



TASK FORCE
ON CLIMATE,
DEVELOPMENT
AND THE IMF

OCTOBER 2024

IMF 2030

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A Transformative Action Agenda to
Achieve Climate and Development Goals

Bangkok, Thailand.
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ABBREVIATIONS

CBAM	Carbon Border Adjustment Mechanism
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CCRT	Catastrophe Containment and Relief Trust
CDM	Clean Development Mechanism
COP29	29th United Nations Climate Change Conference
CRDCs	Climate Resilient Debt Clauses
CSR	Comprehensive Surveillance Review
DSA	Debt Sustainability Analysis
EMDEs	Emerging Market and Developing Economies
ESG	Environmental, social and governance
EU	European Union
FRF	Fiscal Response Function
FSAP	Finance Sector Assessment Program
FSSA	Financial Sector Stability Assessment
G20	Group of 20
G7	Group of 7
GDP	Gross Domestic Product
GFSR	Global Financial Stability Report
GHG	Greenhouse Gas
GRA	General Resources Account
IAM	Integrated Assessment Model
ICPF	International Carbon Price Floor
IDA	International Development Association
IFA	International Financial Architecture
IHLEG	Independent High Level Expert Group on Climate finance
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change

LIC DSF	Debt Sustainability Framework for Low-Income Countries
LICs	Low Income Countries
LND	Large Natural Disaster Window
MAC	Market Access Countries
MDB	Multilateral Development Bank
NCQG	New Collective Quantified Goal
NGFS	Network for Greening the Financial System
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PRGT	Poverty Reduction and Growth Trust
RCF	Rapid Credit Facility
RFI	Rapid Financing Instrument
RSF	Resilience and Sustainability Facility
RST	Resilience and Sustainability Trust
SBA	Stand-By Arrangement
SCF	Stand-By Credit Facility
SDGs	UN 2030 Sustainable Development Goals
SDRs	Special Drawing Rights
SRDSF	Sovereign Risk and Debt Sustainability Framework
UCT	Upper Credit Tranche
V20	Vulnerable 20 Group of Finance Ministers
WEO	World Economic Outlook

ABOUT THE TASK FORCE

The Task Force on Climate, Development and the International Monetary Fund is a consortium of experts from around the world utilizing rigorous, empirical research to advance a development-centered approach to climate change at the IMF. The Task Force believes it is imperative that the global community support climate resilience and transitions to a low-carbon economy in a just manner. As the leading multilateral, rules-based institution charged with promoting the stability of the international financial and monetary system, the IMF has a vital role to play in supporting a globally coordinated response.

MEMBER ORGANIZATIONS:

- Intergovernmental Group of Twenty-Four (G24)
- Vulnerable Group of Twenty (V20) Ministers of Finance
- African Center for Economic Transformation
- African Economic Research Consortium
- Boston University Global Development Policy Center
- Centre for Policy Dialogue
- Centre for Social and Economic Progress
- Financial Futures Center
- Macro & Green Finance Lab, National School of Development, Peking University
- United Nations Economic Commission for Latin America and the Caribbean

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EXECUTIVE SUMMARY

With just six years until 2030 and critical climate thresholds being surpassed every year, there is a rapidly closing window to limit global temperature rise to 1.5C degrees in line with the 2015 Paris Agreement.

Yet, investments in clean energy have been primarily concentrated in advanced economies and adaptation finance continues to lag behind. Developing countries – despite contributing the least to climate change – are witnessing worsening climate impacts, missed economic opportunities and developmental setbacks, while still grappling with the scarring effects of the COVID-19 pandemic. This context underscores the urgent need to strengthen policy and institutional frameworks at the global and national levels to unlock investments and mobilize affordable climate finance at scale.

Given that climate change is a macro-critical policy challenge with profound implications for global growth, financial stability and development, the International Monetary Fund (IMF) has a vital role to play in mitigating immediate and long-term climate risks by building resilience, accelerating the low-carbon transition, and mobilizing the necessary finance in a fiscally sound and financially stable manner.

Building on its earlier work, in 2021, the Fund launched its Climate Change Strategy and described climate change as “one of the most critical macroeconomic and financial challenges in the coming years and decades” (IMF 2021b). Since, its much-welcomed Comprehensive Surveillance Review explicitly identified climate change as macro-critical, and it established the Resilience and Sustainability Trust (RST) to ensure that countries can respond to climate shocks and undertake actions to build long-term resilience.

Despite these great strides, however, ambition remains limited. An urgent transformation of the IMF is core to the efforts of aligning the international financial architecture with shared development and climate change goals. Any big investment push will require the IMF’s leadership in charting a sustainable path forward.

This report from the Task Force on Climate, Development and the IMF proposes such a transformation to align the Fund with the United Nations 2030 Agenda for Sustainable Development, acknowledging the opportunity presented by IMF Managing Director Kristalina Georgieva’s second term, which officially renewed ahead of the 2024 IMF/World Bank Annual Meetings.

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The Task Force on Climate, Development and the IMF was established in 2021 to advance an ambitious agenda for IMF climate policy that is aligned with development goals through rigorous research on the macro-critical dimensions of climate change and development.

In 2023, the Task Force published a preliminary assessment of the IMF's efforts to date on climate change. Key findings from our preliminary assessment and our growing body of technical work and policy analysis are synthesized in this report, and below:

- IMF policy advice displayed a “one size fits all” approach to climate policy, with an overwhelming emphasis on carbon pricing.
- Carbon pricing alone will not be sufficient to generate enough resources to support the transition and create the necessary supportive environment to unlock a structural shift in the economy.
- Bilateral surveillance activities underestimated the macroeconomic effects of the transition to low-carbon economy and the need to reorient macro-fiscal frameworks to support resource mobilization.
- The IMF's lending toolkit lacked the appropriate scale commensurate with the climate crisis and overemphasized fiscal consolidation over long-run resource mobilization.

Our research has consistently outlined three compelling action points:

- Broadening multilateral surveillance to strengthen the focus on investment-led growth;
- Strengthening bilateral surveillance by better deploying analytical tools to understand climate risks and their impacts; and
- Scaling up and reforming the lending toolkit in line with the Paris Agreement on climate change.

This report identifies how the IMF can **reinvigorate its sense of purpose**, with a renewed sense of urgency, to ensure an effective response to accelerating climate change, alignment with a green, growth-oriented agenda, and a stepwise increase in financing in a fiscally sound and financially stable manner.

The broad vision for this, outlined here, is animated by our IMF 2030 Action Agenda, which provides more detailed recommendations across three areas of reforming surveillance, aligning the lending toolkit and demonstrating global leadership.

POLICY RECOMMENDATIONS:

- **Reform surveillance by upgrading its analytical toolkit and ensuring that its policy advice supports development and climate change goals.**
 - The Fund's analytical toolkit should comprehensively capture the impact of climate risks as well as the benefits of climate action. This includes the design of climate scenarios and granularity of data used, how climate risks cascade

and interact, and the transmission channels and time horizons considered. This enhancement and recalibration will uplift the quality of policy advice to member countries.

- Recognizing that the transition to low-carbon, climate-resilient economies will have significant implications on public finance, sovereign debt and economic growth, the IMF should orient its policy advice towards helping countries pursue low-carbon, climate-resilient growth paths in a fiscally sound and financially stable manner.
- In its policy advice, the IMF must recognize the need for a suite of instruments for investment mobilization beyond carbon pricing. The mix of financial resources should predominantly be affordable, including concessional finance and non-debt creating flows.
- **Align the lending toolkit towards development and climate change goals, which will require instruments designed to address the full range of climate shocks.**
 - The IMF should provide liquidity support as well as support for addressing prospective balance of payments risks over the medium-term.
 - The IMF needs to augment its lending capacity commensurate to the scale of the challenges at hand. As climate impacts are expected to intensify, cascade and interact with transition risks, the IMF needs to have adequate firepower to address these potential shocks. The IMF must ensure that it has the capacity to support the liquidity needs of its members in a timely and effective manner following a crisis.
 - Its programs must support an investment push to support growth and structural transformation.
- **Enhance global leadership to support resource mobilization efforts.**
 - The IMF needs to redefine fiscal responsibility so that maintaining fiscal sustainability and financial stability incorporates medium- and long-term strategies for sustainable growth.
 - The IMF needs to underscore the importance of closing the investment gap to meet climate and development goals and emphasize the vital role that international collective action will have to play given the constraints on domestic resource mobilization.
 - External finance will be a key element in the overall financing mix to enhance the fiscal space of developing economies. The IMF can exercise its leadership by helping to foster convergence around the need to scale up finance, recognizing the importance of concessional and debt-free financing in the appropriate mix of financing.
 - With the high cost of borrowing, weaker economic growth prospects across developing economies, increasing sovereign debt distress and the specter of further geoeconomic fragmentation, governments are facing a highly challenging operating environment in the context of the climate emergency. To navigate the macroeconomic tensions in the pursuit of investment-led

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growth, countries will need to strengthen policies and institutional frameworks to unlock investments and mobilize resources at scale.

- The IMF occupies a unique position in the sovereign debt architecture. The IMF should ensure that debt restructuring efforts place climate and development needs at the center of this architecture. The debt sustainability analysis methodology needs to appropriately reflect climate investment needs, concessional finance requirements and the full range of climate risks.

Addressing climate change and development are challenges that demand a transformation of the global economy. For this broader transformation to be possible, the IMF must transform itself, too.

Lagos, Nigeria. Photo by Tunde Buremo via Unsplash.

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Ongoing discussions on reforming the global financial architecture provide a significant opportunity for the IMF to transform and support accelerating progress on development and addressing climate change this decade.

Given the urgency of addressing the global climate crisis and its intensifying impact on many climate-vulnerable Fund members, especially in light of the United Nations 2030 Sustainable Development Goals, we recommend immediate implementation of the reforms identified here over the next 12 months. The IMF Managing Director should lead this effort with the support of member countries and should report on the status of progress at the 2025 Annual Meetings.

VISION AND APPROACH

The IMF's vision and approach to climate change should reflect a sense of urgency given the intensifying nature of the climate crisis and the essential need for rapid action. The IMF should upgrade its tools to enable the investment push required and support a stepwise increase in financing to address climate change in a fiscally sound and financially stable manner.

This vision must be supported by reforming its surveillance functions, aligning its lending toolkit and enhancing of its leadership role.

REFORMING SURVEILLANCE

Methods & Coverage

☐ Ahead of the 2026 surveillance review, the IMF should review its methodological approaches to better quantify the macro-critical impact of climate change.

- Climate risks and the opportunities and benefits of climate action should both be included in both medium- and long-term projections within its surveillance activities.
- Existing modeling limitations lead to an underestimation of the costs of climate change and the benefits of climate investments.

☐ Article IV reports should improve the analyses of cross-border spillovers, particularly how climate change and national policy responses will affect fiscal health and current and prospective balance of payments in other countries.

- Carbon border adjustment measures (CBAMs) can have significant distributional impacts on emerging market and developing economies (EMDEs). Revenue from CBAMs should be partly directed towards supporting climate investments in EMDEs.
- Surveillance should also devote greater attention to adaptation, loss and damage, and restoration of nature.

Fiscal Considerations & Policy Stance

☐ The IMF should help countries pursue their medium- and long-term strategies for sustainable growth while maintaining fiscal sustainability and financial stability.

- The IMF's policy advice on fiscal and debt sustainability should recognize the long-term benefits of climate action and the importance of low-cost capital in scaling up investments.
- The IMF should recognize that, at best, carbon pricing is only a partial solution to mitigate climate change and raise financing for the climate transition.
- In its Article IV reports, the IMF should support a mix of domestic and external sources of public finance to complement carbon pricing to fill the investment gap, evenhandedly recognizing the diversity of country circumstances.
- Progressive domestic resource mobilization will also require additional capacity building and technical assistance.

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- ☐ As a part of its Article IV reports, the IMF should also help policymakers identify and manage increased climate investment-related capital flows consistent with domestic macroeconomic fundamentals.

Instruments

- ☐ Debt sustainability analyses (DSAs) should recognize the potential for public investment to spur economic growth and identify pathways to increase investment in ways that maintain fiscal sustainability.
 - Its methodology should be refined through the use of granular data, scenarios that capture climate risks and their interactions in a forward looking way, macro-financial models that depict important characteristics of climate change, and the adoption of a risk management approach.
 - IMF and World Bank collaboration should also be strengthened, and the ongoing review of the IMF/World Bank Debt Sustainability Framework for Low-Income Countries (LIC DSF) offers an immediate opportunity for improvement.
- ☐ The IMF should expand the scope of Financial Sector Assessment Program (FSAP) and the Financial Sector Stability Assessment (FSSA) to better incorporate the potential impacts of climate finance flows on the Non-Government Financial Sector.
 - It should also provide guidance on managing future capital flows and deepening financial markets to ensure stability and resilience.

Capacity Development

- ☐ Capacity building and technical assistance activities should expand their focus on progressive domestic resource mobilization for financing climate actions and managing fiscal shocks effectively.
 - This support will enable nations to better integrate climate considerations into their fiscal and financial policies, ensuring that investments in climate resilience and green growth are both sustainable and economically viable.
- ☐ The Fund should support enhancement of the technical capacity of countries to better understand and mitigate the impact of climate-related financial activities on the broader financial system.
 - The Fund should help develop more robust regulatory and supervisory frameworks to fully capture the climate risks associated with private sector financial flows, which can also pose significant risks to a country's financial stability.

ALIGNING THE LENDING TOOLKIT

- ☐ The IMF should commit its financing in support of the Paris Agreement's goal of limiting warming to 1.5C, responses to climate shocks and resilience-building, and investments in growth enhancing measures.
 - This commitment will require a major reform in its financial and human resource capacity.
- ☐ Analyses of the adequacy of Fund resources should incorporate the potential impacts of climate shocks and overlapping crises and address the increase in needs in forthcoming quota reviews.
 - The IMF should also regularly review its instruments to ensure that its toolkit is fit-for-purpose and capable of supporting members mitigate shocks and crises.
- ☐ Climate Resilient Debt Clauses should be incorporated in IMF loan agreements, and the Catastrophe Containment and Relief Trust (CCRT) should be replenished to support debt relief while expanding eligibility to climate-vulnerable economies.
- ☐ Lending instruments, including program design and eligibility criteria, should reflect the economic and climate-related needs of members.
 - The IMF should highlight the contribution of climate investments to long-term debt sustainability so that policy responses are not limited to short-term stability measures.
- ☐ The Fund should enable Resilience and Sustainability Facility (RSF) support for guarantees and other similar innovative financial instruments that support national plans.
 - It should remove the requirement for a concurrent program to enable access to countries aspiring to build resilience to prospective shocks.
 - The RST's capitalization should be increased to respond to the high demand for financing and the need to support building resilience against prospective balance of payments crises.
- ☐ The IMF should shift away from its emphasis on fiscal consolidation towards resource mobilization, recognizing the growth enhancing effects of clean energy investments and benefits of climate resilience.
 - Climate investments also reduce sovereign risk and help to lower the cost of capital.
- ☐ IMF programs should not lock countries into a fossil fuel intensive growth path, leaving them exposed to transition risks.
 - The IMF conditionalities review provides an opportunity for this shift.
- ☐ Urgent reform of lending rate policy should address the high cost of IMF lending and surcharge policy, as most borrowers have no reliable access to alternative sources of sustainable financing.

