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INTERNATIONAL MONETARY FUND REFORM *for* CLIMATE RESILIENCE

The financial imperative for IMF climate action and policy options for a prosperous future

NOVEMBER 2023
Policy Report

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ABOUT THIS REPORT

This report was produced by the Center for Law, Energy, and the Environment at UC Berkeley, authored by Climate Policy Analyst, Kelly Varian with guidance from Project Climate Director, Ken Alex. We engaged with a diverse group of twenty-two climate finance experts, representing global perspectives from financial institutions, government bodies, academia, and civil society. To foster candid dialogue, our interview and survey participants opted to remain anonymous. Input from these experts, in addition to the review of over 75 reports, peer-reviewed journals, and publications, provide the foundation of this report.

Throughout our research, we received valuable thought partnership from Amit Bando, Chief Economist and Senior Advisor for Just and Inclusive Economies at Ceres, a non-profit organization dedicated to addressing the world's most pressing sustainability challenges in collaboration with influential capital market leaders. We extend our sincere gratitude to Amit and all contributors for their time, expertise, and collaborative efforts in the production of this research.

ABOUT THE CENTER FOR LAW, ENERGY & THE ENVIRONMENT

The Center for Law, Energy & the Environment (CLEE) channels the expertise and creativity of the Berkeley Law community into pragmatic policy solutions to environmental and energy challenges. CLEE works with government, business, and the nonprofit sector to help solve urgent problems requiring innovative, often interdisciplinary approaches. Drawing on the combined expertise of faculty, staff, and students across the University of California, Berkeley, CLEE strives to translate empirical findings into smart public policy solutions to better environmental and energy governance systems.

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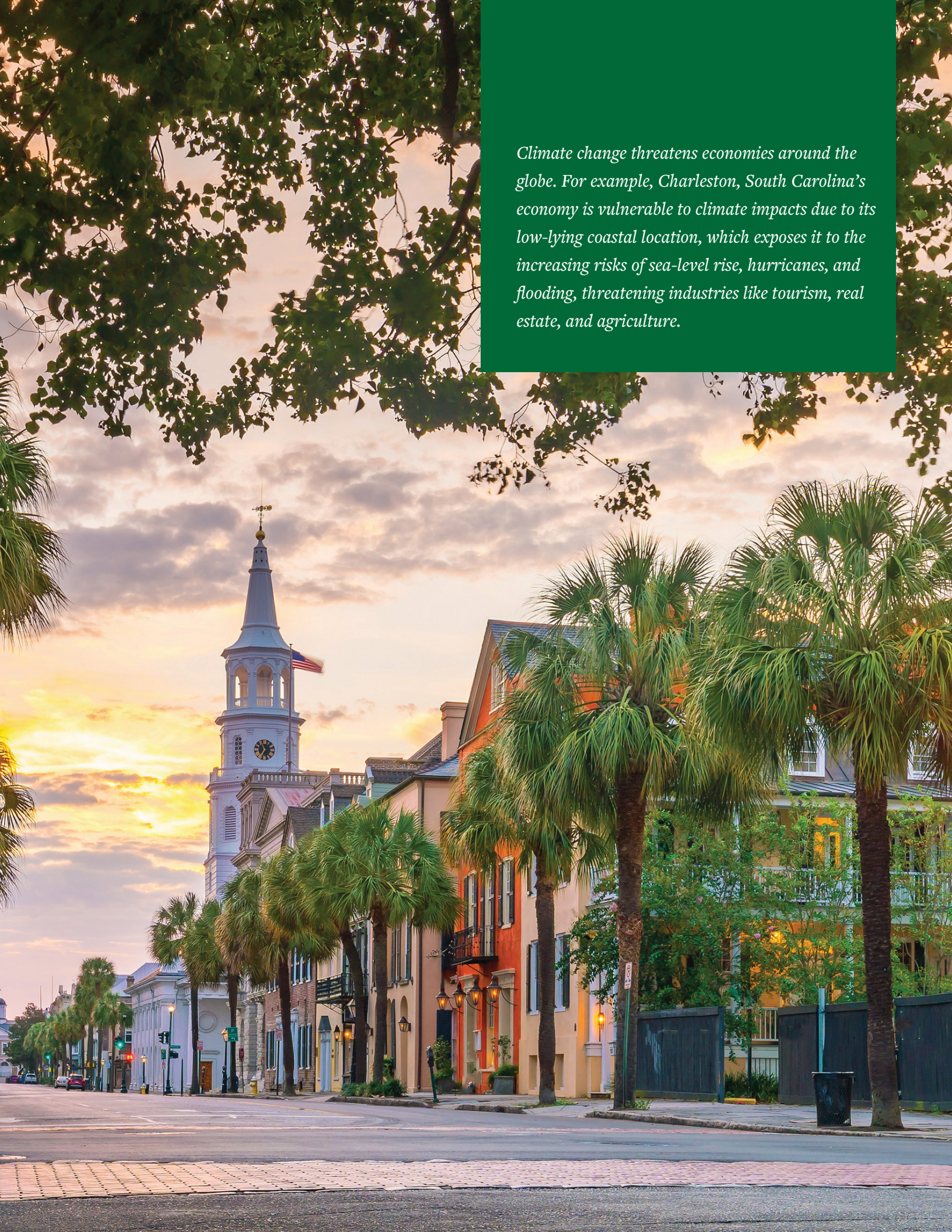


Climate change threatens economies around the globe. For example, Charleston, South Carolina's economy is vulnerable to climate impacts due to its low-lying coastal location, which exposes it to the increasing risks of sea-level rise, hurricanes, and flooding, threatening industries like tourism, real estate, and agriculture.

I. EXECUTIVE SUMMARY

Climate change poses an unprecedented threat to global economic stability. Developing countries—including those that have contributed least to global emissions—are most vulnerable to climate-related financial risks, but far-reaching and cascading climate impacts threaten all nations.[1] The world stands to lose 10 percent of total economic value by 2050 under the current emissions trajectory, according to risk experts at Swiss Re.[2] New research from the University of Exeter emphasizing the potentially catastrophic economic impacts of rapidly approaching and irreversible climate "tipping points" like melting ice sheets suggests that true losses could be even higher.[3]

Central to this impending financial crisis is an often-overlooked player: the International Monetary Fund (IMF).

With nearly $1 trillion USD[4] in assets and influence over 190 countries,[5] the IMF is a multilateral institution charged with maintaining global macroeconomic stability and growth.[6] This powerful organization could be a linchpin in steering the international community toward a more sustainable economic future, but its current efforts are inadequate.

While IMF leadership recognizes the gravity of the situation[7] and has increased its engagement in climate-related efforts in recent years,[8] its actions do not match the scale of the crisis. The IMF's Climate Change Strategy focuses largely on surveillance and advising,[9] stopping short of addressing the consequences of long-standing lending practices that worsen the climate crisis and amplify financial risk. Specifically:

1. Prohibitively high IMF borrowing rates for developing countries block vital investments in climate change mitigation, adaptation, and recovery[10] and

trap Global South nations in a cycle of escalating climate risks and mounting debts.[11]

2. IMF loan conditions and policy advice that make fossil fuel production more profitable enable the expansion of oil, gas, and coal, prolonging dangerous global heating.[12]

This report outlines a comprehensive approach to address these complex challenges and overcome political, financial, technical, and institutional barriers to action.

Key Recommendations

- **Form a Climate Advisory Group to Develop an Enforceable Strategy:** The IMF should establish a Climate Advisory Group[13] consisting of diverse external experts to recommend updates to the IMF's Climate Change Strategy[14] and adopt legal requirements for timely IMF action. In support of this approach, this brief includes principles and objectives to guide the Climate Advisory Group, ensuring its effectiveness and impact.
- **Explore A Suite of Bold Policy Options:** Seven complimentary policy options are presented to reform longstanding IMF practices that exacerbate risk by (1) improving climate-related risk assessment, (2) expanding climate finance and alleviating debt distress in developing countries, and (3) curtailing fossil fuel profitability. Questions for further research and discussion should be a starting point for the Climate Advisory Group's strategy development work.

Call to Action for the United States

The United States, as the largest shareholder in the IMF with significant influence, has a unique role to play in promoting IMF reform for climate resilience. This report calls upon U.S. public and private stakeholders to take action to fortify international financial stability while safeguarding U.S. economic resilience and national security interests.

- **Government Leadership:** U.S. leaders should champion ambitious IMF reform on the global stage, aligning with the recommendations in this report. To bolster credibility, the U.S. should lead by example, addressing climate change domestically and allocating new resources to support climate resilience in developing countries.
- **Business and Civil Society Engagement:** U.S. business and civil society leaders can contribute by building support for IMF reform, highlighting the financial threats posed by the IMF status quo in advocacy materials, lobbying Congress, and actively participating in international dialogue, research, and analysis related to climate-related financial risk.

At this pivotal juncture, the U.S. has the opportunity to help rally the IMF towards bold climate action. The world already has the technology needed to limit warming and deliver trillions in economic gains instead of losses.[15] Now, political will, bold policy, and robust financing are essential. This is not just a fiscal necessity, but a moral duty to our shared future.

KEY RECOMMENDATIONS

Foundational Recommendation: Form a Climate Advisory Group to Develop an Enforceable Strategy

WHY	HOW
• Climate change threatens the IMF's mission to promote global economic growth and stability.[16] • Current IMF climate action is too timid, and certain practices worsen climate-related financial risk. • Addressing these complex challenges requires fresh expertise, global coordination, and a bold strategy. • The current IMF Climate Change Strategy is a critical step forward, however, it stops short of addressing the consequences of long-standing lending practices that worsen the climate crisis and amplify financial risk.	• Form a Climate Advisory Group with leading climate experts and finance specialists from developing and developed nations. • Propose additions and revisions to the current IMF Climate Change Strategy that address the challenges highlighted in this report, namely high borrowing rates for developing nations and IMF support for fossil fuel producer subsidies. • Enact a legal framework to ensure the IMF takes timely action on recommendations, either adopting and funding new policies or giving a rationale to dismiss the suggestions.

Explore a Suite of Bold Policy Options

Goal 1: Improve Climate-Related Financial Risk Assessment

POLICY	WHY	HOW
1A. Enhance and harmonize climate-related financial risk assessments	• A growing body of research suggests the IMF and other financial institutions may underestimate climate-related financial risk due to linear and short-term models.[17] • Inaccurate risk assessments at the bilateral and multilateral levels compromise the IMF's ability to effectively monitor and stabilize global financial systems. • High-quality climate-related financial risk assessments based on the best available research should be the basis of an effective and harmonized financial system response to climate change, and the IMF can play a coordinating role.	• Coordinate with other global financial institutions and climate risk experts to incorporate non-linear climate risks and long-term impacts into financial risk assessments. • Place more significant consideration on worst-case scenarios in advising and lending due to deep uncertainty. • Adopt concurrent policies to ensure more accurate risk models don't further disincentivize investment in climate-vulnerable nations (policies 2A-2D).

