~:text=Thepercent20world'spercent2046percent20LDCspercent2Cpercent20home,related-percent20disasterspercent20occurredpercent20inpercent20LDCs

3 The World Bank Group. 2023. Small and Medium Enterprises (SMEs) Finance. Available at: https://www.worldbank.org/en/topic/smefinance

4 SME Finance forum. 2023. MSME finance gap. Available at: https://www.smefinanceforum.org/data-sites/msme-finance-gap

5 AFI. 2020. Inclusive green finance policies for MSMEs. Available at: https://www.afi-global.org/sites/default/files/publications/2020-04/AFI_SMEF_IGF%20MSMEs_AW_digital_0.pdf

6 ESCAP. n.d. The impact of disasters on MSMEs. Available at: https://msmepolicy.unescap.org/impact-disasters-msmes

play a pivotal role in climate mitigation and adaptation, leveraging their understanding of local communities and driving transformative change from the grassroots to national levels.

> "The contribution to a net-zero economy by MSMEs as 'agents of change' is a transformation that begins from the lower level of society."
>
> Source: AFI survey on Transitioning MSMEs to Green, 2023, National Bank of Rwanda.

Despite the numerous opportunities and environmental benefits for both MSMEs and their clients, making green investments poses significant challenges for MSMEs. Not making these investments, however, can have future negative consequences for their businesses, raising concerns about worsening inequality and an unjust transition to a low-carbon economy,[7] further restricting their growth and ability to contribute meaningfully to a sustainable future.

MSMEs that are more resilient to climate shocks pose lower risks to financial institutions and financial stability while contributing to a sustainable environment. Regulators and financial policymakers can advance their countries' process of meeting their Nationally Determined Contributions (NDCs) while contributing to global commitments such as the Paris Agreement on Climate Change and UN Sustainable Development Goals (SDGs) by identifying and addressing the green finance needs and challenges of MSMEs through IGF policies.

7 CGAP. 2023. Climate risk and financial inclusion: A regulatory perspective on risks and opportunities." Available at: https://www.cgap.org/research/publication/climate-risk-and-financial-inclusion-regulatory-perspective

FIGURE 1: SUPPORTING GREEN FINANCE FOR MSMES CAN CONTRIBUTE TO SEVERAL SUSTAINABLE DEVELOPMENT GOALS

Source: United Nations

Soon after arriving at Refugee Camp Al Za atari,this resiliant and entrepreneurial mother and her daughter opened a fresh Fruit and Vegetable Market at Champs Elisee inside the Camp. Al Mafraq, Jordan.(Alamy Stock Photo)

WMSMEs IN THE CONTEXT OF CLIMATE CHANGE

Woman watering her field in Karsome, Togo. (Alamy Stock Photo)

While climate change affects everyone, numerous studies have shown that it has specific differentiated impacts on women and girls versus men and boys.

According to a UNDP study, “women and children are 14 times more likely than men to die” when a natural disaster occurs.[8] This is largely due to persisting patriarchal cultural norms that restrict women’s socioeconomic roles, limiting their mobility and access to resources and education, especially in developing countries, which not only impedes their access to green finance and ability to build resilience, but also reduces their immunity against climate shocks.

Women-led/owned MSMEs (WMSMEs) encounter specific financial and climate-related challenges. While they represent 23 percent of MSMEs globally, they account for 32 percent of the MSME finance gap and exhibit greater vulnerabilities to climate change impacts.

This report uses the definition provided by the SME Finance Forum for women-owned enterprises (WMSMEs), which includes any of the following:

> **Option 1:** At least 50 percent female ownership, or sole proprietorships that are female-owned, or female participation in ownership and management (top manager).

> **Option 2:** Sole proprietorships that are female-owned, or female participation in ownership and management (top manager).[9]

8 UNDP. 2022. Women are hit hardest by disasters so why are responses too often gender blind? Available at: https://www.undp.org/blog/women-are-hit-hardest-disasters-so-why-are-responses-too-often-gender-blind

9 SME Finance forum. 2023. MSME finance gap. Available at: https://www.smefinanceforum.org/data-sites/msme-finance-gap

FIGURE 2: CYCLE OF POVERTY – THE GENDER AND ENVIRONMENTAL NEXUS

Source: PHB Development

Female poultry farmer feeding her chickens, Tanzania, Africa. (Alamy Stock Photo)

According to a recent We-FI study,[10] WSMEs face a financing gap of USD1.7 trillion globally (of which USD1.5 trillion is in developing countries), while women are 25 percent less likely than men to start a business.[11] WMSMEs have limited opportunities to invest in clean technologies and climate-resilient practices, a situation that is further aggravated by the low representation of women in green decision-making. Despite making up 39 percent of the global labor force, women only account for 16 percent of the traditional energy sector. At management levels, the numbers are even lower.[12]

Nevertheless, according to the United Nations Industrial Development Organization (UNIDO), women entrepreneurs are more inclined to establish businesses in green rather than conventional industries.[13] And as they operate in challenging business environments, WMSMEs are innovative and prioritize social and environmental goals in their business and communities.

WMSMEs demonstrate vulnerability in what is called "adaptative capacity".[14] A study on WMSMEs conducted in sub-Saharan Africa[15] showed that women entrepreneurs have a "triple differential vulnerability" to climate change, meaning they:

1. Depend on climatically vulnerable natural resources while working in sectors with significant climatic exposure, like agriculture, cattle, or fishing. Additionally, women farmers are more likely to be restricted to marginal and degraded agricultural lands that are less resilient to climate shocks and prone to flooding.
2. Have challenges accessing capital and technology, coupled with gender-blind policies or restrictive sociocultural norms.
3. Face exposure that occurs simultaneously at the business and household levels. Women who own MSMEs and are household heads face simultaneous pressures to manage climate risks at both levels when disaster strikes. Furthermore, women who own MSMEs in developing countries also have profound relationships with their communities and, therefore, tend to remain in rural communities at times of climate stress.[16]

10 We-Fi. 2022. The case for investing in women entrepreneurs. Available at: https://we-fi.org/wp-content/uploads/2022/10/We-Fi-Investment-Case_LR.pdf

11 Green Finance Platform. n.d. Gender. Available at: https://www.greenfinanceplatform.org/themes/gender

12 IEA. n.d. Energy and gender. Available at: https://www.iea.org/topics/energy-and-gender

13 UNIDO and GIZ. 2021. Policy Assessment for the Economic Empowerment of Women in Green Industry. Available at: https://www.unido.org/sites/default/files/files/2021-06/Synthesis_Report_Final.pdf

14 "Adaptation is one of the two central approaches in the international climate change process. The term refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities" Available at: Fact sheet: The need for adaptation (unfccc.int)

15 Wire's Climate Change. 2022. The triple differential vulnerability of female entrepreneurs to climate risk in sub-Saharan Africa: Gendered barriers and enablers to private sector adaptation. Available at: https://wires.onlinelibrary.wiley.com/doi/10.1002/wcc.793

16 Ibid.

CASE STUDY 1: Climate Change Adaptation among Women-Led Micro, Small, and Medium Enterprises in Semi-arid Areas in Kenya[17]

WMSMEs interviewed in Narok, Kenya, generally believed that their enterprises had limited options for adaptation during times of drought. To protect resources and reduce the risk of business losses, respondents mentioned that one key strategy for coping with climate change involved reducing stock during dry spells (which entails economic losses). Tomato traders from Narok South, for instance, explained that they lower their risk of loss and damage by reducing the land area used for production to limit irrigation in response to decreased water supply, due to droughts, which leads to reduced productivity and income. While such strategies may help WMSMEs cope in the short-term, a long-term strategy is required to enhance their resilience and adaptive ability over time.

In the face of these climate-led shocks, Kenya has implemented climate change strategies to assist WMSMEs with climate change adaptation, such as the National Climate Change Action Plan and the Climate Change Act, which requires all public agencies to set aside one-third of tenders to women and youth entrepreneurs.

17 Atela, J., Gannon, K. E. and Crick, F. 2018. Climate change adaptation among female-led micro, small, and medium enterprises in semi- arid areas: A case study from Kenya.', in Leal Filho, W. (ed.) Handbook of Climate Change Resilience. Available at: https://doi.org/10.1007/978-3-319-71025-9_97-1

Woman collecting Tilapia fish larvae in a pond for sale, Kenya.(Alamy Stock Photo)

GAPS AND BARRIERS FOR MSMEs IN ACCESSING FINANCIAL SERVICES FOR GREEN TRANSITION AND RESILIENCE

A wind farm in Inner Mongolia currently suffering desertification in the worst drought in 50 years due to climate change. (Alamy Stock Photo)

Capital flows directed specifically towards low-carbon interventions are highly unequal geographically. Developing countries, particularly those in Africa, receive a very small portion due to the uncertainties surrounding their macroeconomic conditions, business confidence, policies, and regulatory frameworks.[18]

When MSMEs can access finance, it is often from friends, family, or savings clubs given their informal status, lack of admissible collateral, absence of credit history, and limited or no financial records. These barriers are more pronounced for micro and small enterprises (MSE) given their size, informality, and focus on survival-oriented business operations.

Additionally, MSEs find dealing with formal financial institutions intimidating due to the above barriers. A study commissioned by UNEP across eight countries in Africa, between 2015 and 2020, showed that 80 percent of loans disbursed by banks required collateral, with a collateral value of around 210 percent of the loan's value.[19] MSMEs eligible for bank loans, mezzanine finance, and investment funds are usually well-established with collateral, a strong place in an established value chain generating regular cash flows, investor linkages, or being export-oriented.[20]

"If climate goals are to be achieved, both **adaptation and mitigation financing** would need to increase many-fold. There is sufficient global capital to close the global investment gaps, but there are barriers to redirect capital to climate action."[21]

According to a study conducted by the European Investment Bank (EIB) in 2020, across all African sub-regions, less than 20 percent of the total portfolios of African banks are green.[22] Furthermore, although "the agricultural sector accounts for 20-40 percent of the continent's gross domestic product, it receives less than three percent of banking credit."[23] The main reasons for the modest loan portfolios, according to the bank's survey respondents, are a lack of internal expertise, the absence of readily accessible relevant instruments to evaluate climate risks and businesses, and a perceived lack of demand.

While policymakers and financial regulators (PFRs) acknowledge the need to pursue a holistic approach in developing IGF policies, particularly for MSMEs and WMSMEs, they also face multiple challenges. Developing and implementing an MSME-targeted IGF policy requires that PFRs possess in-depth knowledge, skills, and the capacity to understand the needs and preferences of MSMEs, climate-related business risks and opportunities, national climate goals and environmental commitments, among others.

Furthermore, it is important to note that IGF is not inherently gender-responsive; policies, financial services, and products can have gender differential impacts based on the sociocultural status, roles, and responsibilities of women. Developing gender-responsive IGF policies, products, and services can, therefore, address the unique needs of WMSMEs and advance their access to green finance. This not only encourages green innovation while increasing employment, it also helps them build resilience to cope with climate-related disasters and promotes financial stability.

This report identifies the above-mentioned gaps and barriers that hinder MSMEs from accessing green finance, and has grouped and analyzed them from the policy, access to finance, and risk management side, also highlighting specific challenges for WMSMEs.

18 Nature.com. 2021. Higher cost of finance exacerbates a climate investment trap in developing economies. Available at: https://www.nature.com/articles/s41467-021-24305-3

19 UNEP. 2022. Assessing Green Financing Mechanisms for Micro, Small and Medium Enterprises (MSMEs) in Africa. Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/40763/AGFM.pdf?sequence=1

20 GIZ, IFC. 2017. Climate Smart Financing for Rural MSMEs: Enabling Policy Frameworks. G20 Global Partnership for Financial Inclusion. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/160941498850160436/climate-smart-financing-for-rural-msmes-enabling-policy-frameworks-g20-global-partnership-for-financial-inclusion

21 CARE. 2023. 10 key takeaways from the IPCC report. Available at: https://careclimatechange.org/10-key-takeaways-from-the-ipcc-report/

22 EIB. 2020: Banking in Africa: financing transformation amid uncertainty. Available at: https://www.eib.org/attachments/efs/economic_report_banking_africa_2020_en.pdfopportunities" Available at: Fact sheet: The need for adaptation (unfccc.int)

23 Ibid.

POLICY AND STRATEGY DEVELOPMENT-RELATED BARRIERS

LACK OF IGF DATA ON MSMEs

PFRs encounter challenges in developing MSME-responsive IGF policies due to insufficient data on green finance and financial inclusion pertaining to MSMEs. This lack of data hampers policymakers' understanding of climate change impacts on MSMEs, their mitigation and adaptation strategies, and how FIs integrate IGF into their lending and risk management policies. Additionally, it complicates the comprehension of the relationship between financial inclusion and climate change. The AFI annual IGF 2023 survey highlighted that 82 percent of respondents identified a "lack of data on the impact of climate change on MSMEs" as the primary barrier for policymakers and regulators. Closing these data gaps is essential for PFIs to formulate evidence-based IGF policies that effectively address the vulnerability of MSMEs to climate change.

For example, under the Green Finance Policy 2023 (GFP), the Central Bank of PNG (BPNG) will lead the creation of a "Bank Working Group" to collect and report green finance data, including MSME-segregated data, and establish a "Green Finance Center" as a data hub for green finance, given that no reliable data was available during the diagnostic phase of the policy development. In 2020, the Bank of Mongolia began collecting green loan statistics based on the Mongolian Green Taxonomy (2019) to calculate the amount and ratio of green loans in portfolios.[24]

CASE STUDY 2: Data gathering by the Bangko Sentral ng Pilipinas (BSP) to assess the impact of extreme weather episodes on the Philippine banking sector

The Bangko Sentral ng Pilipinas (BSP) gathers data from the Branch Regional Information System (BRIS) and conducts research on the impact of extreme weather conditions (typhoons, monsoon rains) on the health of the banking sector.[25] According to the BSP Working Paper Series, "Impact of Extreme Weather Episodes on the Philippine Banking Sector: Evidence Using Branch-Level Supervisory Data,"[26] the findings found that extreme weather conditions negatively affect bank deposits, asset quality, and earnings, particularly in rural and cooperative banks (RCB) located in disaster-prone areas. Given the distribution of smallholder farmers and cooperatives in these rural and more climate-vulnerable regions of the Philippines, primarily served by rural and cooperative banks, this information enables the BSP to better understand which households and MSMEs are more exposed to natural disasters and their impacts on financial sector stability.