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ENHANCING GLOBAL LEADERSHIP

- ☐ The IMF should recognize and communicate that delaying climate action is dangerous and stress the benefits of climate action and costs of inaction.
- ☐ In its flagship reports, the IMF should recognize the financing gaps in both mitigating climate shocks as well as in building resilience and accelerating the energy transition.
 - The IMF should regularly assess progress in the mobilization of finance at the global and national levels. The IMF should underscore the essential need to lower the cost of capital to unlock financing.
- ☐ As a part of multilateral surveillance, the IMF should shine a spotlight on the most climate vulnerable countries and the need for international action to support their transformation from climate vulnerability to climate prosperity.
 - The IMF should highlight the need for stronger global financial mechanisms to address loss and damage and build resilience.
- ☐ The IMF should reinforce international collective action on decarbonization in a manner that supports equitable burden sharing and recognize the significant distributional implications of international carbon price floors.
- ☐ The IMF should increase the scope and efficiency of re-channeling Special Drawing Rights (SDRs) by reviewing the framework to maintain SDRs as global reserve assets.
 - The IMF should explore the regular issuance of SDRs to increase global liquidity and delink SDR allocations from quota shares so that countries benefit according to their liquidity needs.
- ☐ The IMF should identify options to strengthen international collective action on climate finance, including options in international taxation measures, to complement domestic resource mobilization efforts to improve climate financing.

Malé, Maldives. Photo by Nahil Naseer via Unsplash.

CHAPTER 1

THE EVOLVING ROLE OF THE IMF IN ADDRESSING CLIMATE CHANGE

INTRODUCTION

The International Monetary Fund (IMF) Climate Change Strategy in 2021 recognized climate change as “one of the most macro-critical policy challenges” in the coming years and decades (IMF 2021b). Countries not only need to urgently reduce carbon emissions to avert a planetary crisis in the face of a rapidly closing window to limit warming to 1.5C, but they also need to build resilience to the worsening impacts of climate change. The twin objectives of mitigation and adaptation require an unprecedented level of mobilization to significantly ramp up investment, which in turn, will significantly increase fiscal sustainability and financial stability challenges, especially in emerging market and developing economies (EMDEs). Supporting countries and catalyzing global support to manage the macro-financial challenges of the climate transition is core to the IMF’s surveillance, policy guidance and lending roles.

This report pushes for a faster and deeper evolution toward a development-centered Climate Change Strategy for the IMF that embraces the need for an investment push as a priority goal. It proposes an action agenda to strengthen the IMF’s support of its member countries, considering their diverse circumstances and the evolving global context. It builds on the progress so far of the IMF’s efforts to integrate climate change into its work and recognizes that the urgency and scale needed to address climate change and achieve sustainable development goals require immediate, transformational reforms.

The Task Force on Climate, Development and the IMF (Task Force) has urged the IMF to chart a Climate Change Strategy that supports the investment push needed to meet climate and development goals in ways that maintain macroeconomic stability. Boosting investments – public and private – is imperative to build greener and climate-resilient economies. Such economic transformation is foundational to stable and sustainable growth. To pursue this development-centered approach to integrating climate change in the IMF’s work, the Task Force (Task Force 2021b; 2023) proposed three pillars:

- Multilateral surveillance and global leadership to address the global and cross border macroeconomic implications of climate risks and advance the necessary financing and policy frameworks.
- Bilateral surveillance and capacity development to address the macroeconomic implications of climate risks.
- An IMF finance toolkit that is aligned with climate action and longer-run sustainable growth and development.

Implementing these three pillars should be guided by the following principles to maximize the benefits of climate action and minimize the risks:

- Playing a global leadership role in addressing the macroeconomic implications of climate risk.
- Incorporating medium- and long-term sustainable growth strategies into short-term stability frameworks.

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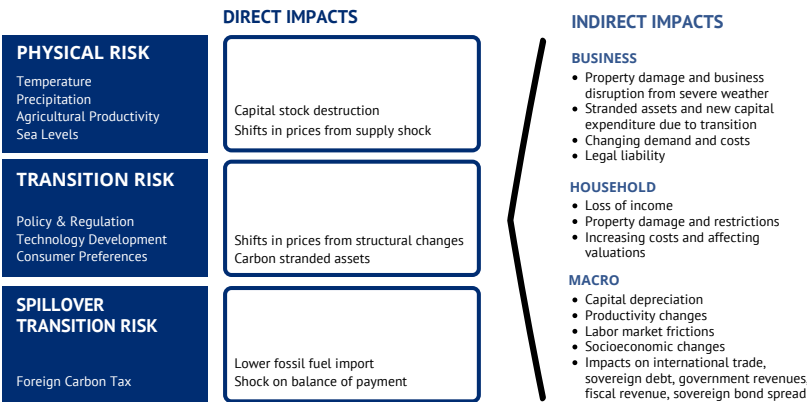
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- Tailoring policy advice to member country circumstances.
- Empowering national and stakeholder ownership of policy.
- Reconciling shared climate goals with equity and burden sharing.

The IMF has made important progress to reshape its surveillance, analytical work and lending tools to support member countries in mitigating and adapting to climate change. The IMF has advanced its work on climate change in the past few years, commendably starting to systematically integrate climate change in its bilateral and multilateral surveillance (IMF 2012; 2021a; Gallagher, Rustomjee, and Arevalo 2024). The 2021 IMF Climate Change Strategy emphasizes the need to step up efforts by countries – individually and collectively – to accelerate the energy transition to address climate change. Analyses of the impact of climate risks and investment needs will be an integral part of debt sustainability frameworks.¹ In addition, the IMF created the Resilience and Sustainability Facility (RSF) to provide long-term affordable financing to support countries in building resilience to structural challenges, including climate change, to help maintain economic and financial stability. These are notable steps to enhance the IMF’s role in addressing climate change. More needs to be done, however, and at a faster pace, to build on these efforts to make the IMF’s toolkit “fit-for-purpose” to respond to the enormous macroeconomic and financial challenges faced by its diverse member countries to manage the climate transition.

The IMF has an important role to play in supporting countries as they cope with the macroeconomic challenges from climate risks and policies. Figure 1 illustrates how physical, transition and transition spillover risks impact financial and economic stability. At the same time, acting strongly on accelerating the green transition and building resilience can unlock sustainable growth opportunities and avoid the cost of climate impacts. Managing the transition away from a fossil fuel-based economy while ameliorating vulnerability to climate risks will require the IMF to both ensure its program design supports an orderly transition and manages spillovers as well as demonstrate global leadership in policy coordination to support the investment push required to achieve development and climate change goals.

Figure 1: Climate Risks and Transmission Channels



Source: Ramos et al. (2022).

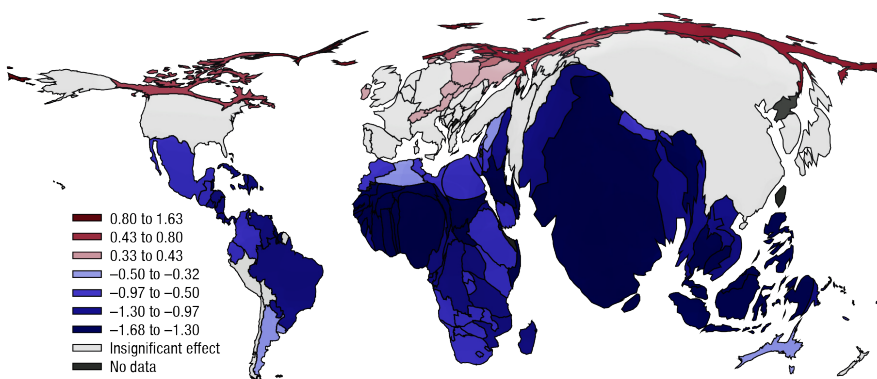
¹ Guidance note for debt sustainability assessments in low-income countries (2024).

This chapter lays out the country and global contexts that underpin the importance of an investment-driven approach to climate change and offers recommendations to reshape key elements of the IMF's toolkit. Chapter 2 delves into the challenges of macro-fiscal frameworks to support a financially stable and fiscally sound climate transition and potential global financing mechanisms that could support the low-carbon and climate-resilient transition. Chapter 3 lays out how climate-focused instruments and the IMF's traditional lending toolkit can be re-gearred and right-sized to support an investment-driven growth path.

THE URGENCY OF CLIMATE ACTIONS IN THE CHANGING COUNTRY AND GLOBAL CONTEXT

The urgency to tackle climate change has only intensified. The world has not responded adequately, and time is running short (IPCC 2022). Existing national pledges to reduce carbon emissions have fallen short of what is required to limit warming to 1.5C, and delays will only require deeper cuts in carbon emissions in the future. Furthermore, increased global warming disproportionately impacts developing economies given more frequent and worsening climate-related events (Figure 2).

Figure 2: Effect of a 1C Increase in Temperature on Real per Capital Output at the Country Level, with Countries Rescaled in Proportion to their Population



Source: Reproduced using IMF 2017 data.

At the same time, mechanisms to support developing economies in addressing climate risks and their impacts have been lacking. Developing economies need both financial and technological support to address climate risks. They face setbacks in investing in the transition to clean energy, enhancing adaptation, addressing loss and damage, and restoring nature loss. According to the 2023 Report of the Independent High Level Expert Group on Climate Finance (IHLEG) (IHLEG 2023):

- More than 95 percent of the increase in clean energy investments over the past four years has gone to advanced economies and China. Low- and lower-middle income countries account for only 7 percent of clean energy spending in 2022.
- The adaptation gap has widened, and mechanisms and financing of loss and damage are grossly inadequate, jeopardizing development prospects of many climate-vulnerable economies.

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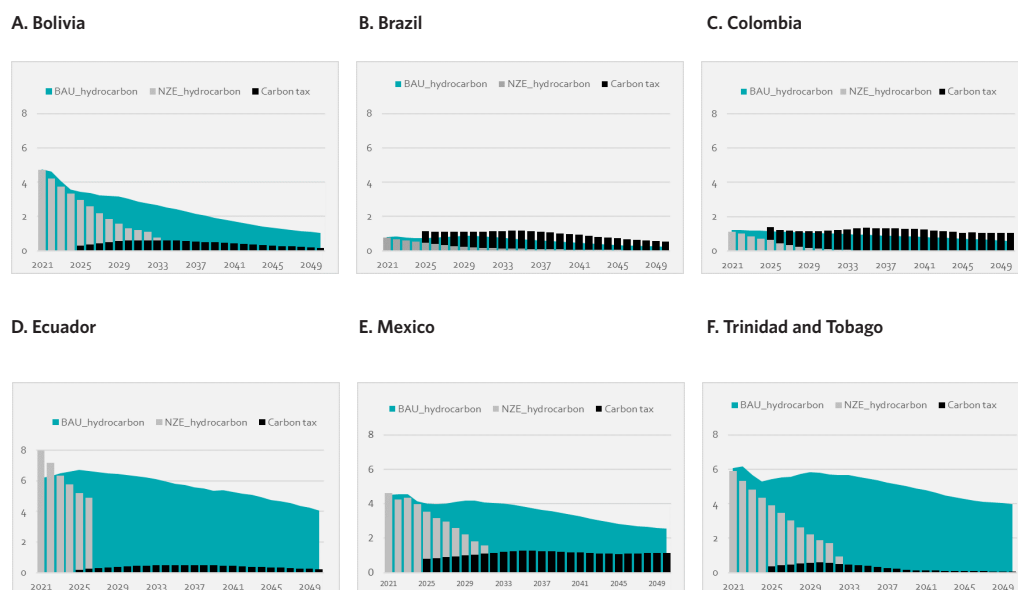
- While restoring nature loss promises substantial returns in EMDEs, financing has been mostly in advanced countries.
- A just transition is needed, with investment in people and places, to manage the transition's impacts on livelihoods and well-being, particularly on vulnerable communities and works.

Scaling up access to affordable climate financing will be key to unlocking the necessary public and private investments to address climate change. The IHLEG estimates the climate financing gap in developing economies (other than China) to be around \$2.4 trillion annually by 2030. Half of this financing is expected to come from domestic resource mobilization, and the remaining half from external financing. At this point, the climate finance mobilized is far too low to bridge the financing gap, even while harmful fossil fuel subsidies remain. Increasing financial space will pose significant challenges to macroeconomic and financial policymaking domestically and internationally. International climate financing has reached only about \$120-\$150 billion compared to more than a \$1 trillion recommended by the IHLEG (2023). Even if the desired level of financing is achieved, countries will need to manage their absorptive capacity for such flows (Mohan and Raj 2024).

Global economic prospects have also worsened under the enormous stress from multiple global crises (IMF 2024h). The COVID-19 pandemic, wars and geopolitical conflicts, and severe climate shocks have led to compounding impacts on fiscal stress and debt burdens, higher cost of capital and energy availability, and weaker growth prospects. Creditworthiness has fallen and financial markets have tightened, leading to major declines in financial flows to developing economies (Allen and Bems 2024). These grim economic trends are coming at a time when countries require more resources to address climate change, advance on their United Nations 2030 Sustainable Development Goals – 85 percent of which are off track – and deal with reversals in the hard-won progress in reducing poverty, healthcare and education (UN 2024). Inadequately investing to address development needs, manage the climate transition and mitigate the impact of climate change ultimately compromises future productivity and growth (UN 2024).

Serious fiscal constraints, high financial costs, elevated debt burdens and the high cost of capital, however, inhibit the acceleration of spending on climate actions, particularly in EMDEs. The IMF's Fiscal Monitor issued in October 2023 showed that increased climate spending to meet mitigation needs in select EMDEs increased debt sustainability risks. Titelman et al. (2022) show that hydrocarbon revenue losses may not be offset by the revenue generated from carbon pricing (Figure 3), thereby requiring governments to identify alternative sources of financing.

