WORKING PAPER

Exclusion Risks in Climate-Related Financial Regulation: An Analytical Framework

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CGAP

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Contents

Figures

Tables

Acronyms

AFI	Alliance for Financial Inclusion
AML/CFT	Anti-Money Laundering / Countering the Financing of Terrorism
ASEAN	Association of Southeast Asian Nations
BCBS	Basel Committee on Banking Supervision
BBM	Borrower-based Measures
BIS	Bank for International Settlements
BPF	Brown Penalizing Factor
BTAR	Banking Book Taxonomy Alignment Ratio
CAR	Cadastro Ambiental Rural (Rural Environmental Registry)
CDRFI	Climate Disaster Risk Finance and Insurance
CMSMEs	Cottage, Micro, Small and Medium Enterprises
CRFR	Climate-related Financial Risk
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainable Reporting Directive
EBA	European Banking Authority
EMDEs	Emerging Markets and Developing Economies
ERM	Environmental Risk Management
ESDD	Environmental and Social Due Diligence
ESG	Environmental, Social and Governance
ESRM	Environmental and Social Risk Management
EU	European Union
FSAP	Financial Sector Assessment Program
FSA	Financial Sector Authority
FSI	Financial Stability Institute
G20	Group of Twenty
G20-SFWG	G20 Sustainable Finance Working Group
GAR	Green Asset Ratio
GHG	Greenhouse Gases
GRI	Global Reporting Initiative
GSF	Green Supporting Factor
IAIS	International Association of Insurance Supervisors
ICAAP	Internal Capital Adequacy Assessment Process
IFRS	International Financial Reporting Standards
ILAAP	Internal Liquidity Adequacy Assessment Process
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
ISSB	International Sustainability Standards Board
MFI	Microfinance Institution
MSME	Micro, Small and Medium Enterprise

ND-GAIN	Notre Dame Global Adaptation Initiative
NGFS	Network (of Central Banks and Supervisors) for Greening the Financial System
OECD	Organization for Economic Cooperation and Development
RWA	Risk-weighted Assets
SBFN	Sustainable Banking and Finance Network
SICOR	Sistema de Operações do Crédito Rural e do Proago (Rural Credit and Proagro System)
SME	Small and Medium Enterprise
SSB	Standard Setting Body
SyRB	Systemic Risk Buffer
TCFD	Task Force on Climate-related Financial Disclosures
TRO	Targeted Refinancing Operations
TVC	Taxonomía Verde de Colombia (Colombia's Green Taxonomy)
UNEP FI	United Nations Environment Program Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change
WBG	World Bank Group

Key definitions

Climate adaptation	The process of adjustment to actual or expected climate change and its effects in order to moderate harm or exploit beneficial opportunities (IPCC 2022).
Climate change physical risk	Economic costs and financial losses resulting from the increasing severity and frequency of: i) extreme climate change-related weather events or extreme weather events such as heatwaves, landslides, floods, wildfires and storms; ii) longer-term gradual shifts of the climate such as changes in precipitation, extreme weather variability, ocean acidification, and rising sea levels and average temperatures (i.e. chronic physical risks or chronic risks); and iii) indirect effects of climate change such as loss of ecosystem services (BCBS 2021).
Climate change mitigation	An intervention to reduce emissions or enhance the sinks of greenhouse gases (IPCC 2022). Climate change mitigation involves actions to reduce or prevent greenhouse gas emissions from human activities. Mitigation efforts include transitioning to renewable energy sources, enhancing energy efficiency, adopting regenerative agricultural practices and protecting and restoring forests and critical ecosystems (UNDP 2024).
Climate change transition risk	The risks related to the process of adjustment towards a low-carbon economy (BCBS 2021).
Climate finance	Funding – from local, national or transnational funds drawn from public, private, and alternative sources of financing – that aims to finance activities that mitigate climate change effects and promote adaptation measures to address climate change. It is focused on direct funding to projects and initiatives, excluding financial market transactions like bank lending to firms or investments in private and public stocks, to maintain the fundamental rule of preventing double counting (UNFCCC, 2024).
Climate-related financial risks (CRFR)	Risks that arise from the impacts of climate change or efforts to mitigate them. Climate-related physical and transition risk drivers can translate into traditional financial risk categories like credit, market, operational, liquidity, strategic and reputational risks. CRFR can materialize over varying time horizons, often exceeding traditional capital planning periods (BCBS 2024).
Climate-related financial regulation (or "climate-related regulation")	In this paper, "climate-related financial regulation", or its shorter version "climate-related regulation" includes regulatory and legal instruments covering one or more of the following: 1. Requirements to address risks (climate and other environmental risks); 2. Disclosure requirements; and 3. Green or sustainable finance taxonomies and product standards. Table 1 provides the full taxonomy of climate-related regulation analyzed in this paper.

Environmental, social and governance (ESG) risk	Environmental risks include the physical impact of global warming which may make some geographies higher risk, and transition risks such as public policy, technological advancements and market sentiment, may lead to some activities being phased out. Social risks include the negative financial impacts linked to factors such as inequality, health or labor relations, whereas governance risks include the negative financial impacts linked to factors such as executive leadership or bribery and corruption (EBA 2021).
Green finance	The term green finance has been variously used to capture financial services that support investments in climate change mitigation, climate adaptation, nature-based assets, ecological sustainability, and other environmental objectives. While important, the term can become problematic to use due to the lack of a generally agreed definition of its scope, let alone the nuances of its application in practice. We use it here to encompass all the aforementioned elements, which is possible given the high-level nature of the discussion. Where financial sector stakeholders opt to use this or similar terms, however, it will typically be important to define its scope and application with the greatest clarity, including by introducing subsidiary terminology that distinguishes between important subcategories (Knaack and Zetterli 2023).
Greenwashing	The European Supervisory Authorities (ESAs) define greenwashing as a practice where sustainability-related statements, declarations, actions, or communications do not clearly and fairly reflect the underlying sustainability profile of an entity, a financial product, or financial services, either under or outside the remit of the EU regulatory framework. This practice – which can be intentional or unintentional – may be misleading to consumers, investors, or other market participants (EBA 2023).
Just transition	A set of principles, processes, and practices that aim to ensure that no people, workers, places, sectors, countries or regions are left behind in the transition from a high-carbon to a low-carbon economy. It stresses the need for targeted and proactive measures from governments, agencies and authorities to ensure that any negative social, environmental, or economic impacts of economy-wide transitions are minimized, while benefits are maximized for those disproportionally affected (IPCC 2022).
Nature-related financial risks	Risks of negative effects on economies, individual financial institutions and financial system that result from: i) the degradation of nature, including its biodiversity, and the loss of ecosystem services that flow from it (i.e. physical risks); or ii) transition risk, i.e. the misalignment of economic actors with actions aimed at protecting, restoring, and/or reducing negative impacts on nature. Nature-related financial risks incorporate the full spectrum of climate and environmental risks (NGFS 2024).
Sustainable finance	The process of taking due account of ESG considerations when making investment decisions in the financial sector, leading to increased longer-term investments into sustainable economic activities and projects (European Commission). It has become a powerful movement led by regulators, institutional investors and asset managers globally (World Bank 2021).

Executive Summary

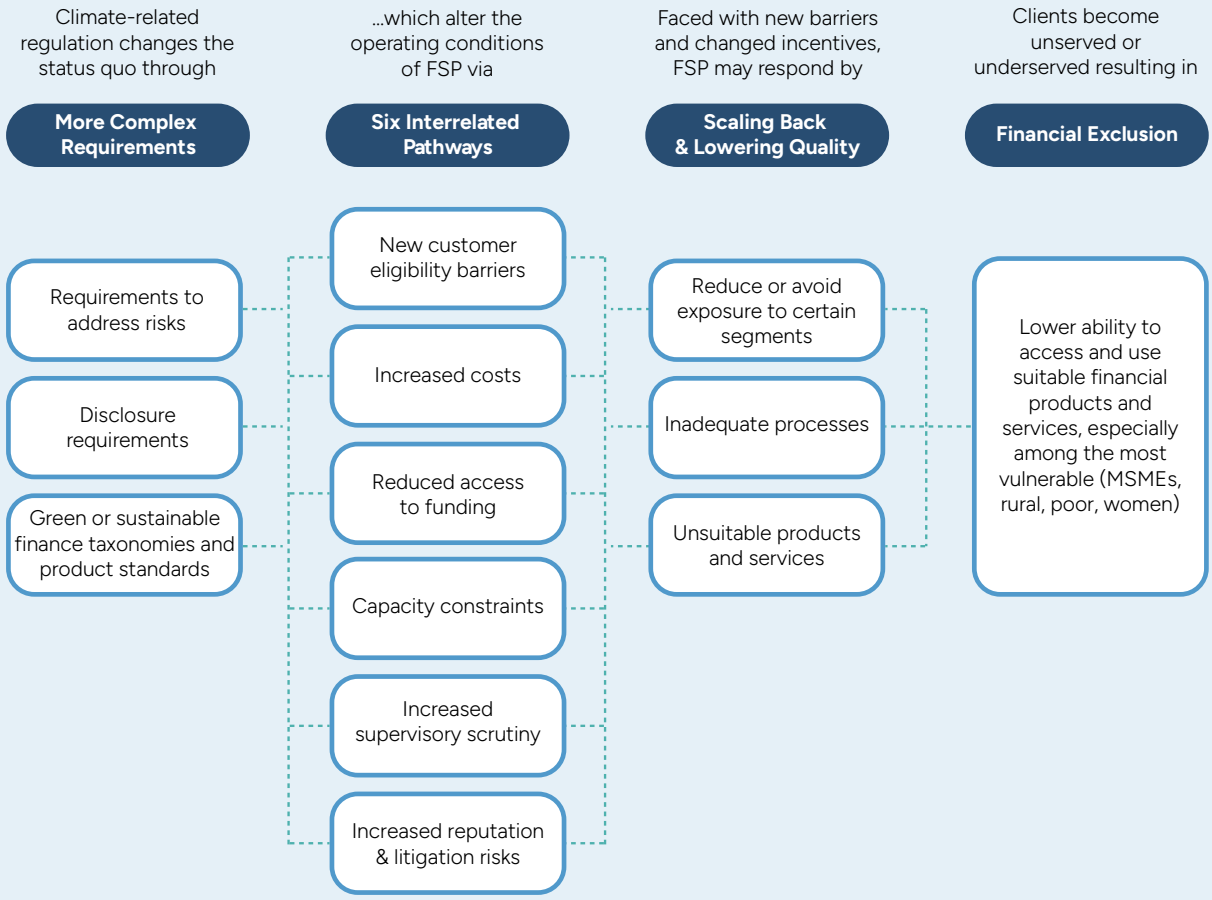
FIGHTING CLIMATE CHANGE, PRESERVING financial stability, and ensuring financial inclusion are deeply interconnected goals (Knaack and Zetterli, 2023). Inclusive finance is vital for achieving climate goals, as it enables vulnerable groups—such as smallholder farmers, low-income segments, and micro, small, and medium enterprises (MSMEs)—to adapt to climate risks, mitigate negative impacts of climate change, and participate in the green transition. At the same time, a stable, safe, and sound financial system is a key precondition for inclusive finance to support the global climate agenda. However, climate risks increasingly threaten financial stability by jeopardizing economic growth and the sector's ability to remain resilient and serve the economy (Feyen et al 2020a). Financial instability could amplify financial exclusion, and this would further hinder the ability of marginalized groups to contribute to the fight against climate change, accelerating its negative impact over the economy and reinforcing financial instability. This potentially vicious cycle could be acute in emerging markets and developing economies (EMDEs), which face higher climate risks and larger underserved populations.

In this setting, climate-related financial regulation arises as crucial to preserve financial stability while supporting climate finance. An increasing number of financial sector authorities (FSAs) are adopting climate-related financial regulation, but many struggle to understand or fail to appreciate the significant implications for financial inclusion. Most of these regulations introduced by EMDEs follow international guidance and the steps taken by advanced economies. For the purposes of this paper the following are considered climate-related financial regulation: i) requirements to address climate and other environmental risks; ii) disclosure requirements; and iii) green or sustainable finance taxonomies and product standards. These regulations seek to mitigate risks posed by climate change on the financial sector; increase transparency and support green or sustainable finance. However, such regulations could introduce financial exclusion risks. For instance, faced with increased climate-related regulatory requirements, financial service providers (FSPs) could find it uneconomical to serve low-income groups, particularly those more exposed to climate-related risks.

This paper provides an analytical framework for FSAs in EMDEs to examine how climate-related financial regulation could disproportionately affect access to credit among vulnerable groups in EMDEs, with the aim of identifying measures to not only minimize the exclusionary risks of regulation, but also fuel the virtuous cycle between stability, climate resilience and financial inclusion. The focus on credit in this paper is due to its prominence as the main form of financing available to these groups in EMDEs, and because a good portion of the regulatory action in EMDEs has been directed toward lending activities.

The framework (summarized in the Figure 1) comprises six impact pathways through which climate-related financial regulation can reduce the ability or the incentives for FSPs to serve these segments. First, regulation can impose additional credit underwriting requirements and limit or discourage lending to certain activities and sectors, introducing new customer eligibility barriers. Second, regulation can lead to increased costs for FSPs and customers. Third, they

FIGURE 1. **Pathways from climate-related regulation to financial exclusion**



Source: Authors

could lead to reduced access to funds for FSPs to meet the climate adaptation and resilience needs of vulnerable groups. Fourth, FSPs may experience increased capacity constraints, leading to conservative practices and exclusionary risk management approaches. Fifth, uncertainty about the scope and outcome of increased supervisory scrutiny in the face of new, complex regulation may prompt FSPs to engage in over-compliance, favoring larger, less risky borrowers. Finally, increased reputational and litigation risks stemming from non-compliance or grey areas in the regulation may lead FSPs to adopt risk-avoidance behaviors, disproportionately impacting highly vulnerable segments.

These pathways are not independent transmission channels, but often interrelated and mutually reinforcing. For instance, new regulatory requirements or guidance on client eligibility for lending operations – some of which could lead to exclusion – could increase costs for FSPs, which could lead them to impose additional eligibility criteria on new borrowers, to ensure profitability. The purpose of presenting the pathways separately is to highlight and illustrate the various ways climate-related financial regulation could contribute to financial exclusion, because exclusion risks may be difficult for FSAs to detect and there is limited empirical evidence to date. Our intent is to help FSAs identify exclusion risks so they can design regulatory, supervisory, and non-regulatory measures that could counter exclusion risks. Finally, these

pathways consider potential exclusion risks from all types of finance, although inclusive climate finance may be particularly impacted.

FSAs in EMDEs must aim to preserve financial stability and promote climate finance while minimizing financial exclusion risks. Adopting a proportional approach (risk and principles-based, consultative and gradual), fully consistent with international standards and guidance by standard setting bodies(SSBs),[1] will help FSAs meet the needs of vulnerable groups while containing additional costs imposed on FSPs. They can start by identifying the challenges FSPs face when serving the most vulnerable and consider specific measures to accommodate these segments. Relatedly, green or sustainable finance taxonomies need to be designed with due account to each country's economic, social and regulatory context. The process should be guided by clear supervisory expectations and supervisors and FSPs should be educated and reminded about the risks of exclusionary overcompliance.

The risk of financial exclusion from climate-related financial regulation is particularly acute in those EMDEs with institutional weaknesses. For example, weak enforcement of environmental laws, high levels of MSME informality and capacity limitations such as poor climate risk data, limited expertise at FSPs and MSMEs, which not only amplify the exclusionary potential of regulation but also limit the effectiveness of tools designed to promote inclusive climate finance. Addressing these challenges requires a holistic approach that maximizes synergies across public and private sector actions and different policy goals including financial sector development, financial inclusion and the climate agenda.

EMDEs must ensure that their climate agendas are tailored to their unique contexts and needs, implementing a diverse set of policies and interventions in addition to regulatory reforms. These include market support mechanisms, tools to promote inclusive climate finance, and robust responses to climate shocks. Additionally, SSBs and international organizations should more explicitly integrate financial inclusion into their work on climate-related financial regulation, including assessing uneven regulatory impacts in EMDEs. They can play a critical role in developing methodologies to harmonize green or sustainable taxonomies, help FSAs and FSPs tailor their transition plans, and provide specific regulatory and supervisory guidance for FSAs as needed.

Finally, further research is needed to: i) enhance empirical evidence of the impact of climate-related financial regulation on credit provision and expand it to cover the provision of other financial services such as insurance; ii) explore effective approaches for the application of the principle of proportionality in climate-related financial regulation, for example through specific regulatory adjustments such as thresholds or exemptions and related supervisory practices; iii) analyze consumer protection risks arising from the growing offer of green/sustainable financial products; iv) evaluate the effectiveness of existing tools designed to promote inclusive climate finance and explore alternative strategies that could better serve vulnerable populations; and v) explore technology-enabled solutions for FSPs to implement climate-related financial regulation while promoting resilience and adaptation via inclusive financial products and services.

1 For instance, BCBS (2022b).

Introduction

THE CLIMATE AGENDA IS DEEPLY LINKED to financial stability and inclusion: addressing climate risks is essential to protect stability and inclusion, both of which are critical to achieving climate goals. Climate risks can worsen financial exclusion, making vulnerable groups a less appealing client base. For example, 3.3 billion people live in regions classified by the Intergovernmental Panel on Climate Change (IPCC) as highly vulnerable to climate change (Zetterli et al 2024) and women could be particularly affected (Notta and Zetterli 2023). Once financially excluded, it becomes harder for these groups to adapt to climate change, increase their resilience to the impacts of climate change or to engage in a just transition, further increasing their perceived risk to FSPs. At the same time, without addressing climate risks, financial stability is also deeply threatened, hence the need to embed these risks in the financial regulatory framework. Continued monitoring of both physical and transition climate-related financial risks (CRFR) through financial supervision is crucial to help the financial sector support and enable the necessary adaptation, resilience, and transition efforts.

Knaack and Zetterl's (2023) framework highlights linkages between inclusive finance and the climate agenda, to show that climate-related financial sector regulations could potentially result in financial retrenchment while this paper explores how they could impact the ability or incentives of financial service providers (FSPs) to give credit to high-risk, less profitable customers. Inclusive finance is essential for achieving climate goals (Zetterli et al 2024), because it serves as a tool for economic empowerment and enables communities to adapt and participate in a just transition, increasing their overall resilience. In this manner, inclusive finance is positively linked to financial stability, which is a pre-condition to effectively support the global push for climate finance. Inclusive climate regulation and policy can therefore drive a virtuous cycle of growing inclusion, resilience, and stability (Knaack and Zetterli 2023).

Following the 2015 Paris Agreement, which committed countries to a low-carbon future, there has been a surge in policy and corporate initiatives to boost climate finance. This global reorientation of financial flows requires a strong financial sector and incentives for FSPs. In response, the Group of Twenty (G20) set up the Green Finance Study Group in 2016, later evolving into the Sustainable Finance Working Group (G20 SFWG) in 2021, to align the global financial system with climate objectives (G20 SFWG 2021).

Financial sector authorities (FSAs) are developing climate-related regulations to maintain financial stability while simultaneously supporting the growth of climate finance. The G-20 SFWG's sustainable finance roadmap emphasizes the need for a stable and resilient financial sector, calling for effective management of CRFR. This led to global initiatives like the Financial Stability Board (FSB)'s roadmap to address CRFR (FSB, 2021a), and the creation of platforms such as the Network for Greening the Financial System (NGFS) that guides regulatory reforms across the globe. Also, other international organizations such as the Organization for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF), and the World Bank Group (WBG) have all stepped up work in this area

BOX 1. **Definition of climate-related financial regulation in this paper**

CRFR, as defined by the Basel Committee on Banking Supervision (BCBS), arise from the impacts of climate change or efforts to mitigate them. Climate-related physical and transition risk drivers can translate into traditional financial risk categories like credit, market, operational, liquidity, strategic and reputational risks. CRFR can materialize over varying time horizons, often exceeding traditional capital planning periods (BCBS 2022, 2024). However, regulatory approaches to CRFR are still evolving, with some jurisdictions not calling out CRFR explicitly or integrating CRFR into broader concepts like environmental risk or Environmental, Social and Governance (ESG) risk. Increasingly, countries are also incorporating nature-related financial risks, a broader concept encompassing CRFR and defined in NGFS (2024).

While the BCBS does not define ESG risks, European Banking Authority (EBA, 2021) provides a useful reference, which is being incorporated into EBA's ESG risk management guidelines (EBA, 2024): ESG risks are the risks of any negative financial impact on the FSP stemming from the impacts of ESG factors on its counterparties or invested assets. ESG factors can have a positive or negative impact on the financial performance or solvency of FSP counterparties (or its invested assets). Climate risks are a subcategory of environmental risks, and these are heavily interlinked and reinforce each other. ESG risks can materialize in two ways, reflecting their potential double materiality. On the financial materiality side (outside-in perspective), the financial performance of a counterparty (e.g. a borrower) can be affected by ESG factors. For example, the introduction of a carbon tax may decrease the profitability of carbon-intensive businesses. On the environmental, social or governance materiality side (inside-out perspective), the activities of the counterparty may have a negative impact on ESG factors, for example by emitting greenhouse gases (GHG), which may in turn become financially material for this counterparty through triggering or reinforcing a negative outside-in impact. The double materiality concept must be applied by FSPs for all ESG factors, although EBA's current focus is on environmental (including climate) risks (EBA 2024).

To address the varying approaches, this paper adopts a broad definition of climate-related regulation, encompassing climate and other environmental risks. The focus is on these, but in a few cases we mention specific requirements addressing closely-related social risks when relevant for our analysis. This approach reflects the interlinkages between ESG factors and CRFR, and the fact that 26 of 66 countries integrate CRFR within their ESG frameworks, 14 of which use the above concept of double materiality (Sustainable Banking and Finance Network (SBFN) 2024). This paper also considers the explicit development mandates of many FSAs in EMDEs (World Bank 2024), which pursue mixed objectives through climate-related regulation.

In this paper, climate-related regulation comprises any of the following (see Table 1 for the full typology and country examples):

- **Requirements to address risks** (climate and other environmental risks)
- **Disclosure requirements**
- **Green or sustainable finance taxonomies and product standards**

This paper focuses on credit provision, specifically analyzing regulation affecting the banking sector. The analysis applies to nonbank credit providers to the extent that climate-related financial regulation applies to them. The definition of climate-related financial regulation includes green or sustainable finance taxonomies, even when these are economy-

BOX 1. **Definition of climate-related financial regulation in this paper (continued)**

documents rather than sector-specific regulation. The analysis also includes voluntary guidance issued by FSAs, noting the growing number of mandatory, climate-related regulation. This broad definition enables a comprehensive analysis of financial exclusion pathways, including those arising from interactions between different types of regulation.

The definition of climate-related regulation excludes public policy tools like lending targets, targeted refinancing operations (TROs), credit subsidies, interest rate caps, and fiscal measures such as rebates or carbon taxes, which are addressed only briefly in this paper. It also excludes international standards but acknowledges their influence on regulatory reforms in EMDEs. Additionally, regulatory measures supporting financial sector greening, such as digitalization or climate disaster contingency plans, are outside the scope of this analysis. This focused approach ensures a clear examination of climate-related regulation impacting credit provision.

(WBG, IMF, OECD 2023). FSAs in advanced economies and a growing number of emerging markets and developing economies (EMDEs) have issued climate-related financial regulation, defined in Box 1.[2]

Climate-related regulation is crucial to preserve financial stability and to support financial inclusion: without safe and sound FSPs, inclusive finance is unlikely to advance. Also, stricter risk management requirements could promote technological innovation that supports inclusive finance, and in particular inclusive climate finance. Climate-related regulation could, nonetheless, lead to financial exclusion. For instance, FSPs may adopt overly conservative approaches that exclude vulnerable groups exposed to physical risks such as flooding and drought. In addition to risk-avoidance strategies, other pathways from climate-related regulation to financial exclusion could unfold.

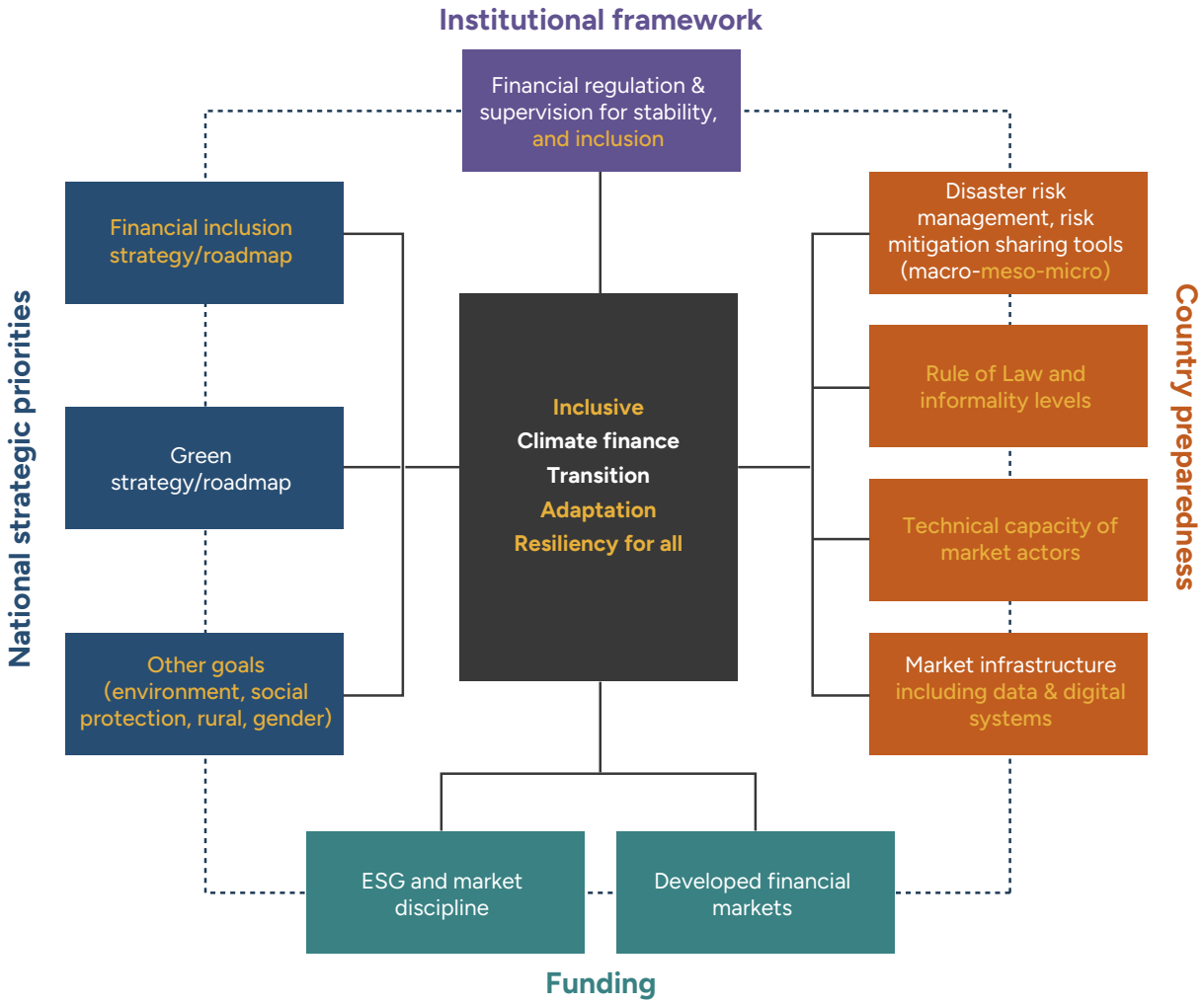
The World Bank (2024) makes an early assessment of how climate-related regulation could support financial stability and boost climate finance. Yet, the impact on financial inclusion has been less explored. Climate-related regulation could affect the ability or the incentives of FSPs to serve riskier, less profitable, vulnerable customers, potentially reducing inclusive climate finance or inclusive finance more broadly. Despite the limited experience so far with this type of regulation, there is emerging evidence that it could exacerbate financial exclusion in EMDEs. The regulatory reforms in EMDEs are often shaped by international developments, including those in advanced economies like the European Union (EU), which may not fully align with EMDEs' needs. For instance, while advanced economies like the EU prioritize climate mitigation, such as reducing GHG emissions, most EMDEs must prioritize adaptation and resilience due to their high vulnerability to physical risks relatively low emissions (World Bank 2024).

The link between climate-related regulation and financial exclusion may not be immediately apparent for FSAs. However, recognizing that the most vulnerable groups in EMDEs – in particular women in low-income countries (Notta and Zetterli 2023) – are disproportionately affected by climate risks, a legitimate question arises: Will climate-related regulation also disproportionately affect them?

Addressing the challenges of climate change in EMDEs requires a holistic approach (Figure 2) that enables inclusive finance –including inclusive climate finance for adaptation, resilience and a just transition– with a focus on the priorities and unique conditions of vulnerable groups in EMDEs (reflected in orange colored text in the figure). The financial exclusion risk

2 EMDEs are at different stages of development in this area, as per the SBFN Data Portal, accessed on July 10, 2024.

FIGURE 2. **Holistic approach to create an enabling environment for inclusive finance in EMDEs**



Source: Authors

from the introduction of climate-related regulation in EMDEs may differ significantly from those in advanced economies due to broader contextual weaknesses, such as inadequate implementation of environmental laws, insufficient financial infrastructure, challenging business environments, and limited technical capacity. Incorporating a financial inclusion lens into regulatory responses to climate change is crucial for EMDEs to avoid creating a vicious cycle of exclusion, climate vulnerability, and financial instability. Financial exclusion risks must be addressed, and this entails considering the key aspects of the institutional framework, country preparedness, funding, national strategic priorities, and the synergies between financial stability, financial inclusion, and climate goals. All the factors boosting or hindering the country's readiness to enhance climate finance should be considered, recognizing that climate-related regulation is just one aspect of the enabling environment.