24 Inspire. 2020. Briefing paper - A Toolbox of Sustainable Crisis Response Measures for Central Banks and Supervisors. Available at: https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/11/INSPIRE-toolbox_-2nd-Edition-1.pdf

25 BSP WP Series. 2020. Impact of Extreme Weather Episodes on the Philippine Banking Sector: Evidence Using Branch-Level Supervisory Data. Available at: https://www.bsp.gov.ph/Media_And_Research/WPS/WPS202003.pdf

26 Ibid.

Kapok trees (Ceiba Pentandra) bloom is late due to extreme heat & drought. Kapok fibers are used in organic pillows/duvets. Imus, Philippines. (Kevin Izorce/Alamy Stock Photo)

LIMITED APPLICABILITY OF GREEN TAXONOMIES FOR MSMEs

The complex nature of green finance and its intersectionality with other mandates — such as financial stability, monetary policy, environmental protection, climate change adaptation and mitigation, gender equality, and poverty reduction — which may not be mutually inclusive, makes it challenging for policymakers to develop MSME-centric green taxonomies. Even in countries with green taxonomies, many are broad-based and thus have limited applicability to MSMEs. For example, according to a recent report,[27] European SMEs are not covered by the 2019 EU taxonomy, which was meant to facilitate sustainable finance to support the green transition of businesses, although SMEs are major contributors to both GDP and GHG emissions. On the same note, the OECD SME Activity Report 2023 mentions the increasing number of standards, methodologies, and taxonomies which confuse and place unnecessary burdens on SMEs, limiting both their ability to comply and qualify for finance.[28]

LACK OF PROPORTIONATE REGULATION

The lack of proportionate regulation, coupled with underdeveloped capital and insurance markets, especially in developing countries, deters the provision and delivery of green financing options for MSMEs. For instance, banks and FIs in some countries with green taxonomies and sustainable finance policies implement a one-size-fits all regulatory requirement (including collateral, credit reports, environmental clearances, and green certifications) for MSMEs, irrespective of their size, resources, or capacity, making it a burden and costly for them to access green financing.

Policymakers and regulators should acknowledge the unique context of MSMEs and apply the principle of proportionality and a risk-based approach when developing IGF policies which promote, rather than hinder, access to green finance. For instance, Nepal Rastra Bank's Guideline on ESRM for banks and financial institutions[29] excludes small loans (less than USD100,000) in non-critical sectors from Environmental and Social Due Diligence and Environmental Impact Assessment review requirements. In Ecuador, SEPS's ESRM guidelines categorize activities with green, amber, and red lights, allowing the board of directors of the savings and credit unions to decide from which loan amount the ESRM should be applied. This threshold has varied by entity, but is generally standardized at USD10,000, a measure designed to not exclude or burden micro and small enterprises, which are often viewed as more subsistence-based economic activities.

LACK OF GREEN CATEGORIZATION OF MSMEs

According to the AFI survey on Transitioning MSMEs to Green (2023), 79 percent of members have still not categorized the sustainable economic activities that MSMEs can participate in. The lack of green categorization hinders the ability of FIs to identify MSMEs eligible for green finance and limits MSMEs from accessing green finance subsidies, green credentials (required by national authorities), and access to international and national green funds.

27 Jessie W & Sofia Gren. 2023. Exploring implications of the EU Taxonomy on funding and disclosure for Swedish SMEs. Available at: https://stud.epsilon.slu.se/19289/1/westerberg-j-gren-s-20230714.pdf

28 OECD. SME Activity Report 2023. Available at: https://www.oecd.org/cfe/smes/SME%20activity-report-2023.pdf

29 NRB. May 2018. ESRM for Banks and FIs. Available at: https://www.nrb.org.np/contents/uploads/2022/02/Final-ESRM-with-cover.pdf

Rising water levels submerge a house as heavy monsoon rains cause major floods in Baco, Oriental Mindoro, Philippines.(Imago / Alamy Stock Photo)

CASE STUDY 3: The Palestine Monetary Authority's green categorization of the economy

The Palestine Monetary Authority classifies the following as sustainable economic activities:

- **Clean and Renewable Energy:** Solar energy, wind and sea wave energy, and energy from gradient runoff or waterfalls.
- **Energy Efficiency:** Using solar energy in current heating and cooling systems and replacing traditional systems with modern energy-saving systems, and using hybrid transportation.
- **Agriculture and Land Conservation:** Land and afforestation rehabilitation and restoration projects, renewable agriculture, aquaculture, fish farming projects, manure storage and processing, and livestock projects.
- **Waste Management:** Solid waste management projects, liquid waste management, sewage treatment plants, recycling, and the utilization of solid industrial waste and exhaust gases.
- **Green Building:** Constructing new buildings and modifying existing ones to meet the requirements of the Palestinian Environment Law No. (7) of 1999 and its amendments, the set of regulations and instructions issued pursuant thereto, or the standards and guidelines of the World Green Building Council. Buildings may also obtain certification from recognized international or local systems in the field of green buildings, such as the IFC EDGE system.
- **Green Public Services and Utilities:** Creating parks, green spaces, public lighting systems, and other advanced technologies in public systems and utilities that reduce emissions and support the effective use of available green or sustainable sources and resources.
- **Health Sector:** Developing and improving monitoring systems for drinking water, food and air quality, and related research projects to establish an early health warning system, such as forecasting heat and cold waves.

Furthermore, they mention leveraging information technology, such as high-technology projects, cloud computing, electronic projects, and biotechnological projects, in addition to related research, to support the above-mentioned sustainable economic activities.

Source: AFI Survey on Transitioning MSMEs to Green (2023)

Woman harvesting olives. Jenin, West Bank, Palestine. (Alamy Stock Photo)

Fruit and vegetable stall. Nuwara Eliya Market, Sri Lanka. (Alamy Stock Photo)

POLICY AND STRATEGY DEVELOPMENT BARRIERS FOR WMSMEs

LACK OF AN EXPLICIT CATEGORIZATION FOR WMSMEs

While an increasing number of countries prioritize women and MSMEs in their national financial inclusion strategies (NFIS) or green finance policies, the majority of IGF policies and taxonomies lack an explicit definition and categorization of WMSMEs under the green sector and product list eligible for green finance. For example, the Green Finance Policy of PNG prioritizes women and MSMEs but lacks both the definition and categorization of green WMSMEs.[30] This restricts the possibilities for WMSMEs to apply for green finance and limits their active participation in the greening of the economy.

LACK OF GENDER DISAGGREGATED DATA

While progress is being made in the collection of financial inclusion data by AFI members, those who collect gender-disaggregated data (GDD) on green finance or climate-related data are limited. As per the AFI Annual IGF 2023 Survey, only seven percent (out of 27 respondents) have a gender sensitive framework for collecting climate-related data, which handicaps FIs from assessing and understanding the needs and preferences of WMSMEs for green finance, including the underlying problems they face, thereby limiting the design and launch of gender-responsive green products and services.

ACCESS TO SUPPORT FINANCE BARRIERS

LIMITED OR NO TAX INCENTIVES TO SUPPORT GREEN FINANCING OF MSMEs

Green incentives play a crucial role in motivating MSMEs to invest in clean technologies and transition towards the green sector. These incentives may include tax exemptions for income generated from eco-tourism and electric vehicles, investments in green bonds, or financial assistance for rural insurance policies, among other initiatives. Nevertheless, green incentives are limited or non-existent in most AFI member countries. According to the AFI 2023 Survey on Transitioning MSMEs to Green, 45 percent of members mentioned the lack of fiscal incentives as a policy barrier that hinders development and implementation of IGF policies for MSMEs. Some countries, however, like Malaysia, are spearheading the agenda with tax incentives on green investments as noted below.

30 Bank of Papua New Guinea. IGF of PNG 2023. Available at: https://www.afi-global.org/newsroom/blogs/mitigating-the-impact-of-climate-change-papua-new-guineas-inclusive-green-finance-journey/

CASE STUDY 4: Malaysia's green technology tax incentives[31]

Malaysia introduced four types of activities under its green technology tax incentives in 2014 (revised in 2021):

1. **Green Investment Tax Allowance (GITA) Assets:** Applicable to companies that acquire qualifying green technology assets listed under the MyHIJAU Directory for their own use or consumption.

2. **Green Investment Tax Allowance (GITA) Projects:** Applicable to companies that undertake qualifying green technology projects for their business use or own consumption.

3. **Green Income Tax Exemption (GITE) Services:** Applicable to qualifying green technology service provider companies listed under the MyHIJAU Directory.

4. **Green Income Tax Exemption (GITE):** Applicable to qualifying green technology service provider companies listed under the RPVI Directory.

The objective is to encourage investment in green technology, the acquisition of green assets, and an increase in green technology service providers.

31 MyHIJAU. 2022. Green technology tax incentives guidelines. Available at: https://www.myhijau.my/wp-content/uploads/2022/05/REC-GTGT-007-GUIDELINES-FOR-GREEN-TECHNOLOGY-TAX-INCENTIVE-GITAGITE.pdf

Tea plantation, Cameron Highlands, Malaysia.(Alamy Stock Photo)

Farmers working at a plant nursery in Nigeria.(Alamy Stock Photo).

INABILITY OR HIGH COSTS TO OBTAIN GREEN CERTIFICATION TO QUALIFY FOR GREEN FINANCING

MSMEs can access green finance by complying with environmental regulations (for example, by obtaining an environmental clearance certificate and fulfilling environmental due diligence requirements) which provide supplementary benefits like gaining access to "green niche" markets thanks to certification programs and eco-labels. Several countries have implemented these certification programs, often in collaboration with other stakeholders, including regulatory bodies, financial institutions, and different ministries, to support the green transition of MSMEs.

CASE STUDY 5: MSME ZED certification scheme in India

In 2016, the Indian government introduced the Zero Defect Zero Effect (ZED) initiative, which emphasizes manufacturing products with zero defects and no environmental impact. The ZED certification, offered at Bronze, Silver, and Gold levels by the Quality Council of India, aims to promote a circular economy among MSMEs by enhancing their competitiveness and sustainability. MSMEs taking the ZED Pledge commit to Zero Defect Zero Effect principles, undergoing guidance, assessments, and interventions to improve manufacturing practices. A surveillance assessment is conducted after 18 months of certification.

While there is a cost for ZED certification, the government provides subsidies ranging from 50 to 80 percent based on enterprise size and ownership. Additional subsidies are available for WMSMEs or located in specific territories.

ZED certification offers a range of benefits including increased credibility and monetary advantages. For example, it provides access to a government-led CGS with guaranteed coverage of 85 percent for ZED certified MSMEs. Different banks in India also provide benefits to ZED certified MSMEs. For instance, ESAF Small Finance Bank provides a 50 percent reduction in processing fees for all loan proposals from ZED certified MSMEs and a one percent reduction from standard interest rates.

Source: Ministry of Micro, Small and Medium Enterprises of India, ZED portal[32]

32 Please see the Ministry of Micro, Small, and Medium Enterprises of India's ZED portal. Available at: https://zed.msme.gov.in/components

CASE STUDY 6: Malaysia Green Technology Financing Scheme

Malaysian Green Technology and Climate Change Corporation (MGTC) is an agency under the country's Ministry of Natural Resources, Environment, and Climate Change. It collaborates with the Ministry of Finance, the Credit Guarantee Corporation (CGC), and Bank Negara Malaysia to address the financing gap for MSMEs through equity investments.

The government of Malaysia supports the development of green businesses through the MGTC Green Technology Financing Scheme (GTFS) 4.0 by providing between 60 percent to 80 percent of the green component cost, financed by PFIs, as well as a rebate of 1.5 percent per annum on the interest or profit rate.

MGTC supports MSMEs in the following sectors: Energy, manufacturing, transportation, building, waste, and water which are producers or users of green technology, energy service companies (ESCOs), green housing developers, or electric vehicle charging point operators.

APPLICATION AND CERTIFICATION PROCESS

All applications must be submitted to MGTC for green project certification, which involves a fee. The evaluation process takes roughly 21 working days and if successful, the applicant receives the Green Project Certificate, valid for six months from the issuance date. The successful applicant can then submit their application for financing to any PFI, which takes around 30-60 working days.

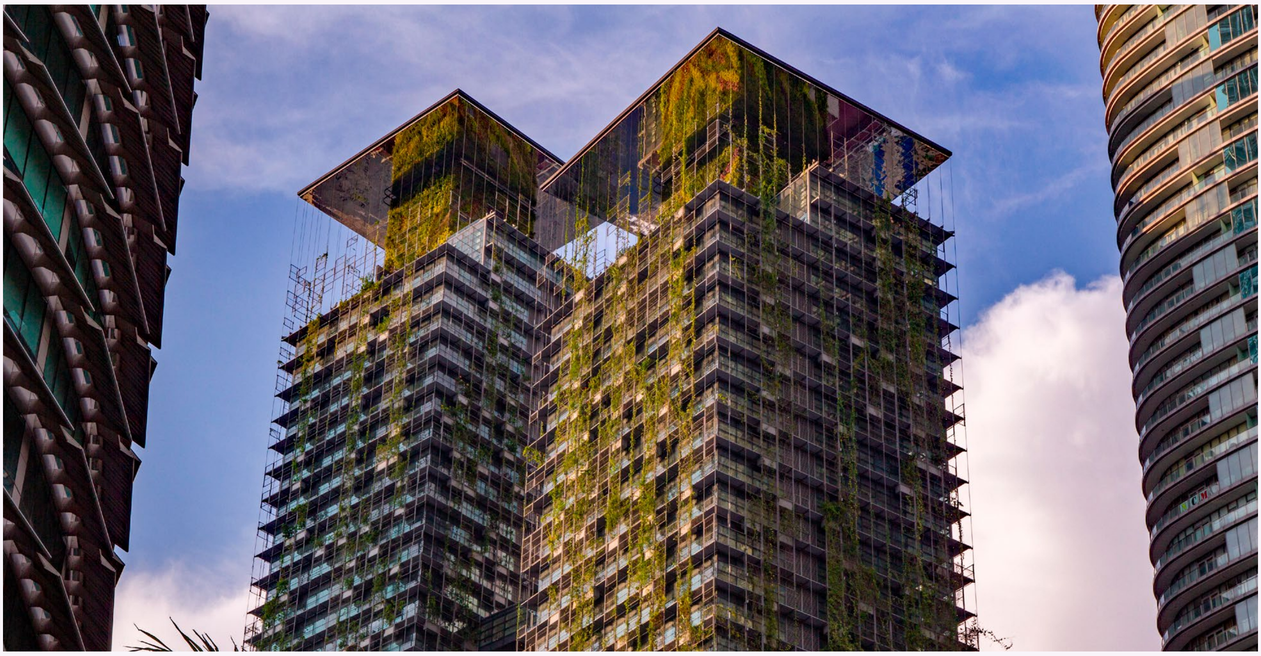
The Green Project Certificate is used solely for loan applications to PFIs. MGTC, however, supports applicants both in the application process and with project implementation once financed. Recipients of the GTFS must submit quarterly reports, and monitoring and verification audits are conducted annually by MGTC throughout the financing tenure. MGTC also works closely with PFIs by managing a joint committee on a bi-annual basis to ensure MSMEs benefit from the GTFS.

Lessons learned:

1. Establish long-term relationships with the public sector and PFIs.
2. Introduce reasonable application fees to filter out the entities that do not meet the requirements.
3. Build awareness among MSMEs by boosting interest in and demand for green products and services.