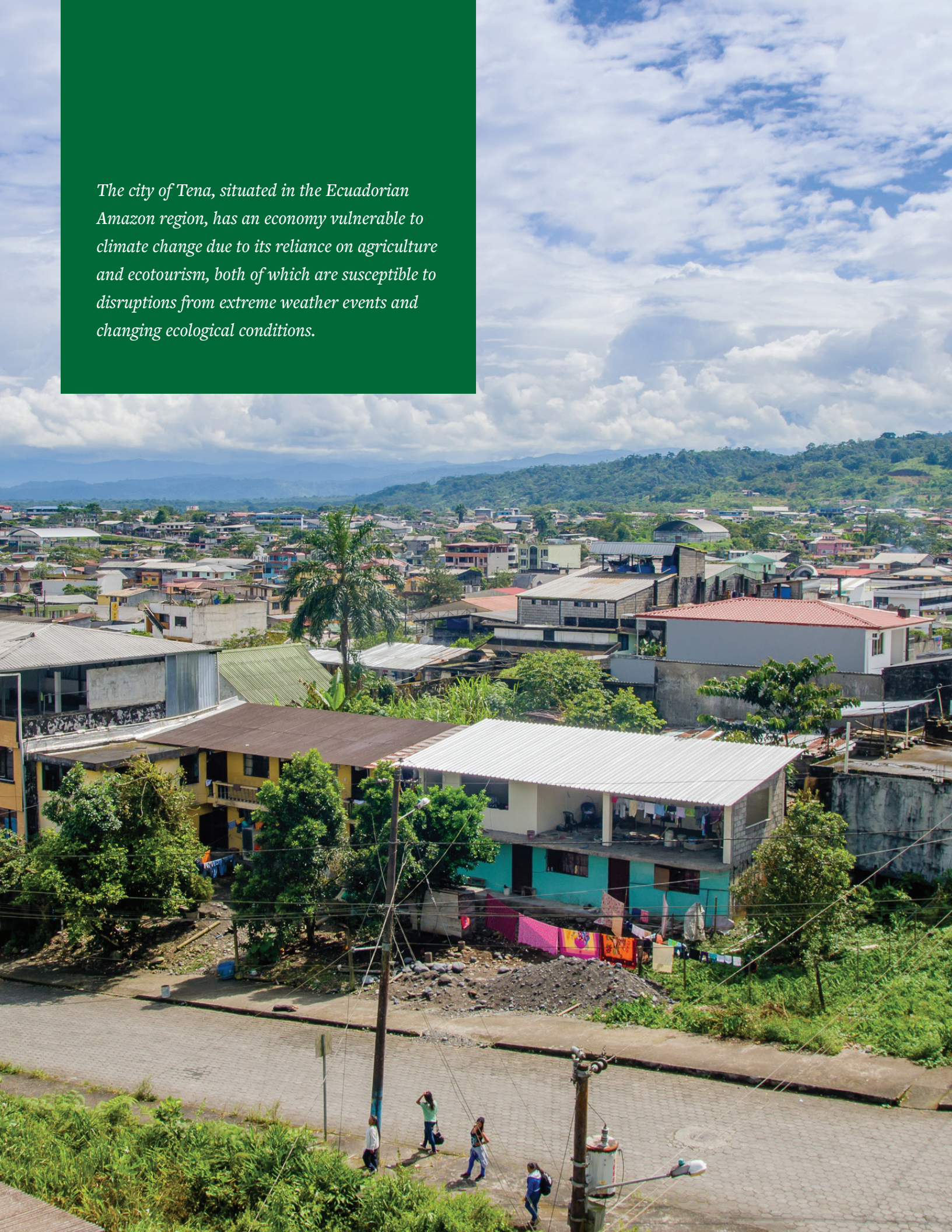
Goal 2: Unleash Climate Finance and Alleviate Debt Distress in Developing Countries

POLICY	WHY	HOW
2A. Reduce borrowing rates for countries that invest in climate resilience	• Prohibitively high borrowing rates block developing, climate-vulnerable nations from investing in essential climate resilience.[18] • Investments in climate resilience can bolster long-term economic growth and sustainability.[19] Yet the IMF currently treats green and brown debt the same. • Borrowing rates could be lowered in a potentially market-consistent manner for countries that invest in climate resilience, reflecting a lower risk profile.	• Develop a Climate Resilience Index to assess countries' commitment and progress on climate resilience. • Use a graduated approach to adjust interest rates based on performance. • Collect verifiable, transparent data to ensure market confidence. • Use loan conditionality to ensure developing nations can access lower rates for verified climate resilience commitments, not only completed projects, to prevent further borrowing rate disparities.

2B. Derisk and mobilize private investment in mitigation through a blended fund	• More private capital is required to meet the developing world's immense climate finance needs.[20] • Developing nations often struggle to finance mitigation efforts, including commercial projects with potentially high returns on investment, like renewable energy and transportation electrification, because private investors prefer to put their money in less risky economies.	• To derisk and catalyze private finance, create a blended fund in which IMF Special Drawing Rights (SDRs) cover the risk of private investment in mitigation in developing nations. • Consider the Bridgetown Initiative proposal to create a Global Mitigation Trust that would rechannel at least $100 billion IMF SDRs to borrow additional capital at low-interest rates, reaching $500 billion to seed blended investments, potentially crowding in $1.5 trillion per year in private capital.[21] Unlike other IMF Trusts, loans would finance projects, not countries, to take debt off government books.[22]
2C. Enhance and expand concessional lending for adaptation through the Resilience & Sustainability Trust	• Developing nations must also finance adaptation projects like seawalls and levees that do not generate revenue but lead to long-term savings.[23] • High IMF borrowing rates block investment, and private finance is not a good fit for these projects. • The IMF's new climate fund, the Resilience and Sustainability Trust, is on the right track, but undercapitalized and too slow in dispersing its concessional loans.	• Continue to rechannel SDRs to replenish and expand the IMF's new climate fund, the Resilience and Sustainability Trust. • Overcome key administrative hurdles to make loans smoother and quicker.
2D. Help fund Loss and Damage aid for countries after climate disasters	• Developing countries increasingly bear climate disaster recovery costs that don't generate revenue or savings, and can't be reasonably financed through loans or insurance. Aid is required.[24] • At COP27, governments agreed to establish a Loss and Damage Fund and the UNFCCC has invited international financial institutions to incorporate loss and damage into their work.[25] As of early November 2023, countries agreed to house the fund at the World Bank, but have not set a target Fund size or details on funding streams. • It is unlikely that wealthy nations will provide loss and damage funds at the scale required. Innovative funding streams are needed to attract robust, new funding.	• Help capitalize the Loss and Damage Fund housed at the World Bank by co-designing a framework to attract funds that guarantee additionality, such as a global carbon tax or more politically viable targeted emissions taxes (policy 3B). Such funding streams would complement direct contributions from wealthy, developed nations that have contributed most to total emissions. • Additionally, consider other opportunities to fund loss and damages needs through the IMF, such as temporary debt forgiveness for countries after climate disasters.

Goal 3: Curtail Fossil Fuel Profitability

POLICY	WHY	HOW
3A. Redirect fossil fuel producer subsidies to low-carbon alternatives	• To limit global warming to 1.5 degrees, or even a riskier 2 degrees target, the world must find a way to keep fossil fuels in the ground. • Today, IMF support for fossil fuel producer subsidies, often in the form of lower tax liabilities, incentivizes industry expansion. • IMF efforts to limit fossil fuel consumer subsidies fall short of addressing the fundamental issue of fossil fuel profitability.	• Phase out support of tax breaks and low royalty rates for fossil fuel producers in loan conditions and technical assistance. • Exclude fossil fuels from investment incentives, e.g., lower corporate tax rates, import duty exemptions, etc. • Redirect subsidies to renewable energy and low-carbon transportation.
3B. Promote viable policies and actions to reduce emissions	• IMF advocacy for an International Carbon Price Floor is important but global adoption appears politically unlikely in the short term. • Emissions taxes could significantly curb fossil fuels and generate funding for climate finance initiatives like a Loss and Damage Fund (policy 2D). • Emissions reduction measures should also target methane, which has an outsized impact on temperatures.	• Explore, design and promote taxes on emissions-intensive sectors like international shipping and aviation. • Potentially play a role in dispersing the funds generated. • Take a more active role in promoting fiscal policy options to reduce methane emissions, such as a methane fee, in advising and capacity building.



The city of Tena, situated in the Ecuadorian Amazon region, has an economy vulnerable to climate change due to its reliance on agriculture and ecotourism, both of which are susceptible to disruptions from extreme weather events and changing ecological conditions.

II. THE FINANCIAL IMPERATIVE FOR IMF CLIMATE ACTION

THE PROBLEM OF GLOBAL CLIMATE-RELATED FINANCIAL RISK

The climate crisis is widespread, extraordinary, and intensifying. July 2023 was the hottest recorded month on Earth[26] with an onslaught of heat waves, floods, wildfires, and drought that harmed lives and livelihoods around the world.[27] 2023 is now virtually certain to become a new record warm year (99 percent chance).[28] The scientific consensus, as affirmed by experts at World Weather Attribution, unambiguously connects this surge in extreme weather events to human-caused climate change.[29] Meanwhile, the Intergovernmental Panel on Climate Change (IPCC) documents how the climate crisis is already affecting the lives of billions of people globally. We have a rapidly closing window to secure a liveable future.[30]

Cascading climate risks threaten the global economy. The climate crisis is an economic crisis,[31] in addition to posing grave environmental and humanitarian challenges. Physical risks, like extreme weather events and long-term environmental changes like rising temperatures and sea levels, can destroy public and private property and disrupt trade and productivity around the world. Extreme weather events alone cost over $300B in global economic losses in 2022.[32] Transition risks, like sudden asset price adjustments as economies decarbonize, and cascading systemic risks related to compounding physical risks (like migration pressures, food and energy insecurity, and increased health crises) can fuel additional and far-reaching financial losses.[33]

Climate change is an unprecedented threat to global economic stability. Under the current emissions trajectory, the world stands to lose at least 10 percent of global economic value by 2050.

The world economy could be 10% smaller if the 2050 net-zero emissions and Paris Agreement targets on climate change are not met, according to Swiss Re Institute research.[34] Robust longer-term forecasting is challenging due to data gaps,[35] deep uncertainty,[36] and a lack of comparability between methodologies, but it is clear that net economic damages increase non-linearly with global warming levels.[37] Research from the University of Exeter emphasizing the potentially catastrophic economic impacts of rapidly approaching and irreversible climate "tipping points" like melting ice sheets suggests that true losses could be much higher.[38] Observational data indicates we're approaching these "points of no return" faster than previously thought.[39] We may have passed some already[40].

Developing countries—which have contributed least to climate change (Figure 1)—are most vulnerable to climate-related financial risks, but far-reaching impacts threaten us all. Developing economies in the southern hemisphere, especially landlocked or small island nations, are most vulnerable to the physical risks of climate change due to increased exposure to extreme weather events and insufficient resources to cope.[41] For example, in 2017 alone, the Caribbean nation of Dominica lost the equivalent of 253 percent of its GDP during Hurricane Maria.[42] Yet countries in all regions, rich and poor, including the U.S.,[43] stand to suffer significant financial and human losses due to physical risks and cascading transition risks (Figure 2). The IMF defines climate change as a "macro-critical risk," meaning the negative impacts are porous and have the potential to spill across borders, affecting not only individual countries but the global economy as a whole due to interconnectedness and shared vulnerabilities.

FIGURE 1: THE USA AND EU HAVE CONTRIBUTED MOST TO GLOBAL Co2 EMISSIONS

Cumulative CO2 emissions over the period 1751 to 2017.

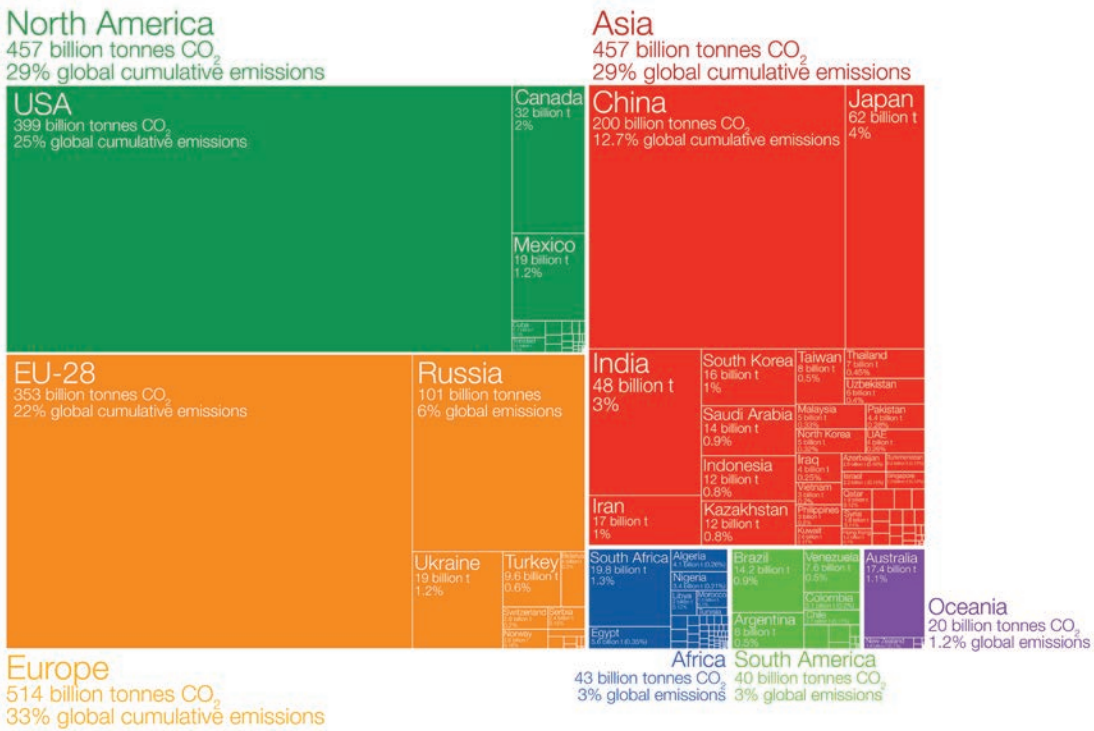


Figure 1: Figures are based on production-based emissions, which measure CO2 produced domestically, and do not correct for emissions embedded in trade (i.e., consumption-based). Emissions from international travel are not included. Source: Our World in Data[44]

FIGURE 2: GLOBAL TEMPERATURE RISE WILL NEGATIVELY IMPACT GDP IN ALL REGIONS BY MID-CENTURY

Projected economic losses under various temperature rise scenarios by 2050, expressed in percent of GDP.