With the intent to contribute to holistic responses in EMDEs, this paper identifies pathways through which climate-related regulation could impact financial inclusion, with a focus on the provision of credit to vulnerable groups. The focus on credit is due to its prominence as the main form of financing available to these groups in EMDEs, and because a good portion

of the regulatory action in EMDEs has been directed towards lending activities.

Our analysis examines how the introduction of climate-related regulation can change the incentives or the ability of lenders to serve segments such as Micro, Small and Medium Enterprise (MSMEs), low-income households and smallholder farmers in EMDEs. Our analysis is informed by a desk-based review of the literature, of regulation in EMDEs and in the EU, and of international standards and guidance, in addition to in-depth analyses of climate-related regulation in Bangladesh, Brazil and Colombia.

This paper describes the current regulatory developments internationally, in the EU and in EMDEs, followed by an analysis of the pathways via which climate-related regulation could lead to financial exclusion in EMDEs. It also provides recommendations to minimize the exclusion risk. The last section presents suggestions for further research.

The Evolving Regulatory Landscape

WITH THE CREATION OF THE G20-SFWG in 2021, a wave of international and national initiatives followed.[3] Climate change is an area of ongoing development within financial regulation worldwide, particularly in EMDEs, but initiatives of Standard Setting Bodies (SSBs) and other international organizations, as well as regulatory reforms in the EU, are already influencing climate-related regulation in EMDEs.[4]

International response

SSBs relevant to credit markets, the focus of this paper, include the FSB, the Basel Committee on Banking Supervision (BCBS), and the International Sustainability Standards Board (ISSB).[5]

Since 2021, the FSB has been coordinating the SSBs' work on CRFR, helping to ensure a cogent response that underpins financial stability. Besides its 2021 climate roadmap, the FSB has published analyses on system-wide and cross-sector implications of climate risk and issued specific recommendations for FSAs (FSB 2022). These include, inter alia, moving towards standardized regulatory reporting of CRFR; accounting for interdependencies between physical and transition risks, geographical and sectoral risks, and system-wide aspects such as indirect exposures; expanding macro analyses beyond credit and market risks; and aligning the definition of CRFR to global standards. More recently, the FSB published a stock take on regulatory and supervisory approaches to nature-related risks (FSB 2024).

With particular importance to credit provision, BCBS sets minimum standards in the banking sector and identifies CRFR as an integral element of bank risk management and supervisory evaluation, having issued in 2022 the Principles for Effective Management and Supervision of CRFR (CRFR principles). Furthermore, in 2024 the BCBS updated its Core Principles for Effective Banking Supervision (Core Principles) to, among other changes, make explicit reference to CRFR (BCBS 2024).[6] The updated Core Principles have been endorsed by 90 jurisdictions (BCBS members and non-members), and will likely be gradually adopted by most EMDEs. One reason being that the Core Principles are used in external assessments such as the joint IMF-World Bank Financial Sector Assessment

3 Mark Carney's 2015 seminal speech (Carney 2015) can also be considered a major influence for the regulatory reforms that were to come.

4 For instance, D'Orazio and Popoyan (2023) found a positive statistically significant relationship between adopting climate-related regulation and being a member of platforms such as the SBFN). SBFN's 2024 Global Progress Report highlights that 28 out of 66 countries refer to international standards in their climate-related regulation.

5 Other markets are also key for inclusive finance and have their own SSBs. Insurance, for instance, is fundamental to helping vulnerable groups increase climate resilience and adapt to climate change effects, but it is outside the scope of this report. The International Association of Insurance Supervisors (IAIS) is undergoing consultations to issue guidance for supervision of climate risk and targeted changes to the Insurance Core Principles.

6 The BCBS started working on CRFR in 2020 with the establishment of a high-level Task Force on Climate-Related Financial Risks, which culminated in the recent update of the Core Principles.

Program (FSAP) and the assessors may recommend FSAs to enhance CRFR regulation and supervision in line with the updated standards.[7] Importantly, the BCBS calls for proportionality in implementing these standards.

In 2023 the ISSB published the two sustainability reporting standards, International Financial Reporting Standards (IFRS) S1, outlining general sustainability disclosure requirements, and IFRS S2, focusing on climate-related disclosures.[8] More than 20 jurisdictions have already adopted or are taking steps to adopt these standards (IFRS 2024). The ISSB is now working on standards for disclosure of climate transition plans and emissions (Green Central Banking 2024). These standards ought to have a positive impact on climate finance but could also create new cost and capacity challenges for FSPs.

Several other international organizations play an important role by supporting FSAs in EMDEs in the design and implementation of regulatory reforms via peer exchange, technical assistance, capacity building and knowledge products. Perhaps the most influential of such bodies has been the NGFS, a peer exchange platform comprised of over 100 central banks and financial supervisors, created in 2017 to identify best practices related to climate and environmental risks in the financial sector. Other important players include the WBG, the IMF, SBFN, and OECD. A list of the most relevant organizations is found in Annex 4.

The EU

The EU's encompassing reforms to embed ESG risks into the financial sector regulatory and supervisory framework have been highly influential in EMDEs. One of the most relevant is the EU taxonomy, which has become a global reference. The EU taxonomy guides investment decisions in the EU and by EU-based players, including when investing abroad. See a primer on taxonomies in Box 2.

Also, EU FSAs have issued new reporting requirements, and various supervisory expectations and guidance. Examples include the introduction of climate-related and environmental risk management obligations for FSPs. FSPs are required to consider climate-related and environmental risks in their classification and collateral valuation, and there are specific requirements for credit underwriting and portfolio monitoring. Additionally, EU FSAs have discussed but not adopted adjustments to capital requirements to account for climate-related and environmental risks. Finally, the European Central Bank (ECB) has been applying capital surcharges since 2022 and warned that it will impose daily fines on FSPs that fail to meet supervisory expectations related to climate and environmental risks across their portfolios (ECB 2024a).

The EMDEs

Climate-related regulation and supervision in EMDEs are at various stages of development, but the trend is clearly towards more complete and mandatory regulatory frameworks covering climate and environmental risks. SBFN's 2024 Global Progress Brief (SBFN 2024) identifies regulatory and supervisory developments across numerous EMDEs, such as Bangladesh, Brazil, China, Colombia, Georgia, Mexico, and the Philippines. Overall, significant action is concentrated in middle-income countries (World Bank 2024), but a total of 26 out of 66 countries reporting to SBFN having introduced regulation dealing with climate risk management.[9] Twelve have undertaken assessments to identify systemic ESG risks in key lending portfolios (SBFN 2024).

7 Adrian et al (2022) describe the approaches to analyze climate risks in FSAPs.

8 The ISSB was created in 2021 to push for standardization of sustainability reporting, continuing and building on the work of the now extinct Taskforce on Climate-related Financial Disclosures (TCFD).

9 Of these, only 16 cover nonbank sectors.

No single EMDE seems to have implemented the full range of climate-related regulation listed in Table 1. The most common regulations in place are general risk management requirements and prudential disclosures. Among these, the approach has been to incorporate climate and other environmental risks into the existing risk management framework. Nine countries (out of 66) have integrated nature-related financial risks into regulation addressing climate and other environmental risks, and 11 have issued requirements related to transition plans.[10]

A notable development is the growing number, among EMDEs, of green or sustainable finance taxonomies, as part of their efforts to boost climate finance. These remain largely voluntary. According to the World Bank (2024), taxonomies exist in 10 percent of EMDEs (SBFN 2024 reports 13-member countries with taxonomies, while another 11 are developing these), and less than 20 percent of these have been incorporated into financial regulation (as opposed to 95 percent in advanced economies). Among the 11 SBFN members countries that have a taxonomy, eight refer in some way to the EU taxonomy (SBFN 2024) and two (Colombia and South Africa) have expressly used the EU taxonomy as a model. Most taxonomies lean towards a focus on mitigation objectives, despite the urgent need for adaptation and increased resilience in EMDEs. Due to the critical role taxonomies play in climate finance and in the analyses included in this paper, it is crucial to understand what they are and how they work (see Box 2).

These taxonomies can be adopted at the national level for example by a law; restricted to the financial sector such as via financial regulation; or limited to certain market participants (e.g. the Climate Bond Initiative). Their implementation by corporations and FSPs can be voluntary or mandatory, as in the case of national and financial sector taxonomies. Moreover, national taxonomies could impose disclosure requirements on real sector enterprises in addition to FSPs. In several jurisdictions, such as the EU, China, Bangladesh, and Colombia, taxonomies are mandatory for FSPs.

When green or sustainable finance taxonomies are incorporated into financial regulation, they do not direct lending or investment but restrict the use of the terms "green" and/or "sustainable". That is, only taxonomy-aligned investments, including loans, can be reported as green/sustainable. Alignment with the taxonomy can also be used as a condition for FSPs to access climate finance flows and/or support such as central bank TROs or credit guarantee schemes (Carvajal and Didier Brandão 2024). When a taxonomy is introduced into financial regulation, loans and investments disclosed as green may suffer a sudden reduction. Also, in countries like Bangladesh, the FSAs set minimum targets for taxonomy-aligned lending. Therefore, these frameworks are highly relevant for our analysis, because they may change FSP incentives or ability to serve certain segments (see Pathway 1), increase costs for FSPs (see Pathway 2), or impact their access to funds (see Pathway 3).

10 Transition plans detail objectives, steps to be taken, and frameworks for accountability to ensure that FSP operations are consistent with a sustainable trajectory. According to NGFS (2023), credible transition plans can communicate the actions a corporate intends to take to achieve its transition strategy and, for financial regulators, it can minimize the risk of greenwashing, including enabling microprudential supervisors to place reliance on the information and the implications for the financial risks that an FSP faces.

BOX 2. **What are green or sustainable finance taxonomies and how do they work?**

Green or sustainable finance taxonomies are classification systems for identifying economic activities or assets that support the achievement of specific sustainability objectives. Such objectives are aligned with high-level policy goals established in international agreements and national strategies. These taxonomies predominantly cover environmental objectives such as climate change mitigation and climate change adaptation but can also include social objectives. These frameworks provide clarity for investors and other stakeholders about the sustainability benefits of a given asset, assisting their decision-making (BIS 2021) while minimizing the risks of greenwashing. However, because these taxonomies reflect the specific context of each jurisdiction, their cross-border applicability is limited. This could create costs and complexity for cross-border investments, which are crucial for achieving EMDE sustainability objectives.

Green or sustainable finance taxonomies use assessment criteria to determine whether an asset can be classified as sustainable, i.e. taxonomy-aligned. Assessment criteria are used by all taxonomies, but they range from complex systems containing metrics and thresholds (e.g. the technical screening criteria of the EU taxonomy) plus additional criteria, like other Do No Significant Harm objectives, to simpler versions guided by high-level principles or identification of a list of activities (e.g. Bangladesh Bank's taxonomy). Depending on the level of complexity, these criteria can be difficult or too costly to implement for small-size investments, and by less sophisticated stakeholders such as MSMEs and low-income borrowers.

Crucially, assessing the sustainability of investments requires measuring the achievement of the stated sustainability objectives. In turn, and because climate change mitigation objectives are easier to quantify (e.g. measuring GHG emissions) compared to climate change adaptation (e.g. measuring longer-term effects), most green or sustainable finance taxonomies have leaned towards a focus on mitigation objectives, including in EMDEs where the need for adaptation and increased resilience are urgent.

These taxonomies can be adopted at the national level for example by a law; restricted to the financial sector such as via financial regulation; or limited to certain market participants (e.g. the Climate Bond Initiative). Their implementation by corporations and FSPs can be voluntary or mandatory, as in the case of national and financial sector taxonomies. Moreover, national taxonomies could impose disclosure requirements on real sector enterprises in addition to FSPs. In several jurisdictions, such as the EU, China, Bangladesh, and Colombia, taxonomies are mandatory for FSPs.

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Pathways of Financial Exclusion

Scope of analysis and methodology

WE ANALYZE THE POTENTIAL IMPACT of climate-related regulation (as defined in Box 1 and detailed in the table below) on FSPs in EMDEs, with a focus on the provision of credit to vulnerable groups. The focus on credit is due to its prominence as the main form of financing available to these segments, and because a good portion of the regulatory action in EMDEs has been directed toward lending activities.

The analysis is strictly limited to the potential exclusionary impacts arising from the introduction of climate-related regulation. It does not extend to evaluating their effectiveness in achieving their intended objectives related to safety and soundness, financial stability, transparency, market discipline, or the mobilization of climate finance.[11]

Our methodology comprised the following key steps:

1. **Desk review:** We conducted an extensive desk review of existing regulation in the EU and EMDEs. This also included a review of global initiatives and an analysis of research papers that presented typologies of climate-related regulation.
2. **Development of a typology of climate-related regulation**: Building on the insights from the desk review, we developed a unique typology of climate-related regulation (see Box 1), specifically focusing on those that impact lending activities.
3. **Analysis of impact pathways:** for each type of climate-related regulation of our typology, we analyzed and described the potential financial exclusion impact pathways (see detailed analysis in Annex 3). As noted earlier, although most EMDEs do not yet have mandatory regulation covering the entire typology, we include all types in our analysis, as the fluidity of ongoing reforms could swiftly change the framework in EMDEs. For instance, financial exclusion could result from capital-related measures eventually adopted in EMDEs.[12] Also, the calls for improving climate data for supervisory purposes (FSB 2022 and BCBS 2023) will probably lead EMDEs to introduce reporting requirements that are included in our typology. In this vein, our analysis is forward-looking.
4. **Field research:** To validate and enrich our findings, we undertook three country visits – Bangladesh, Brazil, and Colombia – between February and July 2024 and during which we interviewed officials from sustainability, financial inclusion, and prudential supervision departments of FSAs and representatives from FSPs such as sustainability,

11 For such discussions see, for instance, World Bank (2024), Fan and Gao (2024), Demekas and Grippa (2021), Goel et al (2022), Dikau and Vols (2021)

12 The Central Bank of Kenya, for instance, has announced that it may impose additional capital requirements to account for climate risks at banks (Lee Katy 2024).

compliance, and lending operations specialists. These interviews provided critical insights into the practical implications of the regulation on FSPs' lending practices. In Brazil and Bangladesh, we also engaged local vendors[13] who collected additional insights and relevant data.

This methodology ensured a robust analysis, combining the conceptual framework with data analysis (in the case of Brazil) to offer a comprehensive understanding of the pathways through which climate-related regulation may affect FSPs' lending practices.

Types of impact pathways

Impact pathways are defined as the avenues through which climate-related regulation (defined in Box 1) may alter the capacity and/or incentives of FSPs in EMDEs to lend to vulnerable groups: MSMEs, smallholder farmers, and low-income segments, especially those that are particularly vulnerable to climate risks such as women in low-income countries (Notta and Zetterli 2023). These pathways consider potential exclusion from all types of finance, although inclusive climate finance may be particularly affected.

TABLE 1. **Typology of climate-related regulation analyzed in this paper**

Climate-related financial regulation	Main objectives of the regulation and examples of jurisdictions with such regulation
Requirements to address risks	
Broad risk management obligations • Introduction of climate and other environmental risks into business models, strategy and risk management frameworks. • Governance requirements (e.g. obligation to assign explicit responsibilities for such risks at the Board and throughout the FSP).	• Ensure FSPs understand and assess the potential impacts of climate and other environmental risks on their businesses and on the market in which they operate. Ensure FSPs adequately manage the financial risks stemming from climate and other environmental factors i.e. the impact of these on traditional financial risks, such as operational, credit and liquidity risk over different time horizons. Ensure accountability for the management and disclosure of these risks. • Examples: Bangladesh, Brazil, China, El Salvador, EU, Ghana, Nepal, Pakistan, Paraguay.
Credit underwriting and credit portfolio management requirements Climate and other environmental risks assessment on borrowers, including due diligence procedures, exclusion lists, portfolio monitoring requirements in relation to these risks.	• Ensure a minimum level of standardization in: (i) the approval of green/sustainable credit operations; (ii) the inclusion of climate and other environmental risk in credit portfolio management. • Examples: Bangladesh, Brazil, EU, Honduras, Morocco, Nepal, Paraguay, Pakistan, Peru, Vietnam.
Credit risk ratios • Differentiated loan provisioning. • Caps to maximum exposure to certain sectors, geographies or customers.	Ensure FSPs assess and manage the risks posed by concentrations of exposures (including collateral) to counterparties, industries, economic sectors, or geographic regions which may present a higher degree of vulnerability to climate and other environmental risks.

13 Agroícone in Brazil and Pi Strategy in Bangladesh.

TABLE 1. **Typology of climate-related regulation analyzed in this paper** (continued)

Climate-related financial regulation	Main objectives of the regulation and examples of jurisdictions with such regulation
Differentiated capital requirements • **Pillar 1:** Risk weight asset (RWA) adjustments via Green Supporting Factor (GSF) and/or Brown Penalizing Factor (BPF). BPF may be also be referred to as "cap dirty" or "capital requirements for dirty exposures" (FSI 2023). • **Pillar 2:** Insertion of climate and other environmental risk into internal capital adequacy assessment process (ICAAP) or capital surcharges based on supervisory findings (e.g. poor climate and other environmental risk management).	• Ensure capital adequacy properly accounts for climate and other environmental risks. • Promote green lending via capital charges/releases. • Set aside a cushion for climate shocks unaddressed by capital adequacy. • Examples: Brazil (Internal Capital Adequacy Assessment Process (ICAAP), simplified ICAAP), EU (ICAAP), Hungary (Green Supporting Factor (GSF) applied to Pillar 2 requirements).
Stress testing and scenario analysis • Requirement for FSPs to conduct climate stress testing using various climate scenarios, for purposes of adjusting their capital and other tools to mitigate climate and other environmental risks, as part of pillar 2 supervisory review process. • Stress tests by the FSA for macroprudential supervision purposes.	• Ensure that FSPs prepare themselves for climate scenarios and understand and manage the impact on their risk profile and mitigation tools. • Understand how systemic risk changes in different climate scenarios. • Examples: Colombia, EU, Morocco.
Transition plans • Requirement for FSPs to have and publicize transition plans. • Supervisory assessment and monitoring of transition plans.	• Transition plans detail objectives, steps to be taken, and frameworks for accountability to ensure that FSP operations are consistent with a sustainable trajectory. The aim is to ensure transparency on FSP plans to transition away from carbon-intensive activities and address risks stemming from the economy's transition towards a green economy. According to NGFS (2023), transition plans can also minimize the risk of greenwashing. • Examples: EU, Philippines, Brazil (under consultation).
Requirements to address risks	
Macroprudential capital-based and borrower-based measures (BBM) • Systemic risk buffer (SyRB). • Sectoral SyRB. • Adjustments to capital adequacy requirement (e.g. by sector, activity, etc.) • Debt-to-income ratio for green loans. • Loan-to-value (LTV) ratio, e.g. for green mortgages. • Maturity limits (loan term limits).	• Set aside buffers for systemic risk not covered by individual FSP capital adequacy levels, ensure management at systemic level of concentration risks related to climate and other environmental risks, prevent buildup of risks by ensuring that climate and other environmental risks are incorporated in the evaluation of borrower's solvency and collateral value. • Examples: Indonesia and the Netherlands (LTV increased for green mortgages), EU (exploring several measures).

TABLE 1. **Typology of climate-related regulation analyzed in this paper** (continued)

Climate-related financial regulation	Main objectives of the regulation and examples of jurisdictions with such regulation
Disclosure requirements	
Prudential disclosure (Pillar 3) -Qualitative and quantitative climate and other environmental risk metrics, covering, inter alia, transition risk, physical risk, portfolio decarbonization, and mobilization of transition finance. For comprehensive analysis of prudential disclosure metrics for CRFR, see BCBS (2023) and FSB (2022).	• Ensure transparency of climate and other environmental risks management practices and risk appetite by FSPs to support supervisory oversight. • Examples: Brazil (under consultation), EU.
Sustainability reporting standards -IFRS S1 and S2 or equivalent regulation.	• Ensure alignment of sustainability-related financial public disclosures, including climate and other environmental risks, to promote climate finance, enhance market discipline and enable monitoring of progress towards climate finance goals, by increasing comparability of disclosures and accountability of enterprises, including FSPs, and improve data from the real sector for use by FSPs. • Examples: Several countries are in the process of implementing the IFRS S1 and S2 standards or equivalent regulation, including Bangladesh, Colombia (pending regulatory validation), EU (Corporate Sustainability Reporting Directive – CSRD), Malaysia, Brazil (under consultation).
Taxonomy-alignment disclosures	• Require for FSPs to disclose the extent to which their assets are aligned with environmentally sustainable activities, as defined in a specific taxonomy for green/sustainable activities. • Examples: EU (Green Asset Ratio), Colombia (green activities disclosed to be aligned with the TVC).
Green or sustainable finance taxonomies and product standards	
Green or sustainable finance taxonomies (both taxonomies developed domestically, and taxonomies developed in other jurisdictions, when they can impact EMDEs).	• Provide a common classification system for the identification of green or sustainable activities or investments, aligned with a jurisdiction's climate objectives (see details in Box 2)- • Examples: Bangladesh, Brazil (draft), Colombia, Georgia, Ghana, EU, Indonesia, Kazakhstan, Kenya (draft), Malaysia, South Africa, Sri Lanka.
Green or sustainable finance taxonomies and product standards	
Standards for green/sustainable products	• Provide standardized definitions for green or sustainable financial products (e.g. green loans), for purposes of applying differentiated treatment under prudential rules (e.g. be subject to or exempted from specific requirements), benefitting from policy tools (e.g. credit guarantees), or counting towards minimum lending targets that may exist in a jurisdiction. • Examples: Bangladesh, China, EU (exploring green mortgages), Vietnam.

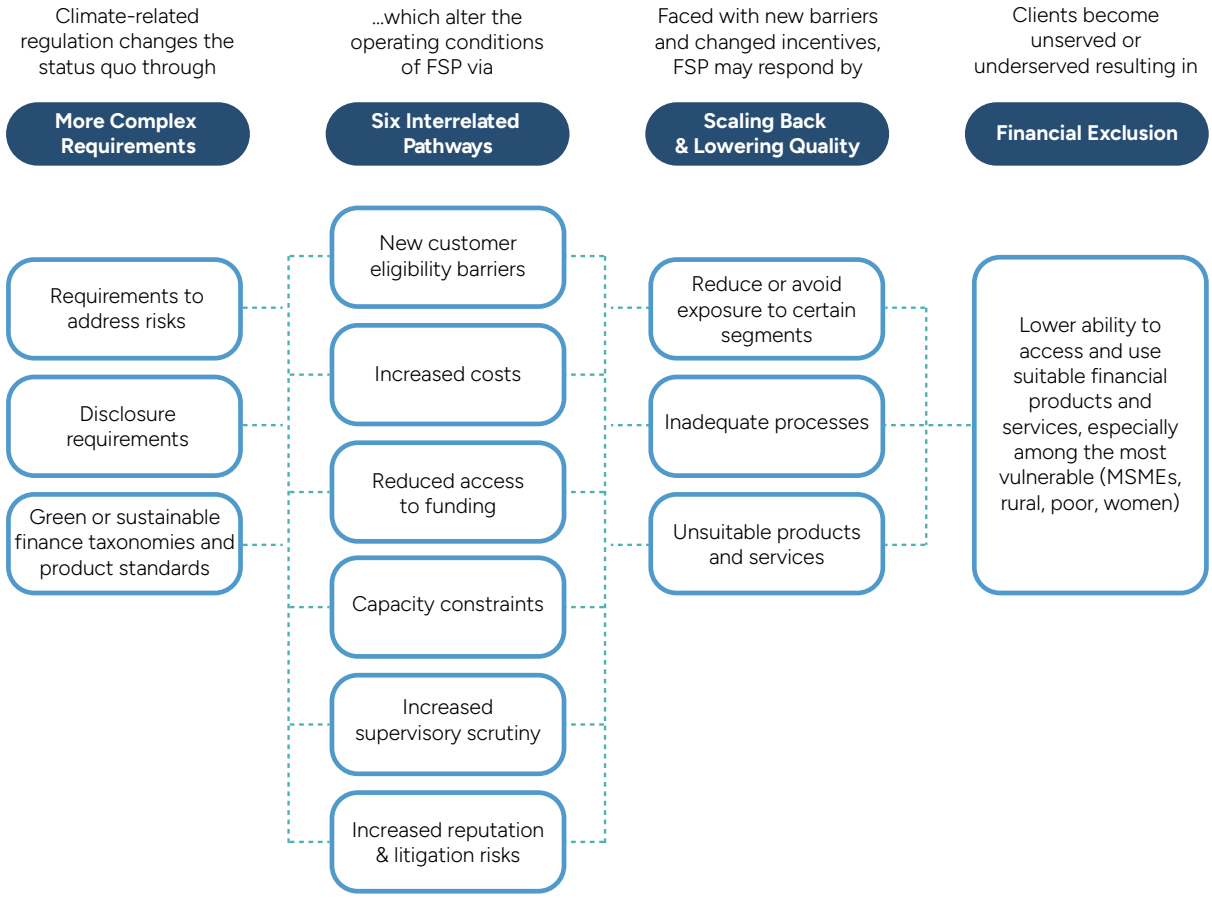
We pay due attention to aspects of the broader context of EMDEs that may impact regulatory implementation, and hence, exacerbate potential exclusionary effects. These include the enforcement of environmental laws, and key financial (e.g. credit data) and non-financial infrastructure such as data on rural properties and public lands, environmental data such as deforestation and land use patterns, and business licensing.

We have identified six pathways:

- Pathway 1: New customer eligibility barriers
- Pathway 2: Increased cost
- Pathway 3: Reduced access to funding
- Pathway 4: Capacity constraints
- Pathway 5: Increased supervisory scrutiny, and
- Pathway 6: Increased reputation and litigation risk

As shown in Figure 3, climate-related regulation introduces new, complex requirements for FSPs, which impact FSPs via one or more the six pathways. In response to these, FSPs may reduce exposure to certain segments or avoid them altogether, adopt new or keep existing processes that are inadequate, adjust their products without meeting the needs of vulnerable segments, or use a combination of these strategies. As a consequence, customers can be negatively impacted, including vulnerable groups in EMDEs, who may already be underserved. Women could be particularly affected, not only due to the differential impact of climate change on them (Notta and Zetterli 2023), but also due to their lower capacity to meet requirements to access financial products and services, such as lower income or lack of documentation.

FIGURE 3. **Pathways from climate-related regulation to financial exclusion**



Source: Authors

The pathways are not alternative, independent transmission channels, but often interrelated and mutually reinforcing. For instance, new regulatory requirements on client eligibility for lending operations – some of which could lead to exclusion – could increase costs for FSPs, which could lead them to impose new eligibility criteria, to ensure profitability. Funding restrictions can directly lead to reduced exposure to some markets, or indirectly, such as via increased costs. The purpose of presenting the six pathways separately is to highlight and illustrate the various ways climate-related financial regulation could contribute to financial exclusion, helping FSAs to identify the exclusion risks in their own context. This is particularly important considering that exclusion risks may be difficult for FSAs to detect and there is limited empirical evidence to date. Our intent is to help FSAs design the combination of regulatory, supervisory, and non-regulatory measures that could help counter exclusion.

Each regulation can directly impact specific types of credit products or clients (e.g. rural), whereas others will indirectly impact credit and be non-specific. For example, credit underwriting requirements tend to be specific for types of products or client segments and, hence, may have a direct and specific impact on these. In turn, capital-based regulation will have indirect impacts and, when it does not address a type of client or product, these impacts will be non-specific, affecting lending in general. Each climate-related regulation (see Table 1) could have exclusionary effects via one or more pathways (see analysis in Annex 3).

Regardless, the emerging regulatory framework can have disparate effects on vulnerable segments, which ought to be more pronounced in EMDEs due to pre-existing broader context issues that become more relevant with the introduction of these regulations. An example is poor data on small rural properties: while this shortcoming predates the regulation under discussion, the introduction of broad climate and other environmental risk management obligations makes it more relevant for financial inclusion. This is because FSPs may have been willing to lend to smallholder farmers lacking such data, would now see this data as indispensable. Smallholder farmers, which are severely underserved by the financial sector in EMDEs, could be further marginalized. Finally, some types of regulation such as requirements on transition plans may not only impact segments that are climate-exposed today, but also reduce the ability or willingness of FSPs to finance their transition, as highlighted in our interviews and noted by World Bank (2024).

PATHWAY 1: NEW CUSTOMER ELIGIBILITY BARRIERS

Credit underwriting and portfolio management rules such as those requiring FSPs to conduct climate and/or environmental due diligence may prevent or discourage them from serving certain segments, sectors or geographies. These requirements can disproportionately exclude vulnerable groups who are not able to fulfill information requests. The risk is higher in EMDEs, where broader systemic weaknesses compound the issue. For instance, it is often difficult, expensive or time-consuming for borrowers to produce green certification, or even business licenses and property certification, in contexts where informal enterprises and smallholder farmers are the majority. They also face additional challenges such as low literacy, limited connectivity, and scarce resources. Women-led businesses are particularly vulnerable to exclusion, as they tend to be smaller, more informal, and have fewer available funds to meet additional requirements.