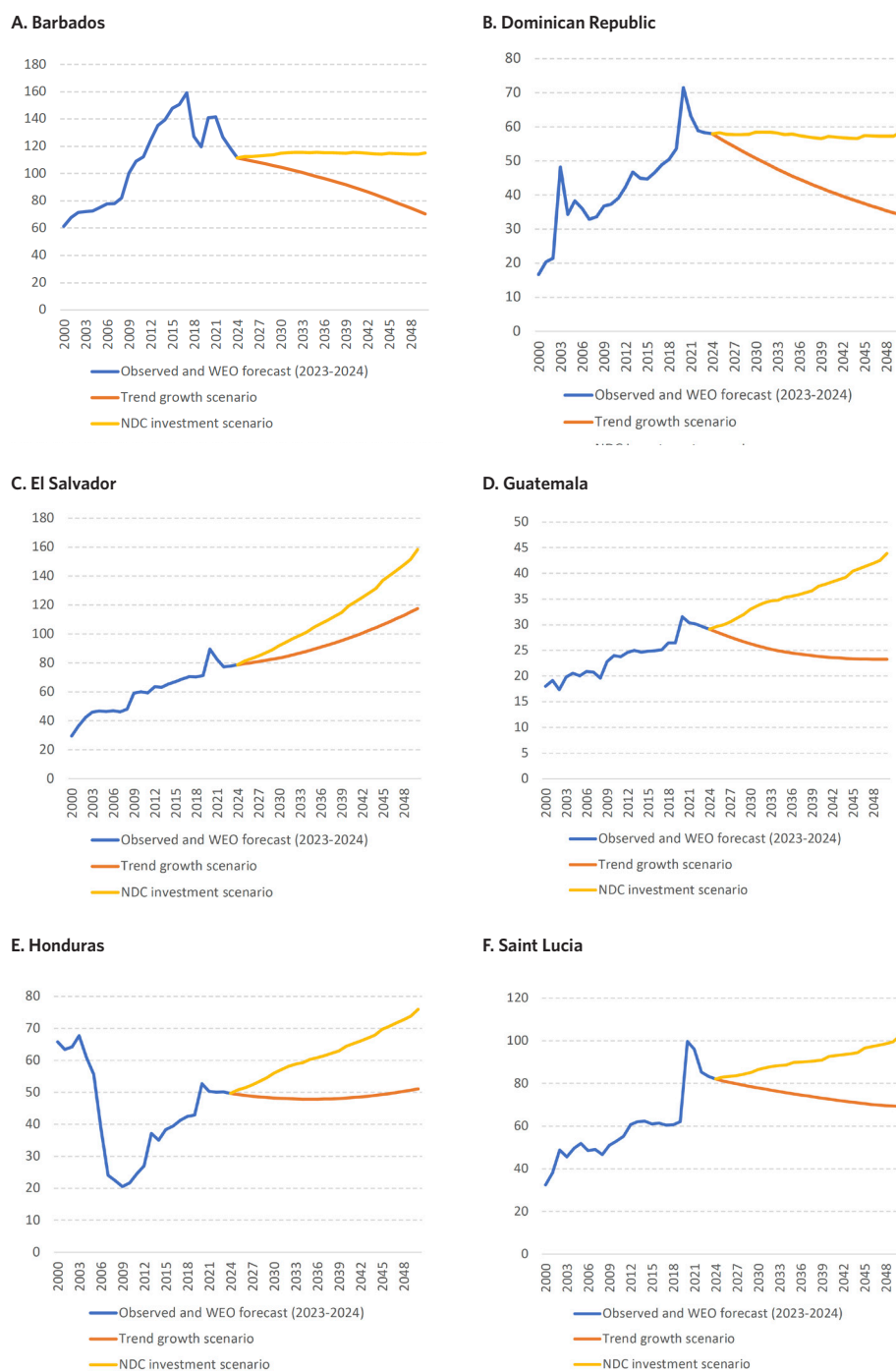
Figure 3: General Government Hydrocarbon-Related Revenue (Percentage of GDP)



Source: Titelman et al. (2022).

Titelman et al. (2023), a Task Force research paper, also show that climate vulnerable countries in Central America and the Caribbean have limited fiscal spaces for large adaptation investments. As a result, while investing for adaptation will preserve growth prospects, it will also significantly worsen debt burdens and increase the cost of capital (Figure 4). Research on African countries argue for scaling up adaptation investments, without which GDP growth will be lower and fiscal deficits and debt burdens worsen over time (Asafu-Adjaye, Ndung'u, and Shimeles 2022). Increasing access to concessional financing and grants will be critical to ease debt burdens from climate investments, respond to climate shocks and reduce the cost of capital.

Figure 4: Central American and Caribbean Countries and Public Debt



Source: Titelman et al. (2023).

Increased climate vulnerability has led to a vicious cycle of climate and debt vulnerabilities. According to a report on loss and damage from the Vulnerable Group of 20 (V20) and the Boston University Global Development Policy Center, many climate vulnerable countries have borrowed heavily, often with high interest rates, to meet liquidity needs following a climate disaster, contain loss and damage and invest on adaptation (Task Force 2023; Bhandary and Marins 2024). Their high

debt burdens, however, eventually constrain investments to build resilience, which perpetuates climate vulnerability.

They face this difficult dilemma: retrench fiscally to preserve debt sustainability but face greater climate shocks that set back development prospects, or expand fiscal spending to invest and transform their economies but face greater debt burdens and decreased creditworthiness that further limit access to capital. To inform this debate, Kharas and Rivard (2022) show that scenarios of investment-led strategies, when backed by affordable financing, improve growth and creditworthiness more than the scenario of fiscal consolidation (Kharas and Rivard 2022). This result demonstrates the importance of mobilizing affordable and non-debt creating financing to build resilience to break away from the vicious cycle of debt and climate vulnerabilities, which will require a supportive international financial architecture (IFA).

In addition, climate actions across countries are increasingly fragmented, with potentially adverse balance of payments spillovers on developing economies. To promote green industries, the US and some major economies are deploying industrial policies and subsidies that could place developing economies at a competitive disadvantage. The European Union (EU) has also unilaterally imposed a Carbon Border Adjustment Mechanism (CBAM) beginning late 2023. Developing economies have raised concerns that CBAMs will adversely impact their carbon intensive exports. Task Force research shows that the EU's CBAM will lead to welfare gains in developed countries and welfare losses in developing economies (He, Zhai, and Ma 2022).

Against this background, countries will need to manage their macroeconomic policies in ways that strike a balance between ramping up climate investments and maintaining debt sustainability and financial stability. This is critical to achieving fiscal responsibility and preserving market access. There is scope to raise domestic resource mobilization through a mix of policies that manage the trilemma of achieving climate goals, fiscal sustainability and political feasibility (IMF 2023a). That said, however, an international carbon price floor (ICPF), a key recommendation of IMF working papers to mitigate greenhouse gas (GHG) emissions and to raise climate financing, has been a politically difficult policy measure to implement domestically and coordinate across countries (Kohli, Karun, and Jain, n.d.).² To date, carbon taxes and emissions trading systems globally have limited coverage and low prices (Parry, Black, and Zhunussova 2022; World Bank 2024). Their revenues have increased in the past few years, albeit from a low base, demonstrating potential to enhance fiscal resources (World Bank 2023). Nevertheless, Task Force calculations for Latin America show that revenues from carbon taxation will still fall short of the amount of financing required to support the transition (Titelman et al. 2022), highlighting the need for more access to predictable and affordable external financing sources to complement carbon pricing. Scaling up multilateral development lending, concessional and non-debt creating financing are important steps in this direction but will require stronger international cooperation.

The IFA remains inadequate to mobilize the necessary levels of climate financing. Policymakers have communicated the need for a “fit-for-purpose” IFA to support

² He et al. (2021) show that even if countries imposed different levels of carbon prices (according to their level of development), the ICPF will still have adverse effects on developing economies.

countries in reducing financial costs and creating the necessary fiscal space through the Bridgetown Initiative, the Paris Pact for Planet and People (4P), the Nairobi Declaration, the V20 Accra-Marrakech Agenda and the UN Summit of the Future (Barbados 2022; Ministry of Europe and Foreign Affairs 2023; AU-Kenya 2023; V20 2023). The G20 Independent Expert Group's proposal to reform multilateral development banks (MDBs) to have a much sharper orientation on climate action and to triple MDBs' financial capacity would be a key part of the IFA agenda (G20 IEG 2023). The Brazilian G20 Presidency is in the process of setting out a roadmap to deliver a bigger, better and more effective MDB system (G20 2024). Additionally, there have been numerous calls to improve the processes for debt restructurings to ensure expeditious and adequate debt relief and liquidity support to countries that need to deal with unsustainable debt burdens, but progress has been slow (Zucker-Marques, Gallagher, and Volz 2024).

The criticality of concessional and non-debt creating financing to reduce financial costs has been highlighted (IHLEG 2023). Such financing is critical to addressing investments in adaptation, loss and damage, a just transition, and reversing nature losses, which do not yield immediate financial returns but are essential to improving longer-term growth and development prospects. Yet, it remains the scarcest source of climate financing for developing economies. Increasing Official Development Assistance (ODA) will be essential and should be an important pillar of an agreement toward the New Collective Quantified Goal (NCQG) that is expected to be agreed upon on at the 29th UN Climate Change Conference (COP29). Even still, this will not be sufficient, and scaling up innovative sources concessional financing will be necessary. In this regard, calls to use Special Drawing Rights (SDRs) to boost climate and development financing have emerged, following the notable decision by the G20 to channel \$100 billion of the SDRs (issued in 2021) to on-lend to countries in need of liquidity support. There is also growing attention to developing effective voluntary carbon markets and increasing philanthropic climate financing.

Interest has increased in the prospects of international tax cooperation to support domestic taxation and enhance the global capacity to generate and mobilize resources.³ The unprecedented agreement reached at the Organisation for Economic Co-operation and Development (OECD) Inclusive Framework on corporate taxation of the digital economy and a global minimum tax has demonstrated the possibility of international tax cooperation. Discussions have intensified with the decision by the UN to put in place a Tax Convention, which has received strong support from developing economies. The G20 is also advocating for a coordinated effort to tax the super wealthy to raise revenues, foster progressivity and reduce base erosion (G20 2024). The new Task Force on Global Solidarity Levies is exploring the potential for coordinated taxation measures, such as taxation of international shipping and aviation, both of which could have enormous revenue potential and will make polluters pay more for a global just transition (Task Force on Global Solidarity Levies 2024).

³ See The Paris Pact for People and Planet (4P) and G20 New Delhi Leaders' Declaration.

THE NEED FOR AN EVOLVED IMF

This changing global context has led to calls for the IMF to “evolve” as an institution to provide more effective support to its member countries (Ghosh and Stanley 2024). The IMF’s recognition of climate change as a macro-critical challenge has been a precursor to this evolution, provoking debate on how the IMF should extend its financial stability mandate to address areas that have traditionally been linked more to the development agenda (Ahmed 2024). Discussions on the IMF of the future will provide an opportune time for continued rethinking of its approach, methodologies and instruments to support countries respond to climate change.

What Should Change in the IMF’s Approach to Climate Change?

The IMF – as the guardian of global macroeconomic and financial stability – has made notable progress in integrating climate change in its surveillance and lending instruments. While there is debate on the scope and extent of the IMF’s engagement on climate change, the Task Force believes that the IMF should build on these achievements and strengthen its approaches and instruments to support its member countries address climate change and its impacts, especially given the urgency to accelerate climate actions in increasingly difficult country and global contexts. Drawing on the Task Force Preliminary Assessment in 2023 and continued research, the Task Force proposes the following changes in key elements of the IMF’s multilateral and bilateral surveillance, analytical work, policy advice and lending toolkit.

First, economic models that underpin surveillance need to recognize the potential magnitudes of disruptive shocks from climate change and the inadequacy of the mechanisms to help countries deal with these impacts. The IMF needs to systematically incorporate climate risks – physical, transition and spillover risks – and their macro-critical economic and financial impacts in macroeconomic projections and debt sustainability assessments and policy advice. They also need to consider the long-term payoffs of climate action. A comprehensive assessment of climate risks will be useful to assess the investment needs and the shortfall in available domestic and external financing to guide policy options and the reform of the IFA.

Second, policy prescriptions applied to surveillance need to be anchored on jointly achieving macroeconomic stability and economic transformation. This will entail consideration of a broad range of policies to raise revenues to finance investments for climate-related actions, beyond relying exclusively on carbon pricing. Stern et al. (2022) show that pricing carbon addresses the negative externality of carbon’s impact on others but does not tackle other important market failures that are key to boosting investments for economic transformation (see Table 1). Pathways to creating fiscal space should consider addressing other imperfections in financial markets, such as through ways to reduce the cost of capital, ensure predictable financing and smooth out fiscal shocks. Public policies could also consider co-benefits, from investing on ecosystems and biodiversity. These elements should be part of policymaking to manage fiscal sustainability and creditworthiness, as an alternative approach to fiscal consolidation, which has traditionally been the preferred path to macroeconomic adjustment.

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Third, addressing the intertwined issues of debt, climate vulnerability and development distress needs greater attention. In this regard, frameworks to assess debt sustainability should take into account the growth and resilience benefits of investments in economic transformation over a longer term, which existing macroeconomic models inadequately address. The IMF must strengthen its toolkit and its advocacy for more external concessional financing to support countries in managing liquidity needs in the event of shocks and investing in building resilience to physical risks arising from climate change. It can encourage efforts to build automatic pauses to debt service payments in the event of climate shocks, including by introducing them in the IMF's lending instruments. The IMF needs to put much more explicit attention on impacts and responses to loss and damage. More expeditious sovereign debt restructuring, when needed, is critical: the IMF has been playing a catalytic role in this regard.

Table 1: Six Market Imperfections Relevant for Tackling Climate Change

Market Failure	Description	Policy Options
Greenhouse Gasses	Negative externality because of the damage that emissions inflict on others.	Carbon tax/cap-and-trade/ regulation of GHG emissions (standards), public investments.
Research, Development and Deployment (R, D & D)	Firms do not fully appropriate the benefits of their R&D; knowledge spillovers.	Tax incentives, support for demonstration/deployment, publicly funded research.
Imperfection in Risk/Capital Markets	Coordination of multiple supporting networks and systems, often marked by large non-convexities. Marginal analysis, the cornerstone of classical economics, fails.	Government green lending (green development banks); risk sharing/ reduction through guarantees; convening power for co-financing.
Networks and System Change	Lack of awareness of technologies, carbon content of portfolios or products, climate risks.	Public investment in infrastructure to support integration of new technologies in electricity grids, public transport, broadband, recycling. Planning of cities.
Information	Lack of awareness of technologies, carbon content of portfolios or products, climate risks.	Labelling and information requirements on cars, domestic appliances, products more generally; disclosure requirements, especially on financial institutions; stress tests; increased awareness of options.
Co-benefits	Benefits beyond market rewards.	Policies valuing ecosystems and biodiversity, recognizing impacts on health; regulations.

Source: Stern et al. (2022).

Fourth is to recognize the need to ramp up domestic and external financing for mitigation as well as adaptation to address the impacts of climate change that are already disproportionately affecting developing economies. The IMF has highlighted the importance of global cooperation to support climate mitigation. Beyond mitigation, many developing economies bear adverse impacts of climate-related disasters, most of which cannot be insured in private markets. Public spending for adaptation investments, containing loss and damage, and restoring nature loss are critical to improving their development prospects. Emphasis on ramping up investments to build resilience and the necessity of mobilizing domestic and external resources to invest on adaptation should also be central in the IMF's multilateral and bilateral surveillance.

