Climate Change and Inclusive Finance:

Insights from Developing World Markets' Portfolio

Developing World Markets

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DEVELOPING WORLD MARKETS

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Climate Action and Climate Risk Management of Financial Institutions

Despite rapid growth in climate finance over the past decade,[1] current levels of investment fall substantially short of the $4-5 trillion in annual flows needed to limit global warming to 1.5°C above pre-industrial levels. In addition to the shortfall, there is an increasing realization that investment is not flowing to emerging economies in the sectors and at the level needed to address their reliance on fossil fuel-intensive development amidst national mega-trends of population growth and urbanization.

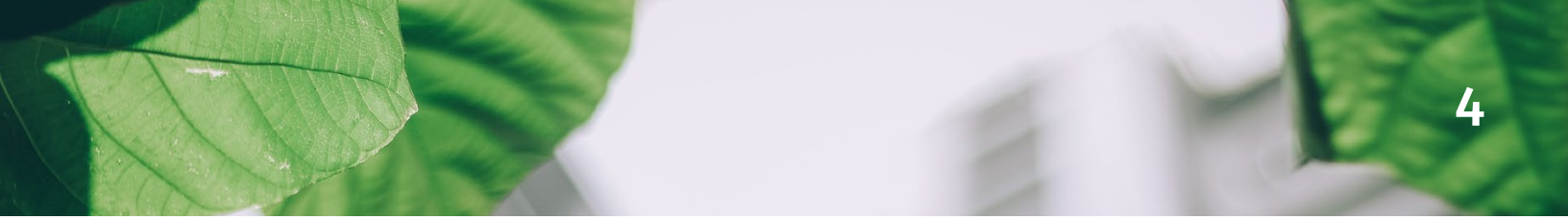
Without the ability to scale low-carbon development pathways to support aspirations of emerging economies and low- and middle-income countries (LMICs) specifically, the emissions wave over the next two decades and the associated impacts on the most climate-vulnerable populations could be substantial. While global capital sources remain important, scaling these low-carbon pathways out of poverty and building adaptive capacity for vulnerable segments will depend heavily on local actors and in many instances, hyper-local investment decisions. For many LMICs, however, over 90% of climate investment to date has originated from foreign capital providers,[2] underscoring the need for alignment between objectives of international capital sources, Nationally Determined Contributions and regional and local commercial interests.

The primary conduits for the required regional and local investments, banks and non-bank financial institutions, have already increased their share of climate investment by over 150% through 2020, now driving nearly 40% of all private capital to meet the climate finance gap.[3] In emerging markets, however, the vast majority of this financing is still focused on mitigation, with substantially less targeting adaptation and resilience. Even in a best-case scenario, there will be no segment of the population nor any sector of the economy that will remain unaffected by the climate crisis or by the collective response over the next two decades. While financial institutions are slowly evolving when it comes to identifying, assessing, managing, and integrating climate-related risks and opportunities into their operating and underwriting frameworks, the financial sector,

1 Climate Policy Initiative: Global Landscape of Climate Finance: A Decade of Data

2 From “Climate Finance for Just Transitions,” by J. Phillips, J. Ewing, A. Rao, L. Teji, V. Plutchack, M. Jeuland, September 2022.