Source: Key informant interview and the GTFS website.[33]

33 GTFS. 2023. Green technology Financing Scheme, Empowering green businesses. Available at: https://www.gtfs.my/page/application-process



The eco green vertical garden Le Nouvel Towers in Kuala Lumpur, Malaysia. (Alamy Stock Photo)

LACK OF GREEN FINANCE ENTITIES (GFE) OR GREEN BANKS[34]

Policy gaps, such as the absence of a green bank or GFE as a specialized and mission-focused entity, could hinder the pursuit of a targeted approach to address the green financing gap for MSMEs. Specialized green banks can play a key role in facilitating and providing green finance to MSMEs by mobilizing green investments and private finance, providing technical assistance to support a green transition, and promoting sustainable finance. For instance, the Brazilian Economic Development Bank (BNDES),[35] focuses on environmental sustainability and has issued green bonds (2017) in the global market and green financial letters in the local market (2020) to raise funds for investments in green and social categories, including MSMEs.

HIGHER COST OF GREEN FINANCING TO MSMEs

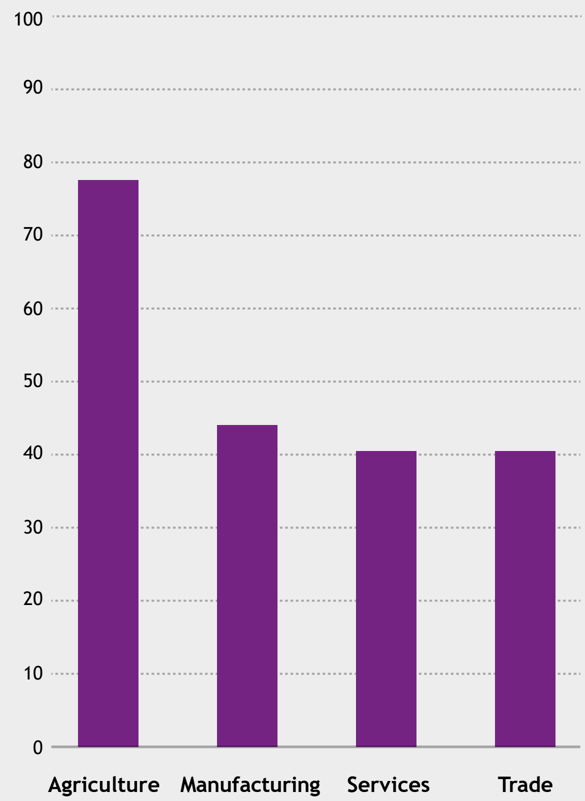
Financial institutions often see investing in green technologies for MSMEs as a high-risk and low-return investment given their size, informality, and low turnover.[36] Moreover, rural MSMEs, especially those in the agricultural sector, whose cash flow depends on changes in commodity prices and weather conditions, are perceived as high risk due to the volatility of their business and the intrinsic risk of financing the agricultural sector.

LACK OR LIMITED RISK SHARING MECHANISMS (GREEN CREDIT GUARANTEE SCHEME AND CLIMATE INSURANCE)

Risk sharing facility (RSF) tools, set up by government agencies (e.g. central banks) or multilateral financial institutions, are financial mechanisms used to mitigate and diversify default risks through bilateral loss sharing. A key advantage of the RSF is that it allows the sharing of risks within given target groups, such as agricultural businesses or WMSMEs, with PFIs. This builds on the expertise, networks, corporate structures, and incentives of private sector PFIs.[37] For example, the Green Climate Fund (GCF),[38] in collaboration with the Inter-American Development Bank, established a risk-sharing facility in 2017 for agricultural MSMEs in Guatemala and Mexico to facilitate their green transition to low emission and climate resilient agriculture practices. The GCF has also established RSFs in countries like Chile, Ghana, Kenya, and Uganda.[39]

In terms of demand for RSFs, the AFI annual IGF 2023 survey revealed that 78 percent of the 27 respondents found the agricultural sector as the most in need of MSME credit risk sharing schemes, followed by the manufacturing sector (at 44 percent), and the services and trade sectors (both at 41 percent). Furthermore, 69 percent perceived the lack of "green definitions" as the main barrier to implementing a successful green CGS. To encourage lending institutions to address the financing issues encountered by MSMEs, CGSs can share potential credit risks and act as guarantors.

FIGURE 3: WHICH SECTORS HAVE THE MOST NEED FOR MSME CREDIT RISK SHARING SCHEMES IN YOUR COUNTRY



Source: AFI annual IGF 2023 survey

34 A green (investment) bank is generally defined as a public, quasi-public or non-profit entity established specifically to facilitate private investment into domestic low-carbon, environmentally resilient infrastructure. World Bank. 2021. Toolkits for Policymakers to Green the Financial System. Available at: https://openknowledge.worldbank.org/entities/publication/b1897439-4fce-5466-b045-9a858b0273b3

35 BNDES. 2021. BNDES creates new structure for issuing green, social and sustainable bonds with support from IDB. Available at: https://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/conteudos/noticia/BNDES-creates-new-structure-for-issuing-green-social-and-sustainable-bonds-with-support-from-IDB/

36 UNEP. 2023. Green Financing Mechanisms for MSMEs in Africa. Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/43329/Green_financing_mechansms_for_MSMEs_Africa.pdf?sequence=3&isAllowed=y

37 AFI. 2021. Risk sharing facilities: Mobilising finance for women led MSMEs. Available at: https://www.findevgateway.org/sites/default/files/publications/2022/Risk-Sharing-Facilities-Mobilizing-Finance-for-Women-led-MSMEs.pdf

38 Global Climate Fund. n.d. Low Emissions and Climate Resilient Agriculture Risk Sharing Facility. Available at: https://www.greenclimate.fund/project/fp048

39 Ibid.

Women are evacuated by boat from a flooded area on the India border, Susta, Nepal. (Alamy Stock Photo)

"A CGS provides third-party credit risk mitigation to lenders through the absorption of a portion of the lender's losses on the loans made to SMEs in case of default, typically in return for a fee."[40] A green CGS should adopt clear and stable green mandates that align strategy objectives with Nationally Determined Contributions and be well-resourced with sufficient capital mobilized from CO2 taxes or climate funds, as well as from multilateral development finance institutions.[41]

MSME climate insurance programs are another RSF tool that have grown significantly in the past few years, albeit with slow uptake. The increased frequency and severity of natural disasters associated with climate change make it difficult for insurers to accurately predict the likelihood of future losses and to price insurance products appropriately. MFIs find it challenging to develop climate microinsurance products on their own, without a re-insurer, due to their size, business model, and lack of technical expertise, not to mention regulatory issues.[42]

Index-based insurance represents a novel and innovative method of insurance provision, where compensation is disbursed based on a pre-established index (such as rainfall levels) rather than on traditional assessments of individual claims. It covers losses of assets and investments, with a particular focus on working capital stemming from weather-related and catastrophic events. Before the insurance period begins, a statistical index is formulated to gauge deviations from standard parameters like rainfall, temperatures, earthquake magnitudes, wind speeds, crop yields, and livestock mortality rates. However, this requires a large amount of data and high degree of technicality for adequate spatial granulation.[43]

Despite the crucial role of insurance in reducing financial losses resulting from hazards or adverse events, the adoption rate of insurance remains limited in developing nations. Collaborative efforts are required from all stakeholders in the sector to offer more accessible and tailored solutions for low-income communities.

40 The World Bank Group. n.d. Principles for Public Credit Guarantee Schemes (CGSs) for SMEs. Available at: https://www.worldbank.org/en/topic/financialsector/publication/principles-for-public-credit-guarantee-schemes-cgss-for-smes#:~:text=A%20credit%20guarantee%20scheme%20provides,in%20return%20for%20a%20fee

41 World Bank Blogs. 2021. Greening public credit guarantee schemes for net zero. Available at: https://blogs.worldbank.org/psd/greening-public-credit-guarantee-schemes-net-zero

42 e-MFP, MAIN. 2021. N.R.Carillo, C. Razakaharievlo, D.Forcella & S. Recupero, Transition Écologique et Sociale (TES) au Profit des Institutions de Microfinance Africaines.

43 Global index insurance facility (WBG). n.d. What is basis risk? Available at: https://www.indexinsuranceforum.org/faq/what-basis-risk

CASE STUDY 7: Central Bank of Nigeria — Anchor Borrower's Program (ABP)[44]

In 2021, the Central Bank of Nigeria (CBN) revised the guidelines of its Anchor Borrower's Program (ABP), which links smallholder farmers with large companies to increase agricultural production and food security. The ABP also provides innovative financing to support smart agriculture and technology-savvy green farmers. For example, under its revenue index insurance, automatic payouts are made to farmers based on predicted crop yields using satellite data on precipitation.

44 CBN. 2021. ABP Guidelines. Available at: https://www.cbn.gov.ng/out/2021/ccd/abp%20guidelines%20october%2013%202021%20-%20final%20(002).pdf

Portrait of a cocoa farmer at her farm in Ondo State, Nigeria. (Majority World CIC / Alamy Stock Photo)

Case Study 8: OKO Finance — a crop insurtech company

OKO establishes partnerships with weather data providers to develop indices, which are then utilized to design parametric insurance products. This approach earned them first place in AFI's first-ever FinTech showcase at the 2019 AFI Global Policy Forum (GPF)[45].

In an effort to extend OKO's insurance services across more areas in Mali and reach a greater number of farmers, ADA initiated a program with OKO in 2020 to expand the network into two additional regions, onboard new agents, and establish fresh partnerships with two local microfinance institutions (MFIs), namely Baobab and Nyesiguiso.

Under this project, OKO offered a suite of four services:

- Index-based insurance that covers drought and flood risks. Compensation thresholds are determined based on rainfall patterns in specific geographic regions and the growth stages of maize crops.
- The "OKO insurance" product ensures the partial or complete reimbursement of the outstanding capital owed by farmers to microfinance institutions in case of drought or flooding. If a farmer who has received a loan from an MFI receives compensation from OKO at the end of the season, the compensation amount is directly transferred to the respective MFI account.
- Agronomic guidance.
- Weather alerts.

KEY RESULTS:

- 75 percent of insured farmers stated that less collateral was required.
- 25 percent of policyholders increased their cultivation area by an average of 1.7 hectares.
- 50 percent of policyholders are willing to take out other insurance products.

Source: ADA, Index based agricultural insurance - lessons learned[46]

45 AFI 2019 "Winners of AFI's first-ever FinTech showcase take a bow". Available at: Winners of AFI's first-ever FinTech showcase take a bow - Alliance for Financial Inclusion (afi-global.org)

46 ADA. 2022. Index based agricultural loan - lessons learned Available at: https://www.ada-microfinance.org/sites/default/files/2022-08/Lessons%20learned_OKO%20au%20Mali_EN_0.pdf

Small farmer applying urea to crop of peanuts and sorghum, Kano, Nigeria. (Alamy Stock Photo)

ELIMINATING FINANCIAL ACCESS BARRIERS FOR WMSMEs

WMSMEs face further barriers when it comes to accessing finance for climate mitigation and adaptation:

LACK OF GREEN FINANCIAL PRODUCTS AND SERVICES FOR WMSMEs

FIs often have limited knowledge on the fundamentals of green finance, possess inadequate technical capacity, and lack the necessary tools and expertise to develop green products and services for women. For instance, a recent CGAP study, although not universally applicable, showed that only one climate-responsive product (Green Delta's Nibedita Insurance) specifically targets women.[47] However, progress is being made. Recently, banks in Latin American countries, in collaboration with CAF Development Bank, have begun to promote green finance by offering credit lines that "include a sustainable approach, gender equity, and a focus on SMEs".[48] Similarly, the European Bank for Reconstruction and Development (EBRD), in collaboration with the Women Entrepreneurs Finance Initiative, has provided USD4 million to WMSMEs to support greening projects and activities.[49] In October 2023, Bangladesh Bank revised its "Sustainable Finance Policy for Banks and Financial Institutions 2020"[50] to enhance gender inclusivity providing explicit definitions for women entrepreneurs and third-gender entrepreneurs as well. The policy also requires banks and FIs to establish a sustainable help desk in their branches to educate and train three women entrepreneurs on sustainable finance, and finance at least one out of the three trained women entrepreneurs.

Children collecting water from a dried-up river bed, Tanzania (Alamy Stock Photo)

RISK MANAGEMENT AND RESILIENCE BARRIERS

LIMITED GREEN CULTURE IN MSMEs

Most MSMEs focus on securing their daily operations and lack the information and tools to benefit from green technology opportunities. Furthermore, MSMEs often perceive that given their size, their environmental impact is negligible and environmental initiatives reduce profitability while offering intangible market rewards. The results from the 2022 Global State of Small Business (GSoSB) survey,[51] indicated that responding MSMEs expected significant costs to be incurred to their operations due to climate change policies and regulations.[52]

The challenges associated with financing sustainable energy projects perfectly illustrate how MSMEs struggle to understand and assess technology, earnings, and cost-benefit analyses.[53] Moreover, the payback period for investments in efficient energy solutions is long-term, whereas the initial costs to implement new technologies are generally high and short-term, negatively affecting the liquidity position of MSMEs.

LACK OF KNOWLEDGE ON INTEGRATING CLIMATE RISKS INTO MSME GREEN FINANCING

To invest in the green sector, financial institutions need to first familiarize themselves with the topic. Implementing IGF policies requires that FIs comply with regulatory requirements such as ESRM guidelines, sustainable banking guidelines, developing sector-specific green policies and credit risk management, establishing green branches, and improving green finance disclosures, which are often beyond the capacity and resources of FIs and their staff.

47 CGAP. 2023. Available at: https://www.findevgateway.org/slide-deck/2022/12/cgap-strengthening-climate-resilience-adaptation-through-financial-services

48 CAF website. 2022. SMEs and Green Financing. Available at: https://www.caf.com/en/knowledge/views/2022/03/smes-and-green-financing/

49 EBRD. 2022. EBRD supports green and inclusive lending in Uzbekistan. Available at: https://www.ebrd.com/news/2022/ebrd-supports-green-and-inclusive-lending-in-uzbekistan.html

50 Bangladesh Bank. 2020. SFP for Banks and FIs. Available at: https://www.greenfinanceplatform.org/policies-and-regulations/sustainable-finance-policy

51 The January 2022 survey was undertaken in 30 countries and territories from around the world, including both developing and developed economies.

52 WTO. 2022. Small business and climate change. MSME research note #3. Available at: https://www.wto.org/english/tratop_e/msmes_e/ersd_research_note3_small_business_and_climate_change.pdf

53 GIZ and IFC. 2017. Climate Smart Financing for Rural MSMEs: Enabling Policy Frameworks. G20 Global Partnership for Financial Inclusion. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/160941498850160436/climate-smart-financing-for-rural-msmes-enabling-policy-frameworks-g20-global-partnership-for-financial-inclusion

Financial institution personnel not only have limited knowledge on conducting environmental due diligence (EDD) on MSMEs seeking green loans but also lack the expertise to develop green finance products. Learning to conduct risk assessments for slow-onset events and understanding the impact they have on portfolios is particularly challenging for FIs. Additionally, the diversity of sustainability ratings, ESG criteria, and indices complicates the implementation process for credit officers. All of these factors contribute to a low appetite for financing MSME green projects. Additionally, a lack of skills and knowledge within FIs to qualify for and access climate or green funds further limits the pool of funds to refinance MSME green projects.