	Temperature rise scenario, by mid-century			
	Well-below 2°C increase	2.0°C increase	2.6°C increase	3.2°C increase
	Paris target	*The likely range of global temperature gains*		*Severe case*
Simulating for economic loss impacts from rising temperatures in % GDP, relative to a world without climate change (0°C)				
World	−4.2%	−11.0%	−13.9%	−18.1%
OECD	−3.1%	−7.6%	−8.1%	−10.6%
North America	−3.1%	−6.9%	−7.4%	−9.5%
South America	−4.1%	−10.8%	−13.0%	−17.0%
Europe	−2.8%	−7.7%	−8.0%	−10.5%
Middle East & Africa	−4.7%	−14.0%	−21.5%	−27.6%
Asia	−5.5%	−14.9%	−20.4%	−26.5%
Advanced Asia	−3.3%	−9.5%	−11.7%	−15.4%
ASEAN	−4.2%	−17.0%	−29.0%	−37.4%
Oceania	−4.3%	−11.2%	−12.3%	−16.3%

Figure 2: The current trajectory of temperature increases, assuming action with respect to climate change mitigation pledges, points to global warming of 2.0–2.6C by midcentury. According to Swiss Re, global GDP loss under this scenario will be 10% higher than that under the Paris targets. Economies in Southeast Asia countries would be hardest hit. True GDP losses could be even higher than those projected here if climate tipping points are surpassed. Source: Swiss Re[45]

THE OPPORTUNITY OF CLIMATE ACTION

Climate action can support long-term global prosperity. Coordinated and strategic action to decarbonize the global economy could set the world up for strong economic growth. According to Deloitte Economics Institute's 2021 Global Turning Point report, achieving net-zero emissions by mid-century could increase the size of the world economy by $43 trillion in net present value terms by 2070, in contrast to a loss of $178 trillion in the same period under an unchecked climate change scenario.[46]

Investments in climate risk mitigation and emission reduction contribute to economic growth. The economic multipliers of green spending are at least 2 to 7 larger than those associated with non-eco-friendly brown expenditures like oil, gas and coal, according to robust empirical evidence from a recent IMF study. This is partially because the renewable energy industry is more labor-intensive, creating more jobs per unit of electricity generated compared to fossil fuels. The IMF's findings also suggest that green investments are more economically sustainable than brown investments, producing more GDP than they initially demand.[47] Further, investments in adaptation

Climate action, on the other hand, can support long-term global economic growth, in addition to critical environmental and social benefits.

can save money down the line. Society has been shown to save $6 for every dollar spent on climate resilience.[48]

Investments in climate action also provide a range of critical social and environmental benefits including:

- **Protected nature and biodiversity.** Mitigating global warming means lessening adverse effects on ecosystems and protecting critical habitats such as forests, wetlands, and coral reefs which are essential for biodiversity. Biodiversity is critical for ecological stability, food security, and numerous other reasons.[49]
- **Improved public health and well-being.** Transitioning to cleaner energy sources can improve air quality and reduce other forms of toxic pollution, resulting in lower rates of global death and disease. It can also mitigate climate-driven extreme weather events that have catastrophic humanitarian impacts.[50]
- **Increased economic, racial, and gender equity.** Low-income populations, indigenous peoples, women, and other marginalized communities disproportionately bear the brunt of climate impacts due to social and economic vulnerabilities. Targeting adaptation and benefits like affordable clean energy and jobs can help address inequalities and promote equality.[51]
- **Strengthened international cooperation.** Encouraging global cooperation and diplomacy, as countries work together to pursue emissions reduction targets and share best practices, can build trust and strengthen international relationships, potentially leading to diplomatic benefits outside the climate context.

We already have the knowledge and technology we need to realize these benefits. The IPCC offers multiple pathways to achieve global climate goals with existing technologies and policy tools.[52] Political will and robust financing are required now.

THE IMF'S POWER TO ACT

As the multilateral institution charged with maintaining global financial stability and growth, the IMF has an important role to play in addressing climate-related financial risk. The IMF's core purpose and its three critical missions[53] are directly threatened by climate change. These missions include:

- **Further International Monetary Cooperation.** Climate change, and the policy response to the effects of climate change, can introduce price volatility and disrupt global financial and monetary cooperation. For instance, extreme weather events amplified by climate change can strain national budgets and inflate government borrowing, escalating debt, undermining fiscal stability, and hampering the coordination of monetary policies and exchange rates.

The IMF's mission to advance global economic growth and stability is directly threatened by climate change. The Fund's immense capital, influence, and expertise give it the power to steer the international community toward a more sustainable economic future.

- **Encourage the Expansion of Trade and Economic Growth.** The physical risk of climate change can also stunt GDP growth and trade. For example, more frequent heat waves can reduce labor productivity in sectors like construction, agriculture, and manufacturing. Altered weather patterns and pests can decrease agriculture output, causing food scarcity, price spikes, and economic slowdown. Extreme weather events can disrupt supply chains.
- **Discourage Policies That Would Harm Prosperity.** Ensuring long-term macroeconomic stability and a liveable planet will require policies that harm short-term financial prosperity for some nations, businesses, and investors, especially those that rely heavily on fossil fuels. Governments must coordinate strategic decarbonization policy to minimize economic setbacks and achieve long-term prosperity.

The IMF can drive global climate action through its loan conditions and advising. The IMF pursues its missions through two principal activities. First, it monitors the economic well-being of its 190 member countries and offers them advice and technical support. This process involves identifying financial risks and recommending monetary and fiscal policies in detailed country-specific reports. Nations frequently publish summaries of these reports, which hold substantial weight in the eyes of investors and financial institutions. Second, the IMF makes loans to governments to assist them in recovering from crises. These loans come with conditions, typically requiring borrowers to adopt policies aimed at restoring economic growth. Therefore, while the IMF doesn't directly finance projects that help or hamper climate progress, like renewable energy or fossil fuel development, its assessments, loan conditions, policy advice, and capacity development exert a strong influence on these investments and play a crucial role in shaping the direction of global climate action.

The IMF's capital, influence, and expertise give it the power to steer the international community toward a more sustainable economic future. The IMF commands about $1 trillion USD[54] and can catalyze trillions more in private and public investment. It influences 190 member nations as the leading global authority on monetary and fiscal policy and has the expertise to shape global economic systems that can help foster a just transition to a low-carbon world. Furthermore, combating climate change is a global public good and necessitates an extraordinary degree of cooperation among countries. Given its role in global reach, the IMF is uniquely positioned to help coordinate an effective macroeconomic policy response.

THE IMF STATUS QUO EXACERBATES CLIMATE-RELATED FINANCIAL RISK

The IMF has increased its engagement in climate-related efforts in recent years, and its leadership recognizes the gravity of the climate crisis. The IMF has taken climate impacts into consideration since at least 2008, initially focusing on publishing policy papers and reports, then integrating climate considerations into monitoring and advising on an ad-hoc basis. Under the IMF's current Managing Director, Kristalina Georgieva, the IMF formalized an institutional response to climate change in 2021, publishing its first Climate Change Strategy, which highlighted extensive opportunities to integrate climate consideration into the fund's surveillance and advising and provided organizational, budgetary, and human resource management implications.[55] Additionally, Managing Director Georgieva has been a vocal proponent of climate action, frequently addressing the financial threats posed by climate change[56] and promoting bold policies such as an international carbon price floor.[57]

Still, the IMF's actions fall short when it comes to addressing the climate crisis. For example, no international carbon price floor exists, and the fund's hallmark climate initiative, a $100 billion Resilience and Sustainability Trust loan fund aimed at assisting low- and middle-income countries,[58] falls significantly short of the approximately $2 trillion per year in climate funding required in developing nations by 2030.[59]

Instead, the IMF's most significant climate contributions are not climate policies at all, but long-standing lending practices that inadvertently worsen the crisis and amplify financial risk.

Prohibitively High Borrowing Rates for Developing Countries Block Critical Investment in Green Infrastructure and Escalate Debt Crisis

Loans are based on risk, and developing nations are more prone to default due to currency volatility, limited collateral options, and other challenges. Today, the IMF's borrowing rates for developing nations are as high as 20 percent, compared to under 2 percent for some wealthy countries.[60] This ten-fold rate discrepancy impedes crucial investment in renewable energy and adaptation projects in the countries that are most vulnerable to climate change and least able to finance climate resilience on their own.

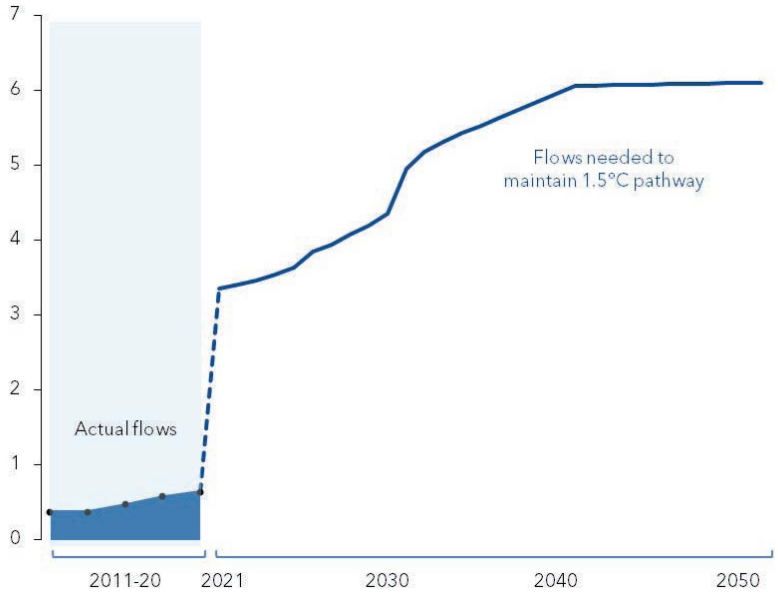
High borrowing rates also contribute to an escalating debt crisis in the Global South. Empirical studies replicated by the IMF and others show climate-vulnerable developing countries are entering a pattern where financial markets price physical climate risks, global warming accelerates, the risk premia for developing countries increases further, high capital costs mean less fiscal room for climate adaptation, and developing countries become even more climate-vulnerable (Figure 4).

The IMF has been a vocal proponent of climate resilience, yet some of its lending practices and policy advice worsen climate-related financial risk because they limit critical investment in green infrastructure, escalate debt distress for climate-vulnerable countries, and enable fossil fuel expansion.