The disconnect between credit underwriting requirements with the broader country context (see Box 3 for examples) exacerbates the risk of financial exclusion. It is important to note that although small transactions or vulnerable customer segments may be exempted from these additional requirements in some EMDEs, they might still be subject to screening by FSPs regardless because FSPs need to comply with environmental laws. In fact, some interviewed FSPs already apply requirements stricter than the regulation, for reasons such as to reduce litigation risk (see Pathway 6); avoid and greater supervisory scrutiny (see Pathway 5) and lack of adequate risk management capacity (see Pathway 4). Although none of the FSPs

BOX 3. **Illustrating customer eligibility barriers created by credit underwriting requirements**

In Brazil, the introduction in the rural credit regulation of a requirement for all rural credit clients to produce an Environmental Rural Certification (locally known as CAR), has contributed to a reduction in the number of family farmers accessing subsidized credit via the national rural credit policy. CAR is a requirement for all rural properties, according to environmental law, but it was not fully enforced by financial regulation until 2019. Access to subsidized credit was already very low, with only 15 percent of family farmers having a loan, but this fell further by 48%, from 263.8 thousand in 2019/2020 to 137.6 thousand in 2023/2024. The fall was especially acute in regions where the most vulnerable subsistence farmers are located. To obtain a CAR (which is done over the internet), vulnerable family farmers face challenges ranging from not being able to read, not understanding what is being asked in the CAR, or not having equipment or connectivity. Most other reasons for the significant reduction in the number of vulnerable borrowers relate to eligibility requirements (e.g. guarantees), some of which are set by regulations for some types of loans, and some are imposed by FSPs themselves, as they consider these loans a higher risk. See Brazil country case in Annex 1.

In Colombia, FSPs need to ensure that borrowers comply with environmental laws. For instance, financing activities within protected lands may increase an FSP's litigation risk due to infringement of environmental law. To verify whether a rural property overlays with protected lands, FSPs use the database managed by the environmental agency, but this database does not have enough granularity to allow the identification of very small properties (which are the majority of the rural properties in Colombia). The problem is compounded with the difficulty for some smallholders to prove property ownership, which is due to weaknesses in land registries. As a result, FSPs are discouraged from lending to these properties. See Colombia country case in Annex 1.

In Bangladesh, regulations impose additional requirements if the borrower gets a poor evaluation of environmental and social risks in the first screening. This discourages FSPs from accepting the credit request in the first place. Banks must request and monitor the implementation of an action plan for borrowers to fix the weaknesses that led to the first score (e.g. improve working conditions in a factory). Also, the regulation requires entrepreneurs of a certain size to have green certification to access credit labeled as green, and a business license is needed to obtain a certification. However, most enterprises in Bangladesh are informal and face significant hurdles to obtain business licenses.

we interviewed reported having adjusted corporate strategies yet, such as by increasing minimum loan size and de-risking from certain segments, activities, or geographies, they all expressed concerns about the risk of exclusion via new customer eligibility barriers.

When credit underwriting and portfolio management requirements are too detailed (e.g. checklists and scoring systems), they leave little room for FSPs to adjust screening, risk rating, and product design to the varying realities of vulnerable groups and to individual customers. Moreover, in emerging scoring models to support the management of climate and other environmental risks, certain economic activities or regions may be automatically rated as high-risk without consideration of other borrower characteristics and the local context.

Credit underwriting and portfolio management rules may also require FSPs to use exclusion lists and climate databases to protect public lands and avoid the financing of borrowers involved in violations of environmental and other laws. While these checks are legitimate and could protect vulnerable communities, FSPs may face challenges with the availability and accuracy of external databases. Finally, when standards for green or sustainable products are too restrictive (e.g. defining loan terms, target segment, delivery

channel, and interest rates), they could preclude FSPs from designing suitable products and services. This risk is higher when FSPs need to comply with strict policies to promote sustainable finance, such as minimum lending targets, as is the case in Bangladesh.

Regulatory measures such as credit underwriting and portfolio management requirements have a direct impact on customer eligibility, but other measures, especially green or sustainable finance taxonomies, are highly relevant as well. Our interviews indicate that these taxonomies (see Box 2 for details) can change incentives and potentially shift lending away from some activities and customers. In EMDEs, high levels of informality, weak institutional frameworks, and poor data can make it costly or difficult for FSPs to demonstrate that a loan is green or sustainable according to a taxonomy, especially when its assessment criteria are not finely adjusted to the country's reality, including its data infrastructure. Hence, a loan granted to fund activities that could contribute to adaptation or resilience goals of vulnerable groups, such as converting a plantation crop to a drought-resistant cereal variety, may not be considered green. Consequently, FSPs may shift away from these activities.

There is emerging evidence of the above effects. In Bangladesh, FSPs steered their green lending to activities that unequivocally fit Bangladesh Bank's sustainable finance taxonomy, mostly benefiting existing, large customers. In Colombia, despite the efforts of the financial regulator to encourage FSPs to increase lending to the activities included in the taxonomy, FSPs struggle to find suitable business cases, partly because the taxonomy has a focus on mitigation activities that are not always aligned with the adaptation and resilience needs of many borrowers.[14]

The current assessment criteria in the taxonomy require actions such as ensuring environmental compliance and require a minimum level of technical expertise, both of which cannot be met by most MSMEs.

Likewise, transition planning requirements could also exacerbate the exclusion risks when not well-adjusted to the EMDE context. Although transition plans could benefit both FSPs and FSAs by outlining how FSPs will transition their business models, operations and processes, and manage the transition risks, they could trigger exclusion when not considering the unique challenges faced by vulnerable groups. This risk increases when FSPs are pressured or mandated to align transition plans with the climate and/or environmental policy goals of their jurisdictions,[15] particularly when these goals do not cater to the needs of vulnerable populations. FSPs may require borrowers to demonstrate contributions to climate goals, discouraging lending to those who cannot meet or afford complex information requirements or whose metrics don't align with taxonomy indicators.

MSMEs or low-income individuals may also be impacted indirectly by new customer eligibility barriers that don't apply to them. They may lose income when the borrowing conditions of a large player in their value chain deteriorate. This is an important issue for value chains related to activities that do not align with green or sustainable finance taxonomies, which in EMDEs, may include a large group of vulnerable communities. An example is the meat industry in Brazil, which is being impacted by the increasing pressure for FSPs to use simplistic indicators to determine whether they can be considered sustainable, such as methane gas emissions from cattle, which have been designed to fit the priorities of advanced economies. Such pressure is not due to climate-related regulation in Brazil, but to the

14 The adaptation objective has been integrated into the TVC (Colombian Green Taxonomy or TVC, in its Spanish acronym) as one of five mutually dependent sustainability objectives, not alone, in relation to the soil and land-use sectors such as agriculture, forestry, and livestock. These sectors contribute approximately 59 percent of Colombia's GHG emissions, as noted in the TVC.

15 In the EU FSPs must develop and monitor the transition plans that include measurable targets to address the financial risks arising from ESG factors, including transition trends in the EU, particularly the goal of climate neutrality.

application of indicators used in the EU for purposes of implementing the EU taxonomy (see Pathway 3).[16]

PATHWAY 2: INCREASED COSTS

Certain climate-related regulatory requirements will increase operating and regulatory costs, including costs associated with:

- Adjusting the governance and/or organizational structure (e.g. creating new units for management of climate and other environmental risks).
- Acquiring new systems or making adjustments to comply with new reporting and disclosure requirements (including new indicators), risk management obligations (including modelling and scoring), and scenario analyses.
- Collecting and aggregating new data.
- Developing and implementing taxonomy-aligned products.
- Hiring experts and external auditors specialized in climate and other environmental risks.
- Increasing regulatory capital.

In addition, costs can also be specific to lending transactions, including the extra time needed to implement environmental due diligence questionnaires; the process of verifying the information provided by customers; paying for third-party verification or setting up internal environmental due diligence processes or certification; and customer awareness procedures such as explaining the additional information they must provide.

Our interviews indicate that the costs of setting up internal capacity to comply with the new climate-related obligations are among the most significant and could potentially impact lending of all types, not only climate finance. Some interviewees mentioned "unfeasible costs" that could discourage them from serving riskier, smaller or costlier clients. They also mentioned time-consuming procedures to ensure compliance with environmental laws.

Costs are still evolving and are likely to increase as EMDEs continue to issue new climate-related regulation. For instance, there is a risk that current discussions in international forums result in the application of additional capital requirements for non-taxonomy-aligned operations. This could further increase costs for FSPs. While FSPs reported not having yet changed commercial strategies, including pricing policies, and loan terms and conditions, there is a credible threat that risk-adjusted returns for small transactions could lead to changes in commercial strategies, resulting in exclusion.

PATHWAY 3: REDUCED ACCESS TO FUNDING

Funding costs and sources are key in shaping FSPs' lending strategies. The emergence of green or sustainable finance taxonomies plays an increasingly crucial role (see Box 2 for an explanation on taxonomies), even when they are not immediately incorporated into financial regulation. There is growing pressure on FSPs to direct funds to activities aligned with such taxonomies whose assessment criteria are often skewed towards mitigation goals and not fully adjusted to the realities of EMDEs. For instance, in Colombia the taxonomy has been designed to primarily meet emission reduction goals, even though the country is not a major GHG emitter. Also, there is a close relationship between reduced funding and Pathway 1, as illustrated by the examples in this section.

16 A similar effect could result from disclosure requirements imposed on European corporates, most notably the Corporate Sustainable Reporting Directive (CSRD). Because the CSRD impacts value chains in which EU companies operate, large EMDE companies may end up in the scope of this regulation. One study showed that, among 734 large companies from EMDEs, 42 percent (310) fall under CSRD's scope (World Benchmarking Alliance 2024). These disclosure obligations and the costs involved could have knock-on effects on entire value chains in EMDEs, potentially leading to loss of business or reduced income among vulnerable communities.

Meeting the assessment criteria set in green or sustainable finance taxonomies (see Box 2) can be cumbersome, especially for small loans and to borrowers with lower capacity. The problem is not only the assessment criteria, but also the indicators used for measurement and reporting, which are often inadequate to capture the reality of EMDEs. When investors impose alignment with a taxonomy that is not tailored to the EMDE context, in particular its adaptation and resilience needs, FSP access to funds, and climate funds in particular, may reduce. Also, taxonomies can prompt FSPs to reallocate their portfolios (Carvajal and Didier Brandão 2024) away from vulnerable groups regardless of their level of exposure climate risks.

FSPs operating in EMDEs can be impacted even if green or sustainable finance taxonomies are only implemented in the funder's home jurisdiction or when the funder is influenced by other jurisdictions like the EU. For instance, our interviews in Brazil confirmed that multilateral organizations, even those outside the EU and not obliged to implement the EU taxonomy, are already restricting funds to activities aligned with the EU taxonomy. Also, commercial funding by banks headquartered in the EU and operating in EMDEs could also be affected, since these entities need to adhere to the EU taxonomy in all their operations, within and outside the EU.

The EU taxonomy aims to meet EU climate goals such as de-carbonizing the economy and it is not designed to be transposed to EMDEs. Still, it serves as a model for many EMDEs, like Colombia (see Box 4 and Annex 1), where, despite efforts to adjust assessment criteria and measurements metrics to the local context, FSPs still struggle to fit in climate adaptation and resilience of MSMEs and other vulnerable segments.

BOX 4. **Climate-related regulation and financial exclusion in Colombia** (Detail in Appendix 1)

Colombia is a low contributor to global GHG emissions, accounting for just 0.40 percent of the global total,[a]but it is highly vulnerable to the impacts of climate change. World Bank projections indicate that, without adequate adaptation measures, climate change could reduce Colombia's GDP by up to 2.5 percent by 2050, disproportionately affecting low-income populations.[b] Still, the country has committed to an ambitious emissions reduction target of 51 percent by 2030 and net-zero emissions by 2050. Land-use sectors including forestry and agriculture account for 59 percent of Colombia's GHG emissions, driven by deforestation for agricultural expansion and livestock activities. Hence, improving agriculture and livestock systems are crucial for Colombia's climate agenda. The financial sector plays a critical role, but vulnerable groups like rural communities and MSMEs (which represent 98 percent of Colombia's enterprises) continue to face challenges in accessing credit. There are various public support instruments to promote agricultural credit to vulnerable groups through national development banks, such as Finagro and Bancoldex. These are complemented by the Agricultural Guarantee Fund (FAG), as well as incentives for agricultural insurance and the Rural Capitalization Incentive (ICR), a non-reimbursable financial incentive for farmers and agricultural enterprises.

Climate-related regulations in Colombia include the Colombian Green Taxonomy (TVC, in its Spanish acronym), launched in 2022 and quickly incorporated into the financial regulation issued by the Financial Superintendence of Colombia (SFC). The TVC's initial focus is on climate change mitigation goals, with adaptation and resilience goals being less prominent. Adaptation is mostly tackled indirectly via the principle of "do no significant harm" in achieving the other goals, and via its codependency with the positive externalities of addressing mitigation.[c]

a EDGAR database (Emissions Database for Global Atmospheric Research, 2022).

b World Bank (2023), Colombia Country Climate and Development Report.

c Climate Bonds Initiative (2023).

BOX 4. **Climate-related regulation and financial exclusion in Colombia** (Detail in Appendix 1) (continued)

Starting in 2018, the SFC has been using research, consultation, and experimentation to develop its own climate-related regulation, following a phased and proportional approach. Markedly, starting in 2021 it has issued voluntary guidelines which are gradually being turned into mandatory instruments. Its 2022 Roadmap for Greening the Colombian Banking System has set the tone of the gradual regulatory reforms that would follow. This approach has given time for FSPs to adapt practices and avoid sudden increases in compliance costs and capacity challenges during regulatory implementation. These measures are complemented by initiatives to promote innovation, improve data availability and transparency, test regulatory and supervisory tools and build capacity in environmental and social risks in the financial sector. Also, the SFC is developing a sustainability dashboard to track progress on issues such as FSP exposure to climate risks. Currently, only regulations introducing disclosure standards are mandatory, and other instruments serve as guidance for FSPs, towards future mandatory requirements. Indeed, SFC surveys with FSPs found significant progress in the implementation of such voluntary guidance. The timeline of these regulations, as they related to credit provision is summarized below:

- In 2021, requirement for large issuers in the capital markets to follow sustainability disclosure standards (**disclosure requirements**).
- In 2022, requirement for FSPs to align with the TVC in their financial disclosures or explain any disparities in the reporting of green or sustainable operations (**disclosure requirements**).
- In 2022, non-binding guidelines for the management of environmental and social risks, including climate-related risks, and disclosure of related financial risks. These are known as the ESRM Guidelines (**broad risk management requirements and disclosure requirements**).
- In 2023, non-binding Green Taxonomy Guidelines for Credit Institutions (**disclosure requirements**).
- In 2023, consultation ahead of issuing binding ESRM requirements in 2025.
- In 2024, requirement for FSPs to integrate an adverse climate scenarios into the 2024 stress test conducted within the supervisory review framework (**stress testing requirements**).

Self-regulation standards, particularly those issued by the bank association Asobancaria, are closely observed by FSPs. Of particular relevance is the General Guidelines for the Implementation of Environmental and Social Risk Analysis and Management (SARAS, in its Spanish acronym) introduced in 2016 and updated in 2021. SARAs provides guidance for FSPs to improve management of environmental and social risks and will probably be reinforced with SFC's planned binding ESRM requirements (item (v) above).

It is early days to measure the impact of these regulations on credit, but emerging evidence points to real risks of exclusion, with the TVC playing a major role. Interviews highlight that the implementation of the TVC could have exclusionary impacts due to its focus on mitigation. FSPs are not required to finance activities aligned with the TVC but are pressured to do so by funders such as multilateral organizations. As a result, the adaptation and resilience needs of vulnerable groups, including smallholder farmers and MSMEs, are not prioritized. SFC pilots confirmed that FSPs face challenges in applying the TVC to extend credit to these segments, including:

- Lack of alignment between the current focus on adaptation and the financing needs of vulnerable segments, many of which operate on a subsistence level. For instance, the immediate needs of microfinance institution (MFI) clients are often working capital and investment to sustain or grow their businesses, which are not prioritized in the taxonomy.
- Geographical, demographic and infrastructural barriers for FSPs to access the most vulnerable productive units in rural areas to perform verification and measurement tasks required by TVC implementation.

BOX 4. **Climate-related regulation and financial exclusion in Colombia** (Detail in Appendix 1) (continued)

- Lack of knowledge, by MSMEs and FSP branch staff, about green finance. For example, MSMEs and smallholder farmers often do not view transition activities as priorities due to their more pressing financial needs.
- Capacity constraints. Verifying environmental and social eligibility conditions set in the TVC and measuring the impact of the financed activities towards adaptation goals prove very difficult and costly, even when FSPs use alternative measurement methods (proxies) approved by SFC. Building capacity within FSP branch networks and agents to perform green verification and impact measurement tasks has proven to be a significant challenge, particularly in rural and remote areas.
- Lack of borrower compliance with environmental and other laws, partly due to informality, which affects over 50 percent of all Colombian workers. Since MSMEs fail to comply with laws such as environmental laws, their eligibility for green finance under the TVC is hampered.

The EU taxonomy is being used by funders especially – but not exclusively – when channeling climate funds. One interviewee in Brazil reported that they have been compelled by investors to increase lending to wind parks, which ended up crowding out lending to MSMEs. Thus, projects that could be highly relevant for vulnerable groups may not be funded because they fail to fit the parameters of a taxonomy. Large FSPs with a diversified funding base may be able to attenuate the risk of losing access to funds, but smaller FSPs and development banks with longstanding relationships with international actors have less room to maneuver. This risk of reduced access to funding is not restricted to climate funds. International investors are gradually shifting portfolios towards green or sustainable activities, so the availability of funding not tagged as green or sustainable is likely to reduce.

Lastly, despite the need for green or sustainable finance taxonomies to be customized to the priorities and context of each jurisdiction, the proliferation of these taxonomies at the global level could increase transaction costs for international funders, which could impact FSPs in EMDEs. There is a tension between the need for these taxonomies to closely reflect the particularities of each jurisdiction and the need for some mechanism of "translation" or "interoperability" between green or sustainable finance taxonomies to keep the cross-border transaction costs of international funders at bay (see World Bank 2024). This adds another layer of pressure on EMDEs to align with the EU, which is suboptimal for inclusive finance.

Transition plans may play a similar role, as argued by NGFS (2024): FSPs that must adhere to transition plan mandates in advanced economies might hesitate to invest in FSPs engaged in areas that lack robust data or are particularly susceptible to impacts of climate change. If the scope of transition plans does not adequately reflect the unique needs of EMDEs, there could be a detrimental impact on the funding of critical activities within these regions.

PATHWAY 4: CAPACITY CONSTRAINTS

The limited technical capacity of FSPs to understand vulnerable customers and to measure and monitor complex climate risks can result in overly conservative lending practices and constrain the development of product offerings that meet customer needs (World Bank 2024). FSPs –in both advanced economies and EMDEs– are still developing management capabilities for climate and other environmental risks, and testing approaches to implementing climate-related regulations, more broadly. Many lack appropriate technology and new skills and expertise in the management of these risks. The examples below also illustrate the close relationship between client eligibility barriers (Pathway 1) and capacity constraints affecting FSPs and their customers.

Staff may also be resistant or inadequately trained to implement new procedures such as environmental due diligence or new project monitoring metrics. For example, studies in Brazil have described cases where bank staff, when considering loan applications by smallholder farmers whose proposals included a transition to sustainable farming, have rejected the proposal, partly because credit assessment criteria and portfolio monitoring procedures were not adapted to sustainable farming practices and staff had limited knowledge about such practices. Staff have also steered customers to take another loan type linked to traditional farming and compelled them to buy chemical inputs incompatible with sustainable farming. These reactions are also due to lack of understanding about the link between sustainable practices and climate, environmental and social risks that are already being managed at many FSPs in Brazil. Similar problems were highlighted in our interviews in Bangladesh, with respect to MSME finance.

To comply with portfolio management regulatory requirements, FSPs may use scoring models that set portfolio concentration limits by economic sector or geographies due to pre-determined climate risk ratings, which may lead to the exclusion of less profitable customers in those sectors or geographies (a clear link with Pathway 1). These models are more likely to be used by smaller and less sophisticated FSPs, some of which may be the main source of finance for vulnerable segments. In some cases, FSAs themselves encourage the use of simplified tools, such as in Bangladesh, where the central bank imposes the use of a checklist and a sustainability score methodology. In Brazil, there is growing use of scoring models developed by third-party vendors (including black box models that cannot be fully understood by FSPs) that use location-based risk scoring. Regions classified with higher climate risk may concentrate large contingents of low-income communities. While there are ways of mitigating risk for certain types of lending, such as credit guarantees for rural credit, it is unclear whether scoring models are adjusted to take that into consideration. Also, capacity constraints at FSPs may lead to poor implementation of transition plans, which may reduce MSME access to financing for sustainability efforts, which would intensify social inequalities, lead to job losses, and threaten economic stability (NGFS, 2024).

Lastly, climate-related data are still underdeveloped in EMDEs, which impacts the ability of FSPs to identify, measure and manage climate and other environmental risks. Interviewees in Bangladesh, Colombia, and Brazil expressed concerns related to the availability of quality data and metrics on climate risks, including data that is produced by government agencies, organizations outside the financial sector, and clients themselves. NGFS (2021) and FSB (2021 and 2022) have drawn attention to the data challenges facing FSPs and financial supervisors. In Bangladesh, FSPs have highlighted that while they must report climate-related data and align with disclosure standards, their clients in the real sector have no such obligations and hence do not produce quality data.

In Brazil, where climate data produced by government authorities is well advanced, FSPs still highlight the challenges in collecting quality data from their clients and the issues caused by the low degree of comparability of climate risk metrics currently used across the financial sector. In Colombia, poor data may lead FSPs to be conservative and exclude riskier customers (see Box 3). The inability of borrowers to produce data on climate, environmental and social risks is closely related to access to funding in the context of taxonomy implementation (see Pathway 3). MSMEs, particularly women-owned microenterprises that often present lower capacity than male-owned enterprises, may be at higher risk of exclusion, despite being already severely underserved.

PATHWAY 5: INCREASED SUPERVISORY SCRUTINY

New climate-related requirements may create uncertainty about the level and focus of supervisory scrutiny and related enforcement actions, which may lead to overcompliance. Overcompliance with new and complex regulatory requirements has been documented in other domains, such as anti-money laundering (de Koker and Symington, 2014; Jenik et al, 2024). FSPs, both large and small, may engage in overcompliance when regulation and supervision are not yet fully developed or where the consequences of non-compliance are severe. For instance, the ECB has warned it will apply daily fines on banks failing to assess the materiality of climate and environmental risks across their portfolios (ECB 2024a). The risk of overcompliance has been raised in interviews in Colombia and has been observed in Brazil (see Box 5 and Annex 1), where the introduction of a requirement for large banks to add climate risks to their internal capital adequacy assessment process (ICAAP), in 2017, resulted in divestment from big polluters, which were later absorbed by smaller banks, crowding out MSMEs

BOX 5. **Climate-related regulation and financial exclusion in Brazil** (Detail in Annex 1)

Brazil is the sixth largest global emitter of GHG[a] and emissions are predominantly from land use change and agriculture (World Bank 2023). According to IMF (2023), the effects of climate change are already impacting Brazil's economy, and World Bank (2023) estimates that extreme events have caused average annual output losses of 0.13 percent of GDP over the past 20 years. These trends can have an impact on the financial sector: around 20 percent of the total credit portfolio of the financial sector is exposed to climate-vulnerable sectors, with agriculture accounting for around 11 percent of total loans (IMF 2023).

Agriculture is central to Brazil's sustainability agenda for being both a major contributor to climate change and to economic output. It is key for climate change mitigation, adaptation and resilience. National policies promote sustainable agriculture, adaptation and resilience, including of smallholders which account for around 77 percent of rural properties in Brazil. The national rural credit policy, operated via the regulation and supervision of the Central Bank of Brazil (BCB, in its Portuguese acronym), is a key instrument for agricultural development and part to CBB's climate-related regulation. The regulation requires FSPs to allocate around 30 percent of deposit balances in rural credit, which has low interest rates thanks to government subsidies that apply inversely to the size of the financed property. In particular, the National Program to Strengthen Family Agriculture (Pronaf) offers subsidies for improving family farming practices. BCB's rural credit regulation reinforces some rules set in environmental laws such as the Forest Code. Another key initiative of the policy is Proagro, an agricultural credit guarantee scheme overseen by the BCB.

Two infrastructure elements support BCB in the implementation of the rural credit regulation: the Rural Environmental Registry (CAR) and SICOR. The Forest Code requires a CAR for all rural properties, irrespectively of size. CAR contains rich details about each property and its owners. SICOR is a BCB database with details of all rural credit operations where each loan is tagged to a CAR. The CAR works as an identification number which is then used to integrate SICOR to other databases that also use CAR, such as those of environmental agencies and ministries of justice, and labor. With this integration, BCB runs automated compliance checks against a wealth of information for each property financed by rural credit. In 2021 these automated checks were expanded and the BCB created the Green Credit Bureau, a service akin to a credit bureau, but focused on climate, environmental and social risks, which FSPs use to support compliance with climate, environmental and social risks related to rural credit.

BOX 5. **Climate-related regulation and financial exclusion in Brazil** (Detail in Annex 1) (continued)

The BCB's approach to climate-related regulation has been to gradually integrate environmental and social risks, and later climate risk, into regulation and supervision. The first requirements for rural credit underwriting were set in 2008. Between 2008 and 2024, FSPs were gradually required to:

i) in 2010, exclude from credit provision individuals or legal entities listed in the Register of Employers who have maintained workers in conditions analogous to slavery (**credit underwriting requirement**).

ii) In 2014, design and implement a Social and Environmental Responsibility Policy – PRSA (**broad risk management obligations**).

iii) In 2017, include socio-environmental risk into their risk and capital management frameworks (**broad risk management obligations**).

iv) In 2019, require CAR for all rural credit operations (**credit underwriting requirement**).

v) In 2021, exclude from rural credit provision properties with a canceled/suspended CAR (**credit underwriting requirement**).

vi) In 2021, incorporate climate and environmental risks into their risk and capital management frameworks, with the PRSA being replaced by the Social, Environmental, and Climate Responsibility Policy – PRSAC. FSPs must identify, measure, evaluate, monitor, control, report and mitigate climate, environmental and social risks, which includes monitoring of exposure concentrations in sectors or regions more vulnerable to these risks, conduct climate scenario analysis and stress testing, and analyze the impacts of these risks over traditional financial risks. FSPs must annually disclose risks and opportunities in a report called GRSAC Report, with qualitative disclosures aligned with the recommendations of the Task-Force on Climate-Related Financial Disclosures (TCFD) (**broad risk management obligations and requirements on stress testing and scenario analysis**).

vii) In 2023, exclude from rural credit provision properties with a CAR containing embargoed areas, and areas that overlap with public forests across all biomes in Brazil (**credit underwriting requirement**).

viii) The BCB is currently consulting on regulation to implement IFRS S1 and S2 (**disclosure requirements**).

BCB has built specialized regulatory and supervisory teams for both rural credit and the other aspects of its encompassing climate-related regulation.

Additionally, Brazil's Sustainable Taxonomy is being drafted in an effort led by the Ministry of Finance, and its assessment criteria and measurement indicators were put forward for public consultation in November 2024 (Ministério da Fazenda 2024). The taxonomy ought to impact the financial sector and will interact with BCB's climate-related regulation. Key features of this taxonomy include the inclusion of land use activities such as crop production and forestry, and activities that promote social and racial equality. The taxonomy will come into force in 2026, but it is not clear whether it could impact financial inclusion, as its details are still being defined.

Evidence shows that the rural credit regulation has played a role in reducing deforestation in the Amazon biome and improving the lives of farmers (e.g. by increasing family income and productivity), overall contributing to greater resilience of local communities. CAR and SICOR are key for these results, as they allow the BCB and FSPs to run checks against borrowers to improve compliance with legal and regulatory requirements. The benefits may extend to increased protection of vulnerable communities such as indigenous groups against land-grabbing and environmental violations. The availability of quality data has also allowed the BCB to gradually improve incentives for sustainable farming, based on a borrower's compliance with environmental laws and those who are taking measures to become compliant. In addition, the Green Credit Bureau and other available databases of environmental agencies help FSPs adhere to sustainable finance standards, more broadly.

BOX 5. **Climate-related regulation and financial exclusion in Brazil** (Detail in Annex 1) (continued)

However, the rural credit regulation seems to also have some financial exclusion impact due to wider context issues. Rural credit to smallholder farmers has been decreasing over the years. Currently, it is estimated that 85 percent of small rural properties have no access[b] to credit and that this number is even higher in poorer regions. While large farmers are increasing participation in subsidized rural credit, the number of new small borrowers has fallen 47.8 percent from in 2019/2020 to 2023/2024 and the fall of especially acute (54 percent) in the Northeast region, where the most vulnerable subsistence farmers are located. The decline coincides with the BCB requirement for borrowers to produce a CAR to access rural credit, from 2019 onwards. While the most vulnerable farmers may struggle to produce a CAR, for example due to illiteracy or lack of internet access – research[c] shows that other factors explain lower access to rural credit, such as being a female, non-white, old, or with a lower level of education, and not having access to the internet and electricity. The challenges are even starker for Pronaf programs, due to challenges such as additional bureaucracy and documentation requirements for some programs, such as organic certification, which increases the cost for both farmers and FSPs. Farmers are also challenged by a lack of technical assistance and guarantees, both of which are often required by FSPs, which may see the loans to family farmers as risker than other agricultural loans. Finally, lack of understanding, by both FSP staff and smallholder farmers about Pronaf programs is also a major barrier for access to rural credit.