3 Climate Policy Initiative: Global Landscape of Climate Finance 2021

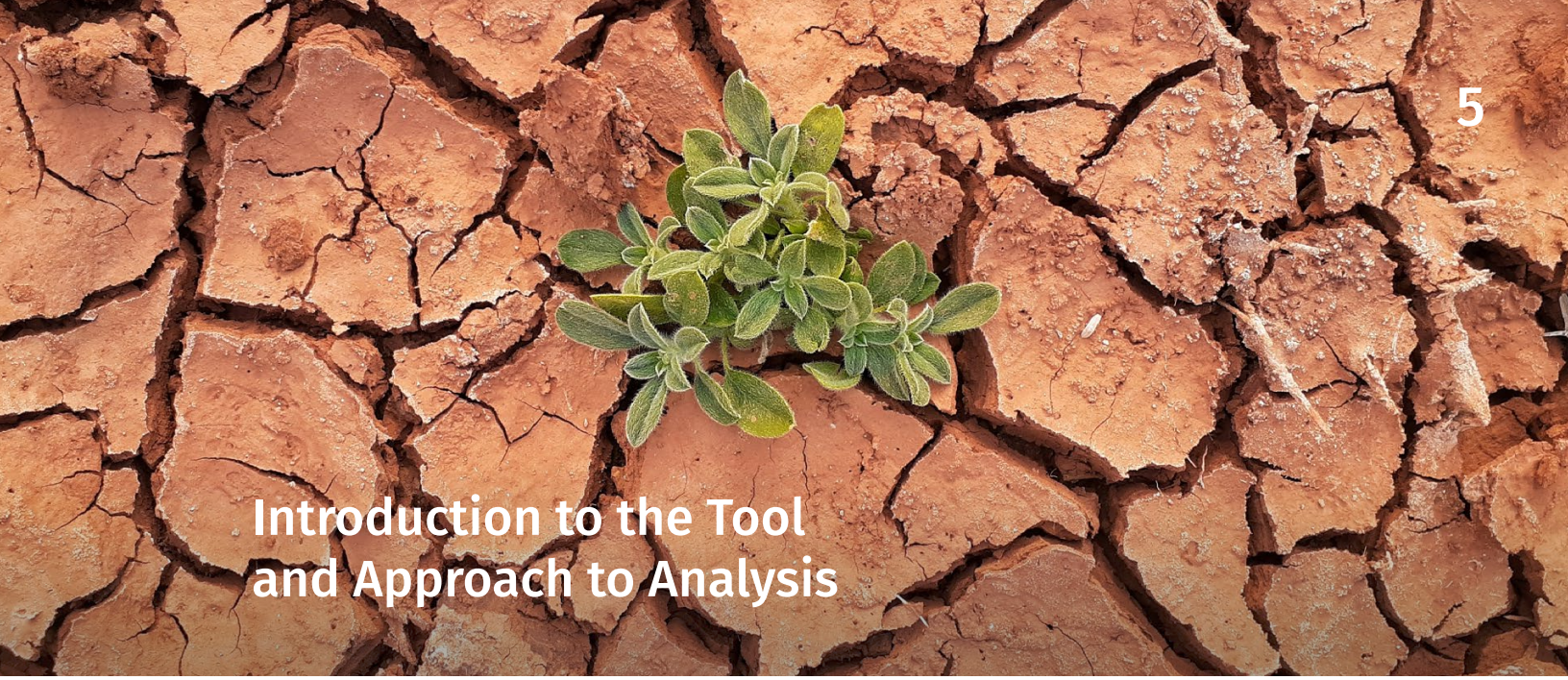


as a whole, will need to accelerate its response, both in terms of managing the risks and financing the transition.

Against this backdrop, Inclusive Financial Institutions (IFINs), as the primary providers of capital to low-income and underserved communities, will have to grapple with questions about their role in driving a more inclusive and equitable transition. How will they equip already vulnerable clients to address the risks of more frequent and severe climate hazards? How will they ensure that their risk frameworks and underwriting criteria do not inadvertently exclude the communities and people bearing the direct impacts of climate change? The business models they adopt, the safeguards they implement and how they align their risk management frameworks and decision-making processes will become ever more critical as the foundations of economies—energy, transportation, manufacturing, agriculture, and trade—undergo sustained and irreversible change.

In this context, Developing World Markets (DWM) partnered with MicroSave Consulting (MSC) to develop the Climate Opportunity and Risk Assessment Ledger ("CORAL" or "the tool"). CORAL is a tool that uses broadly applicable metrics and proxy indicators to measure an IFIN's baseline performance in climate action (i.e. their efforts to reduce emissions and strengthen resilience and adaptive capacity of clients) and inform context-specific recommendations. The tool was developed using inputs from international standards (see Appendix I) and national frameworks (Nationally Determined Contributions, National Adaptation Plans), central bank regulations, green financing frameworks, and existing carbon trading and offset markets. In developing the tool, DWM and MicroSave Consulting aimed to balance three factors: meaningful indicators, accuracy and objectivity of these indicators, and the availability of data and ease of reporting.