Fifth, the IMF needs to reform its lending toolkit and scale up its lending capacity to respond to liquidity needs due to climate risks. It needs to address the inadequacy of its instruments to respond quickly to liquidity needs brought about by climate-related events. Moreover, the IMF's financing to address balance of payments vulnerabilities due to climate change, a key rationale for the creation of the RSF, should be scaled up. The IMF is clearly not expected to provide the bulk of investment financing, but it needs to play a global leadership role in the reform of the international financial architecture to help countries mobilize financial resources and respond to climate shocks and avoid a vicious cycle of debt and climate vulnerability.

Sixth, the IMF should use its voice, capabilities and coordinating role to advance multilateral cooperation to mobilize affordable and predictable climate financing for a just climate transition globally. Revenue raising measures should embrace progressivity and equitable burden sharing. The IMF is well-positioned to promote increased and more efficient channeling SDRs through the IMF and MDBs for on-lending to countries in need of financial support. It can explore the potential for regular issuances of SDRs as an instrument to support member countries in managing liquidity constraints, including from climate change. The IMF can and should also play a catalytic role in devising internationally coordinated taxation measures to mobilize financing and promote shared responsibility for a just climate transition. These measures could include the taxation of international shipping, aviation and fossil fuel producers, and taxation of the ultra-rich, all of which disproportionately erode the global carbon budget. The IMF can proactively contribute to exploring mechanisms to share these measures' potentially large tax revenues to help developing economies address climate change.

HOW THE REPORT IS ORGANIZED

Chapter 2 focuses on mobilizing resources in a fiscally and financially sound manner. This chapter contends that the IMF's approach to its modeling and analytics shapes its policy advice, underestimating costs and overestimating the impact of carbon pricing. The chapter then delves into the sources of finance to support an investment-led approach.

Chapter 3 addresses the urgent need to align the IMF's lending toolkit towards climate and development goals. It charts out how the IMF's climate-focused instruments need to be reformed and proceeds to discuss the importance of revamping IMF program design to support growth and accelerated recovery. This chapter concludes with a discussion on how the IMF can help steer sovereign debt restructuring in support of climate and development goals.

The report closes with an IMF 2030 Action Agenda, providing concrete policy recommendations building on the findings in each chapter to be enacted over the next 12 months.

Photo by Yeon Choi via Unsplash.

CHAPTER 2

UNDERSTANDING THE MACRO-FISCAL IMPLICATIONS OF ADDRESSING CLIMATE CHANGE

INTRODUCTION

The modeling of climate-related financial risks plays a key role in identifying both the financing needs for climate mitigation and adaptation as well as the fiscal and financial policies to meet them. It is thus particularly relevant for the IMF due to its surveillance role on sovereign fiscal and financial stability, which are being increasingly impaired by climate risks in EMDEs. In previous Task Force publications, we discussed the limits of climate economics and climate financial risk modeling at the IMF, and the opportunities to strengthen it. Here, we build on that work to explain how climate risk assessment affects the analysis of fiscal and financial solutions to climate change.

Considering their fiscal and financial sustainability conditions, we discuss the challenges for meeting the big push investments needed for the net-zero transition and for climate adaptation. The fiscal implications of the net-zero transition are significant, especially for countries long reliant on fossil fuels for their tax base and climate vulnerable countries that need to break out of cycle of debt distress and climate vulnerability by investing in resilience. These implications must be contextualized in the wider macroeconomic setting whereby many EMDEs have elevated debt-to-GDP ratios which indicates constrained fiscal space to support climate investments.

As the IMF has emphasized the importance of carbon pricing as a source of revenue in its policy advice, below we discuss how carbon pricing by itself will not be sufficient to meet the financing required for structural transformation, drawing on previous Task Force research. The optimism around carbon pricing reflects not only modeling limitations but also the inaccurate assumptions the political feasibility of implementing carbon pricing instruments to achieve the emissions reductions needed to achieve the goals of the Paris Agreement or generate sufficient revenue to support the low-carbon transition on its own.

An enhanced assessment of climate-related risks and opportunities could help the IMF address the climate, development and debt sustainability conundrum of scaling up climate finance in EMDEs in a fiscally sound and financially stable way. Most crucially, international collective action on climate finance, especially on concessional finance, will have to play a major role in resolving the trilemma between fiscal sustainability, climate goals and political feasibility discussed by the IMF (IMF 2023a). As Chapter 1 has discussed, carbon pricing on its own is also inadequate to address the multiple market failures associated with climate change.

This chapter is organized into three sections. The first section discusses climate risks, their characterization in analytical tools, and how the IMF's modeling toolkit can be improved. The second section delves into the fiscal implications of addressing climate change and the big push of investments needed. The third section discusses carbon pricing, its limitations and identifies possible sources of finance where the IMF could play a global leadership role.

CLIMATE RISK ASSESSMENTS

Climate Risk Modeling and How to Strengthen It at the IMF

Climate change has been recognized as a source of risk for macroeconomic and financial stability (NGFS 2019; BIS 2021). Climate economics and climate financial risk modeling is being integrated in the supervisory tools of several central banks and financial authorities with supervisory role in the world (Dunz and Power 2021; Bellon, Iseringhausen, and Mayr 2024; ECB 2024).

The IMF started to mainstream climate economic and financial risk assessment in its fiscal and financial stability assessment tools, i.e. the Debt Sustainability Analyses (DSAs) and Financial Stability Assessment Programs (FSAPs). The IMF and the World Bank jointly conduct DSAs (for LICs) and FSAPs (for EMDEs). In this regard, in the 2021 Comprehensive Surveillance Review (CSR), the IMF outlined a strategy to integrate climate considerations into its Article IV consultations (IMF 2021a). However, when it comes to multilateral surveillance the CSR focuses only on the top 20 emitters, which include larger economies but neglect vulnerable countries, thus also neglecting disaster risk assessment and climate adaptation that are already macro-financial critical for several EMDEs. The IMF provided ad hoc studies on selected countries in terms of climate mitigation and adaptation policies, and integrated analyses of investment gaps (see World Economic Outlook 2022, Fiscal Monitor 2023 and Global Financial Stability Report 2023).

The IMF and the World Bank have released additional guidance on integrating climate change investments and climate risks into DSAs (IMF and World Bank 2024a). The IMF/World Bank Debt Sustainability Framework for Low-Income Countries (LIC DSF) has made welcome progress by including slow-onset events in addition to rapid onset natural disasters, with Kenya and Niger's DSAs being key examples. Recent FSAPs have also featured both transition and physical climate risks. In the 2024 Indonesia FSAP, for example, risk analysis examines how bank portfolios are affected by direct industry damages (due to physical climate risks). Stress tests also reveal bank exposures to sectors that are vulnerable to transition risks. Default by firms in these sectors would impact financial sector stability (IMF 2024c). There has also been greater consideration for cross-border transition risks. In another example, the 2024 Kazakhstan FSAP discusses how the EU CBAM not only directly impacts Kazakh exports to the EU but also its exports to other destinations as carbon-intensive producers switch away from fossil fuel intensive production (IMF 2024g).

EXISTING CHALLENGES AND BUILDING A STANDARDIZED CLIMATE RISK ASSESSMENT

A standardized climate risk assessment modeling approach at the IMF is yet to come, while several challenges confront existing approaches. The Task Force (2024b) identified three key areas for improvement:

- **State-of-the-art climate scenarios for physical and transition risks for climate risk modeling:** These have been developed by the Network for Greening the Financial System (NGFS) – of which the IMF is an observer – (see NGFS (2023),

including the forthcoming short-term climate scenarios. These scenarios, which build on process-based Integrated Assessment Models (IAMs) peer reviewed by the UN Intergovernmental Panel on Climate Change (IPCC), contribute to overcoming some of the criticalities of aggregate IAM (2022) that lead to a conservative and little focused assessment of risk and losses. Scenarios play a key role for climate macro-financial risk assessment because climate risk is forward-looking (Battiston, Mandel, and Monasterolo 2019). Thus, using a market-based approach (that relies on past data, e.g. on carbon emissions, or on textual analysis) to climate risk pricing and assessment is much less relevant. Future impacts are expected to be different (larger) than in the past (due to non-linearity, tipping points, endogeneity of risk), so that standard models that rely on historical data will not capture the magnitude of future climate risks (Battiston and Monasterolo 2024).

- **Granular data and relevant metrics for climate risk exposure (versus aggregate firm and country-level scores):** These include collection of asset-level information (e.g. plants' exposure and vulnerability to hazard for physical risk, and technology and business information to complement carbon emissions information for transition risk). Scenarios and granular data on exposures are then crucial to improving the development of damage functions (used to translate the power of a hazard into losses) for specific hazards, countries and types of assets.

Macroeconomic models, which would benefit from embedding climate risk-specific transmission channels; embedding finance (not just as an exogenous friction) and its risk drivers (Stiglitz 2018); departing from rational expectations towards adaptive expectations, which are more realistic and relevant in the context of climate risk and policy uncertainty (Gourdel et al. 2024). These solutions would allow for a better assessment of macroeconomic and financial losses, avoiding the underestimation of GDP losses and of its persistence, which characterize macroeconomic models in force (macroeconometric and dynamic stochastic general equilibrium models). Raga (2024) finds that IMF projections have been over optimistic in terms of GDP growth and debt forecasts in EMDEs, with greater optimism in low-income countries. This overoptimism is even larger in the context of climate risk assessment, when climate-related losses in the economy and their persistence are underestimated.

- **Financial risk models, which should account for the network effects:** neglecting risk contagion and amplification can lead to over optimism on credit risk of both private investors (e.g. banks) and sovereigns, and on the ability of firms and sovereigns to access finance (e.g., firms and sovereigns borrowing for reconstruction in the post disaster phase).

STRENGTHENING CLIMATE FINANCIAL RISK ASSESSMENT MODELING

Strengthening the modeling of climate financial risk assessment is crucial for proper risk management of sovereigns and financial institutions (Battiston and Monasterolo 2024). The way it is done – i.e. scenarios, data, models and their assumptions – plays a key role in the identification of:

- What is at risk, including where is it located;

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- How much is at risk, considering the value chain and spillover effects (local and regional) in the economy and finance; and
- How to respond to risk in the short-, mid- and long-term (i.e. the fiscal and financial response).

On the one hand, underestimation of climate risk can lead to mobilization and plans for lower fiscal resources than needed, and could overestimate the ability to borrow on markets to complement the resources needed. On the other hand, a poor understanding of what is at risk, why and how could lead to:

- A misallocation of limited fiscal resources, and thus a lower effectiveness, which is even more relevant in countries with little fiscal space and high debt burden.
- A poor understanding of the scope and form of new public debt, and climate-oriented debt restructuring.
- An underestimation of the co-benefits of early climate policies and climate actions, including in terms of green fiscal multipliers which matter for the financial sustainability of climate policies and the transition (Batini et al. 2022).

THE FISCAL IMPLICATIONS OF THE NET-ZERO TRANSITION

The global push towards net-zero emissions and a low-carbon economy represents one of the most significant economic transitions in modern history. To achieve net-zero, countries must reduce carbon dioxide emissions and increase carbon sinks, such as mangrove plantations, or implement carbon removal technologies such as carbon capture utilization and storage. Efforts to mitigate emissions require a decrease in reliance on carbon-intensive energy sources and the deployment of low-carbon technologies and processes across various sectors, i.e. transitioning to renewable energy, improvement in energy efficiency and adoption of sustainable practices in industries and transportation.

The structural change in the economy implied by the net-zero transition will significantly impact and reshape public finances. As the low-carbon transition takes place, the revenue earned from, and subsidies provided for, carbon-intensive and low-carbon sources will change. In respect of public revenue, income from traditional carbon-intensive sources is likely to decline. This may result from reduced taxes from fossil fuel industries and related sectors such as transportation which levy consumption tax on fuels. Conversely, emerging low-carbon technologies are expected to generate new revenue streams, potentially offsetting some losses from an eroding tax base.

Regarding expenditures, the reallocation of subsidies will also be significant. Governments may need to gradually reduce financial support for carbon-intensive technologies and redirect these funds towards promoting low-carbon alternatives such as green hydrogen. Labor in carbon-intensive industries may face unemployment, which will create pressure on governments to provide social welfare or temporary income assistance measures. Governments may also have to bear the additional cost of building or upgrading infrastructure to facilitate low-carbon transition of the economy.

The fossil fuel industry is both a source of revenue for several countries and a cost in terms of fossil fuels subsidies (OECD 2020; Black et al. 2023). On the one hand, governments earn from fossil fuels by levying various charges in the form of taxes, royalty, customs duty, goods and services tax, corporate tax, cess, and excise duty, with the latter contributing to 1-1.5 percent of GDP of several economies (de Mooij, Parry, and Zhunussova 2023). Meanwhile, fuel consumption tax on road transport contributes almost 5 percent to the public revenue of OECD countries (OECD 2020). In 2018, taxes on fuels comprised 61.3 percent of pump fuel prices in the United Kingdom (OPEC 2019). The fuel taxes in the Group of 7 (G7) contributed 50 percent of the fuel prices while in OECD, they averaged at 49 percent (*ibid*).

On the other hand, the fossil fuel industry is a main recipient of government subsidies, which reached \$7 trillion in 2022 at the global level (equal to 7.1 percent of GDP), with explicit subsidies doubling since 2020 (Black, Parry, and Zhunussova 2023). Sixty percent of this subsidy amount is attributed to implicit subsidies (under-charging for global warming and local air pollution), whereas explicit subsidies (under-charging of supply costs and transportation externality such as congestion) only accounted for 35 percent. The remainder is accounted for by forgone consumption tax revenue. IISD (2023) found that in 2022, G20 countries provided \$1.4 trillion in fiscal support to fossil fuel industry in the form of explicit subsidies, investments by state-owned enterprises and public sector lending (IISD 2023).

Under the Net-Zero Ambition Scenario, the fossil fuel dependent countries will witness a significant decline in oil rents (to levels below \$500 billion) by 2040. Analysis by OECD (2023) showed that under the Net-Zero Ambition Scenario, global net public revenues decrease by 0.7-3.4 percent of baseline GDP by 2050 (OECD 2023). It implies that carbon pricing and reduction in fossil fuel subsidies are not enough to replace fossil fuel based public revenue. Mesa Puyo et al. (2024) found that fiscal revenue will reduce by 5.5 percent between 2019 and 2040 due to climate action in 27 fossil fuel producing countries, while the IMF (2024) found that erosion in public revenue would be in the range of 0.2-1.1 percent of GDP due to decline in fuel tax (Mesa Puyo et al. 2024; Black et al. 2024).

Bhandari and Dwivedi (2022) examined the loss of public revenue from fossil fuels in India and estimated that in a Stated Policy Scenario, the revenue from fossil fuels as a share of total government revenue will fall from 13.3 percent in 2019 to 4.1 percent in 2040. Bhandari et al. (2023) estimated that India's general government revenue as a share of GDP will decline from 3.2 percent in 2019 to 1 percent in 2040 because, even though fossil fuel consumption will increase by 2040, its rate of increase will be slower than that of GDP. Jensen (2023) found that in 2020 global oil rents were equivalent to \$752 billion (Jensen 2023).