The public debt crisis is a systemic and worsening problem, with 60 percent of low-income countries already in debt distress, double 2015 levels.[61]

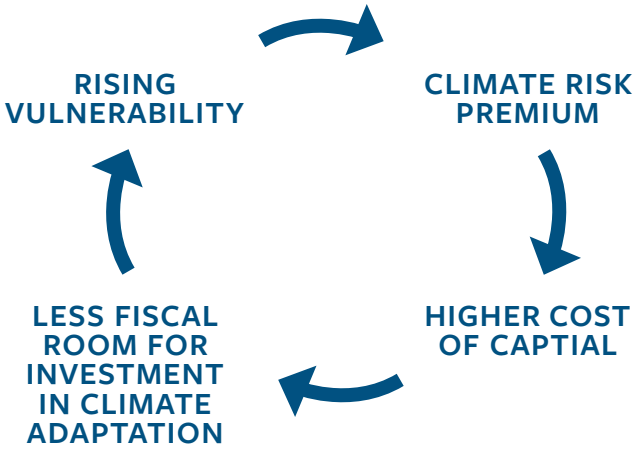
The IMF offers some low-interest loans to address these challenges, but current concessional lending is insufficient to bolster global climate resilience. This trajectory is not only detrimental to developing nations but also undermines our collective ability to secure a prosperous and livable future. Considering that developing countries now contribute to 66 percent of global emissions,[62] achieving Paris Agreement climate goals is impossible without decarbonizing emerging economies, which requires closing the climate finance gap (Figure 3). Moreover, disaster fallout in the Global South, like mass migration and civil unrest, will resonate globally.[63]

FIGURE 3. GLOBAL CLIMATE FINANCE FLOWS ARE INSUFFICIENT TO MEET PARIS AGREEMENT GOALS



Meeting Paris Agreement goals will require massive global investments to address the climate challenge and vulnerabilities to shocks. Estimates range from $3 trillion to $6 trillion per year until 2050. The current level at about $630 billion is just a fraction of what's really needed—and very little goes to developing countries. Source: IMF[64]

FIGURE 3. THE DEBT AND DISASTER CYCLE FOR CLIMATE-VULNERABLE COUNTRIES



Source: United Nations Environment Programme[65]

Loan Conditions and Policy Advice that Promote Fossil Fuel Expansion Prolong Dangerous Global Heating

The IMF has a mixed record when it comes to its treatment of the fossil fuel industry. On one hand, it has advocated for an international carbon price floor and has raised awareness of how fossil fuel consumer subsidies, which surged to a whopping $7 trillion globally in 2022 (or 7.1 percent of global GDP), hinder the shift to clean energy and burden governments and taxpayers.[66] The Fund has taken action by integrating transition risks into its Article IV Consultations–the economic health assessments the IMF conducts for member countries–by modeling carbon taxes and recommending consumer fossil fuel subsidy removal or reform in at least 71 countries[67]. While these efforts are commendable, they have not led to meaningful change. No international carbon price floor exists and climate-related financial risk assessments are still considered exploratory and often do not translate into policy action.[68]

Simultaneously, the IMF promotes fossil fuel expansion by continuing to enable fossil fuel producer subsidies, such as tax breaks and low royalty rates for oil, gas, and coal companies in its loan conditions, technical assistance, and recommendations. The mechanism is typically indirect. In efforts to increase much-needed investment into developing countries or countries in crisis, the IMF often recommends or requires lowering tax liabilities, such as lower corporate tax rates or Value Added Tax (VAT) exemptions. In many countries, such tax breaks have provided an incentive for large new fossil fuel investments and made them profitable. Case studies in Mozambique, Mongolia, Pakistan, and Suriname highlight how IMF loan programs' conditions have resulted in new tax policies that provide subsidies for coal and gas, prioritization

of fossil fuel projects, and regressive measures such as increased taxes on renewable energy technologies.[69]

Additionally, dependency on fossil fuels with high price volatility also contributes to the public debt crisis described above. The IMF does not currently provide solutions for countries to reduce their macro-economic dependency on fossil fuels, which could address the Fiscal Deficits, Current Account Deficits and climate change risks.

Thus, the IMF's focus on limiting consumer subsidies rather than addressing the economics of fossil fuel production is insufficient to decarbonize the global economy.

BARRIERS TO IMF CLIMATE ACTION

Many of the experts interviewed for this report credited the IMF, and Managing Director Georgieva in particular, with advancing global dialogue on the systemic financial risk of climate change and maintaining a genuine commitment to climate action. They underscored the complexity of meaningfully reforming the IMF and highlighted political, financial, technical, and institutional barriers to action that advocates must overcome.

Why do the IMF's actions fail to match the ambition of its rhetoric? Political, financial, technical, and institutional barriers may block mainstreaming climate resilience within the IMF.

Political Barriers: Outsized U.S. influence and geopolitical tensions can stifle progress.

While Managing Director Georgieva has championed IMF climate action, she is ultimately an administrator with little power to change the Fund's course. Instead, IMF actions reflect the priorities of member states with the highest quota shares, which represent each country's financial commitment.[70] As a result, wealthy nations that contribute the most funding have far outsized influence, and climate-vulnerable developing countries with a vested interest in addressing debt and barriers to climate investment have negligible decision-making power.

The Vulnerable Group of Twenty (V20), representing 55 climate-vulnerable countries, holds a combined 5 percent quota shares, despite constituting nearly 17 percent of the global population. Conversely, the U.S., which represents just 4 percent of the global population, holds 17.4 percent of all quota shares and has effective veto power over policy decisions that require IMF Board of Governor approval, including amendments to the Articles of Agreement, quota increases, and changes to Special Drawing Right (SDR) allocation.[71] SDRs are the international reserve assets issued by the IMF to member countries, including the United States. These SDRs represent a form of global liquidity and can be used like money by countries to supplement their foreign exchange reserves or settle international payments.

Within the U.S., the Department of the Treasury decides how to vote on IMF matters with oversight and input from Congress. While Congress

does not directly make decisions for all IMF votes, it determines the level of U.S. funding allocated to the IMF. Additionally, Congress plays a pivotal role in approving reallocations of U.S. SDRs and must ratify significant alterations to the IMF's governance structure or financial commitments, particularly general SDR allocations over $650 billion.

While the Biden Administration and its Treasury Department appointees are generally positive in their thinking about IMF reform, the U.S. has little appetite for changes that would shift power or resources to less developed nations with conflicting interests, especially China. Securing congressional approval for the reallocation of SDRs also presents political challenges, especially given the Republican-held House.

Strategies to overcome political barriers:

- Consider operational reforms that don't require approval from the IMF Board of Governors.
- For reforms that require IMF Board of Governors approval, tailor advocacy to appeal to U.S. decision-makers, avoiding policies that require reallocating U.S. power to nations with conflicting interests. Demonstrate U.S. economic self-interest and national security benefits.

Financial Barriers: The IMF's need to maintain a AAA credit rating and limited public dollars restrict options.

The IMF has a AAA credit rating, indicating its high creditworthiness. This rating serves two primary purposes. First, it allows the IMF to borrow funds in international financial markets at lower interest rates for efficient resource utilization. This is vital because the IMF relies on issuing bonds to fund its loans to member countries. Second, the IMF's AAA rating bolsters the Fund's credibility in financial markets and among member countries. Maintaining this top-notch rating constrains the IMF's capacity for bold climate action. For example, providing a trillion dollars in concessional loans to help meet the climate finance needs of developing countries isn't consistent with a risk-averse approach.

Moreover, wealthy nations have been hesitant to inject new IMF capital to finance climate resilience in poorer countries, instead preferring to reallocate unused SDRs or do nothing. International finance reform advocate and Barbados Climate Envoy, Avinash Persaud describes why the world needs a climate plan that doesn't rely on altruism, "rich country governments are not getting elected to send money to foreigners."[72] Unfavorable economic conditions stemming from the COVID pandemic, the wars in Ukraine and Israel, high inflation, and the risk of global recession have further dampened many nations' ability to invest in global climate resilience.

The IMF's requirement for a conservative lending approach and inherently constrained public resources requires difficult choices about how to strategically target climate finance. For example, should we pump dollars into select emerging

economies that can absorb significant investment (such as Indonesia and Mexico), or aim to spread funds equally among developing countries?

Strategies to overcome financial barriers:

- At a minimum, push for policy reforms that do not require injecting any new IMF capital but focus on enhanced resource utilization and reallocation of unused SDRs.
- Also advocate for expanded spending from wealthy nations by demonstrating how short-term costs could equal immense long-term savings.
- Leverage the catalytic potential of blended funding mechanisms to squeeze the most benefit out of public dollars. This calls for using public funds–and available philanthropic and private funds–as risk guarantees for investment. In such arrangements, transparency and accountability policies are necessary to ensure that funds are allocated to credible climate solutions.
- Facilitate dialogue among developing and developed countries to build alignment on how to strategically spend limited public resources.

Technical Barriers: financial risk assessments that underestimate climate-related vulnerabilities may limit the IMF's effectiveness and ambition.

A growing body of research suggests the IMF and other financial institutions may underestimate climate-related financial risk due to linear and short-term models.[73] For example, a 2022 joint report from The Financial Stability Board (FSB) and Network for Greening the Financial System (NGFS) found that climate scenario analysis exercises undertaken by the IMF and other financial authorities at the country-level and the global financial system level "understate climate exposures and vulnerabilities".[74] Several technical issues contribute to miscalculations. First, linear climate models fail to capture the widely accepted phenomena of climate tipping points. Second, varied and often too short future horizons, many only 3-5 years, miss long-term impacts. Third, consideration of transition risks is limited to simulating a carbon tax and does not include critical second-order impacts like resource scarcity or increased migration.[75] Not only do climate-related financial risk assessments underestimate risk, but the risks they identify typically go unaddressed. Climate-related financial risk assessments under Article IV Consultations "in most cases do not translate into policy action."

As the global institution charged with monitoring and mitigating financial risk, the IMF's underestimation of climate-related financial risk and its inability to prompt effective policy responses is a significant problem that must be resolved. Yet the impact of reform will be complex. First, more accurate risk assessments would enable more informed and effective operations and motivate ambitious climate action. But it could also have the unintended consequence of putting climate-vulnerable nations at an even greater disadvantage because they would become even riskier investments under more accurate models. Any effort to improve climate-related financial risk assessment must be paired

with policies to guarantee accessible borrowing rates for climate-vulnerable countries and incentivize private investment.

Relatedly, the IMF may be undervaluing green investment. Debt sustainability analysis treats debt for green and brown projects the same, despite emerging evidence that green investments are more sustainable, as described in the "Opportunity of Climate Action" section above.

Strategies to overcome technical barriers**:**

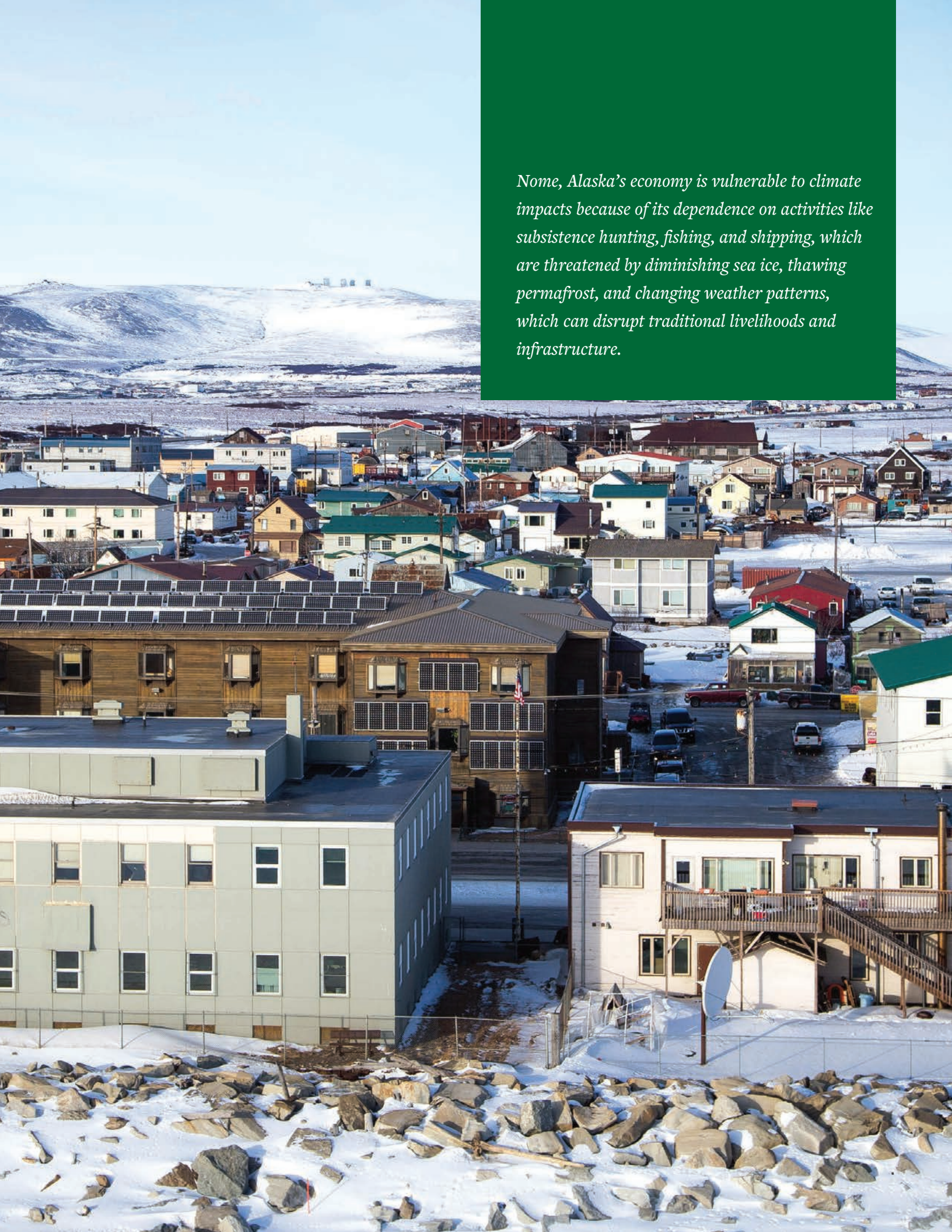
- Collaborate with multilateral development banks, central banks, insurers, and leading private financial institutions to review climate-related financial risk assessment methods and debt sustainability analysis methods to set and harmonize best practices.
- Continue to gather empirical evidence to test if default rates are lower for green investments and to quantify the financial benefits of investments in climate resilience.

