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Climate Finance for Just Transitions

Building Low-Carbon Development Pathways in an Age of US-China Rivalry

Jonathan Phillips, Jackson Ewing, Abhay Rao, Liilnna Teji, Victoria Plutshack, Marc Jeuland

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Summary

This paper investigates challenges throughout the international climate finance landscape and recommends pathways for how investments into low- and middle-income countries (LMICs) can more effectively drive low-carbon development. The paper focuses on three issue areas: (1) aligning national climate strategies and international finance, (2) finding avenues for positive climate finance outcomes in an era of growing rivalry between Chinese and Group of Seven—particularly US—public financiers, and (3) reforming major climate finance practices and institutions to more effectively cater to the needs of LMIC stakeholders. The paper offers findings and recommendations across these categories and seeks to contribute actionable strategies and tactics for accelerating low-carbon development where it is most needed. Evaluating these strategies and tactics through further research will be key to refining and improving their deployment. The paper benefits from the insights of a private roundtable with climate finance practitioners convened by the New Frontiers in Climate Finance project in Washington, DC, on July 28, 2022.[1]

This paper is part of a series of work under the New Frontiers in Climate Finance project, led by the James E. Rogers Energy Access Project,[2] which is scoping the challenges and opportunities inherent to climate finance in LMICs, and seeking to help increase the scale and transformational impact of climate finance to these economies. The project aims to mobilize key stakeholder organizations around a common vision for aligning the tools of development finance with the needs and strategies of LMICs, and to build low-carbon development pathways that support poverty alleviation while reducing the next global wave of greenhouse gas emissions.

OVERVIEW

There is an increasing realization that (1) the way in which low- and middle-income countries (LMICs) develop over the next decade has outsized influence over how and whether global climate targets can be achieved and (2) investment is not flowing to these countries at the type or level needed to demonstrate and scale low-carbon development strategies. The growth and continued reliance on fossil fuel–intensive development in just 15 emerging economies (the "Emerging 15," see Figure 1)—home to nearly one-fifth of the global population—may drive an emissions wave over the next two decades akin to what China produced during the last two.[3]

There are another 15 developing countries—home to nearly 1 billion people—where fossil fuel use remains much lower, but where powerful transformative forces are also at work (the "Next 15," see Figure 2).[4] The Next 15 have some of the highest rates of population and economic growth and urbanization, and their people are expected to be some of the most climate vulnerable on the planet. Demonstration that new low-carbon development pathways are feasible is critical to support these countries' aspirations.

Investment decisions made in these countries leading up to 2030 will determine whether low-carbon pathways out of poverty and climate vulnerability are possible for millions, and whether the next global surge in emissions can be prevented.

In 2010, advanced countries committed to mobilizing $100 billion in investment annually by the end of the decade to support developing countries in meeting their climate mitigation and adaption goals. While they have yet to meet that modest target, investment needs have proven to be much greater. The International Energy Agency estimates $1 trillion is needed annually in emerging and developing economies for the energy sector alone, a level that would require a seven-fold increase in investment.[5] Delivering on the "billions to trillions" investment rhetoric requires overcoming fundamental barriers that have long plagued the climate finance ecosystem. These include shortfalls in private sector catalyzation; scant investment mobilization for new technologies, approaches, and sectors to support Global South-led innovation; and a massive disconnect between LMIC climate priorities and the types of investments that climate capital is pursuing.

Figure 1. The "Emerging 15." The top 15 greenhouse gas emitters outside of Brazil, Russia, India, and China and Organisation for Economic Co-operation and Development countries.