RISK MANAGEMENT AND RESILIENCE BARRIERS FOR WMSMEs

LOWER LEVELS OF EDUCATION AND LIMITED PARTICIPATION IN THE GREEN INDUSTRY

Women in developing countries generally have lower levels of education than men, and lack the necessary knowledge, skills, and expertise, which restricts their participation in the green industry. This is mainly due to sociocultural norms compounded by legal and structural barriers that undervalue the investment in girls' education since women continue to be seen as the primary caregivers in many countries throughout the world. Additionally, the green industry is highly technical, requiring specialized skills and expertise, which most women entrepreneurs lack due to the low uptake in science, technology, engineering, and mathematics (STEM) subjects by girls, which arises from persistent gender stereotypes.[54]

LACK OF MENTORSHIP PROGRAMS AND UPSKILLING AND RESKILLING (W)MSMEs

Upskilling and reskilling WMSMEs is crucial to increase their understanding of the impacts of climate change, the benefits of adopting sustainable practices, and to facilitate their smooth transition into the green industry and benefit from IGF policy incentives. Promoting green women entrepreneurs is essential to build an inclusive and sustainable green economy as women in businesses not only pursue profit but also social and environmental objectives. Promoting WMSMEs in green entrepreneurship helps them access clean energy solutions and facilitates their communities in their transition to a green economy.

Women entrepreneurs generally have less access to mentorship programs than men.55 Mentorship programs with green mentors can act as a lifeline for WMSMEs, supporting their business growth and development. Successful mentors not only provide the required guidance, helping WMSMEs navigate the journey to becoming green entrepreneurs, they also open a door to opportunities, ranging from increased networking and business efficiencies to qualifying for green finance.

54 AAUW. 2020. The STEM Gap: Women and Girls in Science, Technology, Engineering and Mathematics. Available at: https://www.aauw.org/resources/research/the-stem-gap/

55 WWB. 2022. Beyond Credit: How to Support Women-Owned MSMEs for Sustainable Growth. Available at: https://www.womensworldbanking.org/insights/beyond-credit-how-to-support-women-owned-msmes-for-sustainable-growth/

Despite the apparently desesperate situation in Port-au-Prince, some courageous farmer are still devolopping new agriculture in the ecological ranch Le Montcel, Haiti. (Alamy Stock Photo)

CASE STUDY 9: How CARE Sierra Leone and CARE Tanzania are promoting women green entrepreneurs

CARE Sierra Leone, in collaboration with the Ministry of Energy in Sierra Leone, implemented the USD2.5 million Rockefeller Foundation-funded Solar for Beteh Biznes project[56] on 1 November 2021. Targeting women entrepreneurs through renewable energy, this project provides capacity building to WMSMEs to facilitate their engagement in clean energy businesses and use mini-grid power to expand agro-businesses. It targets 297 women's groups and 80 women entrepreneurs, with 6,080 beneficiaries in 23 communities covering nine districts.

The CARE Go Green Tanzania project[57] established a clean energy value chain connecting key stakeholders like business groups, banks, suppliers, community trainers, and FIs to provide green solutions, products, and services. The project trained 375 women entrepreneurs to become green entrepreneurs by helping them establish solar lamps and clean cookstoves in their communities. This initiative increased their income while enabling them to expand their green businesses through loans from financial institutions.

56 CARE Sierra Leone. 2022. Solar Entrepreneurs Project (SHE Project). Available at: https://m.facebook.com/caresierraleone/posts/2031628947032274/
57 CARE Climate change. 2022. Making the Green Transition work for women. Available at: https://careclimatechange.org/care-report-making-the-green-transition-work-for-women/

A nighttime market is lit by solar power in Msimba village, Kigoma Region, Western Tanzania. (Jake Lyell / Alamy Stock Photo)

LACK OF COLLATERAL

Most women entrepreneurs in developing countries have limited or no ownership of land and property (in some LDCs, culturally, they cannot inherit or own property or assets), which makes them ineligible for green financing. As a result, WMSMEs resort to personal savings or informal means of borrowing, which often stretches their resources beyond their capacity and keeps them trapped in a vicious circle of survival mode.

Policymakers and financial regulators could partner with MFIs, cooperatives, and savings clubs to create pathways for WMSMEs to access green finance. Specifically, the IGF Policy of Papua New Guinea 2023 provides WMSMEs with access to finance through women-owned cooperatives or women-focused MFIs.[58] In Jordan, banks and Fis, in partnership with merchants, provide specialized green loans to consumers at low interest rates to purchase energy efficient appliances (solar heaters) and equipment (rooftop solar kits), including hybrid cars.[59] In Bangladesh, non-bank financial institutions such as the Infrastructure Development Company Limited provide subsidized green finance and technical support to several MFIs for on-lending to WMSMEs to promote solar energy systems, biogas, and solar irrigation systems.[60]

CASE STUDY 10: Barriers to WMSME participation in Cambodia's green sectors[61]

- 50 percent of women entrepreneurs in the green industry (WEGI) reported a lack of land or title rights for admissible collateral.
- 83 percent of women entrepreneurs in the green industry[62] were not aware of programs designed to help women start businesses.
- 62 percent of WEGI reported difficulty in obtaining technical skills.

58 BoPNG. 2023. IGF of PNG. Available at: https://www.afi-global.org/newsroom/blogs/mitigating-the-impact-of-climate-change-papua-new-guineas-inclusive-green-finance-journey/

59 CBJ. 2023. FI Diagnostic study in Jordan 2022. Available at: https://www.cbj.gov.jo/EchoBusv3.0/SystemAssets/PDFs/2018/Financial%20Inclusion%20Diagnostic%20Study%20in%20Jordan%202017.pdf

60 SWITCHASIA SCP Facility. 2021. Access to finance for sustainable consumption and production practices by small and medium-sized enterprises in Bangladesh. Available at: https://www.switch-asia.eu/site/assets/files/3085/bangladesh_finance_brief.pdf

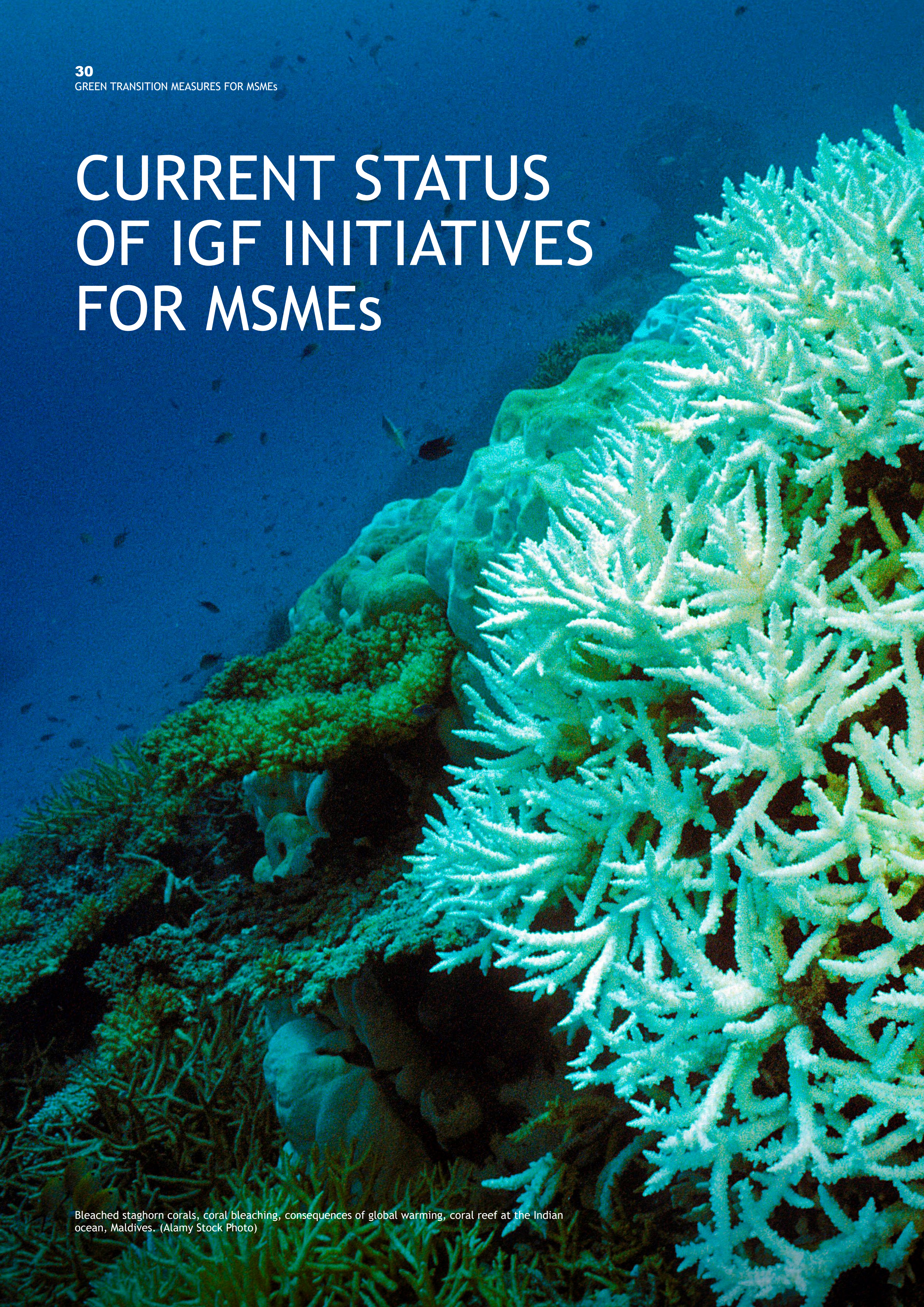
61 UNIDO. 2022. Women in green industry: How gender-transformative policies can boost women's economic empowerment. Available at: https://www.unido.org/sites/default/files/files/2022-03/Cambodia_Infographic_English.pdf

62 In the Cambodian context, the term "green industry" is not clear-cut. The report recognizes sectors such as garments, textiles, and footwear as well as agribusiness, energy, and tourism due to their high potential to be recognized as "green" and to offer great opportunities for women.

Farmers market and souvenir stall combined, local products sold in a stall by the Garni temple in Armenia. (Alamy Stock Photo)

Woman selling fresh prawns at Siem Reap Cambodia. (Alamy Stock Photo)

CURRENT STATUS OF IGF INITIATIVES FOR MSMEs



Bleached staghorn corals, coral bleaching, consequences of global warming, coral reef at the Indian ocean, Maldives. (Alamy Stock Photo)

The diversity of MSMEs and the environments in which they operate call for varied IGF policies, products, services, and transmission channels to help them and their clients transition to a low-carbon economy, build resilience against climate shocks, and adapt to climate change.

AFI members have begun to identify green finance and MSMEs (WMSMEs) as key priority areas and target groups, and are either including them in their NFIS, green finance strategies, sustainable finance policies, green finance taxonomies, or other climate mitigation and adaptation related sectoral or national policies. Additionally, MSME green credit risk guarantee schemes or refinancing schemes such as subsidized green loans are being included. In parallel, SMEs[63] globally have committed to the mission of "halving emissions before 2030, achieving net zero emissions before 2050, and disclosing progress every year".[64]

Below are some of the different measures taken by AFI members to address IGF:

ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT GUIDELINES

Financial regulators recognize the need for enhanced risk management procedures in FIs, which should account for their exposure to both environmental and social risks as well as overall financial sector stability. Over the past decade, an increasing number of financial regulators have issued environmental and social risk management (ESRM) guidelines. Showcased below are those issued by Bangladesh Bank and the Superintendencia de la Economía Popular y Solidaria (SEPS).

CASE STUDY 11: Bangladesh Bank and the development of their environment and (social) risk management guidelines

Bangladesh Bank, a pioneer in promoting IGF policies, issued its Environment Risk Management Guidelines in 2011, which were revised in 2017 (ESRM Guideline)[65] to incorporate social risks. The ESRM guideline requires banks and FIs to integrate environmental and social risks in their ESRM systems to help identify, assess, monitor, and manage risks arising from green financing and ensure sustainable banking practices. Banks and FIs are required to conduct environmental and social due diligence (ESDD) on green projects as part of their credit appraisal process. However, the majority of CMSMEs are exempt from ESDD. For example, in the agriculture sector, any loan up to USD23,000 (BTD2.5 million) does not require ESDD. Those SMEs required to undergo ESDD are assisted by the bank and FI's relationship manager at no additional cost.

63 SME here is defined as a company or an organization with up to 500 employees.

64 Business climate hub. n.d. The SME Climate Commitment. Available at: https://businessclimatehub.org/sme-climate-commitment/

65 Bangladesh Bank. 2017. ESRM guidelines. Available at: https://www.bb.org.bd/aboutus/regulationguideline/esrm_guideline_feb2017.pdf

Bangladesh is one of the most vulnerable countries susceptible to climate change. Flooding is the key natural calamity there for the rural poor people. (Alamy Stock Photo)

CASE STUDY 12: Superintendencia de la Economía Popular y Solidaria (SEPS) of Ecuador and their environmental and social risk management (ESRM) guidelines

In Ecuador, the constitution and several regulations focus on environmental care. Stemming from this premise, and the guiding principle of social and environmental responsibility, the savings and credit cooperatives supervised by SEPS issued an ESRM guideline in May 2023. SEPS initiated the development of the ESRM guidelines by performing a diagnosis to understand the environmental and social risks of the savings and credit cooperatives, as well as the understanding of the principles of social and environmental responsibility on the part of managers and beneficiaries.

As of November 2023, 70 percent of the savings and credit cooperatives have received training and are now implementing environmental and social risk management procedures, manuals, and reporting in accordance with the established ESRM guidelines. Furthermore, the introduction of the ESRM guidelines has been important for, among other things, channeling international green funds to the savings and credit cooperatives.