Institutional Barriers: bureaucratic processes and inertia typical of large, established institutions limit action.

The IMF was established in 1944 to foster global economic recovery and cooperation after World War II. A growing chorus of IMF critics, most notably Barbados Prime Minister Mia Motley and her colleagues behind the Bridgetown Initiative, a political agenda to reform global financial architecture to address climate risk and debt in developing countries, argue that the IMF's structures are no longer fit for purpose.[76] They point to how climate change has altered the global financial landscape and the fact that many of today's climate-vulnerable nations did not exist in the 1940s. The reshaping of IMF structures that have been in place for nearly 80 years will require open-mindedness, creativity, and innovation commensurate with the immense challenge of climate change. Yet the IMF, like many large and old international organizations, faces institutional challenges like bureaucratic processes, differing internal priorities, and resistance to change. Moreover, significant reform will require new capacity, know-how, and resources.

Strategies to overcome institutional barriers:

- Reforms should include clear plans to build the capacity required to implement significant changes.
- Bring in outside expertise to contribute fresh perspectives and climate knowledge.
- Build IMF staff climate capacity and institutional flexibility through training, change management, and strategic planning.
- Ensure leadership is committed to bold climate action, potentially advocating for another climate champion to succeed Georgieva as the next Managing Director.



Nome, Alaska's economy is vulnerable to climate impacts because of its dependence on activities like subsistence hunting, fishing, and shipping, which are threatened by diminishing sea ice, thawing permafrost, and changing weather patterns, which can disrupt traditional livelihoods and infrastructure.

III. RECOMMENDATION FOR IMF CLIMATE REFORM

FOUNDATIONAL RECOMMENDATION

The path to effective IMF climate action will be complex and require diverse expertise, global coordination, and bold strategy. To that end, this report calls for the IMF to form a Climate Advisory Group to update the IMF's Climate Change Strategy and adopt legal requirements for timely action. Members of the Climate Advisory Group should include diverse global thought leaders in climate science, finance, sustainable development, and policy-making.[77] Their connections to other global financial institutions will enable coordinated, collective action to help transform the broader financial system for climate resilience. The Group's efforts should ultimately contribute to a more prosperous and sustainable economic future for all 190 IMF member nations.

To achieve this vision, the Climate Advisory Group should pursue primary and supporting objectives when updating the IMF's Climate Change Strategy.

Empower a Climate Advisory Group to update to the IMF Climate Change Strategy with legal requirements for timely action, to help secure a more sustainable long-term financial future for all IMF member nations.

Primary Objective: Decrease global climate-related financial risk

Meaningfully reduce systemic financial risk by accelerating the integration of climate considerations into the IMF's lending programs, surveillance, and policy advice, in dialogue with the broader global financial sector.

Supporting Objective: Reform longstanding IMF lending practices that exacerbate risk	**Supporting Objective: Overcome barriers to action**
Reforms should: • **Unlock Climate Finance:** increase capital flows for climate change mitigation, adaptation, and disaster recovery projects, especially in developing countries that currently lack access. • **Address Debt Distress:** prevent or relieve unsustainable debt in climate-vulnerable countries. • **Curtail Fossil Fuel Profitability**: leverage market mechanisms to decrease the profitability of fossil fuel production.	Reforms should be: • **Politically Feasible:** aim to meet the needs of all countries, but must be acceptable to wealthy nations with outsized IMF influence, especially the U.S. • **Financially Feasible and Market Consistent:** maintain the IMF's AAA credit rating and target limited public dollars strategically. • **Informed by Enhanced Climate-Related Financial Risk Assessments:** reflect cutting-edge methods for climate-related financial risk assessment that use non-linear models. • **Institutionally Feasible:** include clear plans to build the capacity required to implement significant changes.

High-Level Legal Framework

Six guiding principles for the Climate Advisory Group and additions to the IMF Climate Change Strategy

1. **Diverse and Independent Expertise:**
    - Form a Climate Advisory Group with diverse expertise, including climate scientists, economists, and policymakers representing developed and developing countries from the Global North and South.
    - Ensure the independence of Climate Advisory Group members from undue influence or conflicts of interest.

2. **Timely Reporting and Integration:**

   - Require the Climate Advisory Group to provide timely progress reports and recommendations to the IMF Executive Board.
   - Require the IMF Executive Board to vote on Climate Advisory Group recommendations promptly, approving and integrating policies and allocating necessary resources for implementation, or providing a rationale to dismiss recommendations.

3. **Transparency and Accountability:**

   - Ensure transparency and accountability in Climate Advisory Group activities.
   - Make Climate Advisory Group documents and recommendations accessible to all IMF member nations and the public, with appropriate confidentiality measures.

4. **Ethical Conduct and Equity:**

   - Establish a code of ethics for Climate Advisory Group members to prevent conflicts of interest and ensure prioritization of global climate interests.
   - Require the Climate Advisory Group to consider the needs of underinvested and vulnerable communities on the frontlines of climate change and engage with them in its work.

5. **Global Collaboration:**

   - Foster collaboration with international financial organizations, governments, and stakeholders to address climate-related financial risks effectively and collectively.
   - Seek additional expertise and collaboration with other advisory groups and IMF staff when needed.

6. **Periodic Review and Adaptation:**

   - Conduct periodic reviews of the legal framework and Climate Advisory Group operations and performance to ensure relevance and effectiveness.
   - Make necessary adjustments and improvements based on reviews.
   - Determine when members will change and when the Climate Advisory Group will be dissolved.

SUITE OF POLICY OPTIONS FOR STAKEHOLDER CONSIDERATION

The following options provide a suite of diverse and complementary policy approaches for Climate Advisory Group consideration, drawing on expert input and existing proposals. Together they address the interrelated challenges of high-borrowing rates that block green investment in developing nations, debt distress for climate-vulnerable countries, and the promotion of fossil fuels. They reflect options for both bold action and continuous improvement of current surveillance and advising.

Further research is required to project the outcomes of these policies, confront trade-offs, and determine to what extent they meet the objectives outlined. This list should be a starting point for the Climate Advisory Group's work.

Several policy options can help the IMF decrease global climate-related financial risk by addressing current shortcomings and overcoming barriers to action.

1. Improve climate-related financial risk assessment

1A. Enhance and harmonize climate-related financial risk assessments

Why: A strong understanding of climate-related financial risk must be the basis of an effective and informed IMF climate strategy. As described in the "Barriers to IMF Climate Action" section of this report, climate scenario analysis exercises undertaken by the IMF and other major financial institutions may understate climate exposures and vulnerabilities due to several technical issues.

How: The Climate Advisory Group should partner with Multilateral Development Banks (MDBs), central banks, insurers, and leading private financial institutions to update and harmonize climate-related financial risk surveillance and assessment exercises to account for non-linear climate risks, second-order effects, and longer-term impacts (potentially considering research from Swiss Re Institute[78] and the University of Exeter[79]).This should include updating and standardizing methods at the country and global level.

Considerations: Challenges such as data gaps and the complexity of climate forecasting make definitive assessments of climate-related financial risk impossible. As such, the IMF should seek to iteratively improve assessments in collaboration with the global financial community, while also placing more significant consideration on worst-case scenarios when setting policy and lending due to deep uncertainty.

Further, the impact of more accurate models will be complex and must be approached with care. Higher risk projections could motivate more ambitious and urgent climate action. They

could also have the unintended consequence of further disadvantaging climate-vulnerable nations that would become even riskier investments, worsening the debt crisis in the Global South. Any effort to improve climate-related financial risk assessment must be paired with policies to guarantee accessible borrowing rates for climate-vulnerable countries and incentivize private investment (policy options 2A-2D).

Questions for Further Research and Discussion:

- With which institutions should the IMF partner to update and harmonize climate-related financial risk assessments?
- What are the most promising non-linear climate-related financial risk models and how should their methods be integrated into various IMF assessments?
- What policies can the IMF adopt to ensure more accurate models do not further disincentivize investment in developing and climate-vulnerable nations?

2. Unleash climate finance and alleviate debt distress in developing countries

2A. Reduce borrowing rates for countries that invest in climate resilience

Why: High borrowing rates for developing economies reduce the economic feasibility of essential climate mitigation and adaptation efforts in countries most vulnerable to the physical and financial risks of climate change. Lowering borrowing rates for countries with commitments to increase climate resilience can help bolster their long-term national debt sustainability and enhance broader global financial stability by mitigating climate-induced economic shocks, reducing fiscal pressures, averting debt crises, and maintaining more stable growth trajectories.

Empirical evidence demonstrating that investment in climate resilience generates public savings[80] and higher returns than non-climate-friendly alternatives[81] suggests borrowing rates could potentially be lowered in a market-consistent, non-concessional manner. Finally, lowering borrowing rates for countries that increase climate resilience also aligns with international Paris Agreements and sustainable development goals and can prevent moral hazard.

How: Lower borrowing rates for countries that invest in climate resilience by implementing a mechanism that rewards their efforts and reflects their lowered risk profile. For example, the IMF could develop a Climate Resilience Index to assess commitment and progress in building climate resilience, considering factors such as investments in climate-adaptive infrastructure, climate risk reduction strategies, and adherence to international climate agreements.

Utilizing the Climate Resilience Index, the IMF could adjust the interest rates it offers to countries based on their performance and include loan conditions that foster climate resilience. Countries that demonstrate a strong commitment to climate resilience would receive more favorable borrowing terms. A graduated approach could provide an incentive for countries to continually improve their climate resilience efforts over time.

Considerations: Building market confidence and avoiding excessive financial burdens for borrowers may require more transparent and verifiable climate data disclosure, and additional empirical evidence supporting the assertion that countries that increase climate resilience are more economically secure and less prone to default on their loans. To ensure the policy does not exacerbate inequity, the IMF could offer technical assistance and capacity-building support to help countries enhance their climate resilience measures and tailor policies to accommodate a range of strategies and approaches that are context-specific.

Questions for Further Research and Discussion:

- How would the IMF practically implement a Climate Resilience Index? What indicators and metrics would it include, and how frequently would it be updated? What criteria would determine the extent of interest rate reductions?
- What steps can be taken to ensure transparency and verifiability of climate data disclosure by countries? Are there existing international standards that could be leveraged?
- Should this policy be applied to all nations, or only low-income or developing nations?
- What are the political challenges and potential objections from various stakeholders that need to be addressed to implement this policy effectively?
- How can the IMF ensure this policy does not compromise its AAA credit rating?

2B. Derisk and mobilize private investment in mitigation through a blended fund

Why: Financing renewable energy, low-carbon transportation, and climate-friendly agriculture projects in developing countries can yield substantial returns. However, many of these countries struggle to finance mitigation projects due to high borrowing rates, and private investors tend to favor lower-risk investments in more developed economies.

An innovative solution to this challenge is the use of blended funds, where public dollars absorb the risk associated with private investments. In this arrangement, public funds take a first-loss position, providing a risk guarantee for private creditors or investors. The objective is to bridge the gap between purely commercial ventures and environmentally

impactful projects, using minimal subsidies to "crowd in" private investment. Successful projects can incentivize purely commercial replication and support the growth of financial markets in developing nations, aligning private interests with global climate objectives and sustainable development goals.