Except for rural credit regulation, there is limited evidence of the impacts of the climate-related regulation. However, our interviews suggest that the risk of financial exclusion is real. A 2017 study found that a regulatory requirement for large FSPs to incorporate climate, environmental and social risks into risk management and capital frameworks led smaller banks to reduce lending to small and medium enterprises (SMEs) and also reduced SME employment (Liriano et al 2023). Interviews with FSPs highlighted concerns with higher compliance costs that could render small-value loans unattractive, although concrete actions in this regard have not been reported. The risk of requiring additional information from low-income borrowers and MSMEs (e.g. for FSPs to meet new disclosure standards) was emphasized. Another concern is the risk of tightening credit conditions for whole sectors due to the influence of the EU taxonomy and simplistic sustainability measurement methods, such as for GHG emissions, which could lead to knock-on effects in productive value chains upon which many vulnerable segments depend; or reduced credit for activities crucial to climate mitigation, adaptation, and resilience building in Brazil, but that do not align with EU priorities. Finally, the interviews also highlighted the developing state of expertise in climate and environmental risk management; the risk of increased supervisory scrutiny and the increased risk of reputation and litigation from increased disclosures, which could lead FSPs to be more conservative.

a https://edgar.jrc.ec.europa.eu/

b Agroícone estimates based on SICOR data and total number of small rural properties in Brazil.

c These evidence points result from an extensive literature review conducted by Agrícone for CGAP, in July 2024.

(Liriano et al 2022).[17] Also, internationally active European FSPs must ensure that all non-EU operations comply with EU regulations, including the EU taxonomy. When facing uncertainty, FSPs may engage in overcompliance to avoid being questioned by EU supervisors. For instance, when deciding upon loans to activities that contribute to climate resilience and adaptation in EMDEs but do not squarely fit the EU taxonomy.

17 The Central Bank of Kenya also issued, in 2021, supervisory expectations for banks to include CRFR into their ICAAP (Guidance on Climate-related Risk Management), but the impacts have not yet been measured.

PATHWAY 6: INCREASED REPUTATION AND LITIGATION RISK

New regulatory requirements can change FSP's perception of and exposure to reputation and litigation risks associated with lending to certain customer segments, sectors, or geographies, which can lead to retrenchment. Litigation risk arises in the face of legal embroilment, and reputation risk arises from accusations of greenwashing or other types of public accusation that do not necessarily involve litigation. While litigation could lead to potentially high costs to settle disputes, activist action against FSPs on the grounds of climate concerns about financed activities could lead to reputational damage and lost businesses or funding. These risks increase with greater disclosure of FSP practices to manage climate and other environmental risks, as well as their climate commitments. These disclosures are often required by climate-related regulations. Based on data from the Climate Change Laws of the World database, Setzer and Higham (2021) observed that the global number of climate change-related legal cases more than doubled between 2015 and 2021. NGFS (2023 and 2024) confirmed the upward trend in climate- and nature-related litigation specifically in the financial sector.

These risks could lead to conservatism that excludes vulnerable segments, particularly when their activities are grey areas of green or sustainable finance taxonomies or their properties are near the boundaries of legally protected areas, or within areas exposed to heightened public scrutiny (see Brazil example below). In this sense, there is a link between this pathway and customer eligibility (Pathway 1) and funding (Pathway 3). In the interviews, some FSPs raised concerns about reputational and litigation risks, even regarding seemingly uncontroversial elements. For instance, in Brazil, the requirement (under consultation) by the central bank to segment the disclosure of the banking loan portfolio by the type of biomes (Amazon, Cerrado, Mata Altântica, Caatinga, Pampa, and Pantanal) has caused concerns for FSPs. The concern is due to the high level of scrutiny by civil society and funders related to rampant deforestation and crimes regarding land conflicts in some biomes.

Minimizing Exclusion Risks: Emerging Recommendations

TO REAP THE STABILITY, SAFETY AND soundness benefits of climate-related regulation while minimizing exclusionary risks, FSAs must focus their attention on vulnerable segments and consider how the broader country context may impact regulatory implementation. As discussed in the previous section, some financial exclusion effects from these regulations could relate to weaknesses or limitations found outside the financial sector, including weak enforcement of environmental laws (which may lead to conservatism by FSPs faced with poor data about vulnerable groups), costly or inefficient business licensing, or land registration practices, and poor availability of data produced by non-financial authorities.

In EMDEs, FSAs can, and some already do, use regulatory, supervisory, and other tools to better coordinate the objectives of financial stability and inclusion, while supporting the climate agenda. Additionally, a holistic approach is needed to fuel a virtuous cycle between these policy goals, as not all can be achieved via regulatory and supervisory measures. EMDEs must adopt multiple initiatives, and, in addition to FSAs, other actors, including government authorities, SSBs and international organizations, should play a role.

Ensuring proportionality in regulatory and supervisory action

FSAs should be mindful of the challenges FSPs face in achieving compliance when serving the most vulnerable. FSAs must fully embrace a proportional approach (risk- and principles-based, consultative and gradual) to the design and supervision of climate-related regulations, fully consistent with international standards and guidance, including BCBS (2022a and 2022c). Such an approach would be sensitive to the different risks, levels of complexity and business models across FSPs serving vulnerable groups, which will help FSAs balance the various objectives pursued by regulation. For instance, broader, principles-based risk management obligations in relation to climate and other environmental risks would give more flexibility to FSPs to serve a range of customer segments, than the imposition of detailed, one-size-fits-all requirements placed on organizational structures, credit underwriting requirements, and prudential ratios.

At the same time, FSAs may consider measures such as special regulatory treatment to vulnerable segments, which could be temporary and/or focused on FSPs specialized in serving these segments. Greater flexibility could help FSPs to continue serving them, including clients who are on their way towards complying with climate-related regulations or with other relevant rules, such as rural property certification required by environmental laws. FSPs may successfully comply with broad risk management obligations in different ways, and the microfinance industry provides a proven track record of serving informal businesses and low-income clients based on little documentation.

Regulatory measures that could be considered include minimum transaction thresholds and exemptions based on customer attributes. For instance, Bangladesh Bank has exempted small loans to individuals and MSMEs from some credit underwriting requirements such as environmental due diligence. The Peruvian Financial Superintendence has exempted FSPs from applying all social and environmental risk management requirements based on several loan thresholds. In Brazil, some requirements can be temporarily lifted for some rural loan types, to allow financing of farmers who are taking steps to become compliant or to transition to sustainable farming practices. Also, FSAs could consider how different methods of borrower or sector exposure limits could lead to the exclusion of vulnerable groups. For instance, limits based on the borrower's capital or assets may have a greater exclusion potential than limits set as a percentage of the FSP's portfolio.

These specific regulatory measures have not been fully tested yet and due care is warranted to avoid jeopardizing safety and soundness and stability objectives. Vulnerable customers usually do not amount to a significant portion of assets in the financial system, but may be highly relevant for some individual FSPs, such as MFIs and lenders specialized in MSME finance. In considering proportional approaches to climate-related regulations, particularly to prudential requirements that may eventually be added to climate-related regulations, FSAs in EMDEs may consider applying the recommendations of BCBS (2022c), including segmentation approaches and metrics, definition of capital, calculation of risk-weighted assets, approaches to large exposures, content and level of disaggregation and details of disclosure requirements, and the application of proportionality for the supervisory review process.

Green or sustainable finance taxonomies must be dynamic, forward-looking (Demekas and Grippa, 2021) and tailored to each country's institutional, social and economic context. Well-designed taxonomies can go a long way in helping EMDEs boost inclusive finance for climate adaptation and resilience, ensuring that vulnerable segments are not left behind. Among others, this requires that the measurement approaches foreseen in the taxonomy cater to small operations and vulnerable clients. This could involve using localized data and metrics that capture diverse environmental and social impacts, incorporating participatory approaches to gather input from local communities, and developing simplified and flexible measurement methods to accommodate varying levels of capacity. Alternatives like targeted exemptions and transition arrangements should also be explored.

A similar approach is needed for transition planning requirements. NGFS (2024) emphasizes that transition plans must be adapted to the specific circumstances of different sectors and economies, particularly in EMDEs, and should follow a holistic approach that addresses both physical and transition risks, considering both mitigation and adaptation challenges. Finally, transition plans must be tailored to the distinct challenges faced by EMDEs, such as higher vulnerability to climate risks and weaknesses in infrastructure, regulatory capacity, and business environment, and lower emission levels compared to advanced economies.

Overall, a consultative and phased approach to design and implement climate related regulation would provide FSPs with the necessary time to develop technical capacity and plan for gradually increasing compliance costs in an organized manner. For instance, new risk management requirements could be implemented over multiple years through a phased approach that includes establishing the foundation, increasing understanding and action, and progressing toward full integration as suggested by the World Bank (2024). In Brazil and Colombia, FSAs have conducted extensive consultations with FSPs before introducing climate-related regulations. In Colombia, the regulatory evolution has transitioned gradually from non-binding guidance to an increasing number of binding requirements (see Annex 1). Additionally, inter-departmental coordination at Colombia's Financial Superintendence helps the authority identify potential financial inclusion implications of climate-related regulations.

Finally, sound technical supervisory knowledge and expertise are fundamental for a proportional approach to supervision. The supervisory cycle can influence FSP responses to climate-relate regulation, and should be consistent with a risk-based approach. Sensitizing supervisors and FSPs is crucial for preventing suboptimal strategies resulting from overcompliance. Climate-related regulations are complex and relatively new, creating uncertainty that may lead to overly conservative approaches by both FSPs and supervisors, especially in EMDEs, where FSPs may operate under more challenging conditions compared to developed economies. FSPs may impose additional requirements that are not explicit in the regulation, and these could have exclusionary effects. FSAs should enhance their internal capacity on climate and other environmental risks and educate supervisors about the potential exclusion effects of regulation, emphasizing the need to identify and address overcompliance practices. FSAs must clarify supervisory expectations by issuing statements and actively engaging with the industry. Finally, climate adaptation should be duly embedded into regulatory and supervisory practices, including by using specific metrics for measurement and disclosure of adaptation (NGFS 2024a). Effective supervisory oversight and engagement will encourage FSPs to improve their technical capacity in the management of climate and other environmental risks, and their ability to address those risks and opportunities that are more specific to vulnerable groups.

Adopting a holistic approach

EMDEs should adopt a holistic approach in their response to climate change, incorporating complementary strategies alongside the regulatory and supervisory action discussed above, seeking to maximize synergies across policy goals and strategic priorities.[18] As noted by Demekas and Grippa (2021) and the World Bank (2024), climate-related regulation cannot substitute for interventions to support vulnerable groups. EMDEs must ensure that their climate agendas prioritize adaptation and resilience (World Bank, 2024) and adopt a variety of interventions, including market support tools, tailored responses to climate shocks, and tools to promote climate finance. This is particularly important considering that the risk of financial exclusion is heightened in EMDEs due to longstanding weaknesses within the financial sector as well as external factors like high exposure to physical risk, high informality rates, and weak law enforcement. These shortcomings not only exacerbate the exclusionary potential of regulations but also limit the effectiveness of tools to promote climate finance (see below). Prioritizing improvements in the enabling environment (Carvajal and Didier Brandão 2024) is essential.

MARKET SUPPORT TOOLS

Market support tools can help FSPs implement climate-related regulations more effectively, helping attenuate pathways such as customer eligibility barriers, increased costs, and capacity constraints. For instance, reforms to increase efficiency of traditional market infrastructures such as credit and movable collateral information are considered particularly helpful to support women's climate resilience and financial inclusion (World Bank 2023c). Properly designed credit guarantee and insurance schemes, with safeguards against moral hazard (World Bank 2022), are important for all lenders, but are crucial for FSPs with limited capacity and striving to serve vulnerable segments.

For instance, FSPs need new data for effective management of climate and other environmental risks. Although much of this data is generated outside the

18 Countries like Armenia, Fiji, Jordan, Morocco, the Philippines, Rwanda, and Tanzania, for instance, have already aligned their financial inclusion and climate agendas. SBFN (2024) shows that 24 countries (out of 66) reported setting expectations to enhance access to finance for low-income households, small businesses, and vulnerable groups, focusing on supporting climate change adaptation and/or resilience. Two-thirds of these countries have incorporated this topic into broader sustainable finance frameworks.

BOX 6. **Climate-related regulation and financial exclusion in Bangladesh** (Detail in Appendix 1)

Bangladesh, contributing only 0.48 percent to global emissions, is highly vulnerable to climate change, facing frequent natural disasters like cyclones, floods, and droughts. Ranked 168th in climate readiness, it needs significant improvements to adapt, with over 13 million people potentially displaced by 2050. Key strategies include: i) Bangladesh Delta Plan 2100, a 100-year plan for sustainable resource management; Mujib Climate Prosperity Plan 2022-2041, focused on resilience and stability for vulnerable communities and industries; and iii) National Adaptation Plan 2023-2025, a climate-resilient development plan which urges financial reforms. The financial sector plays a crucial role in advancing climate resilience, especially for low-income households and small enterprises. However, access to financial products like savings, insurance, and credit remains limited, hindering recovery from climate impacts. Bangladesh Bank, the central bank, promotes inclusive climate finance to address these challenges.

Bangladesh Bank has been addressing environmental risks since 2011 and climate and social risks since 2017. Additionally, it ranks FSPs based on a sustainability rating system covering sustainable finance, corporate social responsibility, green refinance, core banking sustainability, and banking services. It has established a classification system for sustainable products and set disclosure requirements, in regulation. Key regulatory actions include:

- 2011 Environmental Risk Management (ERM) Guidelines: introduced environmental risk integration into credit risk management with due diligence checklists and environmental ratings, as well as disclosure requirements (**broad risk management requirements, credit underwriting and portfolio management requirements, and disclosure requirements**).
- 2011 Policy Guidelines for Green Banking (GBP): issued in 2011 and expanded between 2013 and 2017, classifying 55 activities as green (**green taxonomy, product standards**).
- 2017 Guidelines on Environmental and Social Risk Management (ESRM): expanded ERM requirements to include social and climate risks, incorporating an excel based Environmental and Social Due Diligence (ESDD), a generic checklist for measuring the associated environmental and social risks including climate risks (**broad risk management requirements, credit underwriting and portfolio management requirements**).
- 2020 Sustainable Finance Policy (SFP): the policy includes a Sustainable Finance Taxonomy along with a country perspective Green Taxonomy and Climate Finance Taxonomy. The policy incorporates a list of 94 green product/projects/initiatives under 14 sectors. Updated in 2023 to include a gender lens and guide climate finance identification (**green taxonomy, product standards**).
- 2023 ESRM Update: updated ESDD check list specific for10 sectors and introduced third-party impact assessments for infrastructure projects (**credit underwriting and portfolio management requirements**).
- 2023 IFRS S1 and S2 Adoption: IFRS new standards adopted in December 2023, to be fully implemented by 2027, enhancing financial disclosures of FSPs (**disclosure requirements**).

Bangladesh Bank has set minimum lending targets for green (5 percent) and sustainable (40 percent) finance of all loan disbursements and investments of FSPs. It also requires FSPs to form a Climate Risk Fund, allocating at least 10 percent of their Corporate and Social Responsibility (CSR) budget to it. To boost sustainable finance, Bangladesh Bank uses promotional tools like targeted refinancing operations (TROs) with concessional rates, to help FSPs meet the lending targets. These include the Revolving Refinance Scheme, which encourages green lending, covering 70 environmentally friendly products, projects or initiatives by 2022, and the Green Transformation Fund, which was initially for textile, leather, and jute sectors, now expanded to all export-oriented industries. Banks can partner with MFIs to allocate these funds, ensuring compliance with regulatory requirements, including environmental due diligence.

BOX 6. **Climate-related regulation and financial exclusion in Bangladesh** (Detail in Appendix 1) (continued)

Despite Bangladesh Bank's efforts and focus on financial inclusion, there are concerns about increasing exclusion risks for low-income segments and CMSMEs. Challenges in regulatory implementation could worsen financial exclusion. The ratio of green finance to total bank advances has consistently been below the minimum target, ranging from 1.6 to 2.8 percent (2013-2016) and 0.7 to 1.7 percent (2019-2023). CMSME finance increased over 200 percent between 2021-2023, but it only accounted for 5 percent of total green finance in 2023. There is also a problem of geographic concentration, with sustainable and green finance disbursements concentrated in urban areas like Dhaka and Chittagong.

Some customers face challenges meeting eligibility and information requirements for green and sustainable loans, particularly due to the costs and complexity involved. Key issues include:

- **ESDD checklist**: Many CMSMEs lack the green certifications and business licenses needed to meet these requirements.
- **Additional reporting**: Post-loan approval reporting requirements add costs, making small loans less viable even with subsidies.
- **Focus on large enterprises**: The sustainable finance taxonomy prioritizes climate mitigation activities, favoring large enterprises and projects, potentially crowding out finance for CMSMEs and low-income groups.

FSPs face significant costs in implementing regulatory requirements, which can discourage smaller, less profitable loans. Disclosure and reporting costs are important, since preparing and submitting reports is time-consuming, especially for small transactions with CMSMEs and low-income households. Some banks have already adapted their processes and infrastructure to meet Bangladesh Bank's disclosure standards, but these changes come with cost implications. A phased implementation of IFRS S1 and S2 will help in this regard, potentially easing the cost and technical capacity challenges of FSPs.

Exclusion risks are influenced not only by climate-related regulations but also by broader country context issues. First, MFIs, which serve vulnerable segments, cannot access Bangladesh Bank's refinancing lines. Although banks can allocate funds via MFIs, they cannot verify eligibility and creditworthiness due to lack of borrower information (MFIs do not report to the credit registry). These and other challenges in verifying information of low-income populations and CMSMEs lead to a low level of usage of the subsidies available for FSPs to extend credit to these segments. Lastly, CMSMEs often lack business licenses and face practical challenges and costs to obtain such licenses. This makes them ineligible for environmental certificates and, consequently, credit aligned with the sustainable finance taxonomy. Other challenges include capacity constraints, evolving expertise at FSPs, and limited borrower knowledge. FSPs may lack sufficient understanding of green and sustainable finance, particularly for low-income segments and CMSMEs. Likewise, low-income segments, especially in rural areas, have limited awareness of sustainable or green finance opportunities.

financial sector, FSAs can facilitate access to it.[19] For example, the Central Bank of Brazil manages SICOR, a system that records rural credit operations and links to property registration and other databases, including some environmental agencies. This integration allows comprehensive checks of environmental issues such as protected areas, deforestation and embargoes against each property. This data also allows the publication, by the central bank, of detailed rural credit data. Additionally, the Green Credit Bureau, established by

19 FSB (2022) highlights the importance of establishing public data repositories at national, regional or global levels for various forms of climate-related data as one means to increase the efficiency and quality of data collection and risk management by financial institutions.

the central bank in 2021 based on SICOR data, allows a range of additional checks of sustainability issues. The bureau is accessible by FSPs, based on borrower consent, potentially improving rural credit provision.

Well-designed risk-sharing facilities can also support lending to vulnerable groups, particularly those most affected by climate risks. Globally, there is substantial experience with mechanisms like credit guarantees and insurance facilities. Carvajal and Didier Brandão (2024) make the case for EMDEs to capitalize on tools such as partial credit guarantees to promote small and medium enterprise (SME) finance, and recently, more jurisdictions have established similar initiatives to promote sustainable lending while reducing risks for FSPs.[20] In Nigeria, climate risk insurance is combined with subsidized lending and credit guarantees, with the Central Bank of Nigeria covering 50 percent of FSP losses if a smallholder farmer defaults. Armenia's central bank has a public-private partnership for agricultural climate insurance subsidizing 50-60 percent of insurance costs through the Agricultural Insurers' National Agency (AINA). In Morocco, the insurance supervisor offers a "climate multi-risk" product to protect major cereal crops from climate-related damage. Brazil's Proagro agro-insurance program, is another example. It requires compliance with agroecological zonings to ensure that climate-damage can be accurately captured and measured according to the season and location of crops. Management of credit and insurance risks is further supported by the agricultural climate-risk zoning data published by agricultural authorities (MAPA 2021).

TAILORED RESPONSES TO CLIMATE SHOCKS

FSAs should develop specific regulatory and policy responses to climate-related shocks to enhance resilience and support lending during crises, similar to actions taken during the COVID-19 pandemic, with a focus on support to vulnerable groups. FSAs can design pre-emptive, responsive and post-event measures to provide temporary relief to FSPs and borrowers through guarantees, credit forbearance, or direct lending (Feyen et al, 2020b). Recommendations from the IMF and the WBG for COVID-19 responses could be applied to the climate crisis (IMF and World Bank 2020) such as leveraging existing regulatory flexibility while minimizing moral hazard, facilitating public and private support, and adjusting supervisory triggers while protecting financial stability. Proactively announcing regulatory preparedness can increase certainty for FSPs and borrowers, supporting lending to vulnerable groups. Examples of such responses include relief measures in Bangladesh, Peru, and the Philippines, after natural disasters (World Bank 2024), and Brazil's actions following the 2024 floods in Rio Grande do Sul.[21] In designing such tools, it's crucial to mainstream gender and promote intersectionality to address the significant gender gaps in access to climate and disaster risk finance and insurance – CDRFI (World Bank 2023c).

Tools to promote climate finance

EMDEs are implementing a mix of tools to promote inclusive climate finance but the results have been mixed due to design flaws, operational challenges, and broader country context issues (see examples of policy tools in Annex 5). Long-used tools like credit allocation, pricing policies and central bank tools like TROs have had varying success, while newer tools aim to support climate finance in the context of national climate commitments. TROs are central bank loans to banks at favorable conditions to stimulate lending to MSMEs, for instance. These are used in countries like Bangladesh, Egypt, Nepal, and Pakistan, and credit allocation tools

20 The following examples are cited to illustrate the increasing adoption of these tools, rather than being an endorsement of their effectiveness.

21 The Central Bank of Brazil issued rules to make the classification of credit operations restructured in the wake of the floods more flexible; exempt from reserve requirements, for one year, FSPs with more than 10 percent of their loan portfolios held by individuals or enterprises located in the state of Rio Grande do Sul; and allow remote-based audits for the payout of insurance claims within the government's agro-insurance program Proagro (Exame 2024).

such as minimum lending targets in countries like Bangladesh, Brazil, India, Nepal, and Fiji. The jury is still out on the suitability and effectiveness of many of these tools (World Bank 2024) and Carvajal and Didier Brandão (2024) provide some recommendations to improve policy tools to promote SME finance in the context of climate change.

Bangladesh, for instance, combines TROs, lending targets, interest rate caps, and regulatory exemptions for vulnerable groups. Still, our interviews indicate that the results have not been optimal (see Annex 1) due to challenges such as inefficiencies in the operation of the TROs, high MSME informality, and inefficiencies in business licensing and credit data. Similarly, smallholder farmers in Brazil face challenges in registering their rural properties, obtaining technical assistance, and increasing knowledge about the financing options.[22]

International guidance and support

SSBs and other international organizations such as the NGFS, World Bank and the IMF, could incorporate financial inclusion considerations in their work on climate-related regulation and supervision more systematically. They can do this by paying special attention to the uneven regulatory impacts on EMDEs. These organizations will have a key role, for instance, in developing methods to make the green or sustainable finance taxonomies compatible across jurisdictions to fund activities that benefit vulnerable groups in EMDEs.[23] SSBs could provide further guidance on proportionate regulatory and supervisory approaches specifically with regard to prudential requirements that already exist or may be added to climate-related regulations, taking the specific challenges faced by EMDEs into account.

Other international organizations such as the World Bank and the IMF can help FSAs and FSPs design climate-related regulations, proportional supervisory approaches, green or sustainable finance taxonomies, and specific guidance for FSPs to design climate transition plans that are tailored to the EMDE context.[24] Finally, these organizations could also provide support for FSAs in EMDEs to conduct regulatory impact assessments to identify and measure the outcomes of climate-related regulations (and possibly broader related policy actions).

22 Compilation of literature conducted by Agroícone, commissioned by CGAP.

23 SBFN provides a toolkit to help FSAs design and implement taxonomies adapted to local contexts while following good international practice (SBFN 2024). UNEP (2023) is an example of an attempt to harmonize taxonomies in a region (Latin America and the Caribbean). The ASEAN Taxonomy for Sustainable Finance is a similar effort (ASEAN 20224). However, it is early days to conclude whether this approach is optimum in ensuring inclusive climate finance in EMDEs.

24 For instance, SBFN has launched a Task Force on Inclusive Sustainable Finance in 2024, with focus on helping EMDEs design and implement sustainable finance frameworks –including climate-related regulations– that foster inclusivity.

Areas for Further Research

CONSIDERING THE POTENTIAL magnitude of the exclusion risks of introducing climate-related regulations in EMDEs, further research will be crucial to understand this issue better, helping make it a priority for FSAs in EMDEs, SSBs, and other international organizations. Further research could focus on:

- **Measuring exclusion impacts via the pathways proposed in this paper, for credit provision and beyond.** It is crucial to build more robust empirical evidence of financial exclusion effects using the pathways framework, and potentially, expanding the scope of impact research to other financial services, including insurance.[25] The research should also social risks and nature-related financial risks, as these are increasingly being integrated in climate-related regulatory frameworks. Research should focus on vulnerable groups such as low-income segments, smallholder farmers, and MSMEs, and pay particular attention to the greater challenges faced by women in a climate change context (Notta and Zetterli 2023). Finally, research should use both supply-side and demand-side methods to better understand how regulatory reforms affect these segments.
- **Specific prudential and non-prudential regulatory adjustments and proportionate supervisory approaches to foster inclusive finance while implementing climate-related regulations**. For example, accounting rules that penalize high capital expenses or long-term operations (which may be associated with climate finance) could have negative impacts on MSMEs. The feasibility and prudential implications of regulatory adjustments such as thresholds, exemptions, and transitional arrangements, including those mentioned in the previous section, should be specifically investigated. Also, research should be conducted on effective mechanisms to apply proportionality in supervision in this field (e.g. assessing risk materiality, governance arrangements, lending policies, and business models).
- **How to leverage technology to support the implementation of climate-related regulations and promote resilience and adaptation via innovative financial products and services**. CGAP has long been studying the potential of innovation for inclusive finance, but specific research on the intersection between innovation by FSPs and inclusive climate finance, particularly when FSPs need to implement climate-related regulations, is needed. For instance, experimentation is needed to test innovative solutions (e.g. inclusive scoring models and other risk modeling, and the use of high and ultra-high-resolution satellite imagery to check compliance and monitor financed activities in remote areas) for FSPs to identify and manage climate and other environmental risks in EMDE

25 Insurance regulation increasingly incorporates climate-related issues. For instance, in the EU the Solvency II Directive was amended in 2024 to include sustainability issues, and the European Insurance and Occupational Pensions Authority (EIOPA) has recommended a dedicated prudential treatment (with additional capital requirement), for insurers' fossil fuel assets (EIOPA 2024). IAIS recently put for consultation its climate risk supervisory guidance, proposing adjustments to the core principles for effective insurance supervision to consider climate-related issues.

contexts. Especially in areas where there are high levels of MSME informality, poor climate and environmental data, deficient land and property registries, and customers who are highly exposed to physical risks. Solutions to enhance data while empowering vulnerable groups to generate data could also be explored.

In addition to the above research priorities, complementary research could be conducted on the following topics to further foster inclusive and responsible finance:

- **Consumer protection issues arising from increasing green/sustainable financial products**. OECD (2023) explores challenges and opportunities for financial consumers related to green/sustainable finance. The G20/OECD Task Force on Financial Consumer Protection has added this topic as a cross-cutting theme of the High-level Principles for Financial Consumer Protection, highlighting the need for FSAs to utilize market monitoring tools and strengthen transparency to help consumers understand green/sustainable finance products, including to counter the risk of greenwashing. This Task Force is also developing a tool to collect evidence on consumer knowledge, attitudes, preferences, and behaviors related to green/sustainable products. Further evidence is needed to understand the risks consumers face when FSPs implement climate-related regulations, such as potential discrimination due to the use of climate-adjusted credit scoring or push for products that do not meet the financial needs of consumers.
- **Effectiveness of and alternatives to existing tools to promote climate finance**. Tools such as TROs, minimum lending targets and price limits could impact the incentives for FSPs to serve vulnerable groups in EMDEs, while failing to achieve their stated goals. They could also be shifting attention and resources away from workable solutions. Their effectiveness and potentially adverse impacts should be explored and, if needed, alternative approaches should be explored. For instance, FSAs could collaborate with the private sector and funders to facilitate the development of innovative green/sustainable finance instruments, following a triple-bottom-line approach, via mechanisms such as industry challenges. The role of blended finance and private funds should also be explored.

Like their peers in advanced economies, FSAs in EMDEs are adopting climate-related regulations to preserve stability, keep FSPs safe and sound, and support the global climate agenda. While the potential benefits of these reforms are apparent, the risk of deepening financial exclusion is more difficult to identify and there is little hard evidence to date. However, these negative effects could be very relevant for EMDEs, where broader context weaknesses impact regulatory implementation. The six impact pathways presented in this paper provide a structured analytical framework for FSAs in EMDEs to examine whether and how these regulations could disproportionately affect access to credit among vulnerable groups.

To mitigate the exclusion risk while not jeopardizing other policy objectives, FSAs in EMDEs can adjust their regulatory and supervisory action to better cater to the needs of vulnerable groups, informed by the pathways analysis. Moreover, action by FSAs must be complemented by other authorities in EMDEs, in a holistic approach encompassing improvements in market support tools, responses to climate shocks, and tools to promote climate finance. To support these efforts, more research should focus on further documenting the regulatory impact in EMDEs, exploring proportionate and specific regulatory and supervisory approaches to counter exclusionary effects, and experimenting with technological solutions that could be applied by FSPs to implement climate-related regulations while supporting inclusive finance in the context of climate change.