DWM and MicroSave Consulting applied the tool to assess six active portfolio companies in its Inclusive Finance Equity Fund II. This report presents the resulting analysis, insights and conclusions the DWM team drew from the assessment, and takeaways for the financial inclusion sector. While some company-specific results of the analysis may not be generalizable to the whole sector, the insights and recommendations are expected to help inform the broader industry dialogue on how IFINs can further their critical role in channeling finance to climate change mitigation, adaptation, and resilience in emerging markets.



Introduction to the Tool and Approach to Analysis

Building on the tools and standards described above and in Appendix I, CORAL was developed based on the principle that IFINs should assess risks and opportunities stemming from both their internal operations and their financed portfolios. The approach also includes a dual focus on both mitigation and adaptation/resilience. The tool was designed with six sections to cover the core areas that a climate action strategy for an IFIN should address:

i. **Climate governance:** Documented climate and environmental action strategy, effective governance mechanisms to ensure adherence, and proactive stance among stakeholders towards climate action

ii. **Self-emissions:** Greenhouse gas (GHG) emissions in Scope 1, 2, and 3 (upstream) and emissions prevented through the use of renewable energy sources and use of carbon offsets

iii. **Financed emissions:** GHG emissions from downstream financing activities in the institutions loan portfolio

iv. **Green financing:** Use of portfolio towards financing climate-positive investments, including mitigation, adaptation, and resilience opportunities for end clients

v. **Climate risk:** Systems, instruments, and processes to identify, measure and minimize exposure to physical and transition risks in its operations or financing activities (including infrastructure risk)

vi. **Climate stewardship:** Promotion of climate awareness and championing sustainability and climate action among clients and industry participants

The six companies in DWM's Fund II private equity portfolio assessed spanned five countries: Colombia, China, Georgia, India, and Sri Lanka. The companies are all financial services providers catering to either individuals or micro, small, and medium enterprises. The companies each entered data and responded to questions in each section, which resulted in a score that indicated the strength of their systems and results across each topic. This enabled comparison across the portfolio and identification of specific areas of opportunity for each company moving forward.

Analysis

This section presents a summary of the portfolio-level findings on each of the six topics covered by the tool. The colored shading represents how well the companies scored relative to the total possible points. Self-emissions and financed emissions are relatively strong categories because of the low carbon footprints of IFINs; however, as highlighted in subsequent sections, there is work still needed to improve tracking systems and taxonomies for financial institutions to better manage their emissions. The other categories reflect the different stages of the companies in building out practices to manage climate risk and opportunity. The findings by section are described in more detail below.

Summary Results from CORAL Assessment

Climate and environmental governance: This section assessed the extent to which the company had a documented climate and environmental action strategy, effective governance mechanisms to ensure commitment, and a proactive stance among stakeholders toward climate action. Given that in many companies (within and outside the portfolio), climate topics are siloed in a corporate social responsibility department, the questions in this section focused on whether climate was mainstreamed into the primary governance mechanisms of the IFINs. The analysis found that half of the IFINs assessed had key climate governance building blocks in place, such as references to environmental impact in their mission statement, a board-approved strategy to finance climate-positive activities, and a documented exclusion list referencing high-emitting sectors. Where board sub-committees (such as ESG, Risk, Audit, and Compensation) included mandates to assess the risks associated with climate change on the loan portfolio or operations, companies were more likely to have taken action in the other five sections assessed. The inclusion of this scope in committee charters was a stronger predictor of action than references to climate included in the mission statement. This is an area of opportunity for the other portfolio companies to put in place governance mechanisms and board sub-committee charters and scopes of work to ensure that climate change risk and resilience receives adequate focus in strategy, planning, operations and measurement.