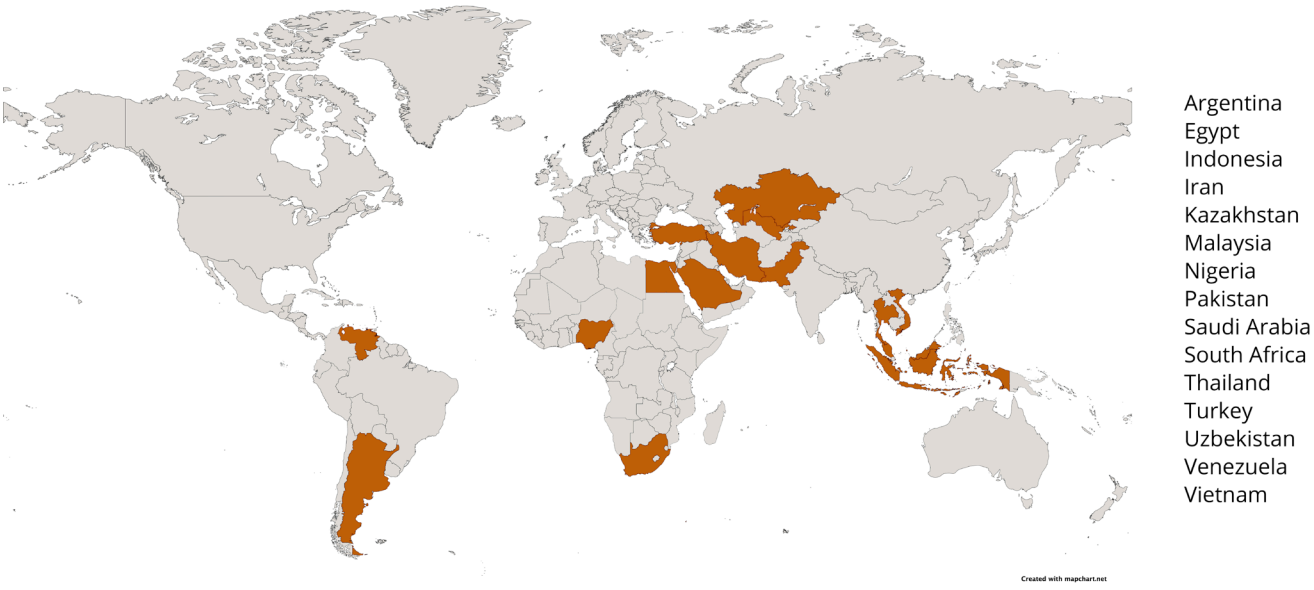
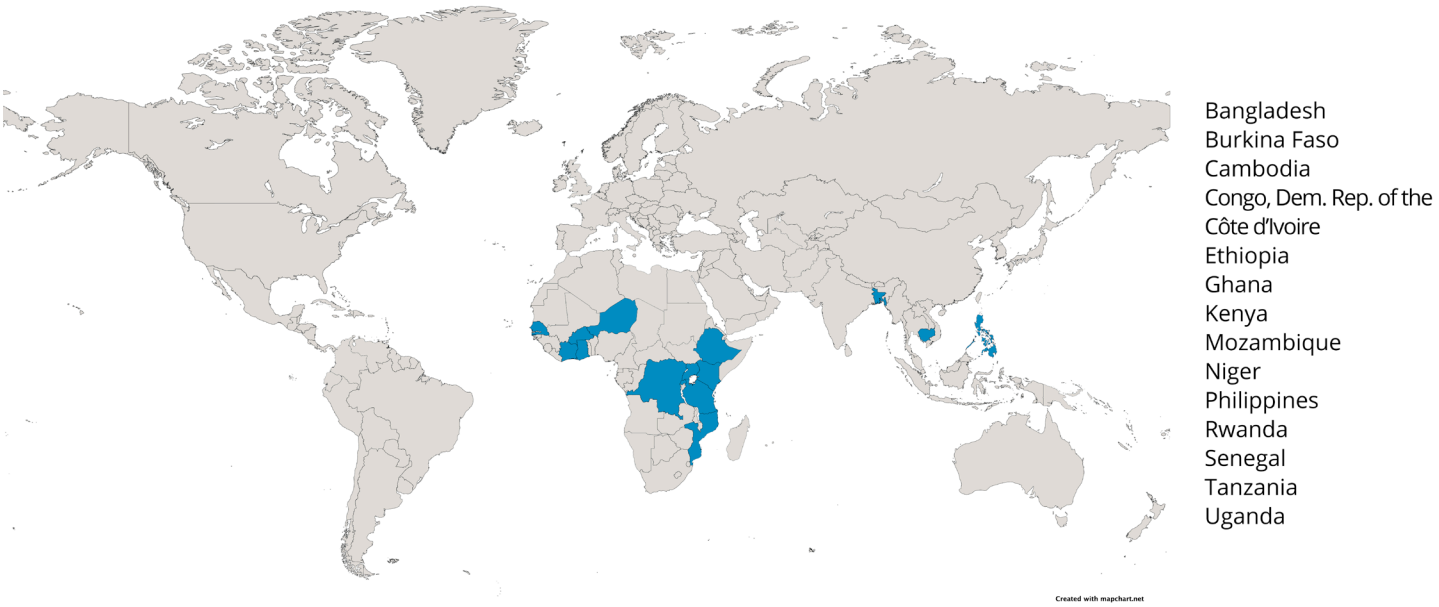