ANNEX 1

Country deep dives

This annex is part of the working paper titled: "Exclusion Risks in Climate-Related Financial Regulation: An Analytical Framework."

Bangladesh

After an overview of the broader country context, this note outlines key aspects of Bangladesh's climate-related financial sector regulations and describes how they could impact financial inclusion, with a focus on cottage, micro, small and medium enterprises (CMSMEs) and low-income households. The findings are based on a literature review and stakeholder interviews conducted in the first semester of 2024.

COUNTRY CONTEXT

Bangladesh is one of the world's most climate-vulnerable countries but contributes with only 0.48 percent to global emissions. It faces frequent natural disasters such as cyclones, floods, and droughts, which severely impact its economy and population, particularly in coastal areas. Ranked 168th in the Notre Dame Global Adaptation Initiative (ND-GAIN) index for climate readiness,[26] Bangladesh needs significant improvements to adapt to climate change. With millions living in high-risk regions, climate change could displace more than 13 million people by 2050.

Several national strategies guide the country's climate action, and despite being a low emitter, Bangladesh has committed to significantly reducing its emissions. Relevant strategies include the 2018 Bangladesh Delta Plan (BDP) 2100, the 2021 Mujib Climate Prosperity Plan (MCPP) 2022-2041, and the National Adaptation Plan (NAP) 2023-2025. The BDP is a 100-year plan for the sustainable management of water, ecology, environmental and land resources. The MCPP works to counteract climate-induced damages and losses by equipping vulnerable groups, the industry and the government with financing tools and models to bring about resilience and stability, especially for CMSME[27] and low-income populations. The NAP establishes a path to climate-resilient development and reduction of climate risks and vulnerabilities. It urges the central bank, Bangladesh Bank, to implement appropriate policy and regulatory reforms. It also compels FSPs to develop products to support adaptation and mitigation and to build climate resiliency.

The financial sector plays a crucial role in advancing the climate agenda, and inclusive climate finance has been a strategic priority for Bangladesh Bank since its Strategic Plan 2010–2014. Access to financial services is crucial for building climate resilience in Bangladesh, particularly for low-income households and CMSMEs. Yet, low-income populations still lack access to

26 Ranking according to the ND-GAIN, which summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. It aims to help governments, businesses and communities better prioritize investments for a more efficient response to the immediate global challenges ahead. https://gain.nd.edu/our-work/country-index/rankings/

27 A cottage enterprise is a manufacturing business run by a family or individual, typically from their home.

adequate financial products like savings, insurance, and credit, which are essential for coping with climate shocks. This limits their ability to recover from climate impacts, hindering Bangladesh's progress towards a climate-resilient, low-carbon economy. To address this, Bangladesh Bank has been promoting inclusive climate finance through various tools, while also tackling stability, and safety and soundness concerns through the regulatory reforms discussed in this note.

CLIMATE-RELATED REGULATION AFFECTING CREDIT PROVISION

Bangladesh Bank's actions to address environmental risks started in 2011, issuing early risk management requirements. The 2011 Environmental Risk Management (ERM) Guidelines established an early foundation for integrating these risks into FSPs' credit risk management processes. It required FSPs to use an Environmental Due Diligence checklist and a qualitative environmental rating in their credit underwriting process. In 2017 the ERM Guidelines were replaced by the Guidelines on Environmental and Social Risk Management (ESRM Guidelines), which expanded the scope to include social and climate risks and provided a standardized approach to environmental risk assessment. It also introduced a list of activities that need to be classified as high environmental and/or social risk (exclusion list, since these activities cannot be classified as green). In 2022 the ESRM was updated with further guidance on the environmental risk assessment process, detailing eligibility criteria by sector and helping FSPs determine whether a loan request must be subject to environmental and social due diligence (ESDD) and, in the case of infrastructure projects, a third-party environmental and social impact assessment.

Bangladesh Bank has imposed a classification system for sustainable – including green – products and disclosure requirements. The Policy Guideline for Green Banking (GBP) issued in 2011 and expanded between 2013 and 2017 introduced green banking as a strategic component of banking activities and provided a system to identify green products by classifying 55 activities as green. In 2020, the Sustainable Finance Policy (SFP) complemented the GBP Guidelines by introducing two taxonomies: sustainable finance and green finance taxonomies expanding the product list to 68 green products/projects/initiatives under 11 sectors. In 2023 the SFP was updated to, among other things, add a gender lens,[28] introduce the climate finance taxonomy and further expand green products/projects/initiatives to 94 products under 14 sectors. The policy also provides guidance for the identification of green and sustainable finance, particularly in agriculture, cottage, MSMEs finance, and socially responsible finance. Both the GBP and SFP set disclosure and reporting requirements aligned with standards such as the Global Reporting Initiative (GRI), strengthened in 2018 with a standardized reporting format for sustainable finance that became enforceable from 2020 onwards.[29] In December 2023, Bangladesh Bank issued guidelines on sustainability and climate-related financial disclosure for banks and finance companies in line with IFRS sustainability and climate disclosure standards (IFRS S1 and S2), which will be implemented in a phased manner over five years. By 2027 the new standards are to be fully incorporated into financial disclosures of FSPs.

In addition, Bangladesh Bank has imposed minimum lending targets of 5 percent and 40 percent of all loan disbursement and investments for green and sustainable financing, respectively, and a requirement for FSPs to form a Climate Risk Fund. Further, FSPs are required to allocate at least 10 percent of their corporate social responsibility (CSR) budget to a Climate Risk Fund to support responses to climate emergencies.

28 For example, it introduces requirements for gender disaggregated data, prevents gender-based discrimination and seeks to promotes solutions adapted to women, especially entrepreneur, as well as third gender individuals.

29 In the taxonomy climate finance is considered within green activities

In 2020, Bangladesh Bank introduced sustainability rating for banks and non-bank financial institutions that comprises five dimensions (sustainable finance, corporate social responsibility, green refinance, core banking sustainability, and banking services), and names of the top FSPs are disclosed in the Bangladesh Bank's website. Table 2 summarizes Bangladesh Bank's climate-related regulation. Several instruments modifying the regulations listed have not been included.

A key pillar of Bangladesh Bank's strategy to boost sustainable finance is the use of promotional tools in line with the country's climate agenda. In addition to the minimum sustainable and green lending targets already mentioned, Bangladesh Bank offers incentives like TROs with concessional rates and limits the interest rates FSPs can charge from borrowers. A large proportion of the sustainable and green finance transactions that FSPs report to Bangladesh Bank are subsidized in this manner and the TROs help FSPs

TABLE 2. **Summary of the Bangladesh Bank's climate-related regulation**

Date	Regulation	Main aspects covered
Requirements to address risks		
Broad risk management obligations / Credit underwriting and portfolio management requirements		
(I) 2011 (R1) 2017 (R2) 2022	(I) BRPD Circular No. 1 (R1) SFD Circular No. 2 (R2) SFD Circular No. 3	(I) Introduces the ERM Guidelines, requiring credit operations over a certain threshold to undergo a 4-stage process: i) identifying risks; ii) evaluating/rating; iii) mitigating risks and monitoring; and: iv) controlling. Defines environmental risks, their sources, types of risks, and their link to credit risk. Assigns responsibilities within the FSP organizational structure; requires identifying, within the non-performing loan (NPL) database, when the source of default is environmental. Introduces a general environmental due diligence (EDD) checklist, with 10 sector-specific checks, and a decision tree based on the checklist results. (R1) Introduces the ESRM Guidelines, expanding to social and climate risks and introducing a more detailed and standardized assessment process for environmental risks, including a quantitative environmental and social (E&S) rating and inclusion of social risk, turning the EDD checklist into a ESDD checklist. Requires a E&S Management System (a set of policies, procedures, tools, and internal capacity to identify, monitor, and manage an FSP's exposure to E&S risks). Introduces an exclusion list of activities. Recommends recognizing and addressing E&S risks within credit management processes, rather than avoiding operations with high E&S risks. (R2) Provides further details for the ESRM process by sector, including requirements for the ESDD for infrastructure financing that require a third party environmental and social impact analysis.
Disclosure requirements		
Social, environmental and climate risks and opportunities disclosures / sustainability reporting standards		
(I) 2011/13 (U1) 2018 (U2) 2023	(I) BRPD Circular No.02 / GBCSRD Circular No. 04/05 (R) SFD Circular No. 1	The GBP guidelines (see below) include disclosure and reporting of green banking activities with external verification and international standards such as GRI; (U1) Update with a standardized format from 2020. (U2) Introduces Guidelines on Sustainability and Climate-Related Financial Disclosures, aligned with IFRS S1 and IFRS S2 with a phased implementation over five years until 2027.

TABLE 2. **Summary of the Bangladesh Bank's climate-related regulation** (continued)

Date	Regulation	Main aspects covered
Sustainable finance taxonomy and product standards		
(I) 2011 (R) 2013 (U1) 2014 (U2) 2015 (U3) 2016 (U4) 2017 (U5) 2020 (U6) 2021 (U7) 2023	(I) BRPD Circular No.02 (R) GBCSRD Circular No. 04/05 (U1) GBCSRD Circular No. 04 (U2) GBCSRD Circular No. 04 (U3) SFD Circular No. 2 (U4) SFD Circular No. 04 (U5) SFD Circular No. 5 (U6) SFD Circular No. 1 (U7) SFD Circular No. 3	(I) Phased implementation of the GBP, covering green and environmental policy, including sensitive sectors, top management involvement, a dedicated unit at FSPs. ERM is incorporated into the policy, which also requires FSPs to have green strategic planning allocating funds for green banking and reducing financing of environmentally harmful activities. It creates the Climate Risk Fund to finance climate-vulnerability and support emergency situations, requires capacity building of employees and clients, and disclosure of green banking activities in financial reports. (R) Extended implementation timeline and expanded to other FSPs. (U1) Sets minimum target for green finance set at 5 percent of total funded loan disbursement or investment, modified in 2020 to apply to total funded term loans. (U2) Minimum Climate Risk Fund allocation of at least 10 percent of the FSP's CSR budget. (U3) Requirement for FSPs to create a Sustainable Finance Audit Team (SFAT) and a Sustainable Finance Committee comprised of senior management. SFAT's functions include overseeing the measurement of the FPS's carbon footprint and managing climate risk. (U4) Introduction of a list of green finance products. (U5) SFP integrating previous developments on green policies and introducing the sustainable finance taxonomy, green finance taxonomy and climate finance taxonomy, which extended the previous list of 55 green and sustainable products introduced by the GBP to 68 green products/projects/initiative. The sustainable finance taxonomy covers green finance, social finance, and responsible finance (governance). (U6) Annual target for Sustainable Finance set as a percentage of net loan outstanding and advance balance from the previous year. (U7) SFP updated, expanding to 94 products/projects/initiatives covered by the taxonomies, introducing gender aspects, a climate finance framework and a climate finance taxonomy.

Note: (I): Issued. (U): Updated/additional guidance. (R) Replaced.

meet the minimum targets. For example, since 2009, a revolving refinance scheme was introduced to encourage green lending. Initially covering six green activities, it grew to cover 68 activities by 2022. Another initiative, the Green Transformation Fund, initially targeted the textile, leather, and jute sectors but was later expanded to all export-oriented industries. These TROs are accessible only to banks, but banks may allocate the funds by partnering with MFIs. When doing so, banks must ensure that MFIs/customers meet the minimum regulatory requirements, including environmental due diligence.

FINANCIAL INCLUSION IMPACT OF CLIMATE-RELATED REGULATIONS

Financial inclusion is a key mandate of Bangladesh Bank, which has special regard for CMSMEs, women, low-income households and populations affected by climate hazards. Financial inclusion is embedded in

Bangladesh Bank's sustainable finance responsibilities, reflecting the bank's strategic goal of promoting inclusive sustainable finance. Climate-related regulations mention financial inclusion as a policy goal.

Despite Bangladesh Bank's early regulatory efforts and its attention to financial inclusion issues, our interviews indicate that the risk of exclusion among low-income segments and CMSMEs could increase. Bangladesh Bank's published data on the sustainable loan portfolio does not allow for an assessment of the regulatory impact on financial inclusion. However, our interviews suggest that both Bangladesh Bank and FSPs face challenges that impact regulatory implementation and could exacerbate financial exclusion. For instance, the ratio of green finance to total bank advances has been consistently below the minimum target, remaining between 1.6 and 2.8 percent during 2013-2016,[30] while green finance stayed between 0.7 and 1.7 percent of all bank loans during 2019-2023.[31] Further, although CMSMEs finance increased over 200 percent during 2021-2023, it accounted for only 5 percent of total green finance in 2023.[32] Moreover, sustainable and green finance disbursements concentrate in urban areas such as Dhaka and Chittagong.

Some customers struggle to meet customer eligibility requirements and deal with the complexity and costs of information requirements. For instance, potential borrowers may fail to meet the requirements of the ESDD checklist because they cannot afford or otherwise obtain green certifications. Such requirements may include a business license that the overwhelming majority of CMSMEs lack; or compliance with additional reporting requirements once the loan is approved, to allow FSPs to monitor sustainability and climate impacts. For small loans, these extra costs can be a deal breaker, even when benefiting from subsidies.

Moreover, the sustainable finance taxonomy is focused on climate mitigation activities, directing green lending to large enterprises and projects that more easily fit climate mitigation objectives. The focus of the taxonomy could also lead funders to put pressure on FSPs to finance more mitigation activities, crowding out other types of finance that could benefit CMSMEs and low-income populations.

FSPs have also noted that the additional costs of regulatory implementation, including costs to implement disclosure and reporting standards can be significant, potentially discouraging less profitable, smaller loans. For instance, preparing and submitting disclosure reports is time-consuming and may become more challenging if it involves data collection about small transactions with CMSMEs and low-income households. Implementing the new IFRS S1 and S2 standards in a phased approach might help in this regard, by giving FSPs more time to change their processes and systems and train staff. Some banks have already aligned their processes, data infrastructure and human resources capabilities with some of Bangladesh Bank's disclosure requirements, but these changes have cost implications.

The exclusion risk is not only caused by climate-related regulation, but also its interaction with the broader country environment. Broader context issues impact regulatory implementation and could exacerbate the risk of excluding the most vulnerable segments. For example, MFIs, which traditionally serve these segments, cannot access Bangladesh Bank's refinancing lines. While banks are allowed to allocate such funds via MFIs, they cannot verify eligibility criteria and creditworthiness, because MFI borrower information, including their credit history, is not available to banks via the credit bureau. As a

30 See Nabi et al. 2016. "Are We Greening the Economy? Recent Trends of Green Financing in Bangladesh." https://www.bb.org.bd/pub/research/workingpaper/wp1618.pdf

31 Bangladesh Bank revealed that green finance in the banking sector was 4.97 percent of term disbursement at the end of 2022 and this increased to 7.25 percent ate the end of 2023.

32 Bangladesh Bank's annual report.

result, subsidized credit is used only to a limited extent to meet the needs of low-income populations and CMSMEs. The lack of business licenses by CMSMEs, previously mentioned, effectively makes them ineligible to obtain environmental certificates, which potentially makes them ineligible to obtain credit.

Other challenges relate to capacity constraints, evolving expertise at FSPs, and limited knowledge by potential borrowers. Our stakeholder interviews suggest that FSPs may lack sufficient awareness and understanding of green and sustainable finance, especially on how to apply such concepts to low-income segments and CMSMEs. Additionally, low-income segments, especially in rural areas, have limited knowledge about sustainable or green finance opportunities.

Table 3 summarizes the pathways for potential and observed financial exclusion impacts of the climate-related regulation, as described above.

TABLE 3. **Financial exclusion impact pathways in Bangladesh**

Pathways	Description	Related regulation
Increased cost	FSPs must help educate customers through cumbersome and time-consuming processes to obtain certificates to meet the eligibility requirements. FSPs must also monitor compliance with environmental plans and adjust reporting systems to new disclosure and reporting requirements, leading to increased costs that may discourage lending to riskier customers and smaller loans. The requirements affecting FSP organizational structure such as specialized units and senior level responsibilities also contribute to increased costs. The exclusion risk is amplified by the imposition of interest rate caps.	• ESDD checks • Sustainable finance taxonomy • IFRS S1 and IFRS S2 • Broad risk management standards
Increased supervisory scrutiny and capacity constraints	The introduction of new risk management requirements considering the current level of expertise at FSPs, even when the implementation is phased and despite Bangladesh Bank providing implementing tools, can lead overly conservative approaches that shun operations with higher climate or environmental risks. Overcompliance may also be the result of fear related to increased supervisory scrutiny and actions such as fines.	• First introduction of ERM guidelines • Green and environmental policy • IFRS S1 and IFRS S2
New customer eligibility barriers	Regulatory requirements to comply with laws such as environmental and business laws to access credit may disproportionality impact CMSMEs, which are often non-compliant with minimum legal requirements due to costs and complex bureaucracy for obtaining business licenses. The high level of informality among CMSMEs and weak law enforcement discourage FSPs from lending to CMSMEs, in the face of additional requirements set in the climate-related regulation.	• ESDD checks and green and sustainable finance lending
New customer eligibility barriers and reduced access to funding	The sustainable finance taxonomy is focused on climate mitigation activities, directing green lending to clients with climate mitigation needs and objectives, which are mainly large enterprises. This could restrict the availability of adaptation and resilience finance for low-income populations and CMSMEs, including via pressure of funders for FSPs to align with the taxonomy. This risk is exacerbated by the minimum lending requirements.	• Sustainable Finance Taxonomy (SFP)

Brazil

After an overview of the broader country context, this note outlines key aspects of Brazil's climate-related financial sector regulations, and describes how they could impact financial inclusion, focusing on rural credit to smallholder farmers. The findings are based on a literature review, data analysis and stakeholder interviews conducted in the first half of 2024.[33]

COUNTRY CONTEXT

Brazil plays a global role in fighting climate change, but its vulnerability to climate risks and their economic impacts are increasing. Brazil has abundant natural resources[34] and is the sixth largest global emitter of GHGs,[35] predominantly from land use change and agriculture, which account for 52 and 24 percent of Brazil's emissions, respectively (World Bank 2023b). Brazil is the 49th most vulnerable country but is ranked 124th in terms of country readiness.[36] According to the IMF (2023), the effects of climate change are already impacting Brazil's economy, while the World Bank (2023b) estimates that extreme events have caused average annual output losses of 0.13 percent of GDP over the past 20 years. The financial sector could be impacted by these developments, as around 20 percent of the total credit portfolio is exposed to climate-vulnerable sectors, with agriculture accounting for around 11 percent of total loans in the financial sector.[37]

Agriculture is central to Brazil's sustainability agenda. The 2008 National Climate Change Policy (PNMC) coordinates climate action at the national level.[38] Agriculture is featured prominently in these documents for being both a major contributor to climate change and economic output, and key for mitigation, adaptation and resilience. In 2011, the Brazilian Plan for Adaptation and Low Carbon Emission in Agriculture (ABC Plan 2010-2020) was issued, followed by ABC+ Plan 2020—2030. These promote sustainable agriculture, emphasizing adaptation and resilience via financial incentives for the green transition of agriculture, including for smallholders, which account for the lion's share of rural properties in Brazil.

The national rural credit policy, managed by the Central Bank of Brazil (BCB in its Portuguese acronym), is the main instrument for agricultural development and a key element of BCB's climate-related regulation. Rural credit is regulated by the BCB, which requires deposit-taking FSPs to allocate around 30 percent of deposit balances in rural credit (directly or via other FSPs). Rural credit has lower interest rates compared to conventional credit, thanks to government subsidies that apply inversely to the size of the financed property. The National Program to Strengthen Family Agriculture (Pronaf), in particular, is dedicated to smallholders and offers subsidies for improving family farming practices.[39] BCB's rural credit regulation enforces some rules set in environmental laws, most

33 The Brazil case draws heavily from an extensive literature review and data analysis conducted by Agroícone, commissioned by CGAP.

34 Biomes like the Amazon and the Cerrado are essential components of the global ecosystem services and are crucial for mitigating the impacts of climate change and maintaining environmental stability.

35 The top five emitters as of 2024 are China (30.1%), US (11.3%), India (7.8%), EU27(6.1%), and Russia (5%). https://edgar.jrc.ec.europa.eu/

36 Ranking according to the Notre Dame Global Adaptation Initiative (ND-GAIN), which summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. It aims to help governments, businesses and communities better prioritize investments for a more efficient response to the immediate global challenges ahead. https://gain.nd.edu/our-work/country-index/rankings/

37 Meeting with the Central Bank of Brazil on 5 October, 2024.

38 Several documents have been produced based on the PNMC, including the 2026 National Plan for Adaptation to Climate Change (PNA) and the 2024 Ecological Transformation Plan of the Ministry of Finance, which promotes sustainable finance via the development of a green taxonomy (currently underway), green bonds, and fiscal policies (e.g., carbon tax).

39 Pronaf resources are managed by the national development bank, BNDES, but the participation of licensed lenders is subject to BCB's regulation and supervision since 2008.

BOX 7. **CAR and SICOR (Green Credit Bureau), key elements of BCB's rural credit regulation and supervision**

CAR ("Cadastro Ambiental Rural"-Rural Environmental Registry), introduced by the Forest Code, is a geo-referenced, public electronic register that contains a wealth of information about rural properties, including the areas designated for the conservation of native vegetation, hydric resources, and biodiversity. CAR entries are originated from self-declared information, which later must be verified by regional environmental agencies (producing a "validated" CAR). According to the Forest Code, having a CAR is mandatory for all rural properties and also for accessing rural credit. All CAR-linked information – regardless of being validated or not – is contained in the National Rural Environmental Registry System (SICAR), which is operated by the Ministry of Environment and Climate Change (MMAMC) and used for environmental and economic control, monitoring, and planning and for combating deforestation. Validated CARs are crucial for environmental control and rural credit provision, but only around 4 percent of all CARs are validated, creating data quality issues such as misreporting.

SICOR ("Sistema de Operações do Crédito Rural" or Rural Credit Operations System) is a database operated by the BCB containing details about all rural credit operations in the financial system. Each loan is tagged to a CAR, which allows the BCB to gather additional information by integrating SICOR to SICAR and other databases that use CAR, such as those of the Ministry of Justice and environmental agencies. With the extra information, BCB can automatically check for environmental compliance, overlaps with protected lands such as national forests and indigenous territories, and other issues such as the existence of lawsuits against the property owner due to poor workers' conditions. This mechanism allows monitoring of rural properties as a whole, not only of financed plots. For instance, if another plot of the property is subject to embargo for environmental damage, a rural credit can be blocked. In 2021 SICOR was revamped and rebranded as the Green Credit Bureau, increasing the range of automatic checks and allowing FSPs access and functioning similarly to a credit bureau. The Green Credit Bureau also allows borrowers to provide access to their data by third parties, using an open finance concept, which could increase the borrower's bargaining power before lenders and facilitate access to programs to promote sustainable agricultural practices or other incentives. Finally, operating SICOR also allows the BCB to publish extensive rural credit data on its website, including granular information on the loans benefiting from receiving subsidies.

notably the Forest Code.[40] Another key initiative of the agricultural policy is Proagro, an agricultural credit guarantee scheme also overseen by the BCB. In managing the rural credit policy, the BCB relies on two key elements: the Rural Environmental Registry (CAR) and SICOR (rebranded as Green Credit Bureau in 2021), both of which are explained in Box 7.

CLIMATE-RELATED REGULATION AFFECTING CREDIT PROVISION

The BCB's approach to climate-related regulation has been to gradually integrate social and environmental risks and, later, CRFR risks into regulation and supervision. The BCB articulated its BC# Sustainability Agenda in 2021 – the same year in which it joined the NGFS – to promote sustainable finance and improved management of climate and environmental risks within the financial system and integrate sustainability

40 The Forest Code (Law n. 12,651/2012) governs native vegetation and provides guidelines for the agricultural sector. It also creates the Environmental Regularization Program (PRA), which guides landowners and landholders to adopt actions to restore degraded and altered areas.

into the management of international reserves.[41]
The first environmental requirements for rural credit underwriting were set in 2008. Between 2008 and 2021, FSPs were gradually required to: i) design and implement a Social and Environmental Responsibility Policy (PRSA); ii) include social and environmental risk into their risk management and capital framework; and iii) incorporate climate, environmental and social risks into FSP obligations, including broad risk management and capital frameworks.[42] BCB has built specialized regulatory and supervisory teams in rural credit and broader climate-related regulation and supervision. Table 4 details the main BCB regulations in place, and the Sustainable Taxonomy currently being drafted by the Ministry of Finance.

The rural credit underwriting requirements have been gradually tightened up to mitigate environmental and social risks and improve monitoring and control. Since

TABLE 4. **Summary of the BCB's climate-related regulation**

Year	Regulation	Main aspects covered
Requirements to address risks		
Broad risk management obligations and governance / differentiated capital requirements (Pillar 2) / scenario analysis and stress testing		
(I) 2014 (R) 2021 (U) 2023	(I) Resolution CMN 4,327 (R) Resolution CMN 4,945 (U) Resolution BCB 331	(I) Requires FSPs to have a Social and Environmental (SE) Responsibility Policy (PRSA in its Portuguese acronym), focusing on governance and SE risk (R) Replaced PRSA by PRSAC, by including climate-related factors. PRSAC must cover: (i) impacts on FSP's activities; (ii) strategic objectives and opportunities; and (iii) the competitiveness and regulatory environment in which the FSP operates. Requires continuous monitoring and disclosure. (U) Extends PRSAC to type 3 conglomerates (FSPs led by a payments entity).
(I) 2017 (U) 2021 (U2) 2022	(I) Resolution CMN 4,557 and Circular BCB 3,846 (U) Resolution CMN 4,943 and Resolution CMN 4,944 (U2) Resolution BCB 265	(I) Introduces SE risks into the risk and capital management frameworks and into the ICAAP (excluding small FSPs). (U) extends SE risks and includes physical and transition climate risks into the risk and capital management frameworks. Requires identification, measurement, evaluation, monitoring, control, reporting and mitigation of SE and climate risks; monitoring of exposure concentrations in sectors or regions more vulnerable to SE and climate damages; introduces climate scenario analysis and stress testing and analysis of impacts over traditional financial risks; inclusion of smaller institutions in scope (simplified requirements are set in Resolution 4,606/2017, updated by Resolution 4,944/2021). (U2) Extended SE and climate risk management to type 3 conglomerates.
(I) 2021 (U) 2023	(I) Resolution BCB 151 (U) Resolution BCB 353	Submission of bi-annual regulatory reporting related to SE and CRFR risks, via document 2030 - Risk Document Social, Environmental and Climate (DRSAC). Several BCB Normative Instructions (IN) defined the reporting templates.

41 In 2015 the BCB started monitoring the effects of drought on the financial system. It published its first Report on Social, Environmental, and Climate-Related Risks and Opportunities in 2021, the first assessment of the financial system exposure to transition risks and scenario analysis for extreme drought in 2022, and a scenario analysis for intense flood in 2023.

42 The PRSA was then replaced by the Social, Environmental, and Climate Responsibility Policy – PRSAC.

TABLE 4. **Summary of the BCB's climate-related regulation** (continued)

Year	Regulation	Main aspects covered
Credit underwriting requirements		
(I) 2008 (R) 2021	(I) Resolution CMN 3,545 (R) Resolution CMN 4,903	Requirements for environmental compliance for rural credit in the Amazon Biome; revoked by CMN Resolution 4,903/2021. Subsequent resolutions have updated SE and climate compliance requirements for rural credit.
(I) 2010 (R) 2021	(I) Resolution CMN 3,876 (R) Resolution CMN 4,903	Prohibits granting rural credit to individual producers or legal entities listed in the Register of Employers who have maintained workers in conditions analogous to slavery.
(I) 2018 (R) 2021 (U) 2021 (U2) 2023	(I) Resolution CMN 4,663 (R) Resolution CMN 4,903 (U) Resolution BCB 140 (U2) Resolution CMN 5,081	Requires CAR (see Box 1) for accessing rural credit from January 2019. In 2021 and 2023, requirements included verification of canceled/suspended CAR, embargoed areas (federal and state), and overlaps with public forests across all biomes.
Disclosure requirements		
Prudential disclosures (Pillar 3) /sustainability reporting standards / disclosure of transition plans and public commitments / Risks and opportunities report		
(I) 2021 (U) 2023	(I) Resolution BCB 139 (U) Resolution BCB 306 & BCB 354	(I) Annual disclosure of the Social, Environmental and Climate Risks and Opportunities Report (GRSAC Report) on the FSPs' website, according to the PRSAC, with qualitative disclosures aligned with the TCFD recommendations. Scope of the GRSAC Report is extended in 2023 to type 3 conglomerates, with first reporting delayed until the end of 2024.
2024	BCB Public Consultation No. 100	Consultation on enhancement of GRSAC Report based on: i) the issuance of IFRS S1 and S2 by the ISSB; and ii) the BCBS's 2024 public consultation on Pillar 3 standards for SE risks and CRFR. Consultation closed on June 28, 2024.
Sustainable taxonomy		
2023	Ministry of Finance's public consultation of the Brazilian Sustainable Taxonomy Draft.	Classification system that defines activities, assets and/or categories of projects that contribute to climate, environmental and/or social objectives. Provides criteria and indicators to assess whether an activity contributes to sustainability and/or the transition to a sustainable economy. The Sustainable Taxonomy Draft covers various sectors, including agriculture, and one of its key features is the classification of land use activities such as crop production, cattle, and forestry, and the activities that contribute to social and racial equality. The assessment criteria and measurement indicators were put for public consultation in November 2024 (Ministério da Fazenda 2024). The Sustainable Taxonomy will come into force in 2026.