Key learnings:

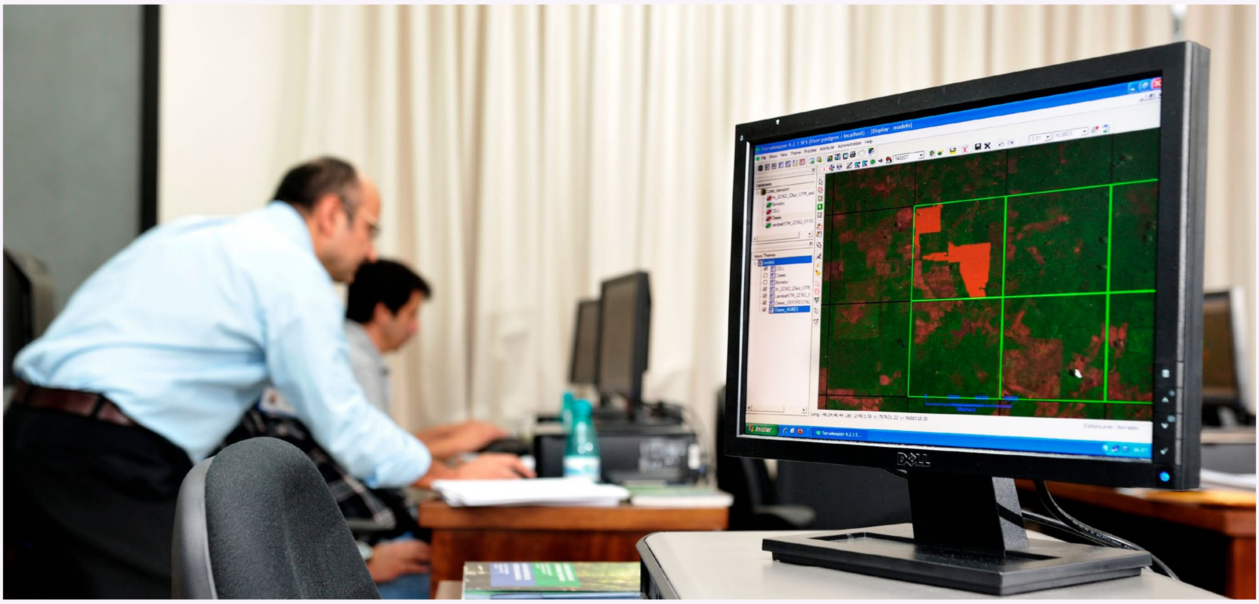
1. Economic activities categorized as risky or high risk must be adapted to socioeconomic realities where the savings and credit cooperatives are located. Using a standardized global list to categorize the activities of MSMEs could lead to the economic exclusion of entire sectors and drive them towards informal financing channels.

2. Although the ESRM guidelines categorize activities with green, amber, and red lights, the board of directors of each FI has the discretion to determine the loan amount for applying the ESRM guidelines, typically standardized at around USD10,000. This flexibility aims to prevent the exclusion or overburdening of micro and small enterprises, which are often categorized as subsistence-level economic activities.

3. For those entities where environmental due diligence is required, having the ESRM guideline is an incentive to obtain all the necessary credentials as it opens up possibilities for green funding.

4. The lack of knowledge and misinformation generates fear. For this reason, SEPS places a special emphasis on communication and training for their employees, FIs, and their beneficiaries, ensuring they have the right allies to support the process.

Source: Key informant interview



Forest managers are being trained how to read satellite images, monitoring system to monitor the deforestation of the Amazon rainforest in the riparian states Peru, Ecuador, Bolivia, Guyana, Colombia, Surinam, Venezuela and Brazil (Alamy Stock Photo).

MSME INCLUSIVE GREEN TAXONOMIES

As of November 2022, worldwide, only 14 countries had launched their green taxonomies[66] (according to the AFI IGF 2023 annual survey, 87 percent of respondents were either in the process of or had plans to develop a green taxonomy in the future). Among these, the Mongolian Green Taxonomy and the Mexican Sustainable Taxonomy are notable examples that have specifically targeted MSMEs. For instance, the Mongolian Green Taxonomy specifically refers to MSMEs when discussing the improvement of "air quality production and the deployment of clean heating appliances for households and MSMEs".[67]

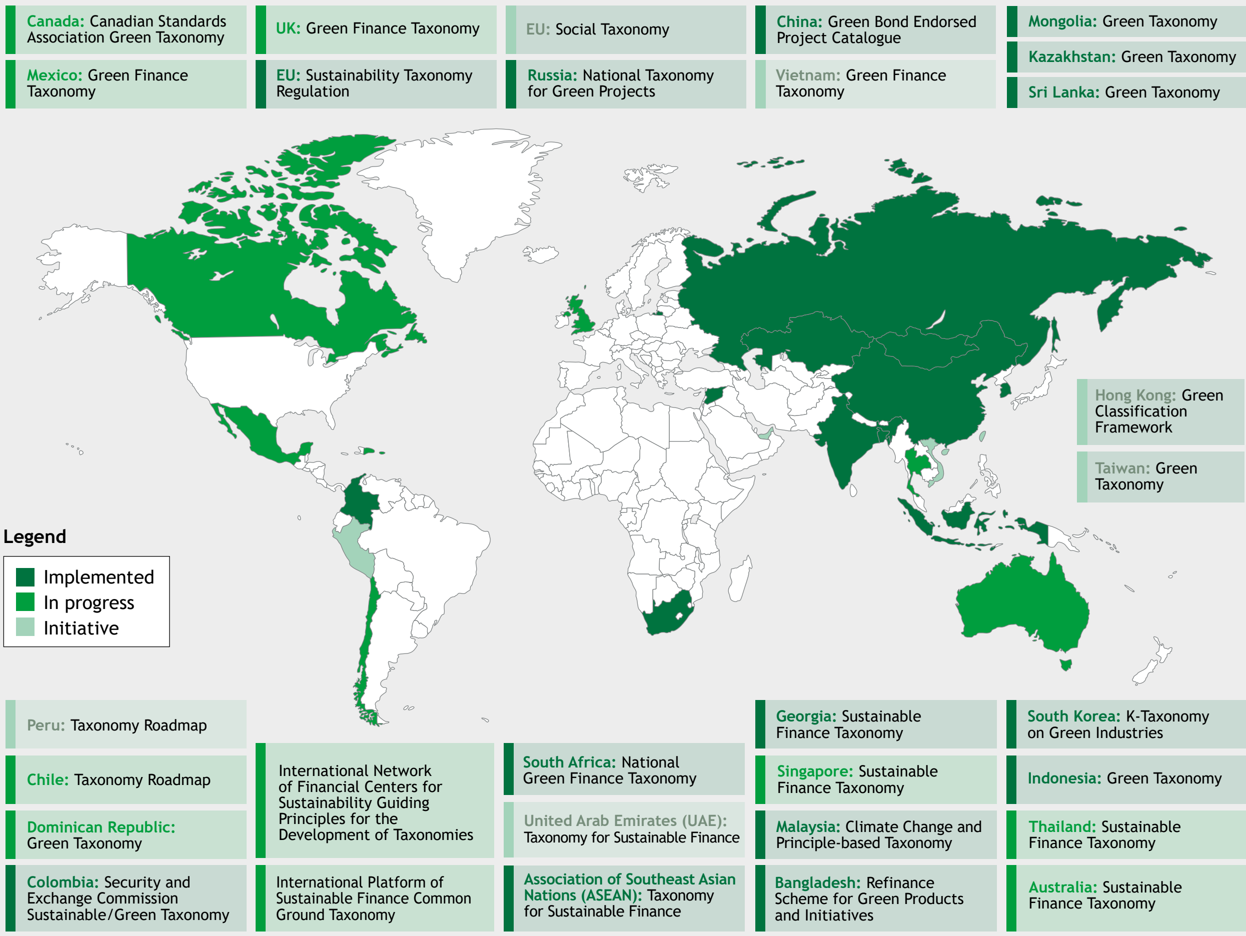
Windmills in Inner Mongolia province, China (Alamy Stock Photo).

66 Eco: Fact. 2022. Green taxonomies around the world: where do we stand? Available at: https://www.ecofact.com/blog/green-taxonomies-around-the-world-where-do-we-stand/

67 SBF Network. 2019. Mongolian Green Taxonomy. Available at: https://www.sbfnetwork.org/wp-content/assets/policy-library/1270_Mongolia_Green_Taxonomy_2019_MSFA.pdf

68 Eco:Fact. 2022. Green taxonomies around the world: Where do we stand? Available at: https://www.ecofact.com/blog/green-taxonomies-around-the-world-where-do-we-stand/

FIGURE 4: OVERVIEW OF GREEN TAXONOMIES AND THEIR VARIOUS STAGES OF DEVELOPMENT (NOVEMBER 2022)



Source: Eco:Fact[68]

To support countries in developing green taxonomies, ASEAN, in collaboration with the OECD, created a toolkit[69] that offers guidance on how to identify green sectors for MSMEs. Accordingly, green MSMEs can be divided into two groups:

1. **"Green performers"** are conventional MSMEs that take steps to make their operations more resource-efficient and environmentally friendly, increasing their competitiveness.
2. **"Green innovators"** develop new products, technologies, and approaches with the potential for transformational impacts. This group, which includes incubators, is crucial for the overall shift to greener economies.

It is important to consider, though, that the definition of what is "green" will vary by country.

ENACTING OR ADOPTING SUSTAINABLE AND INCLUSIVE GREEN FINANCE REGULATIONS

According to the AFI Roadmap for IGF Implementation 2022 report[70] and the AFI IGF 2023 annual survey, 24 member countries (Bangladesh, Burundi, Dominican Republic, Ecuador, Egypt, Eswatini, Ecuador, El Salvador, Fiji, Ghana, Honduras, Jordan, Malaysia, Mongolia, Morocco, Mozambique, Nigeria, Papua New Guinea,[71] the Philippines, Rwanda, Uganda, Vanuatu, Zambia, and Zimbabwe) have implemented IGF policies — either standalone or embedded in their NFIS.

Examples of countries that have already incorporated IGF into the NFIS:

BANGLADESH CMSMEs[72] and green financing are priority sectors under the NFIS 2021-2025[73] which requires all financial regulators to formulate specific target-based policies on climate change for women and CMSMEs.

ESWATINI[74] Eswatini's NFIS (2017-2022) prioritized climate smart programs and investments in the agricultural sector to improve productivity. The Centre for Financial Inclusion75 and the agriculture sector were linked under climate resilient strategies to decentralize NFIS implementation for the agriculture sector.

JORDAN[76] The Central Bank of Jordan's Green Finance Strategy (2023-2028) provides for a green credit guarantee scheme in collaboration with the Jordan Loan Guarantee Corporation. It develops a green loan framework and transition finance with a special focus on greening MSMEs.

Efforts have also been made by other members, such as El Salvador, to develop a green finance roadmap which provides "the strategic framework to enable or accelerate a country's ability to deliver on its climate and sustainable development goals, while enhancing the financial sector's competitiveness and economic resilience".[77] Similarly, Pillar 3 under Thrust Area 1: Enabling resilient, sustainable and inclusive growth of Bhutan's "Druk Nguldrel Lamtoen-2030"[78] (10-year roadmap) calls for advancing green finance to build a sustainable and green economy through an inter-agency coordination mechanism, ESRM in green lending, promotion of green financial instruments, green capital markets, and the development of a green taxonomy.

DEDICATED FUNDS FOR MSMEs IN THE GREEN SECTOR

Consistent with the mandates and powers provided under their respective charters, policymakers and financial regulators can create and promote incentives that support green finance, which facilitates the reduction of GHG emissions and builds MSMEs resilience to climate shocks. Dedicated national funds, including blended finance, concessional loans, grants, or green credit guarantees, can be established and facilitated to enable financial institutions to lend to MSMEs in the green sector. To make green finance readily available

69 OECD. 2021. Facilitating the green transition for ASEAN SMEs. A toolkit for policymakers. Available at: https://www.oecd.org/southeast-asia/regional-programme/networks/OECD-Facilitating-the-green-transition-for-ASEAN-SMEs.pdf

70 AFI. 2022. Roadmap for IGF Implementation. Available at: https://www.afi-global.org/publications/roadmap-for-inclusive-green-finance-implementation/

71 Papua New Guinea is the latest addition to the list of member countries with an Inclusive Green Finance Policy 2023 (not part of the survey or in the 2022 report) which includes an Inclusive and Green Taxonomy, a diagnostic report, and an implementation roadmap with disaster resilience and adaptation activities focused on women. Available at: https://gggi.org/press-release/prime-minister-rt-hon-james-marape-of-papua-new-guinea-launches-inclusive-green-finance-policy/

72 CMSME is defined in the Bangladesh Bank SMESPD Circular No. 2. Available at: https://www.bb.org.bd/mediaroom/circulars/smespd/jun292017smespd02.pdf

73 Ministry of Finance and Bangladesh Bank. NFIS 2021-2025. Available at: https://www.afi-global.org/wp-content/uploads/2022/04/NFIS_Bangladesh.pdf

74 Ministry of Finance Swaziland. NFIS for Swaziland 2017-2022. Available at: https://www.mfw4a.org/publication/eswatini-national-financial-inclusion-strategy-document-2017-2022

75 Ibid.

76 Central Bank of Jordan. Green Finance Strategy 2023-2028. Available at: https://www.sbfnetwork.org/central-bank-of-jordan-launches-green-finance-strategy/

77 World Bank. 2021. Toolkits for Policymakers to Green the Financial System. Available at: https://elibrary.worldbank.org/doi/abs/10.1596/35705

78 AFI. 2022. Available at: https://www.afi-global.org/newsroom/news/rma-bhutan-embarks-on-green-finance-roadmap/

and affordable for MSMEs, policymakers can develop targeted refinancing operations at subsidized rates for MSMEs to facilitate their green transition or to support climate-vulnerable businesses such as credit guarantee schemes (CGS) or establish a restructuring fund to help MSMEs in their climate mitigation and adaptation initiatives.[79]

Examples of countries that have dedicated funds for MSMEs in the green sector:

FIJI[80] The Reserve Bank of Fiji's Disaster Rehabilitation and Containment Facility is a climate resilience and adaptation program with USD200 million implemented by commercial banks, the Fiji Development Bank, and licensed credit institutions. Under this facility, qualified MSMEs receive interest free loans with no fees and charges for the first two years, with a maximum interest rate of 3.99 percent p.a. thereafter.

MOROCCO[81] The Green Economy Financing Facility (GEFF) in Morocco, implemented by the European Bank for Reconstruction and Development (EBRD) in partnership with local Fis, provides finance to SMEs, covering up to 100 percent of project costs (up to 250,000 euros) for investments in green technologies (energy efficiency, renewable energy, waste management, etc.). GLIMMER,82 a textile company, qualified83 and received GEFF II funding to purchase a continuous fabric bonding machine, which resulted in reduced power consumption by 39 percent and GHG emissions by 26.77tecCo2 annually.

PAKISTAN[84] The State Bank of Pakistan's (SBP) financing scheme for Renewable Energy Projects ran from 2017 until mid-2019. Under the scheme, businesses could receive loans for solar and wind projects capped at a six percent interest rate, subsidized by the SBP with a refinancing rate of two percent for 10 years. Compared to the regular lending rates of between 12 and 20 percent, the scheme offered significant opportunities for MSMEs to invest in green projects.

HUNGARY[85] Hungary established the Economic Development and Innovation Operational Program (EDIOP) to stimulate the economy of underdeveloped regions with a focus on increasing the competitiveness of SMEs in renewable energy production, among other priorities. Additionally, the 2020 Climate and Environmental Protection Action Plan committed 92.8 million euros to promote the use of energy efficient business models for SMEs transitioning partially or fully to locally sourced renewable energy.