As an institution primarily focused on resolving national government balance of payments issues with short-term loans, the IMF may not seem like an intuitive host. However, international finance reform advocates like Prime Minister of Barbados Mia Mottley and United Nations Secretary-General António Guterres have united under the Bridgetown Initiative to call for the IMF to embrace novel strategies and leverage its immense resources to break the climate finance deadlock. This could complement existing blended funds, such as the Green Climate Fund (GCF) and the International Finance Corporation (IFC), which have made valuable contributions to climate finance efforts, but at an insufficient scale and speed.

How: The Bridgetown Initiative proposes a Global Climate Mitigation Trust funded using IMF SDRs.[82] The Trust would leverage at least $100 billion SDRs funds to borrow additional capital at low interest rates, aiming to total at least $500 billion for projects that meet high environmental standards. Crucially, the Trust would lend directly to projects, removing climate mitigation costs from government balance sheets to address debt burden. Bridgetown Initiative creators believe this approach could crowd in $1.5 trillion in private capital per year with $100 billion in foreign exchange guarantees, and that by taking a diversified long-range view, the IMF could administer the Trust without compromising its AAA credit rating.

Considerations: To deliver on its ambitious goals, the Global Climate Mitigation Trust would require careful implementation, international cooperation, and effective management. Operating outside the IMF's historically core capabilities would require new expertise and resources.

Questions for Further Research and Discussion:

- What would incentivize wealthy member nations to provide SDRs to the Trust? How should wealthy nations distribute support to a Global Mitigation Trust, Resilience and Sustainability Trust (policy option 2C) and possibly a Loss and Damages Fund (policy option 2D? How can funding be strategically coordinated, prioritized, and streamlined?
- What new capabilities and capacity would the IMF need to add to establish and run an effective Global Climate Mitigation Trust while maintaining its other efforts?
- What governance and accountability mechanisms are required to build trust, mitigate risk, and ensure projects meet high environmental standards?

2C. Enhance and expand concessional lending for adaptation through the Resilience & Sustainability Trust

Why: Developing nations must also finance adaptation projects like seawalls that do not generate revenue but lead to long-term savings. High IMF borrowing rates block investment, and private finance is not a good fit for these projects.

The IMF has made important progress in addressing the problem by developing its first and only climate-focused fund, the Resilience and Sustainability Trust to provide concessionary loans. The Trust assists low and middle-income countries (three-quarters of the IMF's members) with limited room in their budget to address climate change and other long-term challenges[83] by providing longer-term, affordable financing. The Trust has been capitalized at $100 billion of SDR reflows, a meaningful investment but a small fraction of the $2 trillion a year required by developing nations to reduce emissions and adapt to climate impacts,[84] and its lending is too slow (it took Zambia 21 months to receive funds).

How: Encourage IMF member countries with stronger economies to contribute additional SDRs to the Resilience and Sustainability Trust. Ongoing contributions are needed to replenish the concessional fund and boost resources for rapidly growing adaptation needs. Implement reforms within the IMF to streamline and expedite the disbursement process funds. This can involve simplifying administrative procedures and reducing bureaucratic hurdles to make loans quicker and more efficient.

Considerations: Expanding Resilience and Sustainability Trust will require leadership and financial support from rich nations, and improving operations will require overcoming institutional challenges and building capacity.

Questions for Further Research and Discussion:

- What specific operational changes can make loans quicker and smoother?
- What will motivate wealthy nations to channel more SDRs to the fund?
- If a Global Mitigation Trust (policy option 2B) is created, what portion of redirected or new SDRs from wealthy nations should go to that fund to catalyze private investment in mitigation projects versus in the Resilience and Sustainability Trust to make concessional loans to governments for adaptation?

2D. Help fund Loss and Damage aid for countries after climate disasters

Why: Low and middle-income countries disproportionately affected by climate change must increasingly cover uninsurable disaster expenses that do not generate revenue or savings, such as rebuilding schools or

providing shelter to citizens after a hurricane. These costs can not be practically or equitably financed with loans. Aid is required.

At COP27, governments agreed to establish a Loss and Damage Fund.[85] As of early November 2023, countries agreed to house the fund at the World Bank, but have not set a target for the Fund size or firm details on funding streams. The general idea is to provide money that does not need to be repaid in the form of reconstruction grants or debt forgiveness immediately after a climate disaster. To operationalize the fund, key steps include securing new funding that does not draw from existing aid budgets, establishing transparent governance structures, and fostering international cooperation to ensure timely and equitable disbursement of funds to affected communities.[86] The UNFCCC has also invited all international financial institutions to incorporate loss and damage into their work.[87]

How: The IMF could conduct research to establish a more detailed framework for how the Loss and Damage Fund housed at the World Bank will be structured and capitalized, and conceivably help finance the Fund. The Bridgetown Initiative suggests attracting money through a new international tax mechanism that will guarantee additionality. Some options include a global carbon tax, country contributions based on cumulative emissions, and potentially more viable alternatives like levies on international container shipping, financial transactions, or airline travel (policy 3B). Instituting a global tax or levy of any kind is likely to be politically difficult, but if a mechanism were in place, the IMF could play a role in administering it.

Additionally, the IMF could consider additional ways to incorporate loss and damage funding into its operations, such as temporarily or permanently forgiving debt for countries hit by climate disasters.

Considerations: Funding climate-related losses and damages at adequate levels is already proving politically challenging. Wealthy nations appear ready to take a leadership role, but are calling for alternative funding streams to compliment their contributions as climate change worsens. No nation or industry is likely to submit to providing the trillions of dollars per year required, so an effective political strategy will be essential.

Questions for Further Research and Discussion:

- What are the right mechanisms to fund loss and damages?
- What is the right role for the IMF in this process - advisor, contributor, both, no role, or something else?
- How can the fund strike a balance between providing swift assistance to disaster-affected regions and ensuring rigorous accountability and transparency in fund disbursement?

- Could the IMF help fund loss and damages through debt forgiveness after climate disasters while maintaining its AAA credit rating?

3. Curtail fossil fuel profitability

3A. Redirect fossil fuel producer subsidies to low-carbon alternatives

Why: To limit global warming to 1.5 degrees Celsius, or even a riskier 2 degrees Celcius target, it is necessary to phase out fossil fuel production. Many climate policy analysts suggest that rolling out more renewable technology alone will not be enough to meet our global climate goals, even as renewable energy takes off and replaces some fossil energy rather than simply adding more total capacity.[88] An effective IMF strategy to mainstream climate action must be to stop providing incentives for fossil fuel expansion and tackle producer profitability head-on. Current efforts to limit consumer subsidies fall short of addressing the fundamental issue of fossil fuel profitability and public debt stress tied to over-reliance on price-volatile fossil fuels.

How: The IMF can help reduce greenhouse gas emissions and inflationary dependency on fossil fuels by phasing out support for fossil fuel producer subsidies in its loan conditions and policy advice. This could include halting support of tax breaks and low royalty rates for oil, gas, and coal companies, emphasizing the long-term transition risks of fossil fuel investments in surveillance recommendations, and increasing the IMF's social cost of carbon through careful evaluation of costs, benefits, and discount rates.

Helping to redirect the $5.9 trillion spent annually on fossil fuel subsidies toward the $4 trillion needed for global net-zero goals (such as redirecting subsidies for renewable energy and clean transportation options like eRickshaws[89]) presents an even more transformative opportunity. Decarbonization also has the potential to save the world up to $4.2 trillion per year by 2030 in health and disaster costs.[90]

Considerations: Curtailing fossil fuel subsidies will require a comprehensive assessment of trade-offs, implementation challenges, country-specific contexts, and political and economic realities. For example, many world leaders oppose cutting fossil fuel consumer subsidies because they believe increased energy prices will harm the poor. This may be true, but offering fossil fuel subsidies is a relatively inefficient approach to lifting people out of poverty. Across developing countries, about half of the public resources spent to support fossil fuel consumption benefit the richest 20 percent of the population, according to the IMF.[91]

Questions for Further Research and Discussion:

- What is the quickest and most effective way for the IMF to help reduce countries dependency on fossil fuels?

- What strategies can help ensure affordable energy for sustainable development while curtailing fossil fuels?
- How can the IMF help soften the short-term economic blow of transition risks associated with stranded fossil fuel assets while pursuing ambitious decarbonization goals for long-term financial stability?
- Which strategies are most politically feasible and effective?

3B. Promote viable policies and actions to reduce greenhouse gas emissions

Why: The IMF currently advocates for an International Carbon Price Floor, a promising but politically challenging proposal to slow emissions. It should continue to do so and be ready with effective carbon pricing systems if a policy window opens. It should also complement these efforts with advocacy for intermediary, potentially more politically viable frameworks. Additionally, the IMF has published research on the importance of cutting methane emissions, which have an outsized impact on global temperatures. The Fund's analysis of fiscal policy options to reduce methane emissions promotes a global methane fee, however the IMF has yet to take an active role in encouraging member countries to adopt such fees.

How: Explore, design, and promote taxes on emissions-intensive sectors like international shipping[92] and aviation,[93] areas with growing momentum for action. At the Summit on a New Global Financing Pact in June 2023, more than 20 countries and regional organizations backed proposals to tax shipping emissions. The industry, which has largely escaped taxation because international waters are not the jurisdiction of any one government, could generate around $100 billion a year that could support climate efforts, such as the Loss and Damage Fund, while encouraging shippers to decarbonize faster.[94] Additionally, take a more active role in encouraging member states to price methane, ideally through a fee for extractives industries, and, in some cases, agriculture. The IMF predicts a $70 methane fee among large economies would align 2030 emissions with a 2 degree celsius target and abatement costs would be equivalent to just 0.1 percent of GDP.[95]

Considerations: Implementing new taxes or pricing mechanisms on emissions-intensive sectors may increase costs for businesses and consumers, potentially leading to hardship and economic downturns. Develop policies to support affected industries, workers, and consumers in transitioning to cleaner technologies or practices to minimize economic and social disruptions. Consider the distributional impacts of emissions disincentives, ensuring that the burden is not disproportionately borne by vulnerable or low-income populations.

Questions for Further Research and Discussion:

- Which emissions disincentives are most politically feasible? What are their emissions reduction potentials?
- What are the legal and jurisdictional challenges associated with taxing emissions in international sectors like shipping and aviation, and how can these challenges be addressed?
- What are the potential unintended consequences of new taxes or pricing mechanisms on emissions-intensive sectors, and how can they be addressed to mitigate hardships for industries, workers, and consumers?
- How can the revenue generated from emissions disincentives be transparently and fairly allocated to ensure it benefits both climate mitigation and vulnerable communities affected by climate change?
- What are the most effective strategies the IMF can employ to incentivize member states to price methane, especially for extractive industries?

CALL TO ACTION FOR U.S. PUBLIC & PRIVATE SECTOR CLIMATE LEADERS

As the largest shareholder in the IMF, the U.S. is uniquely positioned to leverage unprecedented global momentum to push for reform.

As described in the discussion of barriers, the U.S. has outsized decision-making power in the IMF and is positioned to promote key reforms and push for rapid implementation. In doing so, the U.S. could help fortify international financial stability while safeguarding its own economic resilience and national security interests. Abundant evidence demonstrates how the intensifying global climate risks threaten the interests of the U.S. government, businesses, and citizens. The U.S. Pentagon has declared the climate crisis an "existential threat" to national security,[96] and the Office of Management and Budget projects immense drops in the U.S. GDP and federal revenues under the status quo,[97] potentially fueling inflation, impacting property values, and promoting economic decline. Because the climate crisis is a global challenge, mitigation and adaptation investments outside U.S. borders will have positive spillover effects that benefit the U.S. economy. Supporting climate action in the developing world need not be seen as altruistic or charitable but as a global fiscal necessity.

The time is right to capitalize on unprecedented global momentum to mainstream climate within the IMF. Over the last few years, proposals to reform the IMF in light of climate change, namely the Bridgetown Initiative, have garnered unparalleled support from powerful world leaders and bank executives, including U.S. Secretary of the Treasury Janet Yellen, U.S. Special Presidential Envoy for Climate John Kerry, French President Emmanuel Macron, World Bank President Anjay Banga, and IMF Managing Director Georgieva.[98] At the June 2023 Summit for a New Global Climate Finance Pact in Paris, 40 heads

of state gathered, had promising conversations and made progress funding the IMF's new Resilience and Sustainability Trust, setting the stage for more significant progress if broader leadership takes coordinated action.[99] Still, success is far from certain. For example, as of October 2023, world leaders have failed to identify a home or structure for a Loss and Damage Fund.[100]

At this pivotal juncture, U.S. public and private sector leaders can rally the IMF toward bold climate action.