Figure 2. The "Next 15."

Note: Beyond the Emerging 15, these countries represent places where high economic growth, high population growth, high climate vulnerability, and low levels of development make low-carbon development pathways critical national priorities.



These challenges intersect with an intensifying rivalry between the United States and China. The Chinese turnkey infrastructure development approach has created an alternative to Western development finance models that have, over time, become more deeply rooted in standards, competition, and transparency but can suffer from deficits in agility and flexibility to local conditions. Over the past decade, infrastructure lending from Chinese state-owned banks, through the Belt and Road Initiative (BRI) has surpassed investment from all multilateral development banks (MDBs) and bilateral development finance institutions (DFIs) combined. The ways in which US-China tensions manifest across economic, security, diplomatic, technological, and multilateral governance areas will have major influence on climate investment flows to LMICs.

China, major Group of Seven (G7) financiers, and multilateral institutions all recognize that a broad recalibration of overseas climate finance goals, policies, and modes of operation is needed. China is promoting a pivot to a Global Development Initiative, which is expected to focus more on sustainable development. Meanwhile, in June 2022, President Biden and G7 leaders unveiled the Partnership for Global Infrastructure and Investment, a plan to mobilize $600 billion in private and public investment by 2027 targeting perceived G7 strengths: transparency, standards-based infrastructure development focused on climate and energy security, digital connectivity, health, and women's equality.[6]

The remainder of this paper discusses these issues and the key points of tension and interaction, solution sets, and actors needed to drive scaled investment for low-carbon development in LMICs. It presents key findings from the New Frontiers project to date; offers considerations for relevant government, intergovernmental, and private sector leaders; and poses questions for future work.

ISSUE AREA 1: ALIGNING NATIONAL CLIMATE STRATEGIES AND FINANCE

For many LMICs, 90% or more of climate investment originates from foreign sources, underscoring the need for alignment between nationally determined contributions (NDCs) and the financing mechanisms of foreign countries and international institutions.[7] The Paris Agreement sets out a vision for an equitable partnership between high-income countries and LMIC destinations of climate finance, which is to be allocated according to the needs of LMICs as set out in their NDCs.[8] However, less than 5% of the climate finance being mobilized to LMICs runs through multilateral climate funds (the Green Climate Fund, the Global Environment Facility, Adaptation Fund, etc.) that are explicitly tied to NDC implementation under the Paris Agreement.[9] Instead, advanced economies have opted to direct the vast majority of their financing through bilateral DFIs and MDBs, institutions that have deeper and longer experience working with LMIC governments, through which they can exert greater control as shareholders and board members, and that can be more nimble than multilateral climate funds. As a result, climate finance flows have not so much been determined by NDC needs as by a host of other factors, including geopolitical relationships, mitigation opportunities, and commercial interest in markets.