Note: (I): Issued; (U): Updated; (R): Revoked.

the first underwriting rules issued in 2008, a significant change has been to start enforcing, in 2019, the Forest Code's requirement for farmers to produce a CAR (see Box 1) when seeking rural credit. Since then, all rural credit registered in the Green Credit Bureau (see Box 1) is tagged to a CAR number, allowing the BCB and FSPs to check information contained in other databases that also use CAR to identify a rural property, for underwriting and monitoring purposes. Rural credit is subject to special oversight by the BCB: when a loan is approved by an FSP, it is sent to the Green Credit Bureau and the BCB runs an automated compliance check covering over 1,300 items, to complement the FSP's own due diligence, acting as a second line of defense. Operations blocked by the system cannot be disbursed by FSPs.

In addition to the BCB regulation, the most relevant initiatives are the disclosure requirements of the securities regulator and the forthcoming Brazilian Sustainable Taxonomy being drafted by the Ministry of Finance.[43] Resolution 193, issued by the securities regulator CVM in October 2023, establishes a timetable for the voluntary use by listed corporations of IFRS S1 and S2 for the year 2024 until they become mandatory from 2027 onwards. This means that listed FSPs will need to adjust their data gathering and reporting systems, possibly affecting customers, as these may be required to provide additional information in line with IFRS S1 and S2. CVM also issued Resolutions 217 and 218 in late 2024, making it mandatory for listed companies to comply with additional sustainability disclosure standards set by the Brazilian Committee for Sustainability Pronouncements, a self-regulatory body. Also, the Ministry of Finance is coordinating extensive consultations to support the drafting of the Sustainable Taxonomy, which will define activities, assets and/or categories of projects – across all economic sectors – that contribute to climate, environmental and/or social objectives. Its adoption is scheduled for January 2026, and there will be a consultation process to define which sector regulations must incorporate the taxonomy, and how.

FINANCIAL INCLUSION IMPACT OF CLIMATE-RELATED REGULATIONS

Evidence shows that the rural credit regulation has played a role in reducing deforestation and improving the lives of farmers. BCB regulation works to mitigate the socio-environmental and climate risks of projects financed by public policy, as studies show that rural credit contributes to reducing deforestation in the Amazon biome, which could not only combat climate change effects but also increase the resilience of local communities. Moreover, there is evidence that rural credit plays a role in improving the lives of rural producers via positive impacts on the Gross Value of Production; agricultural GDP and total factor productivity; impact on the planted area; the amount harvested and cattle herds and in the family farmer's income and productivity.

The existence of environmental and other databases supports regulatory implementation and improvements in the rural credit policy. Tagging each loan to CAR makes it possible for FSPs and the BCB to run checks against other databases that use CAR, improving compliance with regulatory and legal requirements, including the credit underwriting requirements imposed by BCB. The benefits may extend to increased protection of vulnerable communities such as quilombolas[44] and indigenous groups, against land-grabbing and environmental crimes. For considerably expanding the information on each borrower, this mechanism has also allowed the BCB to

43 The insurance regulator, SUSEP, is also relevant, but its regulations are not assessed in this report. For instance, its Circular 666/2022 requires insurers to have sustainability policies. It is developing regulation to define sustainable insurance products which is expected to align with the draft Sustainable Taxonomy. It is also collaborating with the Ministry of Finance to create a National Stabilization Fund for catastrophic risk. Effective insurance coverage could improve credit access by segments highly exposed to climate risks.

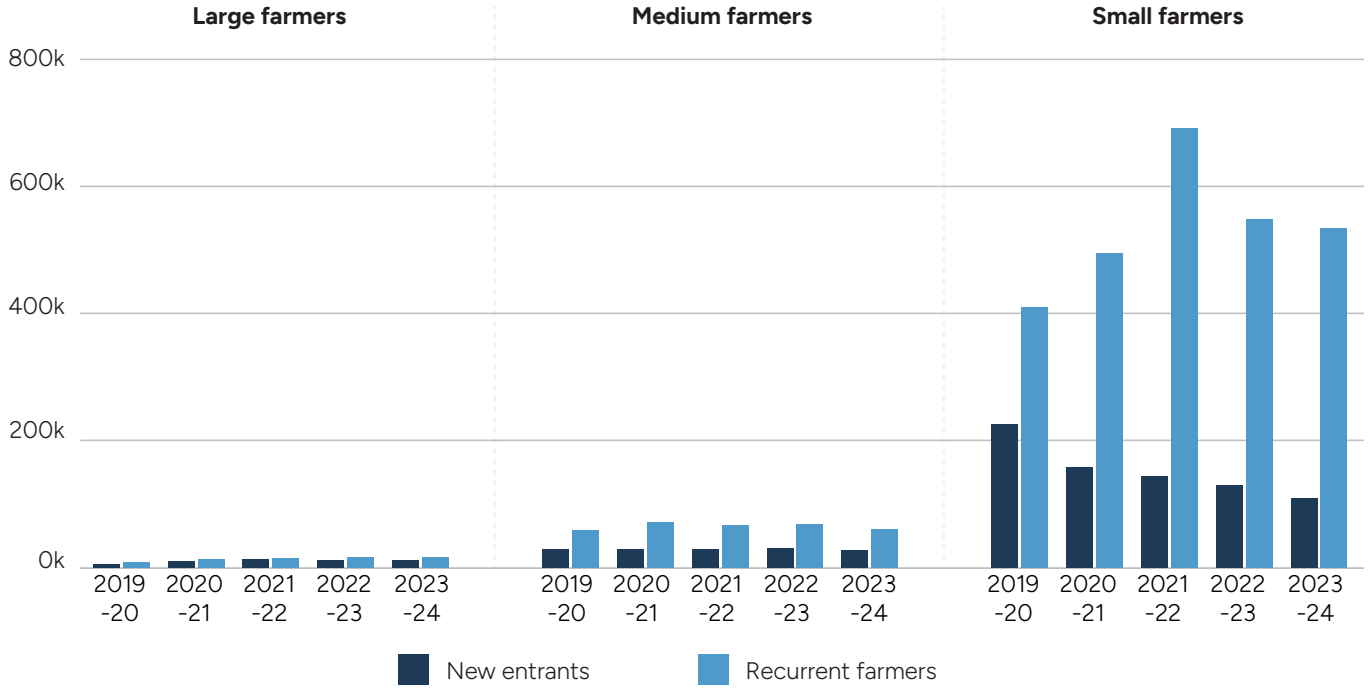
44 According to Decree 4,887/2003, quilombolas are ethnic groups with their own historical trajectories, endowed with specific territorial relationships, with presumed ancestry related to resistance to historical oppression.

gradually improve incentives for sustainable farming, based on a borrower's compliance with the Forest Code and the Native Vegetation Law, including farmers who are taking measures to become compliant. In addition to the Green Credit Bureau, other data also helps FSPs adhere to sustainable finance standards.[45]

However, and despite the wealth of information available for decision-making by lenders, credit to smallholder farmers has been decreasing over the years. Currently, it is estimated that 85 percent of small rural properties have no access to credit and that this number is even higher in poorer regions.[46] Figure 4 shows that while large farmers are increasing participation in rural credit that benefits from public subsidies, the number of new small farmers in this group has fallen from 263.8 thousand in 2019/2020 to 137.6 thousand in 2023/2024, despite the fact that family farmers represent 77 percent of all rural properties in Brazil. The fall was especially acute in the Northeast region, where the most vulnerable subsistence farmers are located. In this region, the number of new borrowers fell from 136.1 thousand in 2019/2020 to only 62.6 thousand in 2023/2024 (Figure 5).

Potential drivers of this downward trend include BCB's stricter requirements as well as a range of other contextual factors. Making CAR a regulatory requirement in 2019 may have excluded small farmers with no CAR or having had their CAR registration canceled or suspended, although this is not the only reason for the reduction in loans to family farmers. Likewise, properties located in conservation units, indigenous land, quilombola territory, public forests, or embargoed land due to illegal deforestation were

FIGURE 4. **Number of new entrants and recurrent borrowers with rural credit (with subsidies) by farmers' size**

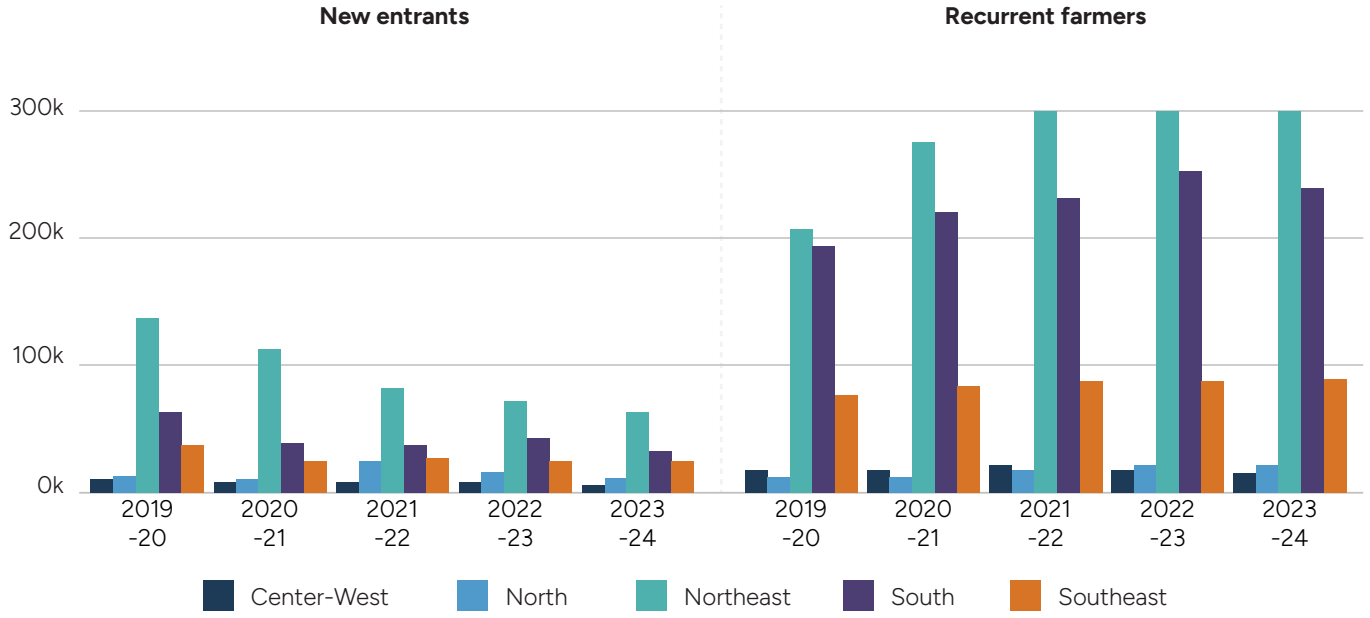


Source: Based on Sicor/BCB. Elaborated by Agroicone

45 One example is the National Emissions Registration System (SIRENE), which has comprehensive data about GHG emissions in sectors such as Waste, Agriculture, Land Use, Land-Use Change and Forestry, Energy, Industrial Processes, and the Use of Other Products.

46 Agroícone estimate based on SICOR data and total number of small rural properties in Brazil.

FIGURE 5. **Number of new entrants and recurrent farmers in Pronaf**



Source: Based on Sicor/BCB. Elaborated by Agroicone

all subject to increased scrutiny and potentially lost access to credit. Additionally, research shows that some socioeconomic factors correlate with increased access to rural credit, including the education level, the size of the rural property, participation in associative organizations, access to the internet and electricity, and adoption of best agricultural practices. Conversely, being a female, non-white, or old correlates to lower credit access. Finally, Pronaf programs have well-defined sustainability and resilience purposes, but the take-up is limited by challenges faced by farmers and FSPs:[47]

The challenge for the BCB is to maximize the benefits of increased compliance and control in a context where smallholder farmers face challenges that are beyond the BCB's remit. The BCB faces the trade-off between moral hazard and transaction costs: less control leads to abuse of government subsidies and does not provide incentives for the adoption of sustainable agricultural practices, while documentation and certification requirements increase transaction costs and complexity, especially for the most vulnerable. The challenges smallholder farmers face – such as no access to the internet to create a new CAR; no access to technical assistance to adopt sustainable farming – are largely outside the BCB's remit but impact the implementation of BCB regulations. The regulations, such as using CAR as a policy, regulatory and supervisory tool, have clear benefits for all stakeholders, including small borrowers, so it is crucial that the contextual challenges faced by smallholder farmers are fully and immediately addressed.

Except for rural credit regulation, there is little evidence of the impacts of the climate-related regulation listed in Table 4 above. However, our interviews suggest that the risk of financial exclusion is real. A study found that the 2017 regulations requiring large FSPs to incorporate social, environmental and climate into risk management and capital frameworks led smaller banks to reduce

47 These challenges have been well documented in the literature, and compiled by Agroícone for this report.

TABLE 5. **Challenges for family farmers and lenders in Brazil**

Challenges for farmers	Challenges for lenders
• Lengthy and complex bureaucracy to obtain documentation. • Requirement to get costly organic certification. • Perception that Pronaf's loan conditions are uninteresting due to higher transaction costs and time involved. • Lack of understanding of Pronaf rules and financing conditions. • Excessive delay in project approval, leading to withdrawal.	• Risk aversion and limited advertisement by FSPs of Pronaf lines. • Lack of knowledge about sustainable farming practices, which leads to loan repayment schedules and terms and conditions that do not fit the production process and cycle (e.g. investment in short-cycle crops such as corn, beans, and cassava, combined with the planting of trees, which are long-cycle).

Challenges for both farmers and lenders
• Lack of knowledge of sustainable financing lines. • Low coverage of technical assistance to farmers for project construction and monitoring.[a] • Lack of knowledge about sustainable small scale farming practices such as agroforestry and agroecological projects.[b]

a Technical assistance is a requirement for only some Pronaf lines but FSPs often require it for other lines. Technical assistance costs can be financed too, but the challenge is the availability of technical assistance for small farmers.

b Studies have shown that the lack of knowledge about sustainable farming practices such as agroforestry, by bank staff, has led farmers, who were looking to finance their green transition, to take up loan to continue with traditional farming. Another example is where lenders require investment in input packages incompatible with sustainable farming.

lending to SMEs and a reduction in SME employment (Faruk et al 2022). The FSPs we interviewed highlighted the risk of higher compliance costs that could render small-value loans unattractive, although concrete actions in this regard have not been reported. The risk of requiring excessive documentation from small farmers and MSMEs (e.g. for FSPs to meet disclosure standards) was also emphasized. Another concern is the risk of tightening credit conditions for whole sectors due to domestic and foreign taxonomies and simplistic sustainability measurements (e.g. GHG emissions), which could lead to knock-on effects in productive value chains upon which many vulnerable segments depend, or reduced credit for activities crucial to climate mitigation, adaptation, and resilience. FSPs also reported that the current state of knowledge and expertise in environmental and climate risk management, together with the risk of supervisory action and the reputation and litigation risks from increased disclosures, may lead FSPs to be more conservative.

Table 6 summarizes the pathways for potential and observed financial exclusion impacts of the climate-related regulation described above.

TABLE 6. **Financial exclusion impact pathways in Brazil**

Pathways	Description	Related regulation
New customer eligibility barriers	The requirement of verified CAR to access rural credit under the national policies, which, together with other requirements depending on the type of credit, can lead to excessive transaction costs and delays and could lead to the exclusion of small farmers.	Rural credit underwriting requirements.
	Requirement for borrowers to obtain organic or green certification for some rural credit lines.	Rural credit underwriting requirements
	The requirement for farmers to have technical assistance for project construction and monitoring for certain credit lines, in a context where technical assistance is not reaching most small farmers, including those seeking to transition to sustainable practices.	Rural credit underwriting requirements.
Reduced access to funding	International funders linking funding to climate-related objectives mostly dictated by the EU taxonomy. This leads FSP to prioritize financing activities and sectors that do not include activities that support resilience and adaptation of low-income communities and MSMEs.	EU taxonomy affecting funders, particularly multilaterals.
Capacity constraints	FSPs lacking proper social, environmental and climate risks management frameworks, as well as knowledge about adaptation and sustainable transition strategies of vulnerable communities (e.g. small-scale agroforestry systems) and MSMEs tend to impose requirements on borrowers in addition to those set in the regulation. Examples include green certification, technical assistance, and investment in unnecessary input packages.	Broad risk management obligations incorporating social, environmental and climate risks.
Increased supervisory scrutiny	FSPs (even those with high technical capacity) are likely to adopt conservative strategies to avoid supervisory scrutiny, even in the face of proportional regulations. This impact has been measured with regard to the 2017 regulation requiring large banks to incorporate social, environmental and climate risks into their ICAAP.	Broad risk management obligations, incorporating social, environmental and climate risks and capital (Pillar 2) requirements.
Increased litigation and reputation risk	Fearing potential drawbacks from increased public disclosure and control about lending operations, FSPs may avoid lending to borrowers in areas or sectors that could potentially create reputational and litigation risks, such as areas in or close to the Amazon biome and indigenous lands, or parts of the meat industry that adopt sustainable practices.	Disclosure requirements related to social, environmental, and climate factors (GRSAC report), and prudential reporting requirements.
Increased costs	FSPs reported the risk that increased overall costs involved in building specialized environmental and climate risk teams, methodologies, and systems, together with increased reporting and disclosure obligations and supervisory costs, could have a negative impact on small-value loans.	Broad risk management obligations incorporating social, environmental and climate risks and capital (Pillar 2) requirements, reporting requirements, IFRS S1 and S2.

Colombia

After an overview of the broader country context, this note outlines key aspects of Colombia's climate-related financial sector regulations and describes how they could impact financial inclusion, with a focus on MSMEs and low-income segments. The findings are based on a literature review and stakeholder interviews conducted in the first semester of 2024 with key stakeholders in Colombia.

COUNTRY CONTEXT

Colombia is a low contributor to global GHG emissions, accounting for just 0.40 percent of the global total,[48] but it is highly vulnerable to the impacts of climate change. The country is placed 38th in the long-term Global Climate Risk Index (GCRI) and 28th in the 2019 GCRI. According to the UNDP (2023), Colombia's primary natural disaster risks include flooding, earthquakes, drought, landslides, and wildfires, with floods posing the greatest economic burden. World Bank projections indicate that, without adequate adaptation measures, climate change could reduce Colombia's GDP by up to 2.5 percent by 2050, disproportionately affecting low-income populations (World Bank 2023d).

Still, Colombia has committed to an ambitious emissions reduction target, which has ramifications across all economic sectors, particularly agricultural and livestock activities. In 2020, Colombia updated its Nationally Determined Contribution (NDC)[49], committing to a 51 percent reduction in GHG emissions by 2030 and aiming for a net-zero, climate-resilient economy by 2050. Land-use sectors —encompassing land use and change, forestry, and agriculture— account for 59 percent of Colombia's GHG emissions which are driven by deforestation for the expansion of agricultural and livestock activities. Hence, transitioning to sustainable land use practices, better controlling deforestation, promoting reforestation, and improving climate-smart agriculture and livestock systems, are crucial for Colombia to meet its climate commitments. Beyond land use, other critical sectors include energy, transport, waste management, and industry.

Financial services play a critical role in fostering a climate transition and adaptation efforts and increase resilience of vulnerable groups like rural communities and MSMEs, but these groups continue to face challenges in accessing credit. Colombia's smallholder farmers, who comprise a large portion of the agricultural sector, often lack access to financial services, particularly credit, which hinders the adoption of climate-smart agriculture technologies and sustainable practices. This contributes to the sector's low productivity, reinforcing a deforestation cycle: nearly three-quarters of the increase in agricultural production between 2001 and 2021 was achieved by geographical expansion rather than improvements in productivity (World Bank 2023d). Additionally, the complex connections between land use, Colombia's peace efforts, and rural job creation underscores the need for integrated solutions.

CLIMATE-RELATED REGULATION AFFECTING CREDIT PROVISION

The Financial Superintendence of Colombia (SFC) has followed a phased approach to integrating climate-related risks and opportunities into the regulatory framework. The SFC is the integrated supervisory authority for the financial sector, overseeing banks, financial intermediaries, insurance companies, securities, and pension funds. It has applied the principles to gradually and proportionally regulate climate action, by conduction research on international development practices and engaging in extensive

48 Ranking 40th worldwide, according to the EDGAR database (Emissions Database for Global Atmospheric Research, 2022).

49 According to the United Nations, Nationally Determined Contributions (NDCs) are climate action plans established by each party to the Paris Agreement to set targets for mitigating GHG emissions and adapting to climate impacts. These plans, which must be updated every five years, define how each country will achieve the targets.

consultations with FSPs to better understand the local context, including the identification and measurement of environmental and social risks in the financial system. SFC published its first biennial survey on climate-related risks and opportunities in 2018; set up a dedicated team and joined the SBFN in the same year and joined the NGFS in 2019. These actions were complemented by measures to facilitate innovation, improve data availability and transparency, test regulatory and supervisory tools, and build capacity in the sector. Also, in 2020 the SFC became a permanent member of the Financial Management Committee,[50] helping articulate and coordinate measures to implement the National Climate Finance Strategy, that aims to ensure funding for climate adaptation and mitigation action.

SFC's first climate-related regulations came in 2021 and SFC has allowed FSPs to gradually implement the new standards that evolve from voluntary guidelines to mandatory rules. Most measures to date continue to be non-binding for FSPs but are increasingly being turned into mandatory instruments. This approach gives time for FSPs to gradually adapt their practices, avoiding sudden increases in compliance costs and technical challenges in regulatory implementation.[51] The only binding regulations indirectly affecting credit provision are Circular 31/2021, which mandates sustainability-related disclosures aligned with the standards set by the Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board (SASB). This regulation is applicable only to large companies issuing instruments in the capital markets. Additionally, External Circular 005/2022, requires FSPs to align their disclosures of green operations with Colombia's Green Taxonomy (Taxonomía Verde de Colombia –TVC), or otherwise explain any difference. Another key instrument is the (non-binding) 2022 ESRM Guidelines that provide guidance on governance, climate risk management, and financial risk disclosure for credit institutions. A consultation paper was issued in 2023, with the intent of turning the ESRM requirements into mandatory regulation in 2025.

The Colombian government launched the TVC in 2022, which was quickly incorporated into SFC regulation.[52] The TVC's initial focus is on climate change mitigation goals, with adaptation and resiliency goals being left for a subsequent stage. The SFC quickly followed with the External Circular 005/2022 to require FSPs to align with the TVC (or explain any disparity), and the (non-binding) 2023 Green Taxonomy Guidelines for Credit Institutions in 2023. The SFC published a comparison between the EU taxonomy and the TVC aimed at facilitating the interoperability between both taxonomies for disclosure of aligned activities.

Table 7 summarizes the evolution of SFC's climate-related regulations affecting credit provision.

SFC has taken other measures to complement the above framework. In 2022 and 2023 the SFC issued a few circulars to promote and support green finance. In 2024, FSP incorporated an adverse climate scenario into the stress tests conducted within the supervisory framework. Also, the SFC is developing a sustainability dashboard to track progress on: i) FSPs' exposure to climate risks through financing and investment; ii) FSPs sustainability measurement; and iii) financing of projects to achieve the Sustainable Development Goals (SDGs). Other SFC measures include the Technical Document on Best Practices for Green Bond Issuance (2020) and the 2023 Supervisory Expectations on the management of climate risks and opportunities for the insurance sector.

50 The Financial Management Committee (Comité de Gestión Financiera - CGF) is part of Colombia's National Climate Change System (SISCLIMA), which coordinates climate-related policies across sectors, bringing together public and private actors to integrate climate change considerations into the country's financial planning.

51 SFC's latest biennial survey found significant progress in the adoption of the non-binding instruments.

52 The drafting of the TVC counted with technical support from the IFC, the World Bank, and the SBFN.

TABLE 7. **Summary of the SFC's climate-related regulation**

Year	Regulation	Main aspects covered
Requirements to address risks		
Broad risk management obligations / governance / stress testing and scenario analysis		
2022	Non-binding: SFC Technical Paper on Climate Risk and Opportunity Management (2022 ESRM guidelines)	Supervisory expectations regarding the management of environmental and social risks covering 4 dimensions: i) governance and strategy in the face of current and potential impacts, positive and negative, from climate change; ii) management of environmental and social risks (identification, measurement, monitoring, mitigation and reporting); iii) use of prospective tools such as scenario analysis and stress testing; iv) disclosure of information on risks and opportunities. Integration of the above in the SFC's risk-based supervision is foreseen for 2025.
Stress testing and scenario analysis		
2024	Circular letter 28 (binding)	Requires integrating an adverse climate scenario into the 2024 stress test conducted within the supervisory review framework.
Disclosure requirements		
Risks and opportunities disclosures / sustainability reporting standards		
2021	SFC External Circular 031 (binding)	(I) Issuers required to disclose social and environmental information, including climate exposures as per TCFD and SASB standards. First disclosures must be done in 2024. A 2-year implementation period is allowed for new issuers. IFRS S1 and IFRS S2 will replace the use of TCFD and SASB standards once the SFC incorporates these into regulation.
Green taxonomy		
2022	SFC External Circular 005 (binding)	Adoption of the first phase of the Colombian Green Taxonomy (Taxonomía Verde de Colombia – TVC). The TVC includes more than 50 green activities that focus on: 1) climate change mitigation across seven sectors (energy, construction, waste management and emissions capture, water supply and treatment, transportation, information and communication technologies, and manufacturing); 2) five cross-cutting environmental objectives (climate change mitigation, climate change adaptation, land management, biodiversity and ecosystem services, and water management) covering three land-use-related sectors (livestock, agriculture, and forestry). Financial products can only be disclosed as green when they are fully aligned with the TVC. There is ongoing work to better integrate climate adaptation and biodiversity protection and restoration objectives into the TVC.
2023	Non-binding: Green Taxonomy Guidelines for Credit Institutions	Guidelines for the implementation of the Colombian Green Taxonomy in the management of green loans.

Self-regulation has also been key in guiding implementation of SFC climate-related regulations by FSPs, including key non-binding instruments such as the 2022 ESRM Guidelines. Since it joined the SBNF in 2012, Asobancaria, the bank association, has made substantial progress in promoting sustainability among its members. It develops toolkits and protocols that, despite their voluntary nature, are observed by a significant number of members. Key initiatives include: i) the Green Protocol issued in 2012 and updated in 2022; ii) the General Guidelines for the Implementation of Environmental and Social Risk Analysis and Management (SARAS, in its Spanish acronym) introduced in 2016 and updated in 2021; iii) the 2023 Guidelines for Risk Management of Deforestation; iv) the 2023 Net Zero Calculator; and v) the 2024 Social Protocol. SARAs is especially relevant, since it provides guidance for FSPs to improve management of environmental and social risks, effectively working as a precursor of SFC's ESRM binding regulation planned for 2025.

Finally, there are various public support instruments to promote agricultural credit through national development banks, such as Finagro and Bancoldex. These programs facilitate credit access by low-income populations in the agricultural sector and among MSMEs, helping support their transition to a low-carbon economy. There is also the Agricultural Guarantee Fund (FAG), as well as incentives for agricultural insurance and the Rural Capitalization Incentive (ICR), a non-reimbursable financial incentive for farmers and agricultural enterprises.

FINANCIAL INCLUSION IMPACT OF CLIMATE-RELATED REGULATIONS

Financial inclusion is fundamental for SFC's sustainability mandate, which emphasizes preventing the exclusion of "less profitable and more vulnerable" sectors, such as rural and low-income households, and MSMEs. Financial inclusion is also central to the mandate of Colombia's national development banks, which prioritize support for underserved populations and sectors, particularly the rural sector and, more broadly, MSMEs.

It is early days to measure the impact of climate-related regulations in Colombia, but emerging evidence points to real risks of exclusion, with the taxonomy playing a major role. For instance, the implementation of the TVC could have exclusionary impacts due to its initial focus on mitigation. Although FSPs are not required to only finance activities in the TVC, funders such as multilateral organizations and international investors are increasingly prioritizing taxonomy-aligned activities, meaning that the adaptation and resilience needs of vulnerable segments, including smallholder farmers and MSMEs (which represent 98 percent of Colombia's enterprises), are not prioritized at least for the time being. SFC pilots have confirmed that FSPs face significant challenges in applying the TVC to extend credit to these segments, including:

- **Lack of alignment between the current focus on adaptation and the financing needs of vulnerable segments**. The TVC's initial green eligibility and impact measurement requirements are not well-aligned with the financial realities of MSMEs, many of which operate on a subsistence level. For instance, MFIs are working to improve their SARAS (see Table 7) to meet the standards for accessing green funds. However, their clients' immediate needs are often working capital and investment to sustain or grow their businesses. Identifying green opportunities as defined in the taxonomy is challenging when an MSME's survival is at risk.
- **Geographical, demographic and infrastructural barriers.** Colombia's geography and its dispersed population, coupled with insufficient transportation infrastructure, present significant obstacles for FSPs to access the most vulnerable productive units in rural areas to perform verification and measurement tasks required by TVC implementation.
- **Lack of knowledge, by MSMEs and FSP branch staff, about green finance.** For example, while green financing could help mitigate the effects of Colombia's extreme weather patterns such

as droughts and floods, MSMEs and smallholder farmers often do not view it as a viable or desirable option due to their more pressing financial needs.