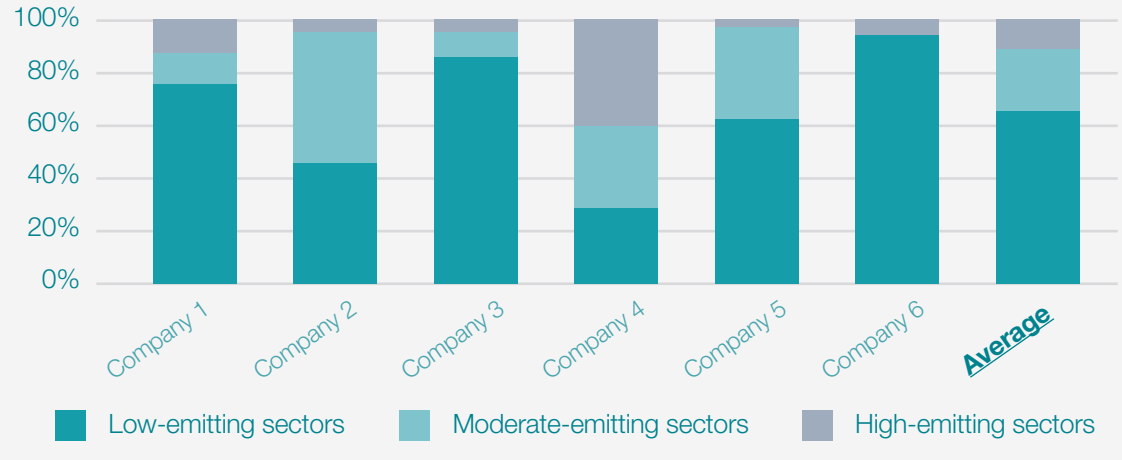
Self-emissions: This section gathered data on energy and fuel usage, travel, and purchased offsets to calculate a net greenhouse gas emissions figure and compare it to country-specific per capita emissions. The majority of IFINs surveyed (over 90%) generally have a low carbon footprint emanating from their operations. As expected, IFINs having a larger SME portfolio, a wider economic cross-section of customers, or providing asset financing tended to have marginally higher carbon footprints than traditional microfinance lenders, but still low in comparison to traditional banks that are exposed to sectors like energy, transportation, or real estate. For the majority of these IFINs, more than half of the self-emissions come from employee travel (scope 3 upstream), while a quarter emanates from electricity consumed in owned or leased premises (scope 2) and the remainder is due to fuel consumption in owned or leased vehicles (scope 1). A significant contributor to the IFINs' scope 3 upstream emissions can be attributed to front office staff (e.g., loan officers) traveling to and from client locations and responding to sales and servicing calls (using their own vehicles, against which fuel cost reimbursements or mileage stipends were provided). Opportunities to optimize routes or incentivize more efficient client monitoring and servicing approaches would not only serve to reduce emissions, but also lower operating costs and improve the efficiency of these front office staff members.

During data collection, it was noted that IFINs don't currently have an optimal process or data capabilities in place to calculate self-emissions. The tool DWM administered provides a proxy to help institutions with the calculation. For funders looking to gather this data from IFINs, investing time and training in raw data collection or approximation upfront should facilitate smooth self-emissions assessments on an ongoing basis.

Self Emissions - Scope 1, 2, and 3 (Upstream)

Financed emissions: This section used third-party research[4] to categorize each sector of activity as high, moderate, or low emitting. On average, 65% of the value of the gross loan portfolios of surveyed companies is in low-emitting sectors, 24% in moderate-emitting sectors, and 11% in high-emitting sectors (see chart for breakdown by company). Examples of high-emitting sectors are commercial vehicles and apparel manufacturing. Moderate-emitting sectors include tourism/hospitality, small-scale construction, and food processing. For investors in IFINs seeking to reduce GHG emissions in their financed portfolios, there are likely opportunities for portfolio companies to focus on financing sustainable solutions to increase energy efficiency and renewable energy usage. In low-emitting sectors, there is an opportunity to focus on products and services that drive the adoption of climate-adaptive and resilient livelihood choices. Examples might include disaster risk insurance, weather-resistant housing, and climate-smart agricultural technologies. The next section covers these opportunities in more detail.