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79 AFI. 2021. Policy Model for MSME Finance. Available at: https://www.afi-global.org/publications/policy-model-for-msme-finance/

80 Reserve Bank of Fiji. n.d. Disaster Rehabilitation and Containment Facility. Available at: https://www.rbf.gov.fj/natural-disaster-rehabilitation-facility/

81 Green Economy Financing Facility. n.d. Morocco Available at: https://ebrdgeff.com/morocco_facilities/#

82 Green Economy Financing Facility. n.d. New high-performance equipment for an SME operating in the textile industry. Available at: https://ebrdgeff.com/morocco-geff/projects/new-high-performance-equipment-for-an-sme-operating-in-the-textile-industry/

83 Green Economy Financing Facility. n.d. Eligibility criteria. Available at: https://ebrdgeff.com/morocco-geff/the-programme/eligibility-criteria/

84 State Bank of Pakistan. 2019. SBP Financing Scheme for Renewable Energy. Available at: https://www.sbp.org.pk/smefd/circulars/2019/C10.htm

85 European Commission. n.d. Economic Development and Innovation Operational Programme Available at: https://ec.europa.eu/regional_policy/in-your-country/programmes/2014-2020/hu/2014hu16m0op001_en#:~:text=Programmepercent20description&text=Thepercent20programmepercent20aimspercent20topercent20stimulate,researchpercent20andpercent20innovationpercent2Cpercent20andpercent20employment

MANDATORY GREEN CREDIT ALLOCATION

Another financial tool that regulators and central banks use to promote green finance is requiring banks and FIs to allocate a certain percentage of their credit portfolio to green projects and target groups like WMSMEs and MSMEs. For example, Bangladesh Bank, through its Green Banking and Corporate Social Responsibility Department (GBCSRD) Circular No.04/2014, required all banks and FIs to allocate at least five percent of their total credit portfolio to green sectors from January 2016.[86] Similarly, the Central Bank of Egypt and Nepal Rastra Bank require that banks allocate up to 25 percent[87] and 10 percent, respectively, of their credit portfolio to finance MSMEs and green projects.[88]

INNOVATIVE FINANCING MODELS TO CATALYZE GREEN ECONOMIC ACTIVITIES

Partnerships between non-financial public authorities, donor agencies, business associations, and communities are also catalyzing climate resilience and mitigation initiatives. Innovative financing models include green entrepreneurship and impact investment hubs, community-led financing, and crowdfunding platforms to connect MSMEs with green or impact investors. This facilitates the flow of capital to key MSME sectors such as transport, agriculture, waste management, ecotourism, and renewable energy, or platforms to connect consumers directly to providers of green goods and services.

Egypt's Green Entrepreneurship Hub,[89] as an example, aims to develop a "sustainable and integrated industrial waste exchange system" by linking businesses involved in the waste sector to promote innovative SMEs, create green jobs, and reduce environmental pollution.

The African Guarantee Fund (AGF)[90] has collaborated with Bettervest,[91] a crowdfunding platform, to raise funds for sustainable SME projects in Africa under a risk sharing model. Under this arrangement, AGF will provide a partial guarantee to Bettervest on the funds raised for green SME projects in case of loan defaults, helping to reduce credit risk.

86 Green Finance Platform. 2016. Bangladesh Sets Green Finance Minimum Target at 5% for Banks and Financial Institutions. Available at: https://www.greenfinanceplatform.org/policies-and-regulations/bangladesh-sets-green-finance-minimum-target-5-banks-and-financial

87 Egypt Today. 2021. Available at: https://www.egypttoday.com/Article/3/98945/Egypt-s-central-bank-obliges-banks-to-increase-financing-directed

88 AFI. 2020. IGF - A survey of the policy landscape – Provision. Available at: https://www.afi-global.org/publications/inclusive-green-finance-a-survey-of-the-policy-landscape-second-edition/

89 AfDB. Egypt - Green Growth. Available at: https://projectsportal.afdb.org/dataportal/VProject/show/G-EG-BG0-ZZZ-001

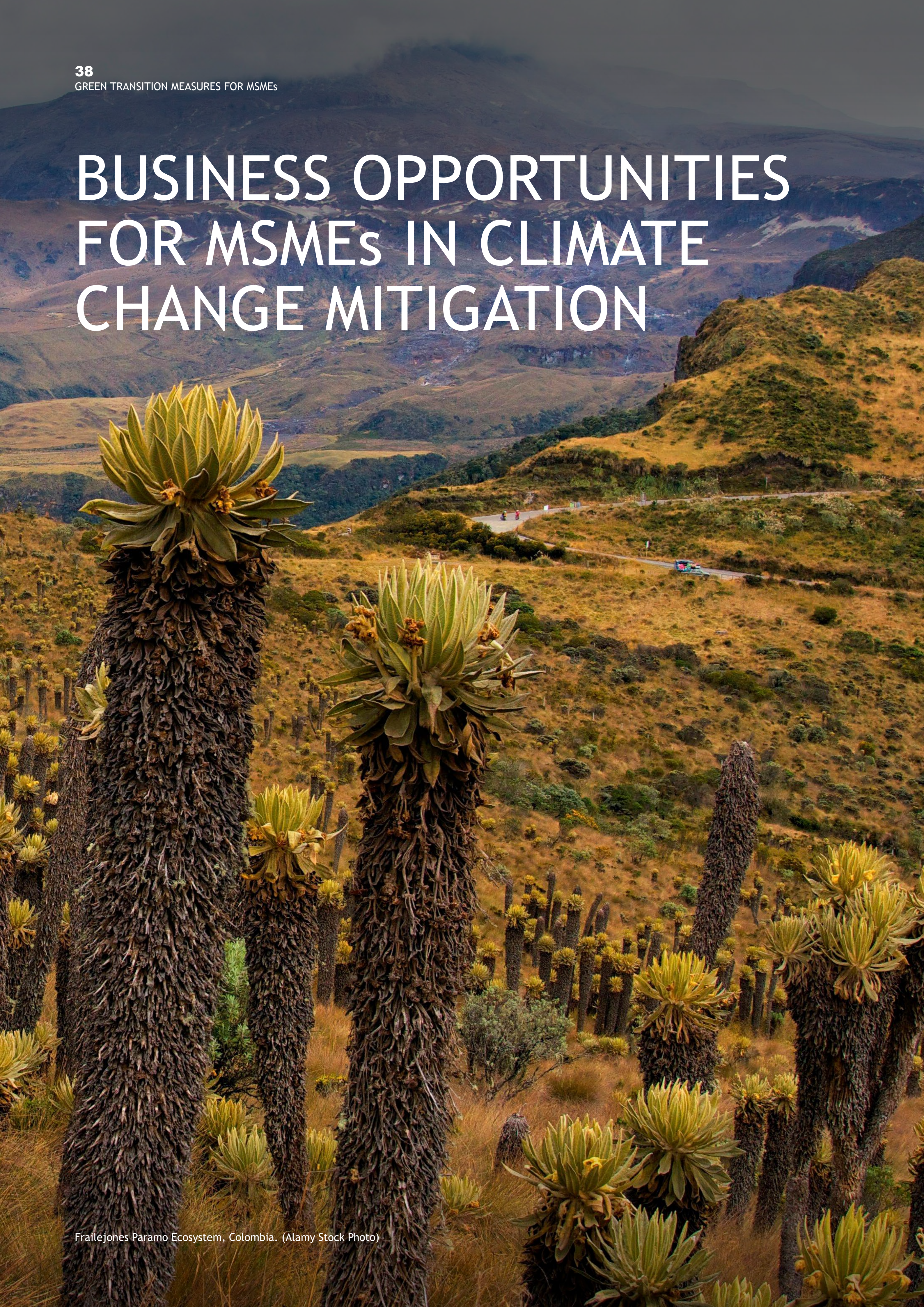
90 African Guarantee Fund. n.d. AGF partners with crowdfunding platform to increase impact investing for SMEs in Africa. Available at: https://africanguaranteefund.com/african-guarantee-fund-partners-with-crowdfunding-platform-bettervest-to-increase-impact-investing-for-smes-in-africa/

91 Start Up Energy Transition. n.d. The Online Platform for Impact Investments. Available at: https://www.startup-energy-transition.com/set100-database/bettervest/?gclid=EAIaIQobChMIr4ns6uLPggMVYaN-mAh3rLQcJEAAYASAAEgLMIPD_BwE

Dried beans for sale at a market in Kigali, Rwanda. (Alamy Stock Photo)

A female poultry farmer, Nigeria.(Alamy Stock Photo).

BUSINESS OPPORTUNITIES FOR MSMEs IN CLIMATE CHANGE MITIGATION



Frailejones Paramo Ecosystem, Colombia. (Alamy Stock Photo)

MSMEs are best positioned to champion climate mitigation, defined as the "reduction in emissions of GHGs into the atmosphere or absorption of GHGs from the atmosphere",[92] and adaptation efforts, as MSMEs are the economic backbone of a country and possess an in-depth understanding of the communities and businesses they serve.

In terms of climate mitigation, the World Economic Forum in 2021 estimated that the eight global supply chains,[93] which account for more than 50 percent of global emissions, could reduce their emissions by about 40 percent by implementing a few relatively simple and inexpensive changes. This could encompass circularity, improved efficiency, and renewable power usage, and would have marginal cost effects or returns on increased efficiency.[94] Given the key roles of MSMEs as producers, consumers, and service providers in the global supply chain, and the value they add through innovation, local knowledge, and business acumen, a mutually beneficial collaboration between bigger companies, development finance institutions, MFIs, MSME-specialized entities, and green MSMEs could be pursued to realize this potential.

Business opportunities for MSMEs in climate mitigation include the following:

RENEWABLE ENERGY

Clean energy is the foundation for a green economy which MSMEs can promote through the provision of renewable energy solutions, such as clean heating and cooling systems, solar powered equipment, solar rooftops, electric bikes, energy storage systems, and other clean energy technologies. They can also offer installation, maintenance, and repair services for renewable energy systems in homes,[95] businesses, and communities facilitating a smooth transition to a just, inclusive, and low carbon future. According to a 2019 ANDE study, "InfoDev estimated a USD1.6 trillion investment opportunity for SMEs focused on cleantech in developing countries."[96]

CASE STUDY 13: Pioneering Green Finance in Colombia[97]

Contactar Colombia (CC), a Colombian MFI, is a pioneer in green finance. It provides green loans for clean cooking stoves, solar crop dryers, water filters, and biodigesters to facilitate the use of clean energy technologies by its clients. In 2014, it collaborated with MicroEnergy International to develop and implement an inclusive Green Finance Program on climate mitigation and adaptation targeting economically disadvantaged groups such as WMSMEs. Concurrently, the institution also received technical assistance to implement the Microfinance Ecosystems-based Adaptation program (MEbA) from UNDP, assisted by the Frankfurt School. CC has also developed an IGF program with MicroEnergy to provide green products and services for climate adaptation and mitigation. These initiatives have enabled its clients to build resilience against climate change as well as encourage other FIs to offer green products and services to promote a sustainable economy.

92 AFI. 2020. Inclusive green finance policies for MSMEs. Available at: https://www.afi-global.org/publications/inclusive-green-finance-policies-for-msmes

93 Food, construction, fashion, fast-moving consumer goods, electronics, automotive, professional services and freight.

94 WEF. 2021. Net-Zero Challenge: The Supply Chain Opportunity", Geneva: WEF. Available at: https://www3.weforum.org/docs/WEF_Net_Zero_Challenge_The_Supply_Chain_Opportunity_2021.pdf

95 Women plumbers, meter readers, electricians, and engineers for fast and easy uptake by women who are the main decision-makers for household consumption (food, transport, utility).

96 Infodev. 2014. Building Competitive Green Industries. Available at: https://www.infodev.org/infodev-files/green-industries.pdf

97 MIX and e-MFP. 2015. Assessing Green Microfinance. Available at: https://www.e-mfp.eu/resources/assessing-green-microfinance-qualitative-and-quantitative-indicators-measuring

ENERGY EFFICIENCY

Efforts are underway to support the green transition for businesses and households by reducing their energy consumption through energy-efficient products and services, such as appliances, insulation, and smart energy management systems. MSMEs can capitalize on these products and also provide consulting services on energy-saving practices to other MSMEs and households. Additionally, they can provide energy-efficient products and services themselves, such as PAYGO solar lighting. According to a UNSGSA,[98] around 401 million people have benefited from improved access to clean energy through off-grid PAYGO solar lighting products, resulting in a carbon offset of 94 million metric tons of CO2.

CASE STUDY 14: VIRL Financial Services (Zimbabwe)[99]

VIRL, a microfinance institution in Zimbabwe, introduced green finance in 2013. To facilitate the process, VIRL's staff participated in Hivos's Green performance program, where they were introduced to the green MFI approach and Green Performance Agenda (GPA). VIRL provides affordable and accessible green loans to MSMEs (1,479 businesses) and smallholder farmers (8,380 households) to procure energy efficient products (solar panels and batteries) promoting the use of clean energy. VIRL also provides solar energy loans to rural schools to buy and use solar panels to power solar lamps and charging points, which helps students study at night and allows people to charge their phones. Specifically, VIRL supported Ndlovu, a businesswoman, with a USD750 loan to buy a fuel-efficient oven and construct an energy efficient chimney for roasting peanuts to produce peanut butter, which not only improved her earnings but also reduced smoke pollution.

MSME COLLABORATION IN SUSTAINABLE PRACTICES THROUGH THE GREEN SUPPLIER VALUE CHAIN[100]

As part of the green supplier value chain, MSMEs can enter into business arrangements with corporations (major CO2 emitters) to reduce their carbon footprint, implement sustainable practices, and provide green products and services. Such partnerships can be mutually beneficial: corporations achieve their green goals while MSMEs design, develop, and deploy (3Ds) indigenous solutions, strengthening their role in the green value chain as impact makers.

Additionally, MSMEs can participate in carbon markets by engaging in GHG reduction activities, such as afforestation and reforestation projects, earning carbon credits and selling them to companies seeking to offset their emissions. MSMEs in Ethiopia and farmers in South Africa, for instance, earn carbon credits under the Biocarbon Fund project and AgriCarbon Program, respectively.[101] Similarly, farmers in South Africa earn carbon credits from the AgriCarbon Programme through renewable agricultural practices, while Starsight Energy, the first Nigerian green company to be carbon certified, earns carbon credits by supplying solar solutions to its clients.[102] Globally, voluntary carbon markets are gaining momentum, with companies using them to fulfill their climate commitments and securities regulators issuing guidelines to regulate carbon markets for greater transparency and improved market conduct, which will benefit green MSMEs.[103]

GREEN BUILDING

"Around the world, buildings account for 28 percent of energy-related greenhouse gas (GHG) emissions." MSMEs can play a key role in climate mitigation by specializing in the design, retrofitting, and construction of green buildings, making them more energy and preferably water efficient. To provide a complete package to clients, MSMEs should produce eco-friendly construction materials, supply solar powered fittings and equipment, and provide energy-efficient construction techniques, all of which can reduce energy consumption and GHG emissions.