- **Capacity constraints.** Verifying environmental and social eligibility conditions set in the TVC and measuring the impact of the financed activities towards adaptation goals prove very difficult and costly, even when FSPs use alternative measurement methods (proxies) approved by SFC. Building capacity within FSP branch networks and correspondents to perform green verification and impact measurement tasks has proven to be a significant challenge, particularly in rural and remote areas. Even relatively simple tasks, such as using mobile applications to verify if the property being financed overlaps with a protected area,[53] have been difficult to implement.
- **Lack of borrower compliance with environmental and other laws.** Informality is widespread in Colombia, with over 50 percent of workers being informally employed. MSMEs, including formal ones, also fail to comply with laws such as environmental laws. Weak enforcement, combined with the limited resources of MSMEs, are key reasons of low compliance, making many potentially viable green finance projects that could benefit green funds, ineligible for recognition under the TVC.

Table 8 summarizes the pathways for potential and observed financial exclusion impacts of the climate-related financial regulation described above.

53 Protected areas in Colombia are regions designated for the preservation of natural ecosystems, biodiversity, and cultural heritage. These areas are legally protected and managed by the government or other entities to conserve their environmental value and prevent harmful human activities such as deforestation, resource extraction, and habitat destruction. Colombia's protected areas system is extensive, covering national parks, nature reserves, and wildlife sanctuaries.

TABLE 8. **Financial exclusion impact pathways in Colombia**

Pathway	Description	Related regulation
New customer eligibility barriers and Increased costs	Certain areas are protected by law but the FSP have no tools to verify the boundaries between these areas and properties seeking finance. Since the environmental agencies do not provide effective means for FSPs to verify whether rural properties seeking finance are inside protected lands, FSPs are unable to verify the legal compliance of a property or need to spend extra resources with alternative verification methods. This impacts credit provision near the boundaries of protected areas, particularly impacting smaller loans to rural MSMEs.	• SARAS (self-regulation) • 2022 ESRM Guidelines, which are expected to be substituted by mandatory requirements in 2025.
New customer eligibility barriers and Increased supervisory scrutiny	Definition by law of an agricultural frontier (delimitation of the area that can be used for agriculture) but this definition cannot be used by FSPs for credit decisions. This inconsistency creates uncertainty for FSPs implementing the 2022 ESRM Guidelines and the SARAS (self-regulation), affecting credit provision to rural MSMEs. Effective implementation of these regulations could steer FSPs away from high-risk operations, which in this case could include small farmers located outside the agricultural frontier.	• SARAS (self-regulation by Asobancaria) • 2022 ESRM Guidelines, which are expected to be substituted by mandatory requirements in 2025.
New customer eligibility barriers	MSMEs, most of which are informal enterprises, struggle to comply with the requirements of the environmental law. The effective implementation of the 2022 ESRM Guidelines and SARAS (self-regulation) could lead to further contraction of credit provision to MSMEs due to this lack of compliance.	• SARAS (self-regulation by Asobancaria) • 2022 ESRM Guidelines, which are expected to be substituted by mandatory ESRM requirements in 2025.
Reduced access to funding	International funders engaged with FSPs in Colombia are already linking their funding to climate-related objectives, by tying funds to TVC assessment criteria that are currently focused on mitigation rather than adaptation and resilience objectives (which are more relevant for MSMEs and vulnerable segments). Hence, access to funds is reduced or shifted to support lending to the corporate segment.	• TVC.
Capacity constraints	Educating FSP branch staff and MSME clients, about the need to implement climate-related regulations including the 2022 ESRM Guidelines and the SARAS (self-regulation), as well as the TVC measurement requirements, has been challenging for FSPs, especially in rural and remote areas. Challenges arise even for simple tasks like using mobile applications to verify protected areas. This leads FSPs to be conservative, potentially restricting credit to MSMEs.	• SARAS (self-regulation by Asobancaria) • 2022 ESRM Guidelines, which are expected to be substituted by mandatory ESRM requirements in 2025.

ANNEX 2

Typology of climate-related financial regulation in the literature

This annex is part of the working paper titled: "Exclusion Risks in Climate-Related Financial Regulation: An Analytical Framework."

No uniform methodology exists for categorizing climate-related regulation impacting credit provision. D. Hidalgo-Oñate et al. (2023) conducted a thorough review of peer-reviewed literature and recognized Dikau and Volz (2018) as the seminal academic source for such a classification system. Building on this foundation, D'Orazio and Popoyan (2019) broadened the scope of the review to include additional sources, resulting in a marginally different classification. Demekas and Grippa (2021), the World Bank (2024), AFI's Working Group on Inclusive Green Finance, and the SBFN have developed their own, distinct, typologies. A summary of these typologies is found in the table below.

TABLE 9. **Typology of climate-related financial regulation in the literature**

Source	Typology of climate-related regulation in the literature
Dikau and Volz (2018)	• Disclosure requirements • Climate-related stress testing • Differentiated capital requirements • Green finance guides and frameworks
D'Orazio and Popoyan (2019)	• Disclosure requirements • Stress tests • Differentiated reserve requirements • Lending limits • Risk assessment • Green financial principles

TABLE 9. **Typology of climate-related financial regulation in the literature** (continued)

Source	Typology of climate-related regulation in the literature
AFI's 4Ps framework for Inclusive Green Finance (AFI 2020)	• **Prevention** – avoid undesirable outcomes fact. E.g. ESRM • **Provision** – direct provision of financial services by government institutions or indirectly via concessional financing, lending targets, etc. • **Promotion** – incentives for the private sector, e.g. moral suasion, awareness raising and capacity building, innovation investment funds, data collection and dissemination, and monetary policy (base rate and reserve requirements) • **Protection** – reduce financial risk by "socializing" potential losses through insurance or social payments or giving exceptional access to an individual's assets
Demekas and Grippa (2021)	**Pillar 1 (additional minimum capital)** • Liquidity coverage ratio (LCR) • Net stable funding ratio (NSFR) • Over the counter derivatives charge • Quality and level of capital • Leverage ratio • Capital conservation buffers • Countercyclical buffers • Enhanced loss absorption clause (write-off or debt conversion) **Pillar 2 (additional supervisory review)** • Firm-wide corporate governance • Managing risk concentrations • Alignment of long-term incentives • Sound compensation practices • Supervisory colleges • Internal Capital Adequacy Assessment Process (ICAAP) • Firm-wide risk management • Valuation practice, stress tests • Supervisory review evaluation process (SREP): capital and governance **Pillar 3 (additional/enhanced disclosures)** • Risk management (market, credit, operational) • Regulatory capital components • Detailed reconciliation of capital • Regulatory capital ratios • Securitization exposures

TABLE 9. **Typology of climate-related financial regulation in the literature** (continued)

Source	Typology of climate-related regulation in the literature	
D'Orazio and Thole (2022)	• Prudential regulations • Credit allocation • Green bonds • Green financial principles • Other disclosure requirements	
EBA (2021 and 2024)	**Elements covered in the EBA's approach to ESG risks** • Transparency and disclosures • Risk management and supervision • Prudential treatment of exposures • Stress-testing • Standards and labels • Greenwashing • Supervisory reporting • ESG risks and sustainable finance monitoring	**Minimum standards for ESG risk management and monitoring by FSPs** • ESG management principles • Strategies and business models • Risk appetite • Internal culture, capabilities and controls • ICAAP and ILAAP • Stress testing • Credit risk policies and procedures (includes loan origination and monitoring) • Policies and procedures for market, liquidity and funding, operational, reputational and concentration risks • Monitoring *Focus on E, but minimum requirements for S and G. Emphasis that E should cover the whole spectrum of risks beyond climate, e.g., biodiversity-related risks*
Financial Stability Institute (FSI) (Coelho and Restoy 2023)	**Macroprudential tools** • BBMs, e.g. limits to debt service-to-income ratio • Countercyclical capital buffer, sectoral buffer for real estate exposures	
World Bank (2024)	**Microprudential** • Transition plans • Adjusted risk weight (Green -Supporting Factor/Penalizing factor) • Post-disaster regulatory response **Macroprudential** • Adjusted loan-to-value ratio • Concentration threshold • Sectoral systemic risk buffer	
SBFN (2024)	• Pillar 1: ESG integration • Pillar 2: Climate and nature-related risk management • Pillar 3: Financing sustainability	

ANNEX 3

Detailed analysis of impact pathways

This annex is part of the working paper titled: "Exclusion Risks in Climate-Related Financial Regulation: An Analytical Framework."

The table below provides a detailed analysis conducted to identify potential impact pathways from climate-related regulations to financial exclusion in EMDEs.

TABLE 10. **Detailed analysis of pathways using the regulatory typology**

Type of climate-related regulation	Relevant pathways	Description of potential exclusion impact pathways
Requirements to address risks (climate and other environmental risks)		
Broad risk management obligations Introduction of climate and other environmental risks into business models, strategy and risk Management frameworks -Governance requirements, e.g. obligation to assign explicit responsibilities for climate and environmental risk (and other ESG risks) at the board and throughout the FSP	New customer eligibility barriers Increased cost Capacity constraints Increased supervisory scrutiny	**New customer eligibility barriers:** Adoption of heat maps, third-party tools, and automated rules penalizing riskier areas/sectors in terms of climate and other environmental risks could cause the exclusion of large segments exposed to climate risks. **Increased cost:** Overall compliance cost increases due to the hiring of specialized staff, adjusting existing systems or acquiring new software (including adjustments to credit rating and scoring systems), acquiring new data, changing corporate culture and training staff, changing operational manuals and other documentation, and changing customer onboarding procedures. With a general increase in costs, lending decisions may be indirectly impacted. FSPs may shift away from small transactions, certain activities or geographies, or transactions that are likely to become more costly (e.g. regions or activities for which climate data is scarcer). If the general costs imposed on FSPs are significant, de-risking and disinvestment may happen even when the regulations offer exemptions from other requirements (e.g. small transactions exempted from environmental due diligence). In extreme cases, FSPs may disinvest from certain jurisdictions where margins are low and the perceived climate and other environmental risks high. As women and women-led MSMEs and smallholder farmers usually have smaller average loan sizes (Sotiriou et al, 2024), they are more likely to be affected. **Capacity constraints:** Higher risk awareness not matched by the technical capacity may lead to risk avoidance strategies. The drive to de-risk or disinvest may be reinforced by herd behavior that amplifies changes in market practices and prices, leading to further de-risking and disinvestment (ECB 2024b). **Increased supervisory scrutiny:** FSPs are likely to be subjected to increased supervisory scrutiny and some level of uncertainty regarding supervisory expectations and management practices. These can be related to climate and other environmental risks, and potential supervisory actions, including capital charges and penalties, which could lead to over-compliance that could result in the exclusion of riskier customers, segments and geographies, or lending to sustainable activities that do not fit traditional lending practices (e.g. agroforestry vs conventional farming).

TABLE 10. **Detailed analysis of pathways using the regulatory typology** (continued)

Type of climate-related regulation	Relevant pathways	Description of potential exclusion impact pathways
Credit underwriting and portfolio management requirements Climate and environmental risk assessment on borrowers, including due diligence procedures, exclusion lists, portfolio monitoring requirements in relation to these risks	New customer eligibility barriers Increased cost Capacity constraints Increased supervisory scrutiny	**New customer eligibility barriers**: Credit underwriting requirements directly impact lending decisions on individual customers. When regulations impose general requirements for FSPs to conduct environmental due diligence, and specific requirements imposing due diligence elements such as specific documentation (e.g. property and business registration, green labels), checking against exclusion lists and databases of climate-environmental authorities (e.g. deforestation, fire, protected lands such as national parks and indigenous territories), not only the transaction costs will increase, but the requirements are likely to immediately exclude certain borrowers from access to finance (e.g. those living or operating in certain areas or participating in certain value chains). Certain documentation requirements may be too expensive or complex to obtain and some may be only available to formalized businesses, which are a minority in many EMDEs. Also, women and women-led businesses –which are more likely to be informal, smaller in borrowing and revenue size, and have less available funds to face additional costs– may be more deeply impacted by time-consuming and expensive procedures and documentation requirements. Customer due diligence requirements sometimes exempt small transactions, but even in such cases, FSPs will need to conduct screening due to other reasons, such as to check compliance with the environmental law and that screening may still contain requirements that exclude large portions of vulnerable segments. Portfolio management requirements, such as the requirement to update environmental due diligence during the life of the loan would have similar impacts as the ones described above. **Increased cost**: Per-unit transaction costs would increase also for large transactions and FSPs may decide to cut the number of small transactions as a result (crowding out effect), increasing the average loan size of the portfolio. This effect may happen even when the regulation offers exemptions for small loans from the due diligence requirements because large companies required to meet specific standards may impose minimum requirements on MSMEs within their value chain and non-compliance with the standards can jeopardize the MSMEs' business opportunities, rendering them less appealing to FSPs. Portfolio management including climate and other environmental risks may also lead to increased costs for customers, as FSPs may impose correction measures on customers who are identified as non-compliant in their assessment of climate and environmental risks. **Capacity constraints:** The above effects would be amplified by the limited technical capacity of FSPs in managing CRFR and other ESG risks, particularly in relation to credit risk, which it may lead to, for instance, the use of simplified climate scoring tools acquired from third parties or developed in-house, with potentially exclusionary effects (e.g. location-based scoring). The use of proxies like sectors to comply with portfolio management requirements –e.g. to monitor portfolio concentration risk– may lead to exclusion of less profitable customers in those sectors. **Increased supervisory scrutiny:** The lack of technical capacity may also lead to another pathway to exclusion, which is for FSPs to adopt conservative strategies to avoid supervisory scrutiny and action (overcompliance). Overcompliance is also possible in more sophisticated, larger institutions, since they are typically subject to greater supervisory scrutiny on an ongoing basis.

TABLE 10. **Detailed analysis of pathways using the regulatory typology** (continued)

Type of climate-related regulation	Relevant pathways	Description of potential exclusion impact pathways
Credit risk ratios • Differentiated loan provisioning • Caps to maximum exposure to certain sectors, geographies or customers	New customer eligibility barriers Increased cost	**Increased cost**: The potential introduction of higher loan provisioning to specifically account for climate and other environmental risks would increase costs of loans and could drive FSPs away from small loans and loans to segments vulnerable to climate risks. **New customer eligibility barriers**: Exposure limits for certain economic activities or geographies may cause exclusion as large borrowers are more likely to be favored in case the maximum exposure permitted by regulation has been reached, to the detriment of small borrowers and MSMEs. For having lower average loan sizes, women, woman-led MSMEs and smallholder farmers are likely to be among the first excluded. Large exposure limits for individual borrowers are less likely to impact vulnerable segments when they are set as a percentage of the loan portfolio rather than a percentage of the borrower assets or capital, but these segments may be exempted from such requirements anyhow.
Differentiated capital requirements **Pillar 1:** • Risk weight asset (RWA) adjustments via Green Supporting Factor (GSF) and/or Brown Penalizing Factor (BPF)1 **Pillar 2:** • Insertion of climate and other environmental risks into ICAAP • Capital surcharges based on supervisory findings (e.g. poor risk management practices)	New customer eligibility barriers Capacity constraints Increased supervisory scrutiny	**Capacity constraints:** FSPs lacking expertise or knowledge inadequately calibrate capital to account for CRFR and other ESG risks, reducing available funds for lending, which could first impact less profitable and small customers. **New customer eligibility barriers:** FSPs may exclude less profitable customers who cannot produce green credentials for FSPs to avoid the application of BPF. In a context where the regulatory requirements apply only to the largest banks, the customers rejected by these banks may be absorbed by smaller banks, crowding out less profitable or smaller customers (Liriano et al. 2022). Women and women-led MSMEs, and smallholder farmers, are at particular risk, given their lower average loan sizes. The availability of transition finance may be particularly affected by the BPF, which is not forward-looking and may affect the incentives for FSPs to lend to those who are already exposed to climate risks (World Bank, 2024). Also, the BCBS and other SSBs are working towards standardization of capital adjustments to climate and other environmental risks to avoid the risk of divergent approaches across jurisdictions. If the forthcoming standards do not consider the EMDE context, the above exclusionary impacts could materialize. **Increased supervisory scrutiny:** FSPs may engage in overcompliance, particularly regarding grey areas that are neither clearly green or brown, to avoid greater supervisory scrutiny on the internal calculation of capital adequacy, and hence reduce lending, as evidenced by Liriano et al 2022.

TABLE 10. **Detailed analysis of pathways using the regulatory typology** (continued)

Type of climate-related regulation	Relevant pathways	Description of potential exclusion impact pathways
Stress testing and scenario analysis • Requirement for FSPs to conduct climate stress testing using various climate scenarios, for purposes of adjusting their capital and other tools to mitigate climate and other environmental risks, as part of Pillar 2 supervisory review process. • Stress tests by the FSA for macroprudential supervision purposes	Increased cost Capacity constraints	**Increased cost**: Stress tests and scenario analysis may represent extra costs for FSPs to collect, process and analyze climate data (which requires specialized expertise and modelling). Scenario analysis and stress tests by FSAs for macroprudential purposes rely on information and data provided by FSPs. These impose extra compliance costs on FSPs. According to FSB (2022), the use of a variety of scenarios across jurisdictions could lead to the proliferation of potentially inconsistent supervisory requests, in particular for FSPs operating across borders. Additional capital charges could also increase the cost of the lending portfolio. Compounded with other additional compliance costs directly resulting from the introduction of climate-related regulations, these costs could lead to a reduction of risk-adjusted returns of small transactions. Women and women-led MSMEs may be particularly affected due to lower average loan sizes. **Capacity constraints:** Scenario analysis done imposes technical challenges on FSPs, given the early stage of maturity in constructing climate scenarios (FSB 2022). These challenges and extra costs can indirectly impact lending decisions, particularly hitting small loans. Climate scenario analysis may reinforce the drive of FSPs to de-risk from climate vulnerable segments and geographies, even in the absence of a regulatory requirement to adjust risk mitigants based on the scenario analysis. De-risking could also happen in FSPs that are exempted from scenario analysis requirements. These FPSs are likely to be smaller, non-systemic FSPs with lower technical capacity in scenario analysis, and they might change lending policies based on the disclosure results of scenario analysis by larger FSPs. Although the non-systemic FSPs may start to serve segments that have been excluded from systemic FSPs, the new clients are most likely to be large enough, which would crowd out the smaller borrowers previously served by non-systemic FSPs, as evidenced by Liriano at al 2023. **New customer eligibility barriers**: Borrower-based measures such as debt-to-income ratio affect all borrowers but may have a particularly perverse impact on informal workers in EMDEs, as the undocumented share of their income may not count towards the assessment of income needed to define the maximum loan amount. Maturity limits may impact smallholder farmers who may need loan terms that may be elongated by climate change effects. Sector exposure limits may lead FSPs to reduce operations in certain sectors, which is more likely to impact small transactions or riskier customers. Women and women-led MSMEs are at particular risk of exclusion, given their lower average loan sizes.

TABLE 10. **Detailed analysis of pathways using the regulatory typology** (continued)

Type of climate-related regulation	Relevant pathways	Description of potential exclusion impact pathways
Transition plans • Requirement for FSPs to have and publicize transition plans. • Supervisory assessment and monitoring of transition plans	Capacity constraints Litigation risk New customer eligibility barriers Reduced access to funding	**Capacity constraints:** FSPs lacking the expertise to prepare transition plans (data systems, tools for forward-looking assessments and projection, quantitative metrics, measurement of credit portfolio's carbon footprint) may rely on exclusionary transition pathways by sectors and directly hurt those transitioning slower. FSPs may avoid clients, sectors, and geographies (potentially including small island nations) with high climate risk (e.g., housing loans in floodable areas or with high wildfire risk), at least until they fully develop their capacity to move from qualitative to quantitative metrics, which might take several years. **Increased reputation and litigation risk**: FSP may perceive an increased risk of litigation and reputation damage from publicly disclosing their transition plans, such as claims of greenwashing. FSPs may adopt a risk avoidance strategy and de-risk from certain sectors or geographies that may be particularly sensitive to public scrutiny, to reduce the level of uncertainty. **New customer eligibility barriers**: Requirements on transition plan may also impact less sophisticated customers to the extent that FSPs require them to prepare their own transition plans and provide information to FSPs. Most MSMEs lack the technical capacity to prepare quality transition plans and may be excluded from financing due to the inability to deliver on this requirement. FSPs may also feel compelled to align their transition plans with those of the national climate plans or even transition plans of foreign jurisdictions where investors are based. FSPs based in the EU are already expected to align their transition plans with the EU climate transition plan (ECB 2024c). Those with significant operations in EMDEs may prepare plans that are aligned with the EU but misaligned with EMDE priorities, which could potentially exclude activities and customer segments that are vulnerable and important for a just climate transition in EMDEs. **Reduced access to funding:** FSPs may develop transition plans that align with international funders' interests, which may lead to the de-risking from climate-vulnerable sectors or geographies, or crowding out of customers not prioritized by such interests.

TABLE 10. **Detailed analysis of pathways using the regulatory typology** (continued)

Type of climate-related regulation	Relevant pathways	Description of potential exclusion impact pathways
Macroprudential capital-based and borrower-based measures (BBM) • Systemic risk buffer (SyRB) • Sectoral SyRB • Adjustments to capital adequacy requirement (e.g. by sector, activity, etc.) • Debt-to-income ratio for green loans • Loan-to-value (LTV) ratio, e.g. for green mortgages • Maturity limits (loan term limits)	Increased cost	**Increased cost**: the impacts of these macroprudential measures at this point is too speculative as most measures are still under discussion and their details are unclear. However, if implemented, these could have impacts similar to differentiated microprudential capital requirements, affecting FSPs costs via additional capital and provisioning requirements.
Disclosure requirements		
Prudential disclosure (Pillar 3) Qualitative and quantitative climate-related metrics, covering, inter alia, transition risk, physical risk, portfolio decarbonization, mobilization of transition finance **Sustainability reporting standards** IFRS S1 and S2 **Taxonomy alignment disclosure** e.g. Green Asset Ratio – GAR in the EU)	Increased cost Reduced access to funding Increased reputation and litigation risk	**Increased cost**: The introduction of indicators to measure the degree of exposure to climate and other environmental risks (e.g. loans to polluting companies, FSP's carbon footprint) impose extra compliance costs on FSPs which also relates to the technical challenges in calculating such indicators since data, practices and supervisory guidance are still evolving. Extra costs may also include the cost of specialized external auditors and new systems. Compounded with other additional compliance costs directly resulting from the introduction of climate-related regulations, these data gathering, calculation and reporting costs could lead to a reduction of risk-adjusted returns of small transactions, leading to exclusion of the most vulnerable segments. **Reduced access to funding:** When disclosure requirements are not fully aligned with the adaptation and transition needs of vulnerable segments in EMDEs and are used by investors for their investment decisions, they might lead FSPs to reduce operations in grey areas that could shun investors away, even though those activities may contribute to climate adaptation for vulnerable segments or to environmental protection. **Increased reputation and litigation risk:** FSPs may perceive increased reputational and litigation risk from enhanced disclosures, including accusations of greenwashing, due to greater public transparency on climate and other environmental risks. This may lead FSPs to avoid activities and geographies subject to heightened public scrutiny.

TABLE 10. **Detailed analysis of pathways using the regulatory typology** (continued)

Type of climate-related regulation	Relevant pathways	Description of potential exclusion impact pathways
Green or sustainable finance taxonomies and product standards		
Green or sustainable finance taxonomies	New customer eligibility barriers Reduced access to funding	**New customer eligibility barriers**: When not customized to the adaptation and resilience needs of EMDEs, including their most vulnerable segments (e.g. smallholder farmers and women), taxonomies can distort incentives and shift lending away from activities and customers that could contribute to the climate agenda. Because alignment with a taxonomy is increasingly a condition to access funding and policy instruments such as guarantees or central bank refinancing lines, the way a taxonomy defines green activities (and set measurement indicators) automatically defines a green credit. The issue is that many EMDE taxonomies are influenced by the EU taxonomy, so they predominantly classify as green the activities that contribute to reducing GHG emissions, at the expense of activities that contribute to adaptation and resilience. In EMDEs, high levels of informality, weak institutional frameworks, and poor data make it costly or difficult for FSPs to demonstrate that a credit is green according to the taxonomy. Also, the measurement indicators created with the taxonomy may not be suitable for the reality of EMDEs and adaptation efforts. Hence, a loan granted to fund activities that contribute to adaptation or resilience goals (e.g. converting a plantation crop to a drought-resistant cereal variety) may not be considered green. Consequently, vulnerable segments may be excluded from green credit. **Reduced access to funding**: The EU taxonomy is being used by EU investors and others who voluntarily apply the EU taxonomy, to provide funds to EMDEs conditional on their allocation to activities aligned with the EU taxonomy. Without adjusting the EU taxonomy (and its measurement indicators) to the climate adaptation and resilience needs of vulnerable segments in EMDEs, investors may shift resources to EU priorities, reducing available funds for activities, sectors and segments that could be important for achieving the climate agenda of EMDEs. Shunning away from operations that do not closely fit the EU Taxonomy could particularly impact vulnerable segments. In addition, some EMDE taxonomies are heavily influenced by the EU taxonomy, so they may produce similar impacts. While customizing taxonomies is of utmost importance, the proliferation of taxonomies that are "not interoperable" across boarders could increase costs for funders, which could turn them away from jurisdictions using taxonomies that differ from reference taxonomies like the EU Taxonomy or increase the cost of funding to FSPs in these jurisdictions.
Green/sustainable product standards Definitions of green or sustainable financial products and service (e.g. green loans)	New customer eligibility barriers	**New customer eligibility barriers:** When such standards are too restrictive or misaligned with the country context, including the needs and realities of vulnerable segments and MSMEs –I.e. when they define in detail the terms and conditions of loans, the target client segments, the loan size, the delivery channel, and other key features– they may preclude FSPs from designing credit solutions customized to specific segments, including those solutions using alternative technology, data, repayment schedules or delivery/ payment methods, which are particularly important for small-value loans and underserved segments like women, MSMEs and smallholder farmers.

ANNEX 4

Other international organizations relevant for climate-related regulation

This annex is part of the working paper titled: "Exclusion Risks in Climate-Related Financial Regulation: An Analytical Framework."

In addition to standard-setting bodies (SBBs), other international organizations are key in shaping climate-related financial regulatory reforms in EMDEs. These include:

The G20's SFWG. Established in 2016 and endorsed in 2021 by Finance Ministers and Central Bank Governors, the G20-SFWG aims to scale up sustainable finance in line with the 2030 Agenda and the Paris Agreement. The G-20 SFWG's roadmap for sustainable finance recognizes that ensuring the stability and resiliency of the financial sector is a prerequisite for an orderly green transition, calling for monitoring and active management of CRFR. The G-20 SFWG's call resulted in the coordinated work of SSBs and collaborates with the FSB to amplify the effectiveness of the FSB's Roadmap for Addressing Climate-Related Financial Risks. **The OECD** acts as a key advisor to the G20. Under Brazil's 2024 presidency, the OECD is backing the G20 objective focused on energy and sustainable development in economic, social, and environmental dimensions.

The World Bank. The World Bank helps EMDEs strengthen their financial sectors to manage risks and raise funds for climate and environmental goals**.** It provides technical assistance for evaluating climate and environmental risks and incorporating them into financial sector regulations, using technical instruments like climate exposure assessments and stress tests. The World Bank also offers climate and environmental risk diagnostics, often within the FSAP framework, in partnership with the IMF. Other broader initiatives include Country Climate Development Reports, Climate and Disaster Risk Screening, and the IMF-World Bank Climate Policy Assessment Tool, a model that covers over 200 countries and facilitates the quantification of impacts of climate mitigation policies. The World Bank works in close cooperation with regional and other international bodies such as the NGFS, OECD, and SSBs such as FSB and BCIS.

The IMF. Besides conducting FSAPs (see Adrian et al 2022 and an example of CRFR recommendations to Kazakhstan in IMF 2024), the IMF also provides technical assistance to EMDEs to improve their overall supervisory capacity to align with best international practices. It has fully incorporated CRFR in this work, which complements technical assistance for broader economic development, in which climate change has also been incorporated. This includes approaches for EMDEs to manage growing challenges posed by climate change (IMF 2024), climate policy diagnostics and the Climate Macroeconomic Assessment Program.

The Financial Stability Institute (FSI). Housed at the Bank of International Settlements (BIS), the FSI assists FSAs in improving and strengthening their financial

systems, via trainings (e.g. FSI Connect), technical discussions and publications. Regarding climate change, the most relevant initiative is the Climate Training Alliance, a collaboration between the BIS, the IAIS, NGFS, and the UN-convened Sustainable Insurance Forum. It offers training resources on CRFR and climate and environmental risks.

SBFN. The SBFN was established in 2012 as a voluntary peer exchange platform that includes 55 FSAs and 36 industry associations from 72 EMDEs with the purpose of advancing sustainable finance. Its Secretariat is hosted by the International Finance Corporation (IFC), which is part of the WBG. The SBFN has put out a range of relevant resources for FSAs, including: the SBFN Measurement Framework (a systematic approach to assessing and benchmarking country progress in developing sustainable finance frameworks) that includes a blueprint for sustainable finance policies; the SBFN Data Portal, which offers rich information on the progress of SBFN members in developing and implementing climate-related regulations and supervisory frameworks; and the SBFN Toolkit for Sustainable Finance Taxonomies. The SBFN has also recently partnered with the IFRS Foundation to improve sustainability reporting for capital markets in EMDEs.