A Task Force paper by Titelman et al. (2022) examined Latin American and Caribbean hydrocarbon exporters and found that countries dependent on oil exports for revenue would witness major declines in revenue. Relatively well diversified economies such as Brazil and Colombia register overall increases because of carbon taxation. Given such a major decline in general revenue, fossil fuel exporting countries face challenges to finance their transition. Likewise, Baunsgaard and Vernon (2023) found that 10 countries receive more than half of their general government revenue from fossil

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fuels. In a net-zero scenario, these countries could face up to 80 percent reduction in their fossil fuel revenues. Every country will witness significant decline in their fossil fuel revenues, though the impact would be much more pronounced in the case of fuel producing nations.

Many countries also extend fossil fuel subsidies, both explicit and implicit. While OECD (2020) found that the government support to fossil fuel producers in OECD countries declined by 40 percent from 2013-2017, the low-carbon transition will entail a significant increase in the fiscal support for the green sector simultaneously. IRENA (2020), in a realistic acceleration in the worldwide deployment of renewables scenario, projects that subsidies for clean energy will be \$336 billion in 2050, up by 80 percent from 2017 (Taylor 2020). Direct fossil fuel subsidies will reduce from \$447 billion in 2017 to \$139 billion in 2050 (a decline of 69 percent). However, the total energy subsidy is expected to decline from \$634 billion in 2017 to \$475 billion in 2050, reducing the total fiscal burden that arises on account of subsidies.

However, for several countries that subsidize the carbon intensive fuels, there will be a net gain in the public revenue from the transition to low-carbon fuels. The EU – 28 countries including the United Kingdom – has received the largest public revenue from fossil fuels (\$496 billion), followed by Saudi Arabia (\$228 billion), Russia (\$157 billion) and China (\$152 billion), seen in Table 2.

Table 2: General Government Revenue in G20 Countries from Fossil Fuels

Country	General Govern- ment Revenue from fossil fuel (USD million)	General Govern- ment Revenue from fossil fuel (% of GDP)	Year	Revenues source
Argentina	3,800	0.8	2021	Excise duty
Australia	20,000	1.5	2020	Royalty, rent, fee, rent tax, excise and customs
Brazil	51,300	2.7	2019	Royalties, corporate income tax, export duties, dividends from state-owned fossil fuel extraction companies, excise and VAT
Canada	6000	0.3	2021	Income tax and royalty
China	151,700	1.1	2019	Royalties, corporate income tax, export duties, dividends from state-owned fossil fuel extraction companies, excise and VAT
European Union (28)	496,170	3.0	2015	Taxes, duties, licensing fees and royalties
India	92,900	3.3	2019	Royalties, corporate income tax, export duties, dividends from state-owned fossil fuel extraction companies, excise and VAT

Country	General Government Revenue from fossil fuel (USD million)	General Government Revenue from fossil fuel (% of GDP)	Year	Revenues source
Indonesia	21,700	1.9	2019	Royalties, corporate income tax, export duties, dividends from state-owned fossil fuel extraction companies, excise and VAT
Japan	39,800	0.8	2020	Tax on oil, gas, aviation, gasoline, diesel, petrol, and electric power development
Mexico	12,250	1.0	2015	Fuel tax
Russia	156,600	9.3	2019	Royalties, corporate income tax, export duties, dividends from state-owned fossil fuel extraction companies, excise and VAT
Saudi Arabia	228,500	20.6	2022	Oil revenue
South Africa	6,300	1.6	2019	Royalties, corporate income tax, export duties, dividends from state-owned fossil fuel extraction companies, excise and VAT
South Korea	12,140	0.7	2021	Excise duty
Turkey*	-	-	-	-
United Kingdom**	-	-	-	-
United States	138,000	0.6	Annual average 2015-19	Sales tax, income tax, property tax, petroleum product tax, severance tax, production on public land tax

Source: Authors' compilation.

Note: Revenue for France, Germany and Italy are not provided as they are already covered in the EU (28) group.

* Fiscal revenue from fossil fuels in Türkiye could not be included due to lack of data.

** Government revenue and carbon emissions from fossil fuels in UK is included in the figure under EU (28).

The public revenue per tCO₂ lies in the range of \$12 to \$363 (Table 3). The annual average general revenue from fossil fuels across G20 countries is at \$69 per tCO₂. Major carbon emitters and emerging economies, i.e., China and India, have relatively lower average revenue per tCO₂ from fossil fuels, reflecting lower environmental taxation. It also suggests that a low-carbon transition will not drastically alter their public revenue streams as compared to countries earning a significant amount from fossil fuels. Fossil fuel exporter countries, Russia and Saudi Arabia, receive higher revenue per tCO₂, suggesting significant economic reliance on fossil fuels.

Acknowledgements

Abbreviations

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Table 3: Revenue per ton of CO₂ in G20 Economies

Countries	Year	Government Revenue from fossil fuel sources (USD Million)	Carbon Emissions from Fossil Fuels (Million ton)	Average Revenue per tCO ₂ (USD per tCO ₂)
Argentina	2021	3,800	183	21
Australia	2020	20,000	376	53
Brazil	2019	51,300	429	120
Canada	2021	6,000	511	12
China	2019	151,700	9,713	16
European Union (28)	2015	496,170	3,373	147
India	2019	92,900	2,467	38
Indonesia	2019	21,700	617	35
Japan	2020	39,800	1,008	39
Mexico	2015	12,250	451	27
Russia	2019	156,600	1,605	98
Saudi Arabia	2022	228,500	629	363
South Africa	2019	6,300	460	14
South Korea	2021	12,140	582	21
Turkey*	-	-	-	-
United Kingdom**	-	-	-	-
United States	Annual average 2015-19	138,000	5,108	27

Source: Authors' compilation. Refer Annex 1 for sources of the data.

Note: Revenue and carbon emissions for France, Germany and Italy are not provided as they are already covered in the EU (28) group.

* Fiscal revenue from fossil fuels in Türkiye could not be included due to lack of data.

** Government revenue and carbon emissions from fossil fuels in the UK is included in the figure under EU (28).

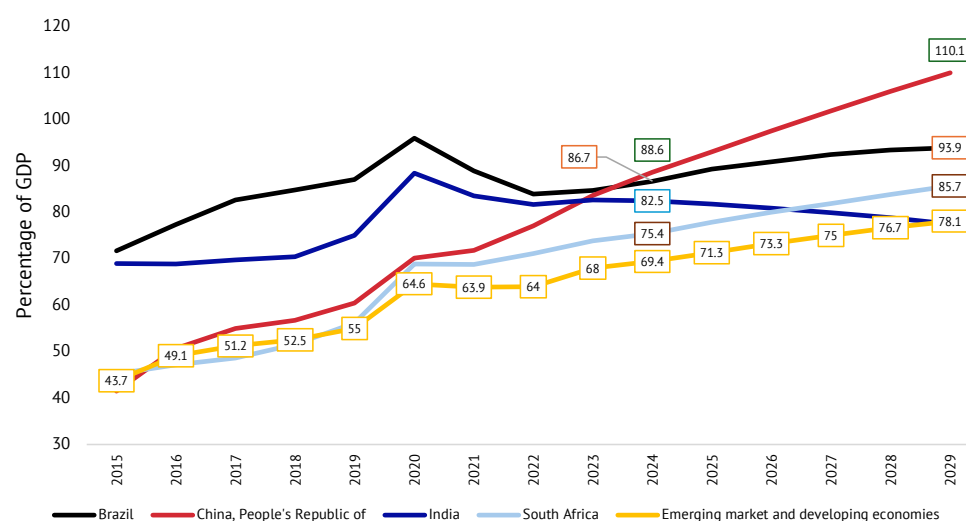
This expected revenue loss for several emerging economies underscores the complex interplay between climate goals and countries' fiscal landscape, and the need for innovative policy solutions that foster the low-carbon transition while maintaining fiscal stability.

An Assessment of Fiscal Space and Implications for Climate Finance

Most EMDEs have elevated debt-to-GDP ratios which indicates constrained fiscal space and their ability to support climate investments. EMDEs' debt ratio increased from 37.9 percent in 2013 to 55 percent in 2019, and spiked to 64.6 percent in 2020 (IMF 2024). Despite a slight decrease in 2021, it is projected to rise steadily, reaching 78.1 percent by 2029 (Figure 5). The upward trend in the debt-to-GDP ratios of EMDEs reflects several key factors: increased borrowing to provide economic stimulus and

support during the COVID-19 pandemic, which led to significantly higher debt levels; continued investment in crucial areas such as infrastructure, healthcare and education necessitating substantial financing, often resulting in increased debt; vulnerability to economic shocks, including commodity price fluctuations, increase in financial costs and exogenous shock, which can exacerbate their debt levels.

Figure 5: High Debt-GDP Ratios of EMDEs



Source: Authors' calculations based on IMF data.

Figure 5 depicts how major EMDEs, like Brazil, China, India and South Africa, have high debt-to-GDP ratios, at 86.7 percent, 88.6 percent, 82 percent and 75.4 percent, respectively, in 2024, above the EMDEs average of 69.4 percent. It is noteworthy that for some economies, debt-to-GDP ratios are projected to be even higher in 2029. The debt-to-GDP ratio of Brazil is set to rise further to 94 percent in 2029, while that of China will hit a record high of 110 percent. However, India's general government debt-to-GDP ratio is projected to be lower at 77.5 percent in 2029.

Growing public debt levels raise concerns about debt sustainability, as the capacity to service debt without undermining essential public expenditures and the ability to access external finance at reasonable cost (e.g. for climate investments) becomes increasingly challenging. Primary balances, which exclude interest payments from the fiscal deficit, serve as critical indicators of fiscal health. Persistent primary deficits suggest limited fiscal space, as observed in countries like India and Brazil (Black et al. 2024), where high debt service costs restrict government expenditure on development projects. IMF's debt sustainability framework for major EMDEs reveals high to moderate levels of long-term risk of sovereign stress, while 49 developing economies have been downgraded by one or more of the major credit rating agencies since 2019 (Kharas and Rivard 2022; IMF 2024e).

Limited fiscal space leads to increased borrowing costs, as lenders perceive higher risk and demand higher interest rates. This, in turn, challenges their sustainability while large-scale borrowing heightens the risk of sovereign stress, where the government may struggle to meet its debt obligations. Thus, in the context of limited fiscal space,

Box 1: Assessing Fiscal Capacity in Selected EMDEs

An overview on the fiscal capacity of select EMDEs and their ability to manage additional investments helps to understand the size of the financing challenge. We apply the IMF's Fiscal Response Function (FRF) – a tool for evaluating the solvency of countries by linking the primary balance to debt, accounting for current economic conditions and business cycle fluctuations (Barhoumi, Cherif, and Rebei 2016; Bohn 1998; Adams, Ferraini, and Park 2010; Tiwari 2012; Kaur, Mukherjee, and Ekka 2018).

The IMF's FRF is expressed based on the following equation:

$$\text{Primary Balance}(\text{share of GDP})_t = \alpha_0 + \beta \text{Debt}(\text{share of GDP})_{t-1} + \alpha_1 \text{GDPGAP}_t + \alpha_2 \text{EXPGAP}_t + \varepsilon_t$$

where GDPGAP is the deviation of actual output from its trend, and EXPGAP is the deviation of actual primary expenditure from its trend. The coefficient β measures the response of the primary balance to debt. A coefficient value between zero and one implies a sustainable fiscal policy, while a negative coefficient indicates potential destabilization.

Table B1: Application of the FRF to Analyze How Brazil, China, India and South Africa's Primary Balances Respond to Changes in Debt-to-GDP Ratios

Explanatory Variables	Estimated Coefficients			
	Brazil	China	India	South Africa
(1)	(2)	(3)	(4)	(5)
Constant	0.043**	0.02*	0.05**	0.03*
	(0.3)	(0.8)	(0.02)	(0.6)
Debt (share of GDP)_{t-1}	-0.05*	-0.11***	-0.07**	-0.09***
	(0.07)	(0.0)	(0.03)	(0.02)
GDP GAP_t	0.02***	0.002***	0.01**	0.12***
	(0.00)	(0.0)	(0.00)	(0.03)
EXP GAP_t	-0.081***	-0.009***	-0.0452***	-0.053***
	(0.01)	(0.0)	(0.00)	(0.12)
AR (2)	0.6413*	0.0056	-0.8274*	0.3270
	(0.22)	(0.32)	(0.47)	(0.57)
Durbin Watson Statistic	1.20	1.24	1.30	1.26

Source: Authors' Calculations.

The negative coefficients in Table B1 indicate a destabilizing fiscal response to rising debt levels, signifying that as the debt-to-GDP ratio increases in the current period, the primary balance—government revenues minus expenditures, excluding interest payments—tends to decrease in the subsequent period.

governments face trade-offs among competing spending priorities. To compensate for the lack of domestic financial resources, countries would increasingly depend on external financing sources like international capital markets which are high cost and short tenor, while international aid and concessional financing may not necessarily be aligned with national priorities or require structural adjustments.

Box 1 suggests that higher debt burdens may lead to reduced fiscal balance or increased expenditure pressures, making it challenging to maintain a positive primary balance. Consequently, this pattern has the potential to create a vicious cycle where increasing debt levels reduce the government's ability to generate a surplus or reduce its deficit, exacerbating fiscal vulnerabilities and potentially leading to higher borrowing costs, reduced investor confidence and limited fiscal space for future economic stabilization or growth-promoting policies. All four countries in Table B1 face challenges of maintaining fiscal sustainability in the face of rising debt levels, with China and South Africa being the most vulnerable based on the estimated coefficients. Thus, promoting big push investments may entail fiscal reforms and strategies to improve primary balances and managing debt in the context of climate risks and increased spending needs.

Implications of Big Push Investments on Fiscal Sustainability and Financial Stability

Limited fiscal space and growing debt-to-GDP ratios in EMDEs can significantly impact the feasibility and effectiveness of big push public investments, including those for sustainable development, climate mitigation and adaptation. Bhattacharya and Kharas (2024) make the case for a big, transformative investment push designed to deliver on economic growth, social and environmental needs, and create more sustainable, inclusive and resilient systems (Bhattacharya and Kharas 2024). They also highlight that climate adaptation and resilience measures must complement investments in mitigation to respond to the growing vulnerability to climate change. In this regard, Kharas and Rivard (2022) simulated climate and fiscal scenarios finding that 'big push' scenarios can lead to higher GDP growth and income levels by 2050 and 20 percent points higher levels of indebtedness, but conclude that creditworthiness, contrary to expectations, improves in a big push scenario (Kharas and Rivard 2022). The cost of financing is a key factor in shaping the improvement in creditworthiness, and the results show the importance of EMDEs having access to affordable, long-term financing.

Investing in climate mitigation is crucial to decreasing future losses from climate change. Developing economies (outside of China) will need to mobilize massive financial resources to boost investments, to fill an estimated climate financing gap of \$2.4 trillion annually by 2030, of which \$1 trillion is expected to come from external finance (Songwe, Stern, and Bhattacharya 2022). While low-income countries have tight or no fiscal space to divert resources for mitigation and adaptation (WEO 2023), finance flows from high-income countries are lagging behind and proving to be insufficient (IMF 2023c; Songwe, Stern, and Bhattacharya 2022). With climate impacts continuing to intensify, financing to address loss and damage is likely to increase as well.