Call to Action for U.S. Public Stakeholders

Champion IMF Reform on the Global Stage

U.S. political leaders can back IMF reform to catalyze meaningful progress. Key U.S. public figures who should solicit support from theirs peers include Secretary of the Treasury **Janet Yellen**, Special Presidential Envoy for Climate **John Kerry**, Deputy Secretary of the Treasury **Walley Adeyemo**, Secretary of the Treasury for International Markets **Alexia Latortue**, Senior Advisor for Clean Energy Innovation and Implementation **John Podesta**, Deputy National Security Advisor **John Finer**, Senate Majority Leader **Chuck Schumer**, and Senator **Elizabeth Warren** of Massachusetts. Janet Yellen, John Kerry, and Elizabeth Warren have already voiced their support for international finance reform generally.

International meetings such as the United Nations Climate Change Conference, more commonly referred to as the **COP** (Conference of the Parties), and the **IMF-World Bank Annual Meetings** are ideal forums for these U.S. political leaders and negotiators to call for change in alignment with the recommendation in this report. Namely:

Call for the formation of a Climate Advisory Group to recommend updates to the IMF's Climate Change Strategy with legal requirements for timely IMF action, either adopting and implementing recommendations or providing a rationale for dismissal.

Support some or all of the other policy options listed in this report, pending further research and dialogue with diverse nations.

Lead by Example

Congress should approve rechanneling U.S. SDRs to support climate mitigation and adaptation efforts in developing countries. While analysis suggests that the policy reforms outlined in this report do not require U.S. Congressional approval, the voluntary reallocation of U.S. SDRs or injecting new dollars to fund implementation—including expanding the Resilience and Sustainability Trust, seeding a Global Climate Mitigation Trust, and contributing to a Loss and Damage Fund—would require congressional approval. This presents political obstacles, particularly with Republicans in control of the House. Yet, without wealthy nations taking the lead on funding, progress toward meeting global climate finance targets will be marginal, and the negative spillover

effects of missed emissions reduction targets and the financial fall-out in the Global South will resonate globally.

Additionally, to be a credible advocate for climate action, the U.S. must **do more to demonstrate leadership in addressing climate change domestically,** reinforcing its commitment to a global audience.

Call to Action for U.S. Private Stakeholders

U.S. corporate leaders and investment executives can build support for reform by speaking out about the business threat of global financial instability under the IMF status quo. They can also highlight the benefits of IMF reforms that would help decarbonize global supply chains to meet their net zero goals, plan for a more orderly global transition away from fossil fuels to minimize stranded asset risks, and ultimately mitigate global heating and the associated business risks.

Corporate leaders can **author public letters in support of IMF reform, lobby Congress to approve reallocating SDRs to support climate resilience, and actively contribute to international dialogue and analysis** to understand and address global climate-related financial risk.

Civil society leaders in think tanks, academic institutions, and NGOs can also contribute to **advocacy campaigns** and **facilitate research and dialogue** about the impacts and tradeoffs of the policies recommended in this report.

To secure a prosperous and livable future for our planet, U.S. stakeholders should support IMF reform for climate resilience now. The world already has the technology needed to limit warming and deliver trillions in economic gains instead of losses.[101] Now, political will, bold policy, and robust financing are essential. This is not just a fiscal necessity, but a moral duty to our shared future.

Sana'a, Yemen's economy is threatened by a severe water crisis, with limited water resources for drinking, growing food, and bathing.

ENDNOTES

1 IPCC, 2021. "Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change." https://www.ipcc.ch/report/ar6/wg1/chapter/summary-for-policymakers/

2 Swiss Re Institute, 2021."The Economics of Climate Change." www.swissre.com/dam/jcr:e73ee7c3-7f83-4c17-a2b8-8ef23a8d3312/swiss-re-institute-expertise-publication-economics-of-climate-change.pdf

3 Trust, Sandy and Sanjay Joshi, Tim Lenton, Jack Oliver, 2023. "The Emperor's New Climate Scenarios." University of Exeter and Institute. https://actuaries.org.uk/media/qeydewmk/the-emperor-s-new-climate-scenarios.pdf

4 International Monetary Fund, 2021a. "At a Glance: The IMF's Firepower." https://www.imf.org/en/About/infographics/imf-firepower-lending

5 International Monetary Fund, 2023a. "IMF Member Countries." https://www.imf.org/en/Countries

6 International Monetary Fund, 2023b. "What is the IMF?" https://www.imf.org/en/About/Factsheets/IMF-at-a-Glance#:~:text=The%20IMF%20has%20three%20critical,and%20with%20other%20international%20bodies.

7 IMF Managing Director Kristalina Georgieva frequently speaks out about the systemic financial risks of climate change. For example: IMF, 2023c. "Remarks by the IMF Managing Director Kristalina Georgieva at the Paris Summit Closing Press Conference." https://www.imf.org/en/News/Articles/2023/06/23/sp062323-mdremarks-paris-summit-closing-presser#:~:text=The%20IMF%20has%20over%20the,also%20have%20a%20financial%20instrument.

8 International Monetary Fund, 2021b. "IMF Strategy to Help Members Address Climate Change Related Policy Challenges—Priorities, Modes of Delivery, and Budget Implications." https://www.imf.org/en/Publications/Policy-Papers/Issues/2021/07/30/IMF-Strategy-to-Help-Members-Address-Climate-Change-Related-Policy-Challenges-Priorities-463093

9 International Monetary Fund, 2021b.

10 Persaud, Avinash, 2022. "Breaking the Deadlock on Climate: The Bridgetown Initiative." Groupe d'études géopolitiques. https://geopolitique.eu/en/articles/breaking-the-deadlock-on-climate-the-bridgetown-initiative/

11 Volz, Ulrich, 2022. "The debt and climate crises are escalating—it is time to tackle both." Brookings. https://www.brookings.edu/articles/the-debt-and-climate-crises-are-escalating-it-is-time-to-tackle-both/

12 Multiple studies explore how the IMF's loan conditions and policy advice promote fossil fuel expansion. Here are a few: Abbott Galvao, Luisa, 2022. "6 Steps the IMF Should Take to Stop Enabling Fossil Fuels Around the World." Friends of the Earth United States, Oil Change, Gender Action, Recourse, Urgewald." https://priceofoil.org/content/uploads/2022/04/IMF_Brief_v3_041822.pdf. Mainhardt, Heike, 2020. "Build Back Better? IMF's policy advice hampers green COVID19 recovery." Recourse, Greenpeace, Earthlife Africa, Centre for Financial Accountability. https://re-course.org/wp-content/uploads/2021/11/Build-Back-Better-IMFs-policy-advice-hampers-green-COVID19-recovery-1.pdf

13 Potentially building on the efforts of the Task Force on Climate, Development, and the International Monetary Fund and the IMF and World Bank Group's High-Level Advisory Group (HLAG) on Sustainable and Inclusive Recovery and Growth.

14 For the IMF's current climate strategy, see International Monetary Fund, 2021b. "IMF Strategy to Help Members Address Climate Change Related Policy Challenges—Priorities, Modes of Delivery, and Budget Implications." https://www.imf.org/en/Publications/Policy-Papers/Issues/2021/07/30/IMF-Strategy-to-Help-Members-Address-Climate-Change-Related-Policy-Challenges-Priorities-463093

15 Deloitte, 2022. "The Turning Point. https://www.deloitte.com/global/en/issues/climate/global-turning-point.htm

16 International Monetary Fund, 2021b.

17 Network for Greening the Finanical System, 2022. "Current climate scenario analysis exercises may understate climate exposures and vulnerabilities, warn FSB and NGFS."https://www.ngfs.net/en/communique-de-presse/current-climate-scenario-analysis-exercises-may-understate-climate-exposures-and-vulnerabilities; Trust, Sandy, Sanjay Joshi, Tim Lenton, Jack Oliver, 2023. "The Emporers New Climate Scenarios." University of Exeter and Institute. https://actuaries.org.uk/media/qeydewmk/the-emperor-s-new-climate-scenarios.pdf; Harvard University Department of Economics, 2011. "Fat-Tailed Uncertainty in the Economics of Catastrophic Climate Change."https://scholar.harvard.edu/files/weitzman/files/fattaileduncertaintyeconomics.pdf, Harvard Univerty, etc.

18 Persaud, Avinash, 2022.

19 International Monetary Fund, 2021c. "Building Back Better: How Big Are Green Spending Multipliers?", https://www.elibrary.imf.org/view/journals/001/2021/087/article-A001-en.xml#A001ref39; Deloitte, 2022. "The Turning Point." https://www.deloitte.com/global/en/issues/climate/global-turning-point.html; Lightbody, Laura and Matthew Fuchs, 2018. "Every $1 Invested in Disaster Mitigation Saves $6." Pew, https://www.pewtrusts.org/en/research-and-analysis/articles/2018/01/11/every-$1-invested-in-disaster-mitigation-saves-$6

20 Persaud, 2022.

21 The Bridgetown Initiative is a political agenda championed by Barbados Prime Minister Mia Motley to reform global financial architecture and development finance to advance climate resilience and economic sustainability in developing countries. Projections found in Callaghan, Ian, 2023. "Guarantees 2.0: Meeting Climate Finance Needs in the Global South." Atlantic Council. https://www.atlanticcouncil.org/wp-content/uploads/2023/09/Guarantees-2.0_Meeting-Climate-Finance-Needs-in-the-Global-South.pdf

22 Persaud, 2022.

23 Persaud, 2022.

24 Persaud, 2022.

25 The Task Force on Climate, Development and the International Monetary Fund, 2023. "Safeguarding Decades of Development, The International Monetary Fund's Role in Addressing Loss and Damage." https://www.bu.edu/gdp/2023/10/05/safeguarding-decades-of-development-the-international-monetary-funds-role-in-addressing-loss-and-damage"

26 Berkeley Earth, 2023. "July 2023 Temperature Update." https://berkeleyearth.org/july-2023-temperature-update/

27 CarbonBrief, 2023. "Media reaction: Extreme weather hits world's seven continents in July 2023" https://www.carbonbrief.org/media-reaction-extreme-weather-hits-worlds-seven-continents-in-july-2023/?utm_term=64c24f616ecda932e7097fe24cddcf34&utm_campaign=DownToEarth&utm_source=esp&utm_medium=Email&CMP=greenlight_email

28 Berkeley Earth, 2023.

29 Peer reviewed research from World Weather Attribution can be found here: https://www.worldweatherattribution.org/wwa-resources/

30 IPCC, 2022. "Climate change: a threat to human wellbeing and health of the planet. Taking action now can secure our future." https://www.ipcc.ch/2022/02/28/pr-wgii-ar6/

31 Swiss Re Institute, 2021.

32 Aon, 2023. "Weather, Climate and Catastrophe Insight." https://www.aon.com/weather-climate-catastrophe/index.aspx?utm_source=media&utm_medium=org-digital&utm_campaign=0_ri_esg_ins_rin_global_r0&utm_content=engagement_climate-change_read-article

33 Chatham House, 2021. "Climate Change Risk Assessment, 2021." https://www.chathamhouse.org/2021/09/climate-change-risk-assessment-2021/04-cascading-systemic-risks

34 Swiss Re Institute, 2021.

35 International Monetary Fund, 2022. "Achieving Net-Zero Emissions Requires Closing a Data Deficit." https://www.imf.org/en/Blogs/Articles/2022/08/23/achieving-net-zero-emissions-requires-closing-a-data-deficit

36 Weitzman, Martin L., 2011. "Fat-Tailed Uncertainty in the Economics of Catastrophic Climate." Harvard University. https://scholar.harvard.edu/files/weitzman/files/fattaileduncertaintyeconomics.pdf

37 IPCC, 2022. "Climate Change 2022: Impacts, Adaptation and Vulnerability." https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryVolume.pdf

38 Trust, 2023.

39 Willcock, S., Cooper, G.S., Addy, J. et al. "Earlier collapse of Anthropocene ecosystems driven by multiple faster and noisier drivers.' 2023. https://www.nature.com/articles/s41893-023-01157-x

40 Deloitte, 2022

41 Swiss Re Institute, 2021.

42 UNDP. 2023. "After the Rain: The Lasting Effects of Storms in the Caribbean."https://www.undp.org/latin-america/after-rain-lasting-effects-storms-caribbean

43 The White House, 2021. "Executive Order on Climate-Related Financial Risk" https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/20/executive-order-on-climate-related-financial-risk/