There is an opportunity to cocreate low-carbon development and financing approaches directly between LMICs and strategic financing partners that maximize foreign investment into priority sectors. On one end of the spectrum, this could take the form of high-level agreements between one or more LMIC government(s) and one or more advanced economy government(s) to deliver targeted investment packages that support specific country-led climate strategies. One such agreement is the Just Energy Transition Partnership (JETP), unveiled at the 2021 United Nations Climate Change Conference of the Parties, through which the US, Great Britain, France, Germany, and the European Union are to lead in providing South Africa with $8.5 billion in grants and loans to support a transition away from coal.[10] Similar JETPs, or country platforms, are now being discussed in Indonesia, Vietnam, Senegal, and beyond. On the other end of the spectrum are more bottom-up technical assistance and capacity-building programs, as well as policy-backed financing approaches that aim to embed financial support in national action, thus multiplying their catalytic potential.

Nine months since being announced, however, the South African JETP is struggling to transition from a transaction—as it was originally conceived—to a complex multilevel funding partnership. There is still little clarity regarding the nature of funding to be provided through the partnership or the type of financing instruments that may be offered.[11] Moreover, the top-down nature of JETP is facing major implementation challenges. Stakeholders should consider the following findings and recommendations.

Findings

A country platform with a single point of entry for both project implementers and financiers has critical advantages in its simplicity and efficiency, but can be unworkable for some donors. From a private sector perspective, a JEPT loses much of its appeal if, for instance, firms still have to deal with multiple MDBs, DFIs, and/or commercial investors to finance their projects. However, a more centralized structure poses major practical and political problems for donors, who in many cases want clear ownership over—and credit for—the direction of specific projects, and face limits to putting funds into flexible, undefined investment structures.

JETPs are highly political in recipient countries and very challenging to coordinate locally. The stakes and costs of delay are high, as local organizations have a litany of interests and positions where finance is needed. Even with high-level agreement on objectives, reaching decisions on key implementation issues inevitably leads to winners and losers, and such distributional concerns slow decision making.

Defining a "just transition" requires robust engagement of local stakeholders with the planning process and cannot be defined from the outside. To its credit, the South African JETP agreement directly confronts employment and livelihood challenges, which are critically important economic and political concerns in that country. With an official unemployment rate of around 35% and more than 200,000 existing jobs tied directly to coal, the threat of lost coal industry jobs has long been a barrier to power sector decarbonization.[12, 13] The

JETP's focus on just transitions at the local level acknowledges decarbonization impacts on mining communities and establishes a task force that puts vulnerable communities—especially coal miners, women, and youth—at the center of the program. Despite this, progress in implementation remains slow, citizens wonder how the transition will impact them, and skepticism persists in many circles regarding the motives and commitment of donors.

Coal transition finance is a necessary evil. Energy disruptions from the conflict in Ukraine and resulting market machinations have contributed to 2022 seeing the highest aggregate global coal use in human history, with 2023 set to be even higher.[14] The market, left unabated, will not lead to a rapid and effective transition away from coal in myriad circumstances. In many contexts, finance will be needed for coal-fired power stations to phase out gradually, or even to continue operations at a lower capacity for the purpose of ensuring grid stability as more intermittent renewable sources come online. This creates challenges related to the growing number of public, private, and philanthropic sources of finance that foreswear any coal investment, and which may have the perverse effect of perpetuating coal use. Clear-eyed principles on politically and socially palatable coal phase-out processes need to be adopted by financiers and applied to the unique circumstances of countries that are aiming, but struggling, to transition away from coal.

The focus of developed country governments and capital toward JETPs—and mitigation generally—introduces perverse incentives for LMIC governments to engage in "climate hostage-taking." The recent decision by the government of the Democratic Republic of the Congo (DRC) to open vast tracks of virgin rainforest and carbon-sequestering peat lands to oil and gas drilling illustrates how many LMIC actors view the global climate agenda. With little climate investment materializing to support low-carbon development, LMICs are understandably open to the temptation of delivering fossil fuel industry jobs and royalties. For domestic constituencies focused on food, water, security, and other essentials, messages that put domestic development ahead of foreign environmental priorities are often politically popular. Within a week of the auction in DRC, the country welcomed US Secretary of State Antony Blinken to discuss the drilling plans, and a joint task force was established to develop alternatives.[15] Operating coal plants and destroying rainforests and other valuable carbon sinks are more powerful levers for attracting climate financing from developed countries than climate vulnerability or human development needs.