It is important to note that the current estimates of climate investment needs, in particular for adaptation, could be conservative. Indeed, in the absence of timely and orderly mitigation at the global scale, disaster losses are projected to increase across climate scenarios (see e.g. the Hot-house world scenarios, NGFS 2023). Delays in implementing orderly climate mitigation policies to decrease carbon dioxide emissions raise the costs of adaptation and the adaptation finance needs. Also, these estimates do not consider the implications of climate change on nature and biodiversity losses that can increase vulnerability and losses (Ranger et al. 2024). The IPCC's sixth assessment report highlighted adaptation limits; that is, when ecosystems breach hard adaptation limits, they will no longer be able to adapt. With climate impacts intensifying, finance required to address loss and damage is likely to increase.

Therefore, a better assessment of climate-related risks and opportunities could help the IMF in addressing the climate, development and debt sustainability conundrum to scale up the climate finance needed in EMDEs in a fiscally and financially sustainable way.

MOBILIZING RESOURCES: SOURCES AND INSTRUMENTS

The IMF is uniquely poised to support a globally coordinated big push and to help countries chart a sustainable fiscal path to achieve these goals. Recent efforts to launch a big push of climate investments in EMDEs face significant challenges, as discussed in Chapter 1 (also see Gardes-Landolfini et al. 2023; Adetutu et al. 2024). Moreover, the capacity to invest in climate change mitigation and adaptation strategies is further limited by persistent failure to embark on collective action at the global level, an international climate finance target that is far short of what developing economies require, new protective industrial policies in advanced economies and additional shortcomings of the IFA (Black, Parry, and Zhunussova 2023). For low-income countries and climate vulnerable economies, the challenge of unlocking climate finance is all the more pressing. Climate finance continues to be heavily skewed towards climate mitigation with adaptation finance trailing behind (UNEP 2023). The IMF describes the challenge faced by countries as a fundamental trilemma with policymakers having to balance achieving climate goals, fiscal sustainability and political feasibility (IMF 2023a).

The IMF considers carbon pricing to be an important instrument that can help raise the resources to support the transition to a clean energy economy. The section above discussed the fiscal implications of the shift away from a fossil fuel intensive tax base for countries. This section extends the discussion by focusing on the implications of carbon pricing. Domestic resource mobilization will have to play a key role. After all, Songwe et al. (2022) estimate that two-thirds of the total financing needs will have to be generated domestically. However, international support for domestic resource mobilization is also important as recognized in the Addis Ababa Action Agenda (UN 2015). Given the need for complementary action, the chapter concludes by identifying potential sources of climate finance the role the IMF could play to support each source.

Carbon Pricing and Its Limitations

The IMF holds the view that carbon pricing is the first-best instrument for climate change mitigation because, compared to non-pricing instruments, it is the most effective and least-cost strategy to reduce CO₂ emissions (IMF 2021b). As such the Fund has regularly advised countries to incorporate carbon pricing policies and has also proposed an ICPF with differentiated targets to improve burden sharing (Parry, Black, and Roaf 2021; Task Force 2023). This section briefly discusses the challenges and opportunities of carbon pricing in developing economies. It also discusses the spillover effects in developing economies due to climate action in developed countries, using the effects of the CBAM in Africa as a case study. It concludes with some policy recommendations.

A Task Force working paper showed that while a carbon pricing instrument such as a carbon tax could be a useful tool to help countries meet the emissions reduction targets, a one-size-fits-all approach may not be advisable for several reasons (see Asafu-Adjaye and Baffour Awuah 2024). First, it may not be appropriate for economies with low-carbon footprints that lack significant emissions sources, typically fossil fuel intensive industrial-scale GHG emissions. Second, implementing a carbon pricing instrument such as a carbon tax or an emissions trading system, requires a complex institutional structure, including enforcement capacity and a comprehensive monitoring and evaluation framework, all of which are severely lacking in many developing economies.

However, the IMF's view on carbon pricing may have derived from over-optimism around its benefits. For example, the IMF argued that carbon prices at the level needed to meet global climate goals have manageable impact on the global GDP, and in some cases even positive impact on GDP. In its October 2022 World Economic Outlook, the IMF showed that a steadily rising carbon price with a green fiscal stimulus, consisting of green infrastructure investment and a subsidy for renewables production, deliver a net positive effect on global growth up to 2030 (IMF 2020). In World Economic Outlook (2022), the IMF showed that, if the carbon pricing revenues are recycled to reduce labor tax and thus incentivize working, carbon prices have a positive impact on both employment and output in the medium run (IMF 2022d).

However, in the literature the assessments of the GDP impact of carbon pricing remain divergent. Some researchers find a small negative impact, and some find a more sizable negative effect (Pisani-Ferry and Posen 2024). For example, Wunsch (2024), the weighted average abatement cost amounts to roughly \$20 billion in total per year for Belgium, equal to about 3.5 percent of current GDP. Even within the IMF, different methodologies lead to varying results (Wunsch 2024). A Staff Climate Note by Black et al. (2022) suggests that global GDP costs due to carbon pricing reach around 0.8 percent by 2030 (assuming carbon pricing revenues offset labor taxes, as in the World Economic Outlook) (Black et al. 2022).

Related to the assessment of the GDP impact, fiscal implications of carbon pricing also remain unsettled. Black et al. (2021, a Staff Climate Note) showed that carbon pricing can mobilize a significant source of new revenue, amounting to roughly 1-1.5 percent of GDP for a carbon price of \$75, \$50 and \$25 in advanced economies, high-income EMDEs and low-income EMDEs, respectively (Black et al. 2021). Assuming

that these results are robust from the global perspective, the fiscal implications can vary greatly across countries, especially for EMDEs heavily relying on fossil fuels and carbon-intensive industries. For these economies, carbon pricing may not generate sufficient fiscal revenues but instead reduce fiscal space (see Task Force paper by Titelman et al. (2022)).

While countries are increasingly formulating policies to price carbon, carbon prices remain low and their sector coverage remain limited (World Bank 2024b). Furthermore, there is a burgeoning literature in the political economy of climate change that has documented the design and operational challenges of carbon pricing (see Cullenward and Victor (2020)). Furthermore, as indicated in Chapter 1, Stern et al. (2022) have argued that climate change cannot be reduced to a GHG externality problem alone.

Given the uncertainty surrounding modeling approaches, the IMF faces the risks of painting a too optimistic picture of the effects of carbon pricing. One should not blindly believe the tenets of IAMs, which argue vehemently that with the right carbon price, the market will take care of it all (Stern et al. 2022). Greater consensus must be reached around sources of finance to support the transition.

Carbon pricing does not take place in isolation. With the EU CBAM and other tools under discussion, studies have shown how domestic carbon pricing can reduce the impact of external climate policies, such as CBAMs. In forthcoming research, Asafu-Adjaye and Baffour Awuah show that climate-positive policies, such as carbon taxes, in African countries can moderate the adverse impacts of the EU CBAM (Asafu-Adjaye and Baffour Awuah forthcoming).

Finally, carbon price is an ‘explicit’ pricing instrument because it directly prices the pollutant. On the other hand, there are ‘implicit’ or indirect forms of carbon pricing involving instruments that impose a compliance cost (i.e., an implicit price) on activities that result in GHG emissions. Examples include the removal of fossil fuel subsidies, imposition of fossil fuel taxes and regulatory standards (e.g., performance standards for cars and buildings). Asafu-Adjaye and Baffour Awuah (2024) showed that a fuel tax is less effective in reducing CO₂ emissions compared to a carbon tax because it targets only one energy source. However, it could serve as an intermediate step to implementing a carbon tax.

Other Sources of Finance

The IMF could support greater international collective action in at least the four areas mentioned below: carbon markets, SDRs, international taxes and blended finance.

CARBON MARKETS

Carbon trading also offers developing economies opportunities to not only raise additional climate finance but also to contribute to global GHG emissions reduction efforts. For example, it is estimated that a global carbon price of \$50 per ton can incentivize Africa to mobilize \$30 billion annually (Pandey 2022). Carbon trading will also be important in developing economies’ trade with Europe when the CBAM

fully comes into force in 2026. However, despite their immense potential, African countries have had limited participation in carbon markets compared to other regions. For example, the Africa's share of the total Clean Development Mechanism (CDM) projects in 2014 was only 3 percent (Röttgers and Grote 2014). African and other developing economies face several challenges in participating in carbon markets, including limited infrastructure, poor governance, uncertain land tenure, and limited capacity and awareness (Pandey 2022). Furthermore, persistent concerns about the integrity of carbon markets have also dampened demand and have slowed the scaling up of the carbon market (Aldy and Halem 2024). Strengthening the climate information architecture would help instill integrity in carbon markets and address concerns about greenwashing (IMF 2023b). The IMF could play an important role in supporting the information architecture.

SPECIAL DRAWING RIGHTS

In 2021, the IMF board authorized an issuance of \$650 billion in SDRs to enhance global liquidity, as part of the global crisis response to the COVID-19 pandemic. This liquidity injection provided many countries with a much-needed cushion to meet external financing needs. As the SDR issuances are distributed based on quota shares at the IMF, countries in strong external positions often may not need SDRs. As a result, the G20 agreed to collectively re-channel \$100 billion in SDRs through two IMF-held trusts – the Poverty Reduction and Growth Trust (PRGT) and the Resilience and Sustainability Trust (RST) – for on-lending to countries in need of liquidity support. Using SDRs by countries to acquire hybrid capital from MDBs has also been viewed as an additional way to enhance lending by MDBs. The African Development Bank and the Inter-American Development Bank are currently issuing hybrid capital to increase their lending capacity, facilitated by the IMF Executive Board's approval in May 2024 of using SDRs to acquire hybrid capital of prescribed SDR holders, up to SDR 15 billion of channeled SDRs. National policies on the treatment of SDRs may constrain the re-channeling of SDRs towards prescribed holders such as MDBs and may need review. The IMF could also explore new SDR issuances as an additional way to respond to liquidity financing needs for climate and development.

INTERNATIONAL TAXES

Efforts are underway to expand international taxation measures, with a focus on economic activities that are major emitters but whose cross-border profits are undertaxed by national jurisdictions. Shipping and aviation meet both these criteria. Potential models for taxation include the global carbon levy under development at the International Maritime Organization or the small solidarity levy similar to the levy that France charges on flights departing from French airports in order to fund global health efforts. There is also renewed interest in the international financial transactions tax to raise revenues to support the climate transition.

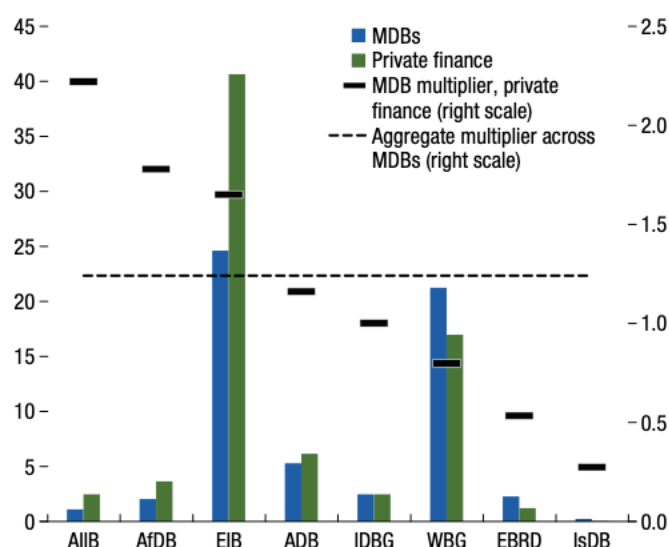
Other potential sources of international taxes are geared to promoting progressivity. This includes the taxation of the super-wealthy that is under consideration under the G20 Brazilian Presidency (G20 2024). In addition, initiatives at the UN and OECD seek to advance international tax cooperation to prevent base erosion and profit shifting

and illicit financial flows. While the revenue potential of these different international efforts depends on the ultimate contours of the policies, their collective revenue potential amounts to at least hundreds of billions of dollars each year (Zucman 2024; Kumar and Gallagher 2023). The IMF can be an important catalyst for supporting efforts to explore feasible options and potential ways to share the revenues from these taxation measures to support climate investment needs in developing economies.

MOBILIZE PRIVATE INVESTMENT THROUGH BLENDED FINANCE

While the importance of mobilizing private capital is widely acknowledged, scaling this effort poses significant challenges. The IMF's Global Financial Stability Reports (GFSR) highlight that 80-90 percent of climate investment in EMDEs are expected to come from the private sector (IMF 2022a; 2023b). However, green investments, in particular renewable energy and infrastructure projects, inherently require substantial upfront capital investments. Investments in climate technologies often involve high risks and uncertainties regarding scalabilities, making the mobilization of private capital very challenging.

Figure 6: Private Capital Mobilization and MDBs



Source: IMF (2023b).

These challenges are particularly salient in EMDEs. As the IMF's GFSRs point out, financial markets are underdeveloped in most EMDEs and the cost of capital is the biggest barrier for climate investments in these economies. To address these challenges, it is imperative for public capital to play a pivotal role in catalyzing private investments. The key for the public sector to crowd in private investments is structuring and right-sizing risks associated with green projects, a concept known as "blended finance." However, as the October 2022 GFSR shows, MDBs crowd in private finance on average of only about 1.2 times the resources they commit themselves, a level that falls short of expectation (IMF 2022b). Figure 6 shows the MDB multiplier. A main reason for this shortfall is that public capital, including funds

from MDBs, inherently exhibits a low-risk appetite, limiting its ability to address market failures through structuring risks, which is compounded by the high cost of capital. In fact, the scarcity of risk-tolerant capital poses a significant challenge to scaling up blended finance, and the underlying problems are rooted in the current global financial architecture. Low-income countries face unique challenges given the limited financial infrastructure and their restricted access to private capital markets. To improve private capital mobilization, the IMF has identified areas where it can play a role: supporting the establishment of a climate information architecture, improving the efficiency of climate finance flows through interoperable taxonomies and disclosure standards, and supporting an enabling environment to encourage private investment.

Ruhengeri, Rwanda. Photo by Mad Knox via Unsplash.

CHAPTER 3

RESPONDING TO SHOCKS AND MITIGATING CRISES

INTRODUCTION

Since the launch of the IMF's Climate Change Strategy, the IMF has established the Resilience and Sustainability Facility (RSF) which supports climate action and pandemic preparedness in developing economies. The IMF's Climate Change Strategy itself however does not provide a detailed articulation about how IMF lending will incorporate climate change or support the economic transformation of countries towards low-carbon, climate-resilient pathways. The Climate Change Strategy notes that IMF financing could be provided when climate change related measures can help address balance of payment challenges. It stops short of articulating how program design may need to be upgraded in light of the urgent need to tackle climate change. The Strategy also does not offer a view on how the Fund's instruments may need to change or how runaway climate change may lead to greater demand for Fund resources.