The United Nations Secretary General's Special Advocate for Inclusive Finance for Development (UNSGSA). The UNSGSA convened a working group in 2022 on IGF, composed of senior experts from AFI, SBFN and the Center for Financial Inclusion (CFI). The working group published a policy note (UNSGSA 2023) in 2023 on how financial access and usage can bolster resilience against climate shocks and create opportunities for low-income segments to participate in sustainable economic activities. UNSGSA advocates for inclusive green finance on an ongoing basis, including through Her Majesty Queen Maxima's high-level meetings with the SSBs.

The United Nations Environment Program Finance Initiative (UNEP FI). Established in 1992 by a small group of banks, UNEDP FI is a network of banks, insurers, and investors as the first international organization to involve financial sector players in sustainability aspects. UNEP FI incubated the Principles for Responsible Investment and developed the Principles for Responsible Banking and Principles for Sustainable Insurance, which have been widely adopted in many jurisdictions, including EMDEs. UNEP FI has policy and regulatory initiatives that help to guide its over 500 members in engaging with regulators and navigating the complex climate policy environment. It also maintains a climate risk dashboard with more than 40 climate risk tools, which are aligned with sustainability-related disclosure standards, regulations, and policies relating to data quality and sourcing. UNEP FI also collaborated with other international organizations, including the World Bank and IMF, and developed the Common Framework of Sustainable Finance Taxonomies for the LAC region (UNEP 2023).

The Alliance for Financial Inclusion (AFI) is a peer exchange platform comprised of FSAs from EMDEs. AFI's Working Group on Inclusive Green Finance (IGF) comprising nearly 60 EMDEs, was created in 2019 to develop green financial inclusion solutions. It has developed the 4P Framework (AFI 2020) which includes regulation and policy tools to support inclusive green finance. The Working Group is influenced by the EU framework, since it is part of the International Climate Initiative of the German government.

ANNEX 5

Examples of policy tools used in EMDEs to promote climate finance

This annex is part of the working paper titled: "Exclusion Risks in Climate-Related Financial Regulation: An Analytical Framework."

TABLE 11. **Examples of policy tools used in EMDEs to promote climate finance**

Types of tools	Country examples
Credit allocation and pricing policies	
Lending quotas	
Green/sustainable lending targets	**Bangladesh**: In 2014, Bangladesh Bank mandated that financial institutions allocate at least 5 percent of their portfolios to green finance. Since 2022, institutions have been asked to dedicate 20 percent to climate change mitigation and adaptation. **Fiji:** In 2012, the Reserve Bank of Fiji introduced a policy requiring commercial banks to dedicate 4 percent of their deposits and similar liabilities to loans within the agriculture sector, including forestry and fisheries, and 2 percent to the renewable energy sector. **Nepal**: Rastra Bank mandates that commercial banks allocate 10 percent of their loan portfolios to green energy projects, including hydropower.

TABLE 11. **Examples of policy tools used in EMDEs to promote climate finance** (continued)

Types of tools	Country examples
Price limitation	
Interest rate cap on green/sustainable loans	**Fiji:** The Rehabilitation and Containment Facility, established by the central bank, offers financing at a nominal interest rate of 0.25 percent through approved lenders. It also allows climate-impacted MSMEs (and larger businesses) to access financing at a **capped rate of 3.99 percent.** The government guarantees any defaulted loan under the scheme. **India**: Reserve Bank of India's Priority Sector Lending Guidelines include the energy sector and allow banks to lend to non-bank companies for on-lending to priority sectors. Guidelines also specify the **cap on loans** to individual borrowers as well as the target for priority sector lending for commercial banks, which is a proportion of the adjusted net bank credit or credit equivalent of off-balance sheet exposure. **Pakistan:** The State Bank of Pakistan had a financing scheme for Renewable Energy Projects that was active from 2017 to mid-2019. This program offered loans for solar and wind energy projects at a **capped interest rate of 6 percent**, with the State Bank of Pakistan providing a refinancing rate of two percent. **Vanuatu:** In 2015, the Reserve Bank of Vanuatu established the Disaster Reconstruction Credit Facility, enabling commercial banks to obtain funds at a minimal one percent interest rate. These funds could then be lent to businesses impacted by Tropical Cyclone Pam, with the interest rates for borrowers **capped at a maximum of five percent.**

TABLE 11. **Examples of policy tools used in EMDEs to promote climate finance** (continued)

Types of tools	Country examples
Central bank tools	
• Differential reserve requirements • Differential rates on reserves • Collateral management • Central bank credit operations, including TROs • Asset purchasing programs	**Armenia:** The central bank founded the German-Armenia Fund GAF, which provides long-term financing in local currency to financial institutions to on-lend to key sectors, such as energy efficiency and renewable energy. **Bangladesh:** The central bank has established several TROs at subsidized rates for sustainable and green lending. **China:** Green bonds have been included in the central bank's collateral framework. There are also differentiated rates on reserves against the provision of green loans. **Egypt:** Central Bank (TROs at zero interest for lending to farmers and renewable energy projects). **Jordan:** The central bank's Medium-Term Advances to Licensed Banks Program offers subsidized loans to support nine key development sectors, including renewable energy and agriculture. **Lebanon:** In 2010, Banque du Liban introduced a circular to facilitate financing in green sectors. The circular exempted commercial banks from a portion of their required reserves, aiming to lower the financing costs for projects in green sectors. **Nepal:** Rastra Bank provides refinancing options for banks to offer subsidized loans to purchase various green technologies, such as solar systems, biogas, and electric rickshaws, including a refinancing program for loans up to US$9,000 to aid in rebuilding after floods and fires, similar to a previous initiative for post-earthquake recovery. **Pakistan:** The central bank introduced a refinancing scheme that provides funds to commercial banks to offer subsidized loans for renewable energy projects generating up to 50 megawatts. **Philippines:** In 2023, Bangko Sentral ng Pilipinas (BSP) announced intentions to introduce a 15 percent increase in the single-borrower limit for loans related to decarbonization efforts and set a zero percent reserve requirement rate for sustainable bonds, applicable to both current and new issues until December 31, 2025, to stimulate further investment in sustainability. To qualify, projects must follow various sustainable finance guidelines, including the ASEAN Taxonomy for Sustainable Finance. **Vanuatu:** The Reserve Bank of Vanuatu lowered the reserve requirement for commercial banks by two percentage points (from seven percent to five percent) to incentivize banks to lend to affected low-income people. It also reduced its base interest rate by 0.5 basis points and tied this reduction to the Reserve Bank of Vanuatu Notes policy rate. For 91 days, it issued securities notes based on this lower policy rate.

References

Adrian, Tobias, Pierpaolo Grippa, Marco Gross, V. Haksar, Ivo Kznar, Caterina Lepore, Fabian Lipinsky, Kiroko Oura, Sujan Lamichhane and Apostolos Panagiotopoulos. 2022. "Approaches to Climate risk Analysis in FSAPs." *Staff Climate Note* No 2022/005. IMF Staff Climate Note 2022/005. Washington, DC. International Monetary Fund. https://www.imf.org/en/Publications/staff-climate-notes/Issues/2022/07/12/Approaches-to-Climate-Risk-Analysis-in-FSAPs-519515.

AFI. 2020. *"Inclusive Green Finance: From Concept to Practice."* Alliance for Financial Inclusion, Kuala Lumpur. https://www.afi-global.org/sites/default/files/publications/2020-12/AFI_IGF_SOAS_digital.pdf.

ASEAN. 2024. *"ASEAN Taxonomy for Sustainable Finance."* Version 3. https://afcwp.asean.org/wp-content/uploads/2024/06/ASEAN-Taxonomy-Version-3-Rev-as-of-04062024.pdf

BCBS. 2024. "Core Principles for Effective Banking Supervision." Basel Committee on Banking Supervision, April, ISBN 978-92-9259-753-5 (online). https://www.bis.org/bcbs/publ/d573.pdf.

BCBS. 2023. *"Disclosure of Climate-Related Financial Risks."* Issued for public consultation in November 2023. Basel Committee on Banking Supervision, ISBN 978-92-9259-700-9 (online). https://www.bis.org/bcbs/publ/d560.htm.

BCBS. 2022a. *"Principles for Effective Management and Supervision of Climate-related Financial Risks."* Basel Committee on Banking Supervision, 15 June. https://www.bis.org/bcbs/publ/d532.htm.

BCBS. 2022b. *"High-level considerations on proportionality."* Basel Committee on Banking Supervision, 7 July. https://www.bis.org/bcbs/publ/d534.htm

BCBS. 2020. *"Climate-related Financial Risks: A Survey on Current Initiatives."* Basel Committee on Banking Supervision, 30 April. https://www.bis.org/bcbs/publ/d502.pdf.

BIS. 2021. *"A taxonomy of sustainable finance taxonomies."* BIS Papers No. 118. Bank of International Settlements. https://www.bis.org/publ/bppdf/bispap118.pdf

Bradford, Anu. 2020. *"The Brussels Effect: How the European Union Rules the World."* Online edition, New York: Oxford Academic. https://doi.org/10.1093/oso/9780190088583.001.0001.

Calice, Pietro, Dimitri G. Demekas. 2024. "Just Transition: Issues for Central Banks and Financial Regulators." *Policy Research Working Paper* 10685. Washington, DC: World Bank. http://hdl.handle.net/10986/40983.

Carvajal, Ana Fiorella and Tatiana Didier Brandão. 2024. "Boosting SME Finance for Growth: The Case for More Effective Support Policies." Washington, DC: World Bank Group. http://documents.worldbank.org/curated/en/099092724122562655/P1790051b7ddde0d51b13b12b908018aa52

Carney, Mark. 2015. "Breaking the tragedy of the horizon - climate change and financial stability." Speech by Mark Carney, Governor of the Bank of England and Chairman of the Financial Stability Board, at Lloyd's of London, London, 29 September 2015. Bank of International Settlements (BIS), Central bank speech. https://www.bis.org/review/r151009a.htm

Climate Bonds Initiative. 2023. *Estudio comparativo entre las taxonomías de Colombia y la Unión Europea.* https://www.climatebonds.net/files/reports/cbi_col_eu_taxonomy_spanish_version_0.pdf

Coelho, Rodrigo and Fernando Restoy. 2023. "Macroprudential Policies for Addressing Climate-Related Financial Risks: Challenges and Trade-offs." *FSI Briefs No. 18*. Bank for International Settlements 2023. https://www.bis.org/fsi/fsibriefs18.pdf.

Demekas, Dimitri. G and Pierpaolo Grippa. 2021. "Financial Regulation, Climate Change, and the Transition to a Low-Carbon Economy: A Survey of the Issues." *IMF Working Paper* WP/21/296, Washington DC: International Monetary Fund. https://www.imf.org/en/Publications/WP/Issues/2021/12/17/Financial-Regulation-Climate-Change-and-the-Transition-to-a-Low-Carbon-Economy-A-Survey-of-510974.

De Koker, Louis and John Symington. 2014. "Conservative Corporate Compliance: Reflections on a Study of Compliance Responses by South African Banks." *Law in Context* 30 228-254, 2014. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3562092.

Dikau, Simon, and Ulrich Volz. 2021. "Central Bank Mandates, Sustainability Objectives and the Promotion of Green Finance." *Ecological Economics*, Volume 184, 2021, 107022, ISSN 0921-8009. https://www.sciencedirect.com/science/article/pii/S092180092100080X?via%3Dihub

D'Orazio, Paola, and Lilit Popoyan. 2023. "Do Monetary Policy Mandates and Financial Stability Governance Structure Matter for the Adoption of Climate-related Financial Policies?" *International Economics,* 173 (C): 284-295. https://EconPapers.repec.org/RePEc:eee:inteco:v:173:y:2023:i:c:p:284-295.

D'Orazio, Paolo, and Steffen Thole. 2022. "Climate-related Financial Policy Index: A Composite Index to Compare the Engagement in Green Financial Policymaking at the Global Level." *Ecological Indicators* Volume 141, August 2022, 109065. https://www.sciencedirect.com/science/article/pii/S1470160X22005362.

EBA. 2021. "EBA Report on Management and Supervision of ESG Risks for Credit Institutions and Investment Firms". EBA/REP/2021/18. European Banking Authority. https://eba.europa.eu/sites/default/files/document_library/Publications/Reports/2021/1015656/EBA%20Report%20on%20ESG%20risks%20management%20and%20supervision.pdf

EBA. 2024. "Consultation on Draft Guidelines on the Management of ESG Risks." European Banking Authority. https://www.eba.europa.eu/publications-and-media/events/consultation-draft-guidelines-management-esg-risks

ECB. 2024a. "Sustainable finance: from "eureka!" to action.". Keynote speech by Frank Elderson, Member of the Executive Board of the ECB and Vice-Chair of the Supervisory Board of the ECB, at the Sustainable Finance Lab Symposium on Finance in Transition. Amsterdam, 4 October 2024. https://www.bankingsupervision.europa.eu/press/speeches/date/2024/html/ssm.sp241004_1~985cb9702d.en.html

ECB. 2024b. "System-wide Amplification of Climate risk." Prepared by Tomasz Dubiel-Teleszynski, Fabio Franch, Gábor Fukker, Debora Miccio, Michela Pellegrino and Matthias Sydow**.** https://www.ecb.europa.eu/press/financial-stability-publications/macroprudential-bulletin/html/ecb.mpbu202206_2~1bec56088f.en.html

ECB. 2024c. "Risks from Misalignment of Banks' Financing with the EU Climate Objectives. Assessment of the Alignment of the European Banking Sector." European Central Bank, January, 2024. https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.bankingsectoralignmentreport202401~49c6513e71.en.pdf.

EBA. 2023. "ESAs present common understanding of greenwashing and warn on related risks". Press Release. 1 June 2023. https://www.eba.europa.eu/publications-and-media/press-releases/esas-present-common-understanding-greenwashing-and-warn

EIOPA. 2024. "Final Report on the Prudential Treatment of Sustainability Risks for Insurers." European Insurance and Occupational Pensions Authority. 7 November 2024. https://www.eiopa.europa.eu/publications/final-report-prudential-treatment-sustainability-risks-insurers_en

Exame. 2024. "Banco Central e CMN aprovam normas para manter oferta de crédito no Rio Grande do Sul." Economia. 13 May 2024. https://exame.com/economia/banco-central-e-cmn-aprovam-normas-para-manter-oferta-de-credito-no-rio-grande-do-sul/

Fan, Qingzu and Wang Gao. 2024. "Climate Risk and Financial Stability: The Mediating Effect of Green Credit." *Finance Research Letters Volume 65* (July 2024): 105558. https://www.sciencedirect.com/science/article/pii/S1544612324005889#:~:text=Green%20credit%20serves%20as%20a,sound%20and%20climate%2Dresilient%20projects.

Faruk, Miguel Liriano, Alvaro Enrique Pedraza Morales and Claudia Ruiz Ortega. 2022. "Climate Change Regulations: Bank Lending and Real Effects." *Policy Research Working Paper* 10270 Washington, DC: World Bank Group.

http://documents.worldbank.org/curated/en/099439412272229612/IDU04c8901a60c3dc04fb60a008036d83009b76f.

Feyen, Erik, Robert Utz, Igor Zuccardi Huertas, Olena Bogdan, Jisung Moon. 2020a. "Macro-Financial Aspects of Climate Change." *Policy Research Working Paper* 9109. Washington, DC: World Bank. https://openknowledge.worldbank.org/server/api/core/bitstreams/a09d591f-75b6-5e09-9ecc-71715a3ecf0a/content.

Feyen, Erik, Alonso Gispert, Tatiana, Tatsiana Kliatskova and Davide S. Mare, 2020b. "Taking Stock of the Financial Sector Policy Response to COVID-19 around the World." *Policy Research Working Paper* No. 9497. Washington, DC: World Bank. https://openknowledge.worldbank.org/entities/publication/ddfcfbb0-2da2-5bbb-82b5-181fa4abf578

FSB. 2024. "Stocktake on nature-related risks: supervisory and regulatory approaches and perspectives on financial risk". Financial Stability Board. July 2024. https://www.ecb.europa.eu/press/key/date/2024/html/ecb.sp240906~54436f6891.en.html

FSI. 2023. "Macroprudential policies for addressing climate-related financial risks: challenges and trade-offs". Financial Stability Institute. https://www.bis.org/fsi/fsibriefs18.pdf

FSB. 2022. "Supervisory and Regulatory Approaches to Climate-related Risks." Financial Stability Board, October 2022. https://www.fsb.org/wp-content/uploads/P131022-1.pdf.

FSB. 2021a. "Roadmap for Addressing Climate-related Financial Risks." Financial Stability Board. https://www.fsb.org/work-of-the-fsb/financial-innovation-and-structural-change/climate-related-risks/.

FSB. 2021b. "The Availability of Data with Which to Monitor and Assess Climate-Related Risks to Financial Stability." Financial Stability Board. https://www.fsb.org/wp-content/uploads/P070721-3.pdf

G20 SFWG. 2021. "Sustainable Finance Roadmap". https://g20sfwg.org/roadmap/

Goel, Rohit, Deepali Gautam, and Fabio M Natalucci. 2022. "Sustainable Finance in Emerging Markets: Evolution, Challenges, and Policy Priorities." *IMF Working Paper No.* 2022/182. https://www.imf.org/en/Publications/WP/Issues/2022/09/09/Sustainable-Finance-in-Emerging-Markets-Evolution-Challenges-and-Policy-Priorities-521689

Green Central Banking. 2024. "ISSB announces moves to consolidate reporting of emissions and transition plans." 3 July 2024. https://greencentralbanking.com/2024/07/03/issb-reporting-emissions-and-transition-plans/?utm_source=newsletter&utm_medium=email&utm_campaign=20240704

Hidalgo-Oñate, Diego, Iluminada Fuertes-Fuertes and J. David Cabedo. 2023. "Climate-related Prudential Regulation Tools in the Context of Sustainable and Responsible Investment: A Systematic Review." *Climate Policy.* https://doi.org/10.1080/14693062.2023.2179587.

IFRS. 2024. "Jurisdictions representing over half the global economy by GDP take steps towards ISSB Standards". *International Financial Reporting Standards.* 28 May 2024.

https://www.ifrs.org/news-and-events/news/2024/05/jurisdictions-representing-over-half-the-global-economy-by-gdp-take-steps-towards-issb-standards/

IMF. 2024a. "Staff Guidance Note on the IMF's Engagement with Small Developing States." *Policy Paper No.* 2024/035. International Monetary Fund, July 2024. https://www.imf.org/en/Publications/Policy-Papers/Issues/2024/07/25/2024-Staff-Guidance-Note-On-The-IMFs-Engagement-With-Small-Developing-States-552538.

IMF. 2024b. "Republic of Kazakhstan: Financial System Stability Assessment." *Country Report No* 2024/048. International Monetary Fund, February 2024. https://www.imf.org/en/Publications/CR/Issues/2024/02/07/Republic-of-Kazakhstan-Financial-System-Stability-Assessment-544628

IMF. 2023. "Policy Options to Address Climate Vulnerabilities and Green the Economy." *Western Hemisphere Department*, volume 2023, Issue 289. International Monetary fund, 31 July 2023. https://www.elibrary.imf.org/view/journals/002/2023/289/article-A005-en.xml?ArticleTabs=fulltext.

IMF, World Bank. 2020. "COVID-19: The Regulatory and Supervisory Implications for the Banking Sector: A Joint IMF-World Bank Staff Position Note." https://www.imf.org/en/Publications/Miscellaneous-Publication-Other/Issues/2020/05/20/COVID-19-The-Regulatory-and-Supervisory-Implications-for-the-Banking-Sector-49452

IPCC. 2022. Climate Change, 2022: Impacts, Adaptation, Vulnerability. https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Annex-II.pdf

Jeník Ivo, Louis De Koker, and Mehmet Kerse. 2024. "FATF's Proposed Rules for Payments: Balancing Integrity and Inclusion?" CGAP Blog. https://www.cgap.org/blog/fatfs-proposed-rules-for-payments-balancing-integrity-and-inclusion

Knaack, Peter and Peter Zetterli. 2023. "Climate Risk and Financial inclusion: A Regulatory Perspective on Risks and Opportunities." *Working Paper.* Washington, DC: CGAP. https://www.cgap.org/sites/default/files/publications/WorkingPaper_Climate%20and%20Regulation.pdf

Lee Katy. 2024. "Kenya Plans Higher Capital Requirements to Account for Climate Risks." *Green Central Banking Blog*, April, 2024 . https://greencentralbanking.com/2024/04/15/kenya-plans-higher-capital-requirements-climate-risks/.

MAPA. 2021. "Adapting to climate change: strategies for Brazilian agricultural and livestock systems." Ministry of Agriculture, Livestock and Food Supply. Brasilia. https://ainfo.cnptia.embrapa.br/digital/bitstream/item/227637/1/PL-AGRICULTURAL-CLIMATE-RISK-ZONING-2021.pdf

Ministério da Fazenda. 2024. "Fazenda inicia consulta pública para definir Taxonomia Sustentável Brasileira." *Notícias*, November 2024. https://www.gov.br/fazenda/pt-br/assuntos/noticias/2024/novembro/sociedade-e-convidada-a-opinar-sobre-metodologia-e-criterios-tecnicos-para-atividades-economicas-sustentaveis

NGFS. 2024a. "Conceptual Note on Adaptation". Network for Greening of the Financial System. November 2024. https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual_note_on_adaptation.pdf

NGFS. 2024b. "Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors." Network for Greening of the Financial System. July 2024. ngfs-conceptual-framework-nature-risks.pdf

NGFS. 2024c. "Nature-related litigation: emerging trends and lessons learned from climate-related litigation." Network for Greening of the Financial System. July 2024. https://www.ngfs.net/sites/default/files/medias/documents/report-nature-related-litigation-emerging-trends-lessons-climate.pdf

NGFS. 2024d. "Tailoring Transition Plans: Considerations for EMDEs". Network for Greening of the Financial System. April 2024. https://www.ngfs.net/sites/default/files/media/2024/04/17/ngfs_tailoring_transition_plans.pdf.pdf.

NGFS. 2023a. "Report on Micro-Prudential Supervision of Climate-Related Litigation Risks." Network for Greening of the Financial System. September. https://www.ngfs.net/sites/default/files/medias/documents/ngfs_report-on-microprudential-supervision-of-climate-related-litigation-risks.pdf

NGFS. 2023b. "Climate-related litigation: recent trends and developments." Network for Greening the Financial System. September 2023. https://www.ngfs.net/sites/default/files/medias/documents/ngfs_report-on-climate-related-litigation-recent-trends-and-developments.pdf

NGFS. 2023c. "Stocktake on Financial Institutions' Transition Plans and their Relevance to Micro-prudential Authorities."Network for Greening of the Financial System. May 2023. https://www.ngfs.net/sites/default/files/stocktake_on_financial_institutions_transition_plans.pdf

NGFS. 2021. "Progress Report on Bridging the Data Gaps."Network for Greening of the Financial System. May 2021. https://www.ngfs.net/sites/default/files/medias/documents/progress_report_on_bridging_data_gaps.pdf

NGFS. 2020. "Guide for Supervisors: Integrating Climate-related and Environmental Risks into Prudential Supervision." May 2021. Network for Greening of the Financial System. https://www.ngfs.net/sites/default/files/medias/documents/ngfs_guide_for_supervisors.pdf.

NGFS. 2019. "A Call for Action: Climate Change as a Source of Financial Risk.Network for Greening of the Financial Sector." Network for Greening of the Financial System. April 2019. https://www.ngfs.net/en/first-comprehensive-report-call-action

Notta, Saba and Peter Zetterli. 2023. "Bolstering women's climate resilience and adaptation through financial services". Washington, DC: CGAP. https://www.cgap.org/sites/default/files/publications/WorkingPaper_WomensClimateResilience_v3.pdf

OECD. 2023. "Financial Consumers and Sustainable Finance: Policy Implications and Approaches." OECD Business and Finance Policy Papers No. 32, OECD Publishing, Paris. https://doi.org/10.1787/318d0494-en.

SBFN. 2024a. "Global Progress Brief 2024." International Finance Corporation. Washington, D.C. 20433 https://www.sbfnetwork.org/wp-content/uploads/2024/04/SBFN-Global-Progress-Brief_April-2024.pdf

SBFN. 2024b. "SBFN Toolkit: Sustainable Finance Taxonomies." https://www.sbfnetwork.org/wp-content/uploads/2024/05/SBFN-Toolkit_Sustainable-Finance-Taxonomies.pdf

Setzer, Joana, and Catherine Higham. 2021. "Global Trends in Climate Change Litigation: 2021 Snapshot." *Policy Report*. Grantham Research Institute, London. https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-litigation-2021-snapshot/.

Sotiriou Alexander, David Crush and Lucia Spaggiari. 20204. "Which Kind of Microfinance Institutions Can Serve Women Best?" *CGAP Blog*. https://www.cgap.org/blog/which-kind-of-microfinance-institutions-can-serve-women-best.

Tolzmann, Molly. 2024. "CGAP Funder Survey 2022: Trends in International Funding for Financial Inclusion." *Focus Note*. Washington, DC: CGAP. https://www.cgap.org/ research/ publication/2022-trends-in-internationalfunding-for-financial-inclusion

UNDP. 2024. "What is climate change mitigation and why is it urgent?" *United Nations Development Program. Global. Climate Promise. Explainers.* February 29 2024. https://climatepromise.undp.org/news-and-stories/what-climate-change-mitigation-and-why-it-urgent

UNDP. (2023). "Inclusive insurance and risk financing in Colombia. Snapshot and way forward 2023." *Unite Nations Development Program. UNDP Insurance and Risk Finance Facility.* https://irff.undp.org/sites/default/files/2023-11/summary-country-diagnostic-colombia.pdf

UNEP. 2023. "Common Framework of Sustainable Finance Taxonomies for Latin America and the Caribbean." *United Nations Environment Program.* https://www.unepfi.org/wordpress/wp-content/uploads/2023/07/Common-Framework-of-Sustainable-Finance-Taxonomies-LAC.pdf.

UNEP. 2021. "Climate risk regulation in Africa's financial sector and related private sector initiatives." *United Nations Environment Program.* https://www.unepfi.org/themes/climate-change/climate-risk-regulation-in-africas-financial-sector-and-related-private-sector-initiatives/

UNSGSA. 2023. "Inclusive Green Finance: A Policy and Advocacy Approach." *Policy Note.* May 2023. https://www.unsgsa.org/publications/inclusive-green-finance-policy-and-advocacy-approach.

World Bank Group, IMF, OECD. 2023. "Activating Alignment: Applying the G-20 Principles for Sustainable Finance Alignment with a Focus on Climate Change Mitigation." Washington, DC: World Bank. http://hdl.handle.net/10986/40402.

World Bank. 2024. "Finance and Prosperity 2024." *Finance and Prosperity.* Washington, DC. World Bank. https://www.worldbank.org/en/publication/finance-and-prosperity-2024#:~:text=and%20Prosperity%202024-,Finance%20and%20Prosperity%202024,critical%20trends%20in%20climate%20finance

World Bank. 2023a. "Reality Check: Lessons from 25 Policies Advancing a Low-Carbon Future." *Climate Change and Development Series.* Washington, DC: World Bank. https://openknowledge.worldbank.org/server/api/core/bitstreams/b98ee473-12bb-4ff7-bb46-9fcdcb7d72c6/content

World Bank. 2023b. "Brazil Country Climate and Development Report – CCDR". https://www.worldbank.org/en/news/infographic/2023/05/08/brazil-country-climate-and-development-report

World Bank. 2023c. "Gender-Responsive Entry Points to Strengthen Financial Resilience to Disasters and Climate Shocks: Guidance Note." June 2023. *Global Facility for Disaster Reduction and Recovery – GFDRR.* https://www.gfdrr.org/en/publication/gender-responsive-entry-points-strengthen-financial-resilience-disasters-and-climate

World Bank. 2023d. "Colombia Country Climate and Development Report – CCDR". https://openknowledge.worldbank.org/entities/publication/9b706816-2618-48d0-87d4-e7e99b7ad779

World Bank. 2022. "Guidelines for Integrating Climate Change Mitigation and Adaptation into Public Credit Guarantee Schemes for Small and Medium Enterprises." *Consultative Document.* https://thedocs.worldbank.org/en/doc/47772590c4859fce5712be4534064d1f-0430012022/original/Guidelines-for-Greening-Public-Credit-Guarantee-Schemes-Consultative-Document-For-public-comment.pdf

World Bank. 2021. "Toolkits for Policymakers to Green the Financial System." Washington DC: World Bank. http://hdl.handle.net/10986/35705

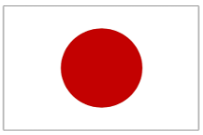
World Bank. 2021. "Sustainable Finance." *Brief.* August 2021. https://www.worldbank.org/en/topic/financialsector/brief/sustainable-finance

World Bank. 2014. "Global Financial Development Report (2014): Financial Inclusion." Washington, DC: World Bank. https://documents.worldbank.org/pt/publication/documents-reports/documentdetail/225251468330270218/global-financial-development-report-2014-financial-inclusion

World Benchmarking Alliance 2024. "What does the Corporate Sustainable Reporting Directive mean for the Global South?". *Blog, May 2024.* https://www.worldbenchmarkingalliance.org/news/what-does-the-corporate-sustainable-reporting-directive-mean-for-the-global-south/

Zetterli, Peter, Max Mattern, and Jahda Swanborough. 2024. "8 Billion Reasons: Inclusive Finance as a Catalyst for Climate Action." Washington, DC: CGAP. https://www.cgap.org/research/8-billion-reasons-inclusive-finance-catalyst-for-climate-action

CGAP Members



CGAP members and strategic partners as of June 2024

CGAP Members (continued)

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