Achieving the complex political alignment necessary to make and implement comprehensive investment and policy agreements makes it a challenging model to replicate and scale quickly. Bandwidth constraints on the donor side limit the number of these types of agreements that can realistically be pursued at any given time. Further, while agreements can be signed quickly, the underlying legal and regulatory reforms that financing may be conditioned upon can take years. It is unclear whether donors will be patient and supportive through these processes in recipient countries. On the recipient country side, there is generally no standardized investment planning process or coherent framework for preparing and implementing such ambitious transformations.

Thus far, NDCs have largely failed to drive the enabling environment reforms and financing pathways needed to support low-carbon development. For most LMICs, the first round of NDCs—which are to be updated every five years—was a useful process that drove domestic engagement of various stakeholder groups and helped to identify and quantify national climate priorities. But the process tended to be dominated by high-level policy makers, often leaving behind capital providers and key actors that could contribute to a better alignment of the contributions with workable investment approaches. NDCs and climate plans are often limited to a target of emissions reductions and a bottom-up inventory of actions and projects. These tend to neither translate into a roadmap of policies and investments, nor add up to deliver the long-term targets implied in Paris Agreement commitments. The end result is a consistent inability to connect NDCs to financing, with a common criticism that countries lack clearly defined strategies for engaging and incentivizing the private sector to invest in sectors where the government seeks their investment to achieve NDC targets.

A key to delivering investment behind NDC priorities is enabling environments that reduce, transfer, or compensate for investor risks in ways that create an attractive risk-return profile. At the same time, the chorus of demands for enabling environment reforms heaped on LMIC governments can lead to paralysis, as they are frequently exhaustive, politically difficult, inadequately studied and catered to local conditions, and/or fraught with unintended consequences.

Recommendations

One of the key emerging lessons of the South African JETP is the need for transparency across all aspects of the project. Clarity in terms of the types of capital available, funding eligibility, equitable information access, process for engagement (including civil society), and decision-making criteria and processes are needed to maximize the chances of garnering broad support, perceived legitimacy, and effective implementation.

International stakeholders should engage with a focus on local benefits first and global cobenefits second, rather than the other way around. This requires, in part, a doubling down of bottom-up investments to support capacity development in three key areas:

- **Build an evidence base that defines what a just transition means locally and how it should be executed.** Researchers should be mobilized to identify how different populations will be impacted by a low-carbon transition and identify the skills and investments needed to support the transition. Regional development plans and decision support tools should be developed to help evaluate tradeoffs, clarify transition impacts, and identify low-carbon development pathways. This research—conducted by local researchers whenever feasible—is also critical to informing NDCs. It should be undertaken in advance of climate policy making, as opposed to postpromulgation of NDCs, where extensive technical assistance is now deployed to try to connect NDCs with financing.
- **Create platforms for domestic dialogue and opportunities for leadership from critical missing voices, especially small- and midsize enterprises (SMEs) and women.** In a truly just transition, every country will be different in terms of interests requiring prioritized attention. In South Africa, for example, employment takes primacy. In Indonesia, energy price management is essential. In Senegal, energy access is a critical first step. Incorporating rigorous engagement measures will ensure that these priorities are surfaced and embedded in just transition plans.
- **Develop the workforce for low-carbon sectors.** By definition, a transition will require new skills. Programs to build this human capacity must be evidence-based, accessible, well-marketed (i.e., investments to "up-skill" in growth sectors, rather than retraining workers no longer valued by society), and adequately funded. Although women make up 32% of the workforce in renewable energy (as opposed to 20% in oil and gas),[16] a lack of science, technology, engineering, and mathematics (STEM) education limits the scope for gains for women's participation in many green job sectors. A workforce development program that targets investments in STEM for women can deliver shared value with gender-based objectives.