This chapter delves into how the IMF's lending toolkit needs to be upgraded to ensure that the Fund can support the development and climate change aspirations of its member countries. After a discussion of the IMF instruments available to respond to climate shocks, this chapter then delves into the need to align the Fund's traditional toolkit towards climate-positive development.

RESPONSE TO CLIMATE SHOCKS

This section discusses the IMF's support to member countries in responding to climate shocks. The RSF is an important instrument in the IMF's toolkit to support climate action. The RSF's long-term finance and its emphasis on building resilience to mitigate prospective balance of payments crises makes it a valuable addition to the toolkit. For countries suffering from climate shocks, liquidity support is available through the Rapid Financing Instrument (RFI) and the Rapid Credit Facility (RCF) as discussed below alongside other avenues such as the Stand-By Arrangement and the Stand-By Credit Facility. This section highlights the need for enhanced liquidity support. Access limits that are tied to quota shares determine the extent of finance available and deserve a re-examination in light of the intensifying nature of climate shocks.

Resilience and Sustainability Facility

The RST is at the heart of the IMF's unprecedented changes to its lending toolkit to help member countries better respond to the macro-critical aspects of climate change. The RST, through its lending arm, the RSF, provides concessional, longer-term financing to help eligible IMF members address key structural challenges such as climate change and pandemic preparedness, while strengthening their prospective balance of payments stability.

Demand has been high for existing RSF arrangements, demonstrating the usefulness of the instrument to the IMF's membership. Twenty RSF arrangements have been rapidly approved and rolled out in the 20 months of its operation to end-June 2024, with financial commitments totaling about SDR 7.1 billion (about \$9.5 billion) (IMF 2024f). Given the anticipated strong demand for RST resources through an additional 30-35 requests for both new and successor

RSF programs, replenishment of the RST through re-channelled SDRs will be vital in the medium-term, as well as a commensurate expansion in human resources to support and execute these programs.

To qualify for RST financing, eligible countries need, among other things, to have a concurrent IMF program with “upper credit tranche” (UCT)-quality policies in place. However, the interim RST review indicated that such a requirement poses a challenge for small developing economies, which are disproportionately vulnerable to climate extreme events, but are capacity constrained in program design and implementation when they simply need to access the RSF to help build climate resilience and adaptation (IMF 2024d).

Structural conditionality in RSF arrangements is linked to specific policy reform measures that countries are required to implement over the program period. The 20 RSF arrangements are supporting a range of macro-critical climate policy reform measures, three-quarters of which comprise green public financial management, financial sector and fiscal policy reforms – all areas of Fund expertise. RSF arrangements are also supporting sectoral measures such as water, power and transportation through collaboration with the World Bank and other MDBs.

Based on informal feedback from IMF mission chiefs, the interim RST review found that there could be greater ambition in RSF policy reforms. This is consistent with the Task Force findings on the early RSF experiences of three climate vulnerable countries - one developing country in Asia (Bangladesh) and two emerging market economies in the Caribbean (Barbados and Jamaica) - which show that conditionality in RSF arrangements are overwhelmingly of low depth that, in themselves, do not bring about a change but can pave the way for implementation of more critical reforms.

A key consideration of RSF arrangements is their overwhelming reliance on the IMF’s catalytic effect to unlock external climate financing, even though there is limited empirical evidence to justify this catalytic role. The Task Force found that the early RSF experiences of Bangladesh, Barbados and Jamaica demonstrate that the signaling effect of climate policy reforms face strong headwinds to attract private climate investments, bilateral finance and MDB finance (Task Force 2024a). At the end of 2023, for example, both Barbados and Jamaica had not attracted any private climate finance flows, despite having an RSF arrangement for 12 months and nine months, respectively. Bangladesh received a marginal amount of private climate finance, mainly due to the country platform associated with its Mujib Climate Prosperity Plan. The IMF has deepened its partnership with the World Bank to mobilize support for countries through country platforms (IMF and World Bank 2024b).

The catalytic role of the RSF should also be enhanced by using RST resources to support bond issuances as a part of debt restructuring exercises. The proceeds should be geared towards implementing national plans and strategies to achieve development and climate change goals. Guarantees would provide credit enhancement and help lower the cost of capital and incentivize the participation of private bondholders in debt restructuring exercises. The Task Force underscored the need to equip the RST with sufficient resources, commensurate with the needs of members with the challenges of addressing climate change (Task Force 2021a). Given the high demand

for RSF arrangements, it will be essential to ensure for the RST to undergo regular replenishments.

Catastrophe Containment and Relief Trust

The Catastrophe Containment and Relief Trust (CCRT) complements the IMF's concessional financing facilities by providing debt service relief to the poorest and most vulnerable members, mostly in sub-Saharan Africa, to free up additional fiscal resources to deal with catastrophic natural disasters or public health disasters. Between 2020-2022, the IMF deployed SDR 690 million in grants from the CCRT to cover scheduled IMF repayments for 31 eligible countries during the COVID-19 pandemic. At a time when heavily indebted, climate-vulnerable, low-income countries desperately need debt relief to support their just energy transition, the CCRT can play an important role, linking the increased fiscal space to climate-related spending such as 'climate-resilient debt clauses,' which suspend debt payments in the event of climate-related disasters. In addition, the recent devastation caused by Hurricane Beryl in several heavily indebted Caribbean small states underscores the need to expand the CCRT's eligibility criteria to give small states greater access to debt relief through the CCRT, in the event of very large natural disasters.

While the provision of short-term debt relief by the IMF to eligible countries would be a welcome step in the right direction, it would exhaust most of the grant resources available to the CCRT (the cash balance is SDR 124 million), which has long been severely underfunded (IMF 2024f). The IMF's ability to provide CCRT debt relief is closely linked to donors' willingness to replenish the CCRT. However, it is necessary for the IMF to explore different alternatives to boost the resources available to the CCRT. These include using its own existing reserves or sales of its gold reserves.

Rapid Financing Instrument and Rapid Credit Facility

Through its emergency financing instruments – the RFI and the RCF – the IMF plays a niche but critical role to help its members meet urgent balance of payments and fiscal financing needs in the wake of a natural disaster. Financing is typically approved within three months and has very few conditionalities. Concessional disaster financing is available through the RCF for PRGT-eligible members, and the RFI for other member states. These two programs have a "regular window" for exogenous shocks and "Large Natural Disaster Window" (LND) for urgent balance of payments shortfalls when economic damages from the natural disaster are at least 20 percent of the member's GDP.

In April 2020, the IMF increased the access limits of the regular window from 100 to 150 percent of quotas, and in June 2021, it increased the access limits of the LND to 183 percent of quotas. These higher access limits are particularly important to support small climate-vulnerable states hit extremely hard by natural disasters and other shocks. The IMF also added a new "Food Shock Window" to the RFI and RCF to help member states with balance of payments shocks arising from increased food prices, with an access limit of 175 percent of quota. Given rising global food insecurity

due mainly to climate impacts, the expansion of these emergency financing facilities are welcome additions to strengthening the IMF's lending toolkit (see Table 4).

Table 4: Rapid Credit Facility and Rapid Financing Instrument

Window	Shocks	Rapid Financing Instrument	Rapid Credit Facility
Regular	Domestic or external shocks and instability	50 percent of quota, 150 percent cumulative	50 percent of quota, 100 percent cumulative
LND	20 percent of GDP	80 percent of quota per year, 183 percent cumulative	80 percent of quota per year, 183.33 percent cumulative
Food shock	BOP needs due to food insecurity	50 percent of quota	50 percent
Exogenous	Exogenous shock	(Regular window includes exogenous shocks)	50 percent of quota, 150 percent cumulative

Source: Authors' compilation.

Stand-By Arrangement and Stand-By Credit Facility

The IMF's Stand-By Arrangement (SBA) and the Stand-By Credit Facility (SCF) provide liquidity support to countries to address ongoing or prospective external financing needs. For countries eligible to access the PRGT, the SCF offers short-term balance of payments support. The SBA/SCF are focused on supporting countries resolve short-term shocks that can be addressed within two years. One of the primary distinctions between the RFI/RCF and the SBA/SCF is the presence of conditionalities. Disbursements are contingent upon member countries meeting the qualitative performance criteria. Member countries have maximum flexibility when it comes to RFI/RCF; however, they are subject to IMF program conditions for the SBA/SCF. Table 5 below depicts the eligibility criteria, access limits and interest rates applied to SBA/SCF.

Table 5: Stand-By Arrangement and Stand-By Credit Facility

Instrument	Eligibility	Access	Interest rate
Stand-By Arrangement	All members	200 percent (temporarily raised), cumulative 600 percent of quota	SDR rate plus basic rate (plus surcharges if applicable)
Stand-By Credit Facility	PRGT-eligible members	145 percent, cumulative 435 percent	0, 0.15 percent on undrawn amount

Source: Compiled by authors.

The RSF has broken new ground with its focus on long-term financing and with its goal of supporting policy reform in member countries to address the longer-term structural challenges of climate change and pandemic preparedness. However, more generally, IMF financing instruments have an overriding short-term focus aimed at supporting countries tide through near term challenges. Further, access limits are directly tied to quota shares rather than actual need. Medium-term liquidity support will be essential for countries to ensure that they can focus on laying the groundwork for longer-term sustainable growth trajectories.

ALIGNING THE FUND'S TRADITIONAL TOOLKIT

From Fiscal Consolidation to Green Investment-Led Growth

Fiscal consolidation, through raising additional government revenue, reducing government expenditures, or a combination of both, has long been the modus operandi of IMF programs and policies in several countries, albeit with varying degrees of success (Balasundharam et al. 2023). In its Fiscal Monitor report published in April 2024, the IMF has reiterated the need for fiscal consolidation to control inflation, circumvent balance of payment crises, improve debt sustainability and increase financial stability (IMF 2024a).

The IMF's Climate Change Strategy highlighted that lending could be associated with climate objectives when climate-related actions are deemed crucial for addressing balance of payments issues (IMF 2021b). Furthermore, the Climate Change Strategy underscored the possibility of the IMF aligning its climate goals with its fiscal consolidation attempts by proposing to reduce subsidies and increase taxes on carbon-intensive activities (IMF 2021b). The IMF has called for fiscal consolidation to dedicate public resources towards green technology and accelerating green transitions (IMF 2024a).

However, fiscal consolidation that depends on austerity measures may be counterproductive to initiatives fostering green investment-led growth. Austerity measures restrict the financial resources needed to implement adaptation and mitigation efforts. Policies that mandate a reduction in government expenditure and an increase in taxation may not leave much room for public or private investments to foster green growth. Fiscal consolidation may also lead to deforestation (Foster et al. forthcoming). In addition, fiscal consolidation pathways may also discourage the initiation of any new green industrial policies. These policies may include provisions for research and development of green technology or tax breaks for industries endorsing green investments. The lack of such incentives makes it challenging to generate substantial finance from the private sector (Kentikelenis and Stubbs 2024).

Generating significant private investments in adaptation measures is more difficult than mitigation initiatives. Moreover, for low-income countries, the commercial feasibility of green investments to facilitate adaptation measures is quite low. Yet, initiatives surrounding adaptation measures are necessary to build economic resilience and minimize the intensity of loss and damage from climate change for small developing economies.

The urgency of climate change necessitates a paradigm shift from conventional fiscal consolidation to Green Keynesianism characterised by green investment-led growth (Harris 2013). The IMF needs to build a market for investments that fosters private investments. This can be achieved by blending the mode of lending, which may include a portion that is partly a loan and partly a grant. This will increase the confidence of private firms and thereby facilitate greater investments. It is also important to understand that countries under IMF programs may not all face macroeconomic instability owing to fiscal limitations or a lack of green investments. Therefore, it is important to identify the core reason for economic distress for each country supported by the IMF and structure unique policies to address the identified issues.

Debt Pause Clauses

Debt pause clauses, or Climate Resilient Debt Clauses (CRDCs), enable countries to recover from natural catastrophes by suspending debt repayments for a pre-agreed time (Mustapha, Talbot, and Gascoigne 2023). However, pause clauses are seldom used, even though they may help disaster-stricken countries delay debt payments. Pause clauses have only been adopted in Grenada, Barbados and the Bahamas. The World Bank announced that eligible borrowers could incorporate pause clauses in their new and existing loans (World Bank 2024a). The Inter-American Development Bank and UK Export Finance use CRDCs in their loans as well (Mustapha et al. 2023). The pause clauses can contribute to a just and climate-sensitive IFA if appropriately adopted. However, a few issues should be resolved before they can be widely used.

First, pause clause triggers must match the shocks countries want to manage. While lenders and borrowers must agree on debt pause clause triggers or shocks, borrowing governments should be able to choose their triggers since they know when and under what conditions they need financial support. Barbados uses signals from the Caribbean Catastrophe Risk Insurance Facility (CCRIF), which tracks rainfall, wind speed and air pressure. Barbados can delay local currency bond payments for two years if the triggers exceed thresholds.

Second, pause clauses delay payments but do not cancel the debt. Pauses can be neutral in present value terms because missed payments increase a loan's balance. Countries may benefit from higher repayment costs because they have more time to strengthen their economies. To build fiscal resilience, the IMF and lending institutions can consider zero additional fees for vulnerable countries' loans under pause clauses.

Third, while MDBs have started to offer pause clauses in their financing agreements, the IMF is yet to do so. The CCRT offers debt relief for countries that are eligible to borrow from the PRGT and their per capita income is below the IDA's operational cut off and meets the qualifying triggers. However, pause clauses should be a standing feature in IMF financing. The IMF should also encourage private financiers to incorporate pause clauses into their lending, so that the financial system as a whole can be more shock-resilient. Pause clauses should include a broader range of triggers to give countries the flexibility to respond to the most significant crises and proactively manage their debt service obligations.

Fourth, borrowers should note that pause clauses only postpone repayment for one or two years and do not consider debt dynamics. They do not extend the loan's life, so repayments may be heavier when they resume. Therefore, borrowing countries must have a well-designed pause clause and an accompanying repayment plan.

Cost of Borrowing

Many countries are reliant on the IMF for their liquidity needs given the IMF's importance in the Global Financial Safety Net. Given the "higher for longer" interest rate environment, the SDR rate has been at an elevated level, which has increased the overall cost of borrowing for member countries. When coupled with surcharges that are applied to middle-income borrowers from the General Resources Account (GRA) that exceed pre-defined levels and tenor, the cost of borrowing can be exorbitant for middle income countries that need to pay surcharges (Stiglitz and Gallagher 2022; Gallagher et al. 2024). With the IMF's healthy precautionary balance, the IMF should revisit its policy on surcharges to help ensure that IMF finance is affordable for many middle income member countries (IMF 2024f).