Sur Futuro, an MFI in the Dominican Republic, is showing the way by collaborating with the Dominican National Housing Institute to finance the construction of houses adapted to climate change. These homes are built on concrete footings with block walls up to the level of the windows for greater security and resistance to extreme climate-related events.[104]

98 UNGSA. 2023. Inclusive Green Finance Policy Note. Available at: https://www.unsgsa.org/publications/inclusive-green-finance-policy-and-advocacy-approach

99 REACT SSA. VIRL Financial Solutions/VIRL Sun Solar Solutions. Available at: https://www.aecfafrica.org/wp-content/uploads/2022/03/REACT-SSA-showcase-v4-23.11.2021-28.pdf

100 For further information, please see the BCG-HSBC 2021 Report "Delivering Net Zero Supply Chains The Multi-Trillion Dollar Key to Beat Climate Change". Available at: https://cdn.txfmedia com/assets/Assets/HSBC_BCG_NetZeroSupplyChain_WhitePaper_25102021_vF.pdf

101 UNEP et al. 2022. Assessing Green Financing Mechanisms for MSMEs in Africa. Available at: https://wedocs.unep.org/handle/20.500.11822/40763

102 Ibid.

103 EDF. 2023. Financial Market Regulators Release Guidance Contemplating Oversight of VCM. Available at: https://blogs.edf.org/climate411/2023/12/04/financial-market-regulators-release-vcm-guidance/

104 Sur Futuro. n.d. Construcción de Viviendas a familias vulnerables de Padre Las Casas, Azua – INVI Available at: https://surfuturo.org/proyecto/ecomicro-sur-futuro-financiamiento-verde-para-la-adaptacion-del-cambio-climatico

Villagers plant seedlings at a tree nursery in the Kakamega Forest Reserve, Kenya. (Alamy Stock Photo)

BUSINESS OPPORTUNITIES FOR MSMEs IN CLIMATE CHANGE ADAPTATION

Tea harvest in the grounds of the Nyungwe Forest Lodge, Nyungwe National Park, Rwanda, Africa.(Alamy Stock Photo)

Climate change adaptation refers to the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.[105] "Adaptation needs in the developing world are set to skyrocket to as much as USD340 billion a year by 2030."[106]

The effects of climate change, combined with shifts in regulations and the business environment as a result of these effects, present substantial challenges to companies across various industries globally. By assisting businesses in climate adaptation — which involves modifying processes, practices, and structures to minimize potential harm or taking advantage of opportunities related to climate change — companies will have the necessary tools to ensure the continuity of their operations, improve the lives of those in their communities, and effectively respond to evolving market and environmental conditions.[107]

MSMEs, as "users of products intended for climate change mitigation and adaptation, can directly influence the reduction of their own environmental impacts and also offer these kinds of products to their customers. MSMEs can make this transition by adopting better, less carbon-intensive technologies."

Source: Superintendency of Banks of the Dominican Republic, AFI survey on Transitioning MSMEs to Green, 2023

In a poll conducted by the International Trade Centre (ITC) in 2021, more than half of African businesses reported that adopting adaptation strategies had improved their output and product quality, given them access to new markets, decreased their input prices, and facilitated easier access to green financing.[108]

Business opportunities for MSMEs in climate adaption include the following:

SMART AGRICULTURE

MSMEs can promote sustainable agriculture by providing organic farming inputs and using smart agriculture practices such as hydroponic agriculture,[109] aquaculture, sustainable fisheries, water-efficient irrigation systems, and water recycling and treatment. They can also provide training and advisory services, including mentorships to startups on sustainable farming methods and practices.

WASTE MANAGEMENT

MSMEs can develop innovative solutions such as "waste banks" using the 3R model — Reduce, Reuse, and Recycle — to promote a circular economy and contribute to climate mitigation. Additionally, MSMEs can promote inclusive waste management practices by employing women and financially excluded individuals in waste management services given their predominant role as sweepers and waste collectors.

105 UNFCC. n.d. Fact sheet: the need for adaptation. Available at: https://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_adaptation.pdf

106 UNEP. 2022. As impacts accelerate, adapting to climate must become a global priority. Available at: https://www.unep.org/news-and-stories/press-release/impacts-accelerate-adapting-climate-change-must-become-global.

107 UNFCC. n.d. The Business Case for Adaptation. Available at: https://unfccc.int/sites/default/files/resource/businesscase.pdf

108 ITC. 2021. SME Competitiveness Outlook 2021: Empowering the Green Recovery, Geneva. Available at: https://intracen.org/resources/publications/sme-competitiveness-outlook-2021-empowering-the-green-recovery

109 "Hydroponic farming is a sustainable way of growing food. It absorbs carbon from the air without disturbing the earth as plants grow in water with no soil required." For more information, please visit: https://www.edengreen.com/blog-collection/carbon-negative-farming

CASE STUDY 15: Banco Pichincha Ecuador's Comprehensive Solid Waste Management

Since mid-2021, Banco Pichincha has collaborated with the Metropolitan Public Company for Comprehensive Solid Waste Management to implement the Comprehensive Solid Waste Management Program in its agencies across the Metropolitan District of Quito. In Ecuador, the majority of recyclers or environmental managers in the city are the elderly, single mothers, or heads of households.

By implementing this comprehensive Solid Waste Management Program, the bank's objectives aimed to:

- Promote responsibility for the correct management of waste generated at Banco Pichincha.
- Dignify the work and improve the economy of environmental managers and their families.
- Contribute to the optimization of the useful life of the Quito landfill.

To make this commitment a reality and reduce solid waste, they launched the following initiatives:

- Internal campaigns on the correct disposal of solid waste, as well as the 4Rs (reject, reduce, reuse, recycle).
- Implemented adequate spaces for the correct separation of waste and collection schedules for the 38 city agencies.
- Delivered the waste exclusively to designated environmental managers.

RESULTS:

- 1.5 tons of solid waste was recycled in one year.
- 50 recyclers benefited directly and 220 indirectly.

The results have encouraged them to expand the program to other districts.

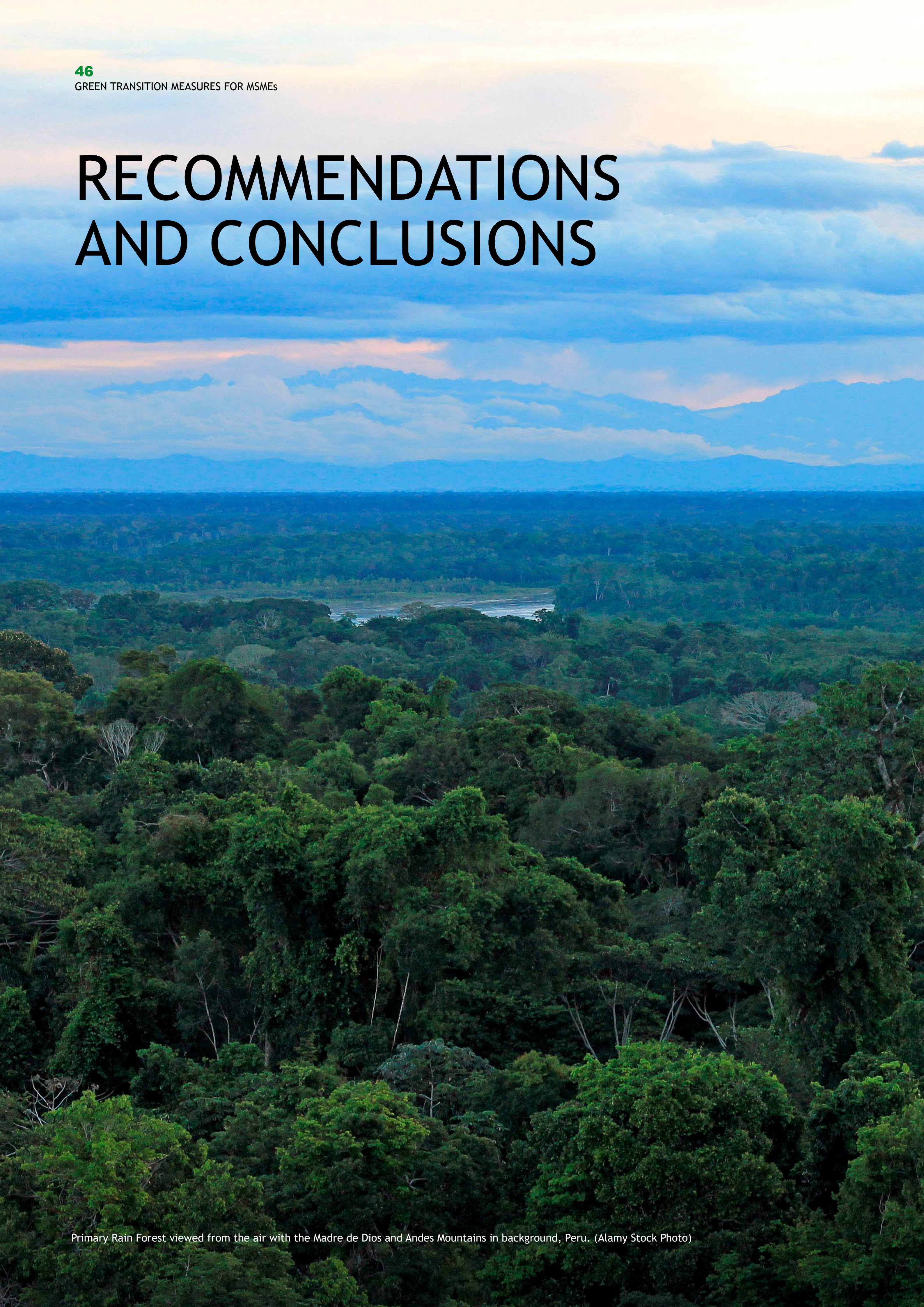
Source: Banco Pichincha web page[110]

110 Banco Pichincha. 2022. Banco Pichincha y EMGIRS-EP aunamos esfuerzos por el manejo integral de desechos sólidos. Available at: https://www.pichincha.com/blog/convenio-de-reciclaje-quito

People collecting plastic bottles for recycling on Amazonas Avenue in the tourist district La Mariscal in Quito, Ecuador. (Alamy Stock Photo)

Woman working in a plastic bottle recycling factory in Bangladesh. Everyday a huge amount of waste plastic is collected from landfills and sorted out according to colour in the factories. Later the waste plastics are cut in smaller pieces and then melted in a furnace to make various products.(Alamy Stock Photo)

RECOMMENDATIONS AND CONCLUSIONS



Primary Rain Forest viewed from the air with the Madre de Dios and Andes Mountains in background, Peru. (Alamy Stock Photo)

Based on the insights gained from the literature review, internal survey findings, and key informant interviews, the following recommendations are provided for policymakers and financial regulators to support MSMEs in their green transition.

However, it is essential to understand the varying needs of MSMEs by size, type, contribution to, and vulnerabilities from climate change, and thus develop solutions tailored to their unique needs (including their risk appetite).

The recommendations are grouped under three thematic areas: **policy and strategy development; financial access and support for MSMEs; and risk management and resilience.**[111] These recommendations aim to address all demand, supply, and policy barriers as they are transversal.

POLICY AND STRATEGY DEVELOPMENT:

- **Collect and build quality disaggregated data** by sex, age, location, etc. on green finance, which will help to assess and identify green finance gaps (including policy gaps), needs, and preferences of MSMEs and support the development, monitoring, and evaluation of MSME (WMSME) targeted IGF policies. For instance, demand-side data collection could be facilitated by including MSME sensitive questions in financial inclusion surveys. Policymakers and financial regulators could also explore the possibility of establishing green credit bureaus and providing free green credit reports to MSMEs to facilitate their access to green financing.[112]

- **Develop straightforward and inclusive green taxonomies and IGF policies** (such as NFIS or green and sustainable roadmaps) to accelerate IGF adoption and implementation **that integrates the perspectives of MSMEs** enabling both FIs to provide and MSMEs to access green finance responsibly. To achieve this, associations and networks of MSMEs and WMSMEs should be involved from the beginning of the taxonomy or IGF policy development phase to understand and incorporate their green financing needs, ensure proportionality, as well as take ownership in greening the economy.

  > For countries developing their taxonomies, adding climate adaptation and mitigation for MSMEs and, in general, climate-resilient pathways[113] into their taxonomies is extremely relevant. Organizing adaptation and mitigation solutions into homogeneous and related categories, or taxonomies, helps regulators, financial institutions, and investors determine which investments can be labeled green and avoid corporate green washing. The lack of universal metrics to compare different adaptation and mitigation projects within the same class of climate risk or vulnerability is a significant obstacle to establishing sustainable and structured financing mechanisms for MSME adaptation and mitigation projects. Addressing this in green finance taxonomies can guide the execution and monitoring of adaptation and mitigation solutions and projects implemented by countries.

  > In addition, AFI members could also learn from the experiences of Sustainable Banking and Finance Network (SBFN) members who have developed and implemented sustainable finance, green roadmaps, and taxonomies. According to the SBFN Toolkit 2023: Developing Sustainable Finance Roadmaps,[114] some of the lessons learned from the members' experience in developing and implementing a sustainable finance roadmap are: align policies with **national commitments and international** standards; conduct a **contextual analysis** to develop targeted measures; follow a **phased approach** to move the market; and ensure **institutional leadership** and **implementation arrangements,** among others. CGAP's Working Paper on Climate Risk and Financial Inclusion[115] shows how carefully articulated green finance regulations and policies can enhance financial stability by creating a more resilient real economy, thereby reducing the risks facing the financial sector. Other global initiatives include the World Bank's Toolkits for Policymakers to Green the Financial System[116] the UNDP Financial Centres for Sustainability (FC4S), the Global Environment Facility (GEF), and the Green Finance

111 As mentioned under the Gaps and Barriers section, for the purpose of this report we have color coded the barriers and recommendations as follows: Policy related – Blue; Access to green finance - Green; Risk management - Red

112 Peter Knaack and Peter Zetterli. 2023. CGAP's Working Paper on Climate Risk and Financial Inclusion. Available at: https://www.cgap.org/research/publication/climate-risk-and-financial-inclusion-regulatory-perspective

113 Climate-resilient pathways are development trajectories that combine adaptation and mitigation to realize the goal of sustainable development.

114 Sustainable Banking and Finance Network. 2023. SBFN Toolkit - Developing Sustainable Finance Roadmaps. Available at: https://www.sbfnetwork.org/wp-content/uploads/2023/10/SBFN_Sustainable_Finance_Roadmap-Toolkit_Guide.pdf

115 Peter Knaack and Peter Zetterli. 2023. CGAP's Working Paper on Climate Risk and Financial Inclusion. Available at: https://www.cgap.org/research/publication/climate-risk-and-financial-inclusion-regulatory-perspective

116 World Bank. 2021. Toolkits for Policymakers to Green the Financial System. Available at:https://openknowledge.worldbank.org/entities/publication/b1897439-4fce-5466-b045-9a858b0273b3

Platform's Diagnostics Toolkit and Sustainable Finance Roadmaps.[117]

- **Develop proportional regulation**
  Financial regulators should apply a risk-based approach (principle of proportionality) to climate-related reporting and disclosure requirements, commensurate with the type, size, and loan portfolio of the FI as well as the needs, size, complexity, and risk exposure of MSMEs, to mitigate the risk of green de-risking, especially for micro, small, and WMSMEs. Proportionate GF regulations ensure a balance between reporting and disclosure requirements on one hand, and FI's compliance costs on the other, to avoid unintended exclusionary effects, and thus promote the provision of green finance to MSMEs.