Financed Emissions - Scope 3 (Downstream): Breakdown of Gross Loan Portfolio by Sector GHG Intensity



4 Sources:
- Our World in Data: https://ourworldindata.org/emissions-by-sector
- EPA: https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data
- World Resources Institute: https://www.wri.org/data/world-greenhouse-gas-emissions-2018

Green financing: This section assessed "green financing" portfolios including loan products aimed at climate change mitigation, adaptation, and resilience. The key categories analyzed were renewable energy, climate-smart agriculture, climate change risk insurance, and circular economy. Overall, the portfolio companies had between 0 and 5% of gross loan portfolio explicitly dedicated to these categories. However, two issues in this topic result in a probable understatement of the green financing portfolio. First, some financing went to green products that were not tagged under these categories (e.g., electric vehicles) or using any taxonomy suitable for identifying and disaggregating "green" portfolio segments. Second, some types of loan products are being used to bolster climate resilience, but this use case is difficult to track (e.g., housing improvement loans to make housing more weather-resilient or livelihood loans to invest in diversified activities boosting non-farm income). Even including these products, it was clear from the discussions with portfolio companies that there is untapped potential for the provision of financial services aimed at climate change mitigation, adaptation, and resilience.

Climate risk: This section assessed systems, instruments, and processes to identify, measure, and minimize IFINs' exposure to physical and transition risks in their operations or financing activities. Half of the portfolio companies had essential measures in place to assess and manage climate risk, with a tendency to focus more on physical risk than transition risk. Those that did have these measures also tended to focus on their own operational climate risks stemming from issues such as where to locate new branches and what kind of insurance policies to take out. While IFINs have acknowledged these risks for their own operations, the lack of risk assessments and potential mitigants for existing and potential clients creates risk exposure via clients' activities. Further, IFINs may miss opportunities to identify products/services based on client needs and specific climate vulnerabilities (see Green Financing section above and Recommendations section below for examples of such products and services).

Climate stewardship: Climate stewardship refers to engagement in policy dialogue and industry knowledge sharing to further the financial inclusion sector's capabilities in the climate risk and resilience area. Despite the early stage of climate finance at which many of the portfolio companies are operating, they have participated in some initiatives, primarily at the local and national levels. Companies that proactively engage in these dialogues will be best positioned to take advantage of incentives for climate financing and can help shape emerging policies or regulations to be industry relevant. Knowledge sharing also helps raise a company's profile and differentiates them from peers.

Conclusions and Insights

Based on the above analysis of the CORAL data, a few insights were identified as guiding principles for company investors, board and senior leadership to consider when developing the buildings block of a climate strategy:

Insight 1: "Accountability breeds response-ability" - Stephen R. Covey

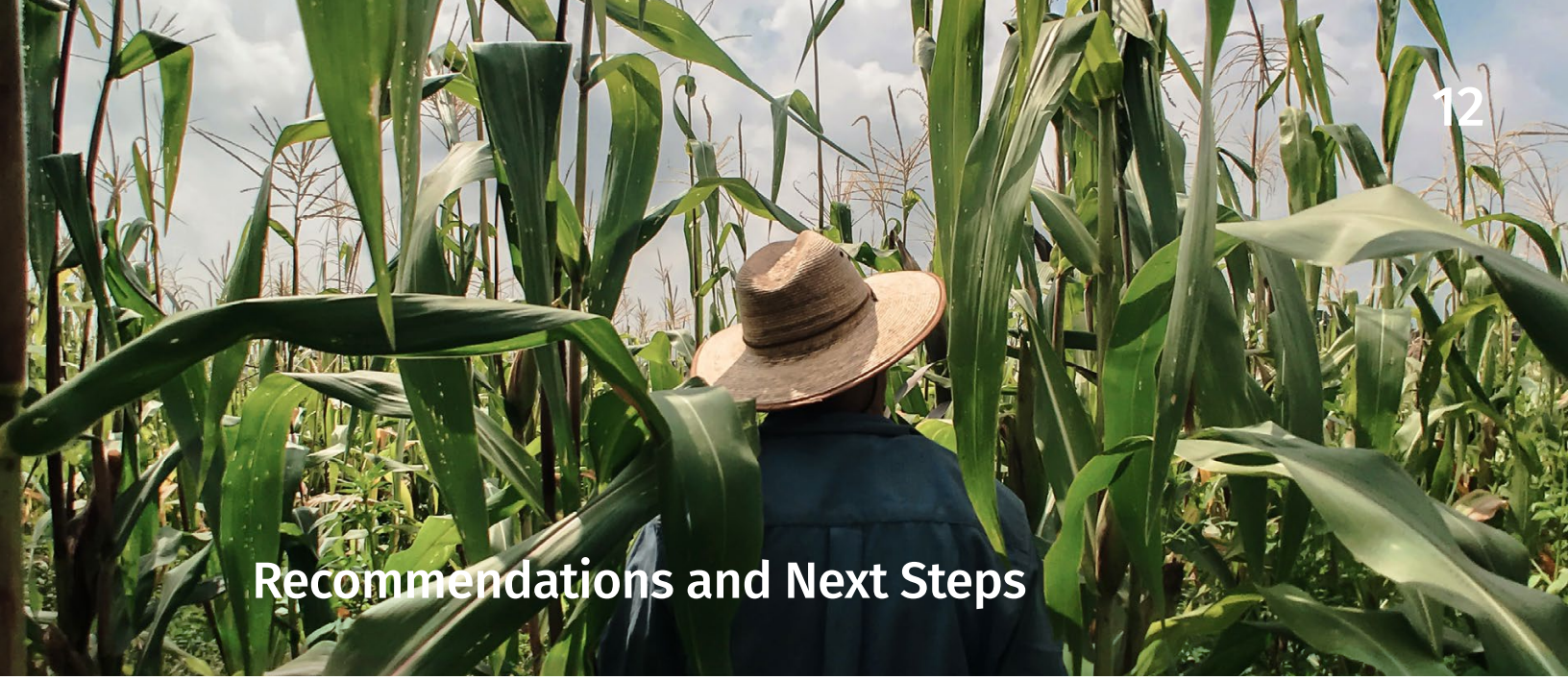
Effective climate governance requires a clear delineation and documentation of responsibilities and key performance indicators across management, board and board committees to ensure integrated and sustained attention to climate risks and opportunities. Those companies that have a mission statement referencing sustainability or environmental impact are more likely to have a chief sustainability officer/ environmental lead in their executive committee who can serve as the champion or primary advocate on the climate strategy. However, even with these building blocks, if the mandate of board committees (ESG, Risk, Audit, Compensation) doesn't include a detailed scope to document, assess and measure the impact of climate risk on the company, little to no attention is paid during board deliberations to climate matters. An example of a well-defined scope would include periodic reporting of metrics reflecting the institution's climate-related positioning, above and beyond matters of compliance, including: a) metrics on the loan portfolio's climate risk vulnerability and experienced 'physical' loss rates from slow or rapid onset climate hazards, b) evolution of client demand and financing terms for green products and c) regulatory changes and sector or customer segment based public and private incentives for green financing or climate risk mitigation. Given that in the foreseeable future, climate risk considerations at the board and company level will likely be a regulatory requirement, IFINs would be well served to get ahead of the curve and be a part of the policy-making process as climate stewards rather than having requirements imposed without their input.

Insight 2: “Measure what matters” -John Doerr

The foundation for any efficient climate action strategy is to track and measure your carbon emissions with accuracy. Few IFINs in DWM’s portfolio and in the inclusive finance space, in general, measure their self-emissions of greenhouse gases; even fewer have a systematic process for tracking financed emissions or aligned internal taxonomies to capture green financing classification for relevant products. This is true also in instances where there is already a board-approved exclusion list (prohibiting exposure to high emissions sectors) and/or a board-approved strategy to finance mitigation and adaptation opportunities. Currently available climate impact measurement tools for IFINs are either proprietary, complex, or lacking in customer centricity (focusing instead on the operational risks and impacts of the company). A lack of simple, transparent, off-the-shelf tools that IFINs can use has led to a dearth in accurate measurement, in turn leading to (or perhaps caused by) cursory or ineffective board and committee oversight.

Insight 3: “The rearview mirror is always clearer than the windshield” - Warren Buffet

In spite of historical data suggesting annual increases in asset loss attributed to climate hazards, the biggest challenge today is that the majority of entities do not include climate risk considerations in the evaluation of new credit customers. With more frequent and severe natural hazards, climate change has already become a fast-emerging risk driver for IFINs, manifesting primarily as portfolio losses and loss or damage of operational assets from physical hazards. While risk management frameworks have been slowly adapting to assess and manage physical operations risk at the IFIN level, portfolio-level risk has not been given the same level of attention, and the integration of transition risks has been all but absent. An accurate assessment/integration of climate risk and attributable losses might uncover new opportunities for adaptation and resilience for vulnerable customer segments. Given the ready availability of detailed historical loss data, IFINs need to explicitly incorporate climate risk considerations not only into operational decisions around branch location and insurance selection, but also, and potentially more importantly, portfolio growth and new credit decisions.