Developed countries must follow through on their Paris commitments to deliver climate financing to LMICs that supports resilience and host country priorities. Experimenting with JETPs focused on sectors beyond coal could present critical learning opportunities and signal to LMICs that scaled climate financing is not contingent upon threats of accelerating carbon output or other environmental damages.

Developing and developed countries should consider a range of bi- and multilateral financing partnerships focused on shared interests and existing relationships. Some contexts might be ripe for partnerships that are more limited, involve fewer moving pieces, leverage existing programs and relationships, and can be led by nations outside the G7 and China. For example, Chile and New Zealand recently announced work toward a Climate Action Team, a cooperative mechanism under Article 6.2 of the Paris Agreement in which a host country and one or more partner countries support the host country to accelerate decarbonization and

social development efforts beyond its own NDCs, with partners rewarded by claiming credits for emission reductions.[17] Formulated from legacy trading partnerships, the Chile–New Zealand Team would focus a small group of companies to work together on a series of mitigation efforts that Chile, as the host country, needs to implement to fulfill the carbon goals of its NDC. New Zealand, as the partner country, could commit funding for the purchase of carbon credits, technical assistance, and facilitate private sector participation.

To raise levels of ambition and ensure legitimacy of climate regimes, domestic support should be built around a common low-carbon development vision (i.e., defining a "just transition"), and capital mobilized to aligned project pipelines. The next iteration of NDCs must reflect local priorities—like jobs—and be developed through an inclusive process that mobilizes key constituencies and aims to deliver bankable projects. The NDC debate should be mainstreamed into the national developmental policy debate and vice versa. The process should include consultations with capital providers and the private sector (especially SMEs), key climate-relevant line ministries (energy, agriculture, transport, water, etc.), subnational governments, civil society, and underrepresented groups, like women, youth, and indigenous peoples. Early engagement with these actors—in combination with a transparent and accountable decision-making process—can facilitate bottom-up mobilization of local knowledge and sectoral expertise, translate high-level objectives into specific investments, and better identify viable financing options to enable implementation. Initiatives that channel private and public investors to projects that not only advance climate outcomes but also elevate community voices and address socioeconomic inequities can build public backing and accelerate project development. The Just Transition Finance Challenge is one such model meriting consideration.[18]

Financing partnerships should go beyond projects and consider complimentary local incentives and key enabling policies. Governments will need support in identifying and developing key enabling environment policies that are directly linked to NDCs. This support could take the form of policy assessments, facilitating coordination across institutions, or answering critical questions around the prioritization of reforms. The aim is to create a policy and regulatory framework that provides clear and consistent price signals and removes barriers that impede a low-carbon transition, and that is focused in a way that is manageable for capacity-constrained countries while advancing priorities.

ISSUE AREA 2: SCALING CLIMATE FINANCE IN AN ERA OF US-CHINA RIVALRY

Chinese outbound investment through the BRI differs from non-Chinese sources of finance in fundamental ways and necessitates clear-eyed assessments of its relative strengths and weaknesses for supporting low-carbon investment and pathways for coinvestment to understand the incentives provided for development and dissemination of next generation low-carbon technologies and products in LMICs. While China espouses green principles for BRI projects, host government policies regulate their execution.[19] Plans and practices on site selection, consultation, social impact, displacement, long-term climate effects, and cascading environmental impacts vary widely across the BRI. The effective enforcement of existing policies likewise varies, revealing the BRI as a strategic initiative that may have some continuity in its geoeconomic objectives, but little in its project-level operations.