44 Our World In Data, 2019. "Who has contributed most to global CO2 emissions?" https://ourworldindata.org/contributed-most-global-co2

45 Swiss Re Institute, 2021.

46 Deloitte, 2022. "The Turning Point." https://www.deloitte.com/global/en/issues/climate/global-turning-point.html

47 International Monetary Fund, 2021c. "Building Back Better: How Big Are Green Spending Multipliers?", https://www.elibrary.imf.org/view/journals/001/2021/087/article-A001-en.xml#A001ref39

48 Lightbody, Laura and Matthew Fuchs, 2018. "Every $1 Invested in Disaster Mitigation Saves $6." Pew, https://www.pewtrusts.org/en/research-and-analysis/articles/2018/01/11/every-$1-invested-in-disaster-mitigation-saves-$6

49 UN, 2021. "Tackling Biodiversity & Climate Crises Together and Their Combined Social Impacts." https://www.un.org/sustainabledevelopment/blog/2021/06/tackling-biodiversity-climate-crises-together-and-their-combined-social-impacts/

50 UN, 2023. "Health and Climate Change." https://www.un.org/en/climatechange/health-and-climate-change#:~:text=Climate%20change%20is%20expected%20to,Read%20more

51 UNDP, 2016 "Gender and Climate Change." https://www.undp.org/sites/g/files/zskgke326/files/publications/UNDP%20Linkages%20Gender%20and%20CC%20Policy%20Brief%201-WEB.pdf; UN 2022, "The global climate crisis is a racial justice crisis: UN expert." https://www.ohchr.org/en/press-releases/2022/11/global-climate-crisis-racial-justice-crisis-un-expert

52 IPCC, 2022. "Climate Change 2022: Impacts, Adaptation and Vulnerability." https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryVolume.pdf

53 International Monetary Fund, 2021b.

54 International Monetary Fund, 2021a.

55 International Monetary Fund, 2021b.

56 IMF Managing Director Kristalina Georgieva frequently speaks out about the systemic financial risks of climate change. For example: IMF, 2023c. "Remarks by the IMF Managing Director Kristalina Georgieva at the Paris Summit Closing Press Conference."

57 International Monetary Fund, 2021c. "Proposal for an International Carbon Price Floor Among Large Emitters." https://www.imf.org/en/Publications/staff-climate-notes/Issues/2021/06/15/Proposal-for-an-International-Carbon-Price-Floor-Among-Large-Emitters-460468

58 International Monetary Fund, 2023c. "IMF Resilience and Sustainability Trust." https://www.imf.org/en/Topics/Resilience-and-Sustainability-Trust

59 Harvey, Fiona, 2022. "Developing countries 'will need $2tn a year in climate funding by 2030." The Guardian. https://www.theguardian.com/environment/2022/nov/08/developing-countries-climate-crisis-funding-2030-report-nicholas-stern#:~:text=7%20months%20old-,Developing%20countries%20%27will%20need%20%242tn%20a,in%20climate%20funding%20by%202030%27&text=About%20%242tn%20(%C2%A31.75,climate%20breakdown%2C%20new%20data%20suggests.

60 Persaud, 2022.

61 Volz, Ulrich, 2022.

62 Li, bo, and Fabio Natalucci, Prasad Ananthakrishnan, 2022. "How Blended Finance Can Support Climate Transition in Emerging and Developing Economies." International Monentary Fund. https://www.imf.org/en/Blogs/Articles/2022/11/15/how-blended-finance-can-support-climate-transition-in-emerging-and-developing-economies

63 Chatham House, 2021.

64 Georgieva, Kristalina and Tobias Adrian. 2022. "Public Sector Must Play Major Role in Catalyzing Private Climate Finance." IMF. https://www.imf.org/en/Blogs/Articles/2022/08/18/public-sector-must-play-major-role-in-catalyzing-private-climate-finance

65 UN Environment, 2018. "Climate Change and the Cost of Capital in Developing Countries." https://www.financialprotectionforum.org/sites/default/files/7%20Climate%20Change%20and%20the%20Cost%20of%20Capital.pdf

66 International Monetary Fund, 2023d. "Fossil Fuel Subsidies Surged to $7 Trillion" https://www.imf.org/en/Blogs/Articles/2023/08/24/fossil-fuel-subsidies-surged-to-record-7-trillion#:~:text=Fossil%20fuel%20subsidies%20topped%20%247%20trillion%20last%20year&text=Note%3A%20Figures%20from%202019%20onwards,fuel%20taxes%20and%20carbon%20pricing.

67 Sward, Jon, Niranjali Amerasinghe, Andrew Bunker, Jo Walker, 2021. "IMF Surveillance and Climate Change Transition Risks: Reforming IMF policy advice to support a just energy transition." Bretton Woods Project and ActionAid USA. https://www.actionaidusa.org/wp-content/uploads/2021/08/IMF-x-climate-FINAL-1.pdf?

68 Network for Greening the Financial System, 2022; and Gallaghaer, Kevin, Luma Ramos, Corinne Stephenson, and Irene Monasterolo, 2021. "Climate Change and IMF Surveillance: The Need for Ambition." Boston University Global Development Policy Center. https://www.bu.edu/gdp/files/2021/03/GEGI_PB_014_IMF_Climate_Surveillance.pdf

69 Multiple studies explore how the IMF's loan conditions and policy advice promote fossil fuel expansion. Here are a few: Mainhardt, Heike, 2020. "Build Back Better? IMF's policy advice hampers green COVID19 recovery." Recourse, Greenpeace, Earthlife Africa, Centre for Financial Accountability. https://www.re-course.org/old/wp-content/uploads/2021/05/Stichting-Re-course-International-Audited-Accounts-2020-2.pdf;

Abbott Galvao, Luisa, 2022. "6 Steps the IMF Should Take to Stop Enabling Fossil Fuels Around the World." Friends of the Earth United States, Oil Change, Gender Action, Recourse, Urgewald. https://priceofoil.org/content/uploads/2022/04/IMF_Brief_v3_041822.pdf.

70 International Monetary Fund, 2023e. IMF Quotas. https://www.imf.org/en/About/Factsheets/Sheets/2022/IMF-Quotas#:~:text=Quotas%20are%20a%20key%20determinant,the%20same%20for%20all%20members.

71 Merling, Lara, 2022. "No Voice for the Vulnerable: Climate Change and the Need for Quota Reform at the IMF." Boston University Global Development Policy Center. https://www.bu.edu/gdp/files/2022/10/GEGI_WP_057_FIN.pdf

72 Persaud, Avinash, 2023. "The climate crisis is expensive -- here's who should pay for it." Ted Talk. https://www.ted.com/talks/avinash_persaud_the_climate_crisis_is_expensive_here_s_who_should_pay_for_it?language=en

73 Research such as: Network for Greening the Financial System, 2022. "Current climate scenario analysis exercises may understate climate exposures and vulnerabilities, warn FSB and NGFS." https://www.ngfs.net/en/communique-de-presse/current-climate-scenario-analysis-exercises-may-understate-climate-exposures-and-vulnerabilities; Trust, Sandy, Sanjay Joshi, Tim Lenton, Jack Oliver, 2023. "The Emporers New Climate Scenarios." University of Exeter and Institute. https://actuaries.org.uk/media/qeydewmk/the-emperor-s-new-climate-scenarios.pdf; Weitzman, Martin L., 2011. "Fat-Tailed Uncertainty in the Economics of Catastrophic Climate." Harvard University. https://scholar.harvard.edu/files/weitzman/files/fattaileduncertaintyeconomics.pdf, etc

74 Network for Greening the Financial System, 2022.

75 Task Force on Climate, Development and the International Monetary Fund, 2023. "The International Monetary Fund, Climate Change and Development: A Preliminary Assessment." https://www.bu.edu/gdp/2023/03/24/the-international-monetary-fund-climate-and-development-a-preliminary-assessment/

76 Gelles, David. 2022. "A Powerful Climate Leader From a Small Island Nation." https://www.nytimes.com/2022/12/14/world/americas/mia-mottley-climate-change-barbados.html

77 For example, the IMF may recruit from the Network for Greening the Financial System, The Task Force on Climate, Development and the IMF, or solicit support from climate risk expert Professor Tim Lenton from the University of Existor or Bridgetown Initiative architect and Special Envoy to the Prime Minister of Barbados on Climate Finance, Avinash Persaud.

78 Swiss Re Institute, 2021

79 Trust, Sandy, Sanjay Joshi, Tim Lenton, Jack Oliver, 2023.

80 Lightbody, Laura and Matthew Fuchs, 2018.

81 International Monetary Fund, 2021c.

82 Persaud, 2022.

83 International Monetary Fund, 2023c.

84 Harvey, Fiona, 2022.

85 The Task Force on Climate, Development and the International Monetary Fund, 2023. "Safeguarding Decades of Development, The International Monetary Fund's Rome in Addressing Loss and Damage."

86 Hill, Cameron, 2023. "A loss and damage fund: two big challenges." Relief Web. https://reliefweb.int/report/world/loss-and-damage-fund-two-big-challenges

87 Task Force on Climate, Development, and the International Monetary Fund, 2023. "Safeguarding Decades of Development: The International Monetary Fund's Role in Addressing Loss and Damage." https://www.bu.edu/gdp/files/2023/10/TF-PB-007-FIN.pdf

88 Bond, Kingsmill, Sam Butler-Sloss, Amory Lovins, Laurens Speelman, Nigel Topping. 2023. "X-Change: Electricity," RMI. https://rmi.org/insight/x-change-electricity/

89 Schmall, Emily, Jack Ewing. 2022. "India's Electric Vehicle Push is Riding on Mopeds and Rickshaws." https://www.nytimes.com/2022/09/04/business/energy-environment/india-electric-vehicles-moped-rickshaw.html

90 United Nations, 2023. "Renewable energy – powering a safer future." https://www.un.org/en/climatechange/raising-ambition/renewable-energy#:~:text=Renewable%20energy%20makes%20economic%20sense&text=But%20investments%20in%20renewable%20energy,trillion%20per%20year%20by%202030.

91 International Monetary Fund, 2023d.

92 Irish, John. 2023. "Shipping emissions tax plan backed by some 20 countries at Paris summit." Reuters. https://www.reuters.com/sustainability/shipping-emissions-tax-plan-backed-by-some-20-countries-paris-summit-2023-06-23/#:~:text=Shipping%2C%20which%20emits%202.9%25%20of,shippers%20to%20go%20green%20faster.

93 Zheng, Xinyi Sola and Dan Rutherford, 2022. "Aviation Climate Finance Using a Global Frequent Flying Levy." The International Council on Clean Transportation. https://theicct.org/publication/global-aviation-frequent-flying-levy-sep22/

94 Irish, John. 2023

95 Parry, Ian W.H. and Simon Black, Danielle N Minnett, Victor Mylonas, and Nate Vernon. 2022. "How to Cut Methane Emissions." IMF. https://www.imf.org/en/Publications/staff-climate-notes/Issues/2022/10/28/How-to-Cut-Methane-Emissions-525188

96 Mitchell, Ellen, 2021. "Pentagon chief: Climate crisis 'existential' threat to US national security." The Hill. https://thehill.com/policy/defense/549842-pentagon-chief-climate-crisis-existential-threat-to-us-national-security/

97 The White House, 2022. "Quantifying Risks to the Federal Budget from Climate Change." https://www.whitehouse.gov/omb/briefing-room/2022/04/04/quantifying-risks-to-the-federal-budget-from-climate-change/#:~:text=The%20new%20Budget%20analyses%20found,equal%20%242%20trillion%20per%20year.

98 Osborne, Katherine. 2022. "The Barbadian Proposal Turning Heads at COP27." Foreign Policy. https://foreignpolicy.com/2022/11/11/cop27-un-climate-barbados-mottley-climate-finance-imf/

99 Focus 2030. 2023. "Summit for a New Global Financial Pact: Conclusions and Next Steps." https://focus2030.org/Summit-for-a-New-Global-Financing-Pact-conclusions-and-next-steps

100 Kim, Minho. 2023. "Funding drama threatens UN climate summit." https://www.politico.com/newsletters/power-switch/2023/10/30/funding-drama-threatens-un-climate-summit-00124214

101 Deloitte, 2022.

Tokyo's economy is vulnerable to climate change due to the city's susceptibility to extreme weather events, such as typhoons and heatwaves, which can disrupt infrastructure, supply chains, and productivity, as well as the potential impact of rising sea levels on its coastal areas.

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