- **Foster collaboration through public-private dialogues**
  The development of IGF policies requires collaboration among multiple parties representing the public and private sector, development partners, business associations, and civil society. Central banks and financial regulators should lead or co-lead the development and implementation of IGF policies, supported by a well-coordinated governance structure, adequate financial resources, and skilled manpower. Member institutions in Bangladesh, Morocco, Mongolia, Nepal, and Papua New Guinea have all followed a broad consultative process to develop their IGF policies (including taxonomies, sustainable finance polices and roadmaps, and ESRM guidelines).

FINANCIAL ACCESS TO SUPPORT THE GREEN TRANSITION FOR MSMEs

- **Provide green finance incentives**
  Green finance incentives, such as preferential or subsidized interest rates on green loans, should be introduced to encourage FIs to lend to MSMEs as well as to reduce the transition risk for MSMEs in their green transition. Indonesia's Financial Services Authority (OJK) offers an example, having launched an incentive to increase bank financing for electrical vehicles in 2020. Similar subsidized green finance facilities are also provided by Bangladesh Bank, the State Bank of Pakistan, Reserve Bank of India, and Bank Negara Malaysia,[118] among others. Financial authorities should also collaborate with fiscal authorities, such as the Ministry of Finance, to provide green fiscal incentives (zero tax for electric vehicles, tax incentives for adopting green technologies) to encourage MSMEs to adopt clean technologies.

- **Facilitate access to green finance**
  Provide a complete policy package for MSMEs, consisting of a variety of financial instruments and tools (loans, insurance, blended finance, green bonds, GGS). Establish a Green Finance Unit,[119] MSME Green Specialized Institutions,[120] or Green Finance Innovation hubs,[121] to catalyze the development of inclusive policies and facilitate the provision of affordable and accessible green finance to MSMEs.

- **Encourage the issuance of thematic bonds** like green, social, gender, and sustainability bonds in the capital markets and promote investments in these bonds through tax exemptions for MSME investors on income from such investments. For example, the Moroccan Capital Market Authority released the Gender Bond Guidelines, being the first securities regulator to do so.[122]

- **Facilitate green certification of MSMEs**
  Financial regulators should advocate for the development of a seamless offline and online green certification process, ideally in collaboration with trade associations, financial institutions, and regulatory bodies. These certifications, tailored to specific industries, should prioritize transparency and simplicity while accommodating both digital and non-digital users. Best practices suggest implementing reasonable application fees to ensure quality and success, with subsidies available based on the size of the MSME.

  The goal is to design green certification programs where financial benefits outweigh the costs, including certification fees and compliance expenses. Additionally, supporting enterprises in their green transition will require building awareness among end-users, this can be achieved through different long-term relationships with trade associations, PFIs, ministries of education, telecommunications, etc.

117 Green Finance Platform. 2022. Diagnostic Toolkit and Sustainable Finance Roadmaps. Available at: https://www.greengrowthknowledge.org/diagnostic-toolkit-and-sustainable-finance-roadmaps

118 SBFN Network. 2023. SBFN Toolkit Developing Sustainable Finance Roadmaps. Available at: https://www.sbfnetwork.org/wp-content/uploads/2023/10/SBFN_Sustainable_Finance_Roadmap-Toolkit_Guide.pdf

119 In 2019, Bank Al-Maghrib established a new unit dedicated to green finance. Available at: https://www.sbfnetwork.org/wp-content/uploads/2023/10/SBFN_Sustainable_Finance_Roadmap-Toolkit_Guide.pdf

120 In 2020, the Mongolia Green Finance Corporation (national Green FI) was established through a public-private partnership model. Ibid.

121 Such as Uganda's Green Enterprise Finance Accelerator and UK's Green Home Finance Accelerator. Ibid.

122 SBFN Network. 2023. SBFN Toolkit Developing Sustainable Finance Roadmaps. Available at: https://www.sbfnetwork.org/wp-content/uploads/2023/10/SBFN_Sustainable_Finance_Roadmap-Toolkit_Guide.pdf

RISK MANAGEMENT AND BUILDING RESILIENCE:

- **Increase climate awareness through skills and capacity building**
Skills and capacity building training programs on green finance policies, taxonomies, and ESRM guidelines should be developed for key staff of central banks, financial regulators, and FIs to enhance institutional competency. For example, Pillar IV: Capacity Building of the "Morocco Roadmap for Aligning the Financial Sector with Sustainable Development"[123] requires the Moroccan Foundation for Financial Education to incorporate environmental issues and sustainable finance in its training programs, as well as developing training programs for staff. Other initiatives include the development of green finance training modules at the Casablanca Finance City Academy and providing workshops and lectures to business members. Such awareness programs, supplemented with advisory services, will also help MSMEs better understand the risks arising from climate change, help them in developing business plans, and acquire climate-related knowledge and expertise to navigate the complexities of accessing and using green finance.

- **Develop robust climate-related and environmental disclosure reporting standards**
Supporting MSMEs in their green transition through green financing exposes FIs to climate-related and environmental risks, as MSMEs face physical and transition risks in their green shift which, if left unmanaged, will be transmitted into the credit portfolio of FIs (credit risk), affecting financial sector stability. To enable FIs to identify, manage, and mitigate these risks, financial regulators need to develop and implement IGF policies, ESRM guidelines and frameworks, and reporting standards that require the integration of environmental, social, and governance risk management into the credit policies of FIs for informed credit-decision making. As an example, financial regulators in Bangladesh, Brazil, China, Honduras, Indonesia, Nepal, Peru, South Africa, and Vietnam have issued such frameworks and guidelines. Globally, financial regulators refer to the "Task Force on Climate-Related Financial Disclosures" (TCFD), established by the Financial Stability Board in 2015, to develop guidelines to support climate-related financial disclosures.

- **Conduct stress tests** to assess the resilience of FIs against climate-related and environmental risks (physical, transition, and liability risks) arising from MSME green lending funded by the FI. Stress tests also enable both regulators and FIs to assess and understand the potential impact on the FI's asset quality arising from the MSME's green loan portfolio and, therefore, initiate the required prudential measures to manage the risks. The Network for Greening the Financial System Guide to Climate Scenario Analysis for Central Banks and Supervisors,[124] and the Financial Stability Institute's "Stress-testing banks for climate change — a comparison of practices"[125] could guide financial regulators in understanding and conducting stress tests on FIs to better assess and manage climate risks.

- **Promote an MSME responsive supervisory framework by integrating climate-related and environmental risks into the supervisory framework, methodology, and tools** (both offsite and onsite) along with capacity building of financial supervisors to ensure its effective implementation through continuous offsite and onsite supervision. The "Guide for Supervisors – Integrating climate-related and environmental risks into prudential supervision"[126] developed by the Network for Greening the Financial System in May 2020, could provide valuable guidance for financial supervisors.

- **Introduce macro-and-micro prudential regulations:**[127] Introduce a loan-to-value (LTV) ratio for green collateral, adjust the risk weighting on green loans, ease capital reserve requirements, and lower loan provisioning requirements to incentivize FIs to lend to green MSMEs. In 2019, for instance, Bank Indonesia issued a regulation on LTV for green property mortgages to support green building development. In 2020, the Central Bank of Lebanon lowered the reserve requirements for energy saving products while the Central Bank of Hungary provides preferential capital requirements for energy-efficient housing loans.[128]

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123 SBFN Network. 2023. SBFN Toolkit Developing Sustainable Finance Roadmaps. Available at: https://www.sbfnetwork.org/wp-content/uploads/2023/10/SBFN_Sustainable_Finance_Roadmap-Toolkit_Guide.pdf

124 NGFS. 2020. Guide to Climate Scenario Analysis for Central Banks and Supervisors. Available at: https://www.ngfs.net/sites/default/files/medias/documents/ngfs_guide_scenario_analysis_final.pdf

125 Financial Stability Institute. 2021. FSI Insights on policy implementation No 34 Stress-testing banks for climate change - a comparison of practices. Available at: https://www.bis.org/fsi/publ/insights34.htm

126 NGFS. 2020. Guide for Supervisors: Integrating climate-related and environmental risks into prudential supervision. Available at: https://www.ngfs.net/en/guide-supervisors-integrating-climate-related-and-environmental-risks-prudential-supervision

127 Micro-prudential measures are one of the key priority areas under the central banking and supervisory tools in the second edition of the INSPIRE Toolbox of Sustainable Crisis Response Measures for Central Banks and Supervisors. 2020. Available at: https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/11/INSPIRE-toolbox_-2nd-Edition-1.pdf

128 SBFN Network. 2023. SBFN Toolkit Developing Sustainable Finance Roadmaps. Available at: https://www.sbfnetwork.org/wp-content/uploads/2023/10/SBFN_Sustainable_Finance_Roadmap-Toolkit_Guide.pdf

POTENTIAL SOLUTIONS TO SUPPORT WMSMEs

Encouraging the growth of women entrepreneurs in green initiatives is essential for creating an inclusive and sustainable economy that prioritizes social and environmental goals. Supporting WMSMEs in green entrepreneurship through specialized training, mentorship, leadership development, job quotas, gender-sensitive budgeting and access to affordable financing ensures their fair involvement and benefits from the shift towards sustainability. These efforts also facilitate broader community transitions to more sustainable practices.

Practical approaches that members can take to upskill and reskill WMSMEs to promote low-carbon enterprises and build resilience to climate change include:

- **Gender-disaggregated data collection:** Develop a gender-disaggregated supply-side financial inclusion data framework that informs IGF policy interventions, to identify and address barriers faced by WSMEs in accessing green finance.
- **Needs assessment:** Conduct a comprehensive needs assessment to identify the specific skills gaps and knowledge deficiencies of WMSMEs related to low-carbon practices and climate resilience.
- **Tailored training programs:** Develop customized training programs that address the identified needs, focusing on practical skills such as sustainable business practices, renewable energy technologies, climate risk assessments, and adaptation strategies.
- **Networking opportunities:** Facilitate mentorship programs connecting WMSMEs with experienced professionals in low carbon industries. This creates a supportive environment for learning, sharing insights, and network building.
- **Financial incentives:** Provide financial incentives, such as higher subsidies or grants, to WMSMEs. This helps offset the costs associated with training and encourages widespread engagement.
- **Support with technology adoption:** Provide technical assistance and information on the adoption of green technologies, including potential savings and access to financing options for eco-friendly equipment. This ensures that the acquired skills can be effectively applied in real-world business scenarios.

Woman selling fruit at an indoor market stall in Gualaceo, Ecuador. (Alamy Stock Photo)

GENERAL CONCLUSIONS

Micro, Small, and Medium Enterprises (MSMEs) in developing countries are vital for economic growth, innovation, and employment generation. However, to drive the decarbonization needed for a net-zero economy, MSMEs require increased access to green financing. This access is essential for adapting their operations to the impacts of climate change and reducing their reliance on fossil fuels.

Given that IGF is an emerging and crosscutting issue, it is crucial that IGF policies are designed to address the diverse needs of MSMEs. Effective IGF policies can provide MSMEs with the financial tools they need to transition to more sustainable practices.

This report offers a set of recommendations aimed at assisting financial regulators in initiating their IGF journey. These recommendations are designed to help bridge the gaps in access to green finance for MSMEs, fostering an environment where these enterprises can thrive while contributing to a sustainable and resilient economy.

- **Incentives drive green adoption:** Financial incentives, tax breaks, or favorable regulatory conditions can act as catalysts for MSMEs to integrate climate-friendly measures into their businesses.
- **Gender inclusive policies matter:** Specific challenges faced by WMSMEs in adopting green practices highlight the need for gender transformative policies to promote an inclusive and effective approach to climate action.
- **Capacity building is crucial:** Regulatory frameworks incorporating capacity building initiatives are more effective as they provide MSMEs with the necessary skills, knowledge, and resources to implement and sustain green practices.
- **Access to green finance is key:** Regulatory support in ensuring access to financial resources for MSMEs, including risk-sharing mechanisms, specifically earmarked for sustainable initiatives, can significantly accelerate their transition to environmentally friendly practices.
- **Comprehensive reporting enhances accountability:** The study emphasizes the role of comprehensive reporting requirements within regulatory frameworks. Mandating MSMEs to disclose their environmental impacts promotes accountability and transparency, encouraging them to adopt and sustain green practices.
- **Collaborative platforms facilitate compliance:** Regulators can facilitate collaborative platforms that connect businesses, regulators, and experts to create an environment conducive to the exchange of best practices and innovations in climate-friendly strategies.

By adopting these recommendations, financial regulators can play a crucial role in enabling MSMEs to become key drivers of sustainable development and climate resilience.

Local woman holding the rugs she makes in Nukus, Uzbekistan. (Alamy Stock Photo)

ACRONYMS

ABP	Anchor Borrower's Program
AFI	Alliance for Financial Inclusion
AGF	African Guarantee Fund
BSP	Bangko Sentral ng Pilipinas
CBN	Central Bank of Nigeria
CC	Contactar Colombia
CGC	Credit Guarantee Corporation
CGS	Credit guarantee schemes
CMSMEs	Cottage, Micro, Small, and Medium enterprises
ESDD	Environmental and social due diligence
ESG	Environmental, Social, and Governance
ESRM	Environmental and social risk management
FI	Financial Institutions
GCF	Green Climate Fund
GEFF	Green Economy Financing Facility
GFE	Green Finance Entity
GHG	Greenhouse gas
GPP	Green public procurement
GTFS	Green Technology Financing Scheme
IGF	Inclusive green finance
IGFWG	Inclusive Green Finance Working Group
LDC	Least developed countries
MGTC	Malaysian Green Technology and Climate Change
MSEs	Micro and small enterprises
MSMEs	Micro, small, and medium enterprises
NFIS	National Financial Inclusion Strategies
NDCs	Nationally Determined Contributions
PFIs	Participating/Preferred Financial Institutions
PFRs	Policymakers and Financial Regulators
RSF	Risk sharing facility
SBFN	Sustainable Banking and Finance Network
SBP	State Bank of Pakistan
SDD	Sex disaggregated data
SEPS	Superintendencia de la Economía Popular y Solidaria de Ecuador
SMEFWG	Small and Medium Enterprise Finance Working Group
WEGI	Women entrepreneurs in green industry
WMSMEs	Women-owned/led MSMEs

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APPENDIX 2. METHODOLOGY

A comprehensive literature review has been undertaken complemented by two online surveys. The first, “Transitioning MSMEs to Green,” was administered to AFI’s IGFWG and SMEFWG in August 2023, while the second, the “AFI IGF 2023 annual survey”, was administered to AFI’s IGFWG in July 2023, with both surveys receiving responses from 28 AFI members. Although the sample size represents approximately a third of AFI’s membership, the respondents were among the most active members in IGF policymaking and SME financing and represent all six regions of AFI’s membership.

The data was collated, validated, cross-checked, and analyzed after completing the surveys. Additionally, three in-depth interviews were conducted with two AFI members, Bangladesh Bank, and the Superintendencia de la Economia Popular y Solidaria de Ecuador (SEPS), as well as the Malaysian Green Technology and Climate Change Corporation (MGTC). The two AFI members were chosen given their institutions’ focus on ESG policies while MGTC was selected for their work on supporting access to finance for MSMEs. All of the findings are incorporated in this report.

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