This approach has made China an attractive lender to many LMIC constituencies. BRI investment packages are often driven by multisector Chinese delegations with personnel from relevant ministries and agencies, state-owned and national policy banks, providers of insurance and underwriting, and state-owned enterprises (SOEs) positioned to execute projects on the ground. These somewhat vertically integrated project structures meld the financial and economic objectives of individual players with China's broader geopolitical ambitions. They offer bespoke infrastructure packages that cater to the desires of recipient country governments and stakeholders, respond to host-country capacity limitations, and create financing and operational agreements tailored to a given country or subnational setting. In response, Western-backed efforts—including the Partnership for Global Infrastructure and Investment (PGII)— increasingly provide infrastructure support to LMICs that fits their needs while leveraging the comparative advantages of Western approaches. The South African JETP discussed

in the previous section is likewise an example of a new type of infrastructure development approach that aims to increase the flexibility, speed, resources, and comprehensiveness of US and G7 infrastructure financing.

These developments have vital implications for international climate finance to LMICs, which the following findings and recommendations sections aim to underscore.

Findings

The competition heating up between China and the US over clean energy technology production and control of related supply chains could have significant implications for LMICs. New US climate and industrial policies enshrined in the Inflation Reduction Act[20] legislation and various executive orders are designed, in part, to develop and deploy low-carbon technology and reshore their production from China. However, China's domination of certain supply chains—including batteries and photovoltaics—is undeniable, and clean energy supply chain connections between the two countries will continue even as sourcing and production diversifies. LMICs are likely to face a shifting landscape: steeper competition in creating domestic cleantech manufacturing jobs, lower-cost energy technologies for import, accelerated access to emerging clean technologies, and increased inbound investment for LMICs with key mineral endowments. These evolving supply chain dynamics will create new considerations around broader trade and economic relationships with the US and China.

While there are strong reasons to expect diplomatic and geopolitical tensions between the US and China to continue, it is unclear the degree to which the climate finance efforts of the two countries will remain bifurcated. Parallel efforts and structures that compete to provide finance make up much of the status quo and could become more rigid if overall relations deteriorate. However, opportunities for "parallel play" between China and the US on LMIC infrastructure and climate finance may diminish over time, and there is likely to be increased bumping between the powers in many markets—and perhaps projects—moving forward. Overlapping and conflicting policies within governments regarding interaction with the other power can lead to confusion and delay on the ground.

Climate financing efforts must find ways of addressing the needs of financiers and avoid countries reneging on contracts, which would have consequences for credit ratings and further worsen borrowing prospects. In the case of China, with over one-third of coal power generation in developing countries having some form of Chinese investment embedded in it,[21] early retirements of coal assets will face challenges similar to LMIC sovereign debt restructuring, and may require Western and Chinese creditors to be at the table together. How and whether these issues are resolved will be a major determinant of the pace of decarbonization in LMICs.

Punishing debt loads are constraining LMICs in accessing capital to establish green banks, issue green bonds, and/or deliver other targeted programs to orient underdeveloped LMIC financial systems around low-carbon development. Chinese actors are misunderstood as being more risk tolerant than western MDBs and DFIs. Looking at the project level, Chinese actors have been willing to enter riskier environments and projects than MDBs and DFIs (at least beyond their concessional funding windows), but Chinese investments place a high priority on risk mitigation measures. Host countries get projects, but often at a steep price. The net effect is that after a decade of Chinese infrastructure lending, compounded by heavy pandemic-related borrowing, many LMICs now find themselves burdened with debt loads that limit their ability to access capital to fund important domestic financing programs.

Cooperation between China and Western countries is possible and is currently taking place selectively. In a recent example, on July 30, 2022, the Creditors Committee for Zambia, cochaired by China and France, made a statement pledging to negotiate a restructuring of the country's debt, paving the way for approval by IMF Executive Board of a bailout program for Zambia.[22] This case demonstrates the types of cooperation that might be pursued in the near term and that can lead to deeper productive engagement. With China being a leading lender for many LMICs, similar joint efforts may be required to unlock the financing needed to recover from major shocks, from pandemics to climate-related disasters.

The most promising pathway to virtuous competition between the US and China on LMIC climate finance may be through the development of climate strategies and enabling environmental reforms in LMICs that lead to a robust pipeline of bankable projects. Transparent, private sector–oriented processes that facilitate competition will open more space for China and G7 countries to be at the same table. This opportunity makes it paramount that countries receive the technical support they need.