Recommendations and Next Steps

To operationalize the opportunities and gaps identified, specific recommendations have been highlighted below for IFINs' board and management and impact investors seeking to take tangible steps on a climate-responsive strategy and capitalize on the untapped market potential.

Recommendation 1: Operationalize climate commitments through governance structures and mandates

Insight 1

Alongside measurement and reporting tools, IFINs should review the scope and charters for their board committees and sub-committees, including but not limited to ESG, Risk, Audit, Credit & NPA, and Compensation to ensure the inclusion of clearly defined mandates covering climate. The charter would explicitly require the committee(s) to report to the board on climate strategy, above and beyond matters of compliance, including the potential impacts of climate change on business, strategy, financial planning, and operating environment and implications on business risk and continuity planning. While the ultimate responsibility for overseeing the climate strategy should fall on the full board, a committee can conduct a more focused review and better inform board decision-making. The responsibilities should also necessarily be spread among multiple committees to ensure integrated attention to climate risk and opportunities with a view towards operationalization rather than reporting alone. A useful reference that provides potential elements to consider in governance and committee mandates can be found in Section 2 (How boards and management address climate risk) of the UNEP Finance Initiative's report[5] "From Disclosure to Action."

Recommendation 2: Enhance measurement and reporting systems using a standardized taxonomy

Insight 2

As in prior studies assessing the preparedness of financial institutions, the availability of granular data on self-emissions aligned with a consistent taxonomy for financed emissions has been a key challenge for financial institutions in developing a climate action strategy. An

5 UNEP FI, "From Disclosure to Action": https://www.unepfi.org/wordpress/wp-content/uploads/2020/10/Climate-Risk-Applications-From-Disclosure-to-Action.pdf

efficient system for regularly tracking self-emissions should first be established to allow IFINs to easily standardize institutional reporting and create related emissions-reduction strategies.

a. IFINs can start with a review of Scope 3 (upstream) emissions, where the majority of self-emissions are attributed because of employee travel (for company activities but in their vehicles), to optimize routes or incentivize more efficient client monitoring and servicing models. Energy efficiency usage parameters for buildings and fuel efficiency parameters for owned vehicles (both in Scope 1) can be addressed next alongside exploring the use of electric two-wheelers for front-end staff mobility.

b. Alongside more systematic measurement of self-emissions, IFINs should then adopt a taxonomy within their MIS/reporting system to standardize the classification of climate-related investments across climate mitigation, adaptation, and resilience. While this is still a nascent area with both central banks and international funders adopting their reporting frameworks, industry-specific frameworks and taxonomies being built by actors like the European Microfinance Platform[6] or CGAP[7] for mitigation, adaptation, and resilience provide more comprehensive approaches.

Recommendation 3: Incorporate client-level climate risk assessments to improve loss forecasting capabilities

Insight 3

The majority of IFINs have experienced some element of portfolio or operational loss attributed to slow or rapid onset climate events. We recommend that IFINs further analyze this loss to inform their climate vulnerability risk assessments, which can then be applied to potential clients, both to understand their exposure via clients' activities and to identify product/service opportunities based on client needs. Paired with systems to assess the impact of climate risks on the value of assets held (e.g., mortgages and collateral) or on supply chain vulnerabilities for hazard-prone sectors, these assessments could further strengthen the integration of climate risk considerations into underwriting frameworks. One resource that may inform the parameters of this climate risk assessment may be the creation of an institution-wide (and at some point, a sector-wide) "failure catalogue" to document instances of climate-related loss and damage in the portfolio and operations to systematize planning on how to avert, minimize and address instances of loss going forward.

Recommendation 4: Expand mitigation portfolio and pilot/scale untapped adaptation, resilience products

Insight 2

Insight 3

Given the significant untapped potential for the provision of financial services aimed at mitigation, adaptation, and resilience of low-income populations, IFINs can make this an area of focus to arrive at tangible product strategies based on local context and considerations.