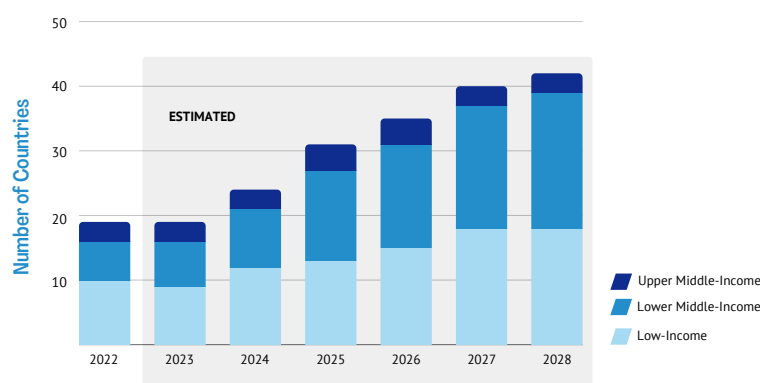
Debt Restructuring and DSAs

Long-term development and debt sustainability are major concerns of climate vulnerable countries. Since 2010, debt in developing economies has increased by twice the rate of developed countries, reaching \$29 trillion in 2023 (UNCTAD 2024). It was reported that 61 countries are either at risk of or in debt distress and are highly climate-vulnerable (Vasic-Lalovic, Merling, and Wu 2023)

Zucker-Marques et al. (2024) estimate that 44 countries (see Figure 7) will breach solvency thresholds by 2028 when external financing needs pertaining to climate change and the SDGs are taken into account (Zucker-Marques et al. 2024). Furthermore, the estimated costs and requirements for adapting to climate change in developing economies are much greater than prior estimates, ranging from \$215 billion to \$387 billion each year over this decade⁴ (UNEP 2023). Other estimates also indicate that developing economies require more than \$1 trillion in external finance to meet their climate investment needs (Songwe, Stern, and Bhattacharya 2022).

⁴ The range of developing economies encompasses all the developing countries included in the UN country classification. https://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf

Figure 7: Number of Countries Breaching Solvency Indicators of External Debt Sustainability, 2022-2028, by Income Group



Source: Zucker-Marques et al. (2024).

The LIC DSF is applied to economies that are eligible to access the PRGT and have access to grants and resources provided by the International Development Association (IDA). The DSF for Market Access Countries (MAC) is employed for countries that are not eligible for the PRGT facilities and encompass advanced and emerging market countries. Both methodologies do not explicitly include indicators for climate change. However, the updated framework for MAC, known as the Sovereign Risk and Debt Sustainability Framework (SRDSF), has introduced two additional modules on climate change, including adaptation investments and mitigation policies (IMF 2022c). In July 2024, the IMF and the World Bank released “Supplement to 2018 Guidance Note on the Bank-Fund LIC-DSF” which provides guidance on integrating climate change risks and climate investments in to the analysis (IMF and World Bank 2024a). DSAs serve two major functions. First, they help determine how much external debt a country is able to carry. Second, when a country needs restructuring, the DSA helps to determine the depth of the haircut required to place a country back on the path to growth and fiscal sustainability.

DSAs should incorporate climate risks and climate investment needs. For a full discussion on how the LIC DSF methodology should be improved, please see the Task Force policy brief on the LIC DSF (Task Force 2024b). A climate-informed DSA is necessary not just to better understand the fiscal and financial risks faced by country but also to ensure that if a country does need debt restructuring, climate investment needs directly inform the depth of haircuts discussed. The IMF should help EMDEs identify the combination of debt relief, grants and concessional financing required to pursue their development and climate change goals. The IMF should adopt realism in regards to private capital mobilization. In its supplemental guidance on the LIC DSF, the IMF assumes that private capital will be able to make up the investment gap. However, climate change increases sovereign risk and increases cost of capital for climate vulnerable economies. The cost of capital is likely to increase after major climate shocks, thereby making it more challenging for the government to mobilize private finance (Task Force 2022).

Recently, the IMF has recognized the protracted nature of debt restructuring talks. In April 2024, the IMF Executive Board endorsed recommendations from an IMF staff paper to enhance the Fund's capacity to support countries undergoing debt restructurings (IMF 2024b). These reforms seek to make IMF support more agile while maintaining financial safeguards and strengthening the existing debt resolution framework (IMF 2024b). Recent IMF-supported programs with debt restructurings have faced significant delays between reaching a Staff Level Agreement and obtaining necessary creditor assurances for IMF financing approval. Countries need tailored debt restructuring solutions incorporating climate resilience and offering technical assistance, which the IMF can provide to them and contribute towards global financial stability and the collective fight against climate change.

Debt-for-Climate Swaps and State-Contingent Instruments

In countries facing debt stress, particularly low-income countries, options for debt relief, such as debt pause clauses and debt swaps, may be essential to free up fiscal resources for climate investments. For example, an IMF working paper by Chamon et al. (2022) argues that debt-for-climate swaps can help create fiscal space and finance climate investments (Chamon et al. 2022).

However, debt swaps have limitations. Most importantly, they often involve only a small subset of creditors, and the debt reductions are too small to improve the overall fiscal health of the country. As the Task Force argued in a policy brief on debt-for-climate swaps, when the overall size of climate investment in the swap is smaller than the haircut to a creditor and senior to payments disbursed to other creditors, a debt-for-climate swap could be attractive (Task Force 2022).

Furthermore, any debt swap arrangement needs to be country-owned. Freed up resources from debt swaps should support the implementation of national strategies and plans. Bolton et al. (2022) in their Geneva 25 report, highlight the needs for tools such as climate-conditional grants, which can strengthen a country's fiscal position while at the same time providing incentives for climate investments. The IMF should take the lead to further advance these innovative financial mechanisms. The use of state contingent instruments would be an innovation. Apart from the integration of climate resilient debt clauses in IMF financing arrangements, the IMF should promote the use of state contingent debt instruments as a part of debt restructuring exercises to steer debt solutions in support of climate and development goals.

Trinidad and Tobago. Photo by Renaldo Matamoro via Unsplash.

IMF 2030 ACTION AGENDA

Ongoing discussions on reforming the global financial architecture provide a significant opportunity for the IMF to transform and support accelerating progress on development and addressing climate change this decade.

Given the urgency of addressing the global climate crisis and its intensifying impact on many climate-vulnerable Fund members, especially in light of the United Nations 2030 Sustainable Development Goals, we recommend immediate implementation of the reforms identified here over the next 12 months. The IMF Managing Director should lead this effort with the support of member countries and should report on the status of progress at the 2025 Annual Meetings.

VISION AND APPROACH

The IMF's vision and approach to climate change should reflect a sense of urgency given the intensifying nature of the climate crisis and the essential need for rapid action. The IMF should upgrade its tools to enable the investment push required and support a stepwise increase in financing to address climate change in a fiscally sound and financially stable manner.

This vision must be supported by reforming its surveillance functions, aligning its lending toolkit and enhancing of its leadership role.

REFORMING SURVEILLANCE

Methods & Coverage

☐ Ahead of the 2026 surveillance review, the IMF should review its methodological approaches to better quantify the macro-critical impact of climate change.

- Climate risks and the opportunities and benefits of climate action should both be included in both medium- and long-term projections within its surveillance activities.
- Existing modeling limitations lead to an underestimation of the costs of climate change and the benefits of climate investments.

☐ Article IV reports should improve the analyses of cross-border spillovers, particularly how climate change and national policy responses will affect fiscal health and current and prospective balance of payments in other countries.

- Carbon border adjustment measures (CBAMs) can have significant distributional impacts on emerging market and developing economies (EMDEs). Revenue from CBAMs should be partly directed towards supporting climate investments in EMDEs.
- Surveillance should also devote greater attention to adaptation, loss and damage, and restoration of nature.

Fiscal Considerations & Policy Stance

☐ The IMF should help countries pursue their medium- and long-term strategies for sustainable growth while maintaining fiscal sustainability and financial stability.

- The IMF's policy advice on fiscal and debt sustainability should recognize the long-term benefits of climate action and the importance of low-cost capital in scaling up investments.
- The IMF should recognize that, at best, carbon pricing is only a partial solution to mitigate climate change and raise financing for the climate transition.
- In its Article IV reports, the IMF should support a mix of domestic and external sources of public finance to complement carbon pricing to fill the investment gap, evenhandedly recognizing the diversity of country circumstances.
- Progressive domestic resource mobilization will also require additional capacity building and technical assistance.

- **As a part of its Article IV reports, the IMF should also help policymakers identify and manage increased climate investment-related capital flows consistent with domestic macroeconomic fundamentals.**

Instruments

- **Debt sustainability analyses (DSAs) should recognize the potential for public investment to spur economic growth and identify pathways to increase investment in ways that maintain fiscal sustainability.**
 - Its methodology should be refined through the use of granular data, scenarios that capture climate risks and their interactions in a forward looking way, macro-financial models that depict important characteristics of climate change, and the adoption of a risk management approach.
 - IMF and World Bank collaboration should also be strengthened, and the ongoing review of the IMF/World Bank Debt Sustainability Framework for Low-Income Countries (LIC DSF) offers an immediate opportunity for improvement.
- **The IMF should expand the scope of Financial Sector Assessment Program (FSAPs) and the Financial Sector Stability Assessment (FSSA) to better incorporate the potential impacts of climate finance flows on the Non-Government Financial Sector.**
 - It should also provide guidance on managing future capital flows and deepening financial markets to ensure stability and resilience.

Capacity Development

- **Capacity building and technical assistance activities should expand their focus on progressive domestic resource mobilization for financing climate actions and managing fiscal shocks effectively.**
 - This support will enable nations to better integrate climate considerations into their fiscal and financial policies, ensuring that investments in climate resilience and green growth are both sustainable and economically viable.
- **The Fund should support enhancement of the technical capacity of countries to better understand and mitigate the impact of climate-related financial activities on the broader financial system.**
 - The Fund should help develop more robust regulatory and supervisory frameworks to fully capture the climate risks associated with private sector financial flows, which can also pose significant risks to a country's financial stability.

ALIGNING THE LENDING TOOLKIT

- ☐ The IMF should commit its financing in support of the Paris Agreement's goal of limiting warming to 1.5C, responses to climate shocks and resilience-building, and investments in growth enhancing measures.
 - This commitment will require a major reform in its financial and human resource capacity.
- ☐ Analyses of the adequacy of Fund resources should incorporate the potential impacts of climate shocks and overlapping crises and address the increase in needs in forthcoming quota reviews.
 - The IMF should also regularly review its instruments to ensure that its toolkit is fit-for-purpose and capable of supporting members mitigate shocks and crises.
- ☐ Climate Resilient Debt Clauses should be incorporated in IMF loan agreements, and the Catastrophe Containment and Relief Trust (CCRT) should be replenished to support debt relief while expanding eligibility to climate-vulnerable economies.
- ☐ Lending instruments, including program design and eligibility criteria, should reflect the economic and climate-related needs of members.
 - The IMF should highlight the contribution of climate investments to long-term debt sustainability so that policy responses are not limited to short-term stability measures.
- ☐ The Fund should enable Resilience and Sustainability Facility (RSF) support for guarantees and other similar innovative financial instruments that support national plans.
 - It should remove the requirement for a concurrent program to enable access to countries aspiring to build resilience to prospective shocks.
 - The RST's capitalization should be increased to respond to the high demand for financing and the need to support building resilience against prospective balance of payments crises.
- ☐ The IMF should shift away from its emphasis on fiscal consolidation towards resource mobilization, recognizing the growth enhancing effects of clean energy investments and benefits of climate resilience.
 - Climate investments also reduce sovereign risk and help to lower the cost of capital.
- ☐ IMF programs should not lock countries into a fossil fuel intensive growth path, leaving them exposed to transition risks.
 - The IMF conditionalities review provides an opportunity for this shift.
- ☐ Urgent reform of lending rate policy should address the high cost of IMF lending and surcharge policy, as most borrowers have no reliable access to alternative sources of sustainable financing.

ENHANCING GLOBAL LEADERSHIP

- ☐ The IMF should recognize and communicate that delaying climate action is dangerous and stress the benefits of climate action and costs of inaction.
- ☐ In its flagship reports, the IMF should recognize the financing gaps in both mitigating climate shocks as well as in building resilience and accelerating the energy transition.
 - The IMF should regularly assess progress in the mobilization of finance at the global and national levels. The IMF should underscore the essential need to lower the cost of capital to unlock financing.
- ☐ As a part of multilateral surveillance, the IMF should shine a spotlight on the most climate vulnerable countries and the need for international action to support their transformation from climate vulnerability to climate prosperity.
 - The IMF should highlight the need for stronger global financial mechanisms to address loss and damage and build resilience.
- ☐ The IMF should reinforce international collective action on decarbonization in a manner that supports equitable burden sharing and recognize the significant distributional implications of international carbon price floors.
- ☐ The IMF should increase the scope and efficiency of re-channeling Special Drawing Rights (SDRs) by reviewing the framework to maintain the Special Drawing Rights as global reserve assets.
 - The IMF should explore the regular issuance of SDRs to increase global liquidity and delink SDR allocations from quota shares so that countries benefit according to their liquidity needs.
- ☐ The IMF should identify options to strengthen international collective action on climate finance, including options in international taxation measures, to complement domestic resource mobilization efforts to improve climate financing.

Recently, the IMF Managing Director noted that when John Maynard Keynes said “in the long run, we’re all dead,” he meant that decisionmakers should not wait for market forces to resolve problems in the long run (Georgieva 2024). Rather, policymakers should actively address problems in the short run. This spirit needs to animate IMF reform discussions. The narrow window to limit warming to 1.5C, the need for developing countries to pursue structural transformations in a climate-constrained world, the increasingly apparent costs of a disorderly transition and the lost opportunities of remaining tied to a fossil fuel intensive economy require the IMF to pursue its evolution with urgency.

The Task Force looks forward to engaging with the IMF, its members and stakeholders to support an international financial architecture that is responsive to the urgent need to address the climate crisis in a manner that supports development aspirations of people around the world.

To stay up to date and learn more, visit: gdpcenter.org/TaskForce.

Nagercoil, India. Photo by Milin John via Unsplash.



Acknowledgements

Abbreviations

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Acknowledgements

Abbreviations

About The Task Force

Authors

Executive Summary

IMF 2030 Action Agenda

The Evolving Role of the
IMF in Addressing Climate
Change

Understanding the
Macro-fiscal Implications
of Addressing Climate
Change

Responding to Shocks and
Mitigating Crises

IMF 2030 Action Agenda

References

Annex

ANNEX 1: SOURCES OF DATA FOR CHAPTER 2

Country	General Government Revenue from Fossil Fuels	Carbon Emissions from Fossil Fuels
Argentina	Argentina – Details of Tax Revenue.” OECD iLibrary. Accessed September 18, 2024. https://data-explorer.oecd.org/vis?tenant=archive&df[ds]=DisseminateArchiveDMZ&df[id]=DF_REVARG&df[ag]=OECD&dq=.&lom=LASTNPERIODS&lo=5&to[TIME_PERIOD]=false	Ritchie, Hannah, and Max Roser. 2024. “CO ₂ Emissions.” Our World in Data, January.
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