6 See the Green Index 3.0 open-source tool: https://www.e-mfp.eu/green-index

7 CGAP "Strengthening Climate Resilience and Adaptation through Financial Services Product Scan": https://www.findevgateway.org/sites/default/files/publications/2022/221117_CGAP%20version_Climate%20resilience_Product%20scan.pdf

These could include the expansion of existing remittance-linked or insurance products and solutions to include emerging climate hazards for vulnerable customers to protect against disaster-linked economic loss in assets or loss of income-generating capacity and livelihoods. Additional examples of such initiatives identified in the portfolio include products that integrate climate considerations into their design or implementation such as micro-housing financing products specifically oriented around climate-resilient housing structures or materials. Researchers from HEDERA within the Impact-R project supporting CGAP research, are compiling a "Green Microfinance database" of financial products that enable access to clean energy, energy-efficient technologies, and water, sanitation, and hygiene services from a climate change adaptation and mitigation perspective.

Recommendation 5: Become a climate steward to develop an early competitive advantage

Insight 1

IFINs should assign a champion or primary advocate for the institution among the executive management team to participate in industry policy-setting dialogues and knowledge-sharing on the topic. Climate stewardship can be a key differentiator when E&S departments are integrated into governance and decision-making in core business activities rather than simply compliance, measurement or reporting bodies. Regulators and capital providers have already started moving on this agenda across the majority of jurisdictions represented in DWM's portfolio and impending regulatory changes and reporting requirements will likely require more robust systems to identify, measure, report on and manage climate risk in FI portfolios. A strategy of avoidance or opposition will soon need to be replaced with one of constructive engagement if IFINs is to effectively position themselves for these forthcoming changes.

Conclusion

DWM plans to continue to support its portfolio companies to strengthen these critical areas and to build new investment strategies that address the need for climate finance in emerging markets. We hope that participants in the sector can build on our work here and are open to opportunities to collaborate as we look to operationalize some of our findings via our upcoming investments. Please feel free to reach out to us at privateequity@dwmarkets.com.

Appendix: Tools and Standards Reviewed

The table below contains tools, standards, and frameworks that helped DWM and MicroSave Consulting design the assessment tool for DWM's portfolio companies. The comments reflect the authors' assessment of the applicability of each tool or standard for DWM's specific portfolio and objectives, and therefore may not reflect considerations of other institutions.

Standard/Guide	Features	Applicability for DWM's portfolio companies
Taskforce for Climate-Related Financial Disclosures (TCFD)	• Delineates metrics to track climate impact • Offers guidance on aligning portfolio to climate transition plans • Offers guidance on disclosure	• The delineated metrics are broad, implying that companies must devise their own tailored metrics, targets and transition plans
European Microfinance Platform Green Index 2.0* (see note on versions below)	• Aimed at the inclusive finance sector • Most indicators are based on yes/no responses	• Suitable indicators for DWM's portfolio companies • Does not include tools to measure self-emissions • Does not provide country-specific benchmarking information
Partnership for Carbon Accounting Financials	• Delineates methodologies for measuring and reporting Scope 1, 2, and 3 GHG emissions • Includes specific measures for business loans and mortgages	• The concepts leading to computation and attribution of emissions are applicable to DWM's portfolio companies, However, the concepts must be converted into a tool that estimates figures based on available data from portfolio companies
World Economic Forum Guiding Principles for Effective Climate Corporate Governance	• Clear principles with questions that aim to elicit insights into a company's climate philosophy and values	• The tool is intended to be administered in a strategic planning workshop with board members and executives • Relevant concepts are incorporated into the CORAL tool
Joint Impact Model	• Estimates portfolio GHG emissions based on economic sector and country of activity	• Does not account for actual resource consumption or include climate risk management, green financing, or opportunity assessment • The model assumptions are not disclosed. Therefore, its inputs could not be used to develop the CORAL tool.

*The Green Index 3.0 was released after this project was completed, in November 2022. The updated version includes a combination of quantitative and qualitative indicators to measure outcomes and outreach. It is also open-sourced and useful for self-assessment, with the possibility to share data.

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