Recommendations

Cooperation among China, the US, and other major financiers on debt forgiveness and restructuring in select LMICs is an area where cooperation should be scaled up. The Zambia case referenced previously offers a blueprint that can be pursued in other contexts as well. Given the servicing costs of much of this debt, it will often be vital to engage private bondholders in these processes as well.

The coal transition and early retirement efforts that involve assets carrying Chinese debt should be pursued from a commercial angle and avoid diplomatic engagement to the extent possible. This approach has limits, as follow-through on some Chinese risk mitigation mechanisms more directly brings in Chinese state interests. But there are contexts where depoliticization is possible, and these should be addressed first.

The US and China should provide clear, transparent, and workable guidance to their government agencies and SOEs regarding how and under what circumstances they can and cannot cooperate with one another, including through investment vehicles and projects. When implementing agencies simultaneously try to compete with and punish the other, the loser is usually the LMIC. Without clear guidance, agencies, implementing bodies, and even private sector companies often avoid cooperation and overlap as a precaution and risk mitigation tactic. Providing clarity could open new opportunities.

Issues requiring the engagement of both the US and China may be best pursued by narrowing the scope of discussions and looking for secondary points of interaction, such as MDB boards, rather than direct diplomatic engagement. Leveraging G7 partners with strong mutual ties may also be a more effective platform for engagement. There is particular promise in scaling cooperation between Western countries, international MDBs and the Asian Infrastructure Investment Bank—which is a China-dominated MDB with a mandate and track record of international cooperation.

Low-carbon supply-chain integration is impervious to true decoupling, and this should be recognized and reconciled in the investment practices of China and G7 countries. The US is upping domestic content requirements for clean energy products at home and seeking to secure supply chains abroad.[23] However, China's market penetration in the supply chains of sectors, including batteries and photovoltaics, is undeniable, and calls for coordination and trade and investment agreements between the two countries and other industrialized peers to meet their domestic decarbonization goals. These negotiations will have direct consequences for LMICs both as source countries for materials and destination countries for clean infrastructure—necessitating a degree of cooperation.

ISSUE AREA 3: CREATING CLIMATE FINANCE 2.0

The last 70 years have seen a massive shift in who owns capital and how it is deployed. Private capital under management has grown from $250 billion in the 1950s to more than $111 trillion today and is expected to reach $145 trillion by 2025. The developing world, once dependent on public capital flows for most investment, today sources more than 90% of general investment capital from private sources (although this trend has not played out in the climate space, as previously discussed).[24] Institutional investors like pension funds, insurance companies, and endowments are now 900 times larger than all MDBs combined.[25] Yet the institutions and instruments of development finance have changed little over the past several decades to adapt to this shift in capital ownership and orient goalposts around derisking and private capital mobilization. In the absence

of reforms, nimble philanthropy has moved to fill some of these gaps and test new approaches for catalyzing investment in LMICs.

Meeting the low-carbon financing needs of LMICs will require a modernization of the international development finance architecture. It will require the comingling of capital with different risk appetites and return requirements. And it will require operational changes and coordination of institutions on an unprecedented scale to leverage tools and resources in new ways. Orienting public investment around mobilization and reducing real and perceived risks to investments could have major ramifications in terms of where public capital is deployed—geographically and sectorally—and who it serves. The following findings and recommendations sections respond to this shifting landscape.

Findings

MDBs and DFIs are highly successful in delivering debt capital to challenging LMIC markets to support low-carbon development. They are far less effective in mobilizing other investors and capitalizing SMEs, the engines for grassroots innovation and job creation. Given that the vast majority of public climate investment to LMICs runs through these entities, this is a major problem. The principle financial tool for MDBs and DFIs is nonconcessional debt, which is the least catalytic mode of funding. Based on Organisation for Economic Co-operation and Development (OECD) tracking, public climate investments of $4 mobilized only about $1 per year in private finance.[26] In sub-Saharan Africa, this leverage ratio drops to about $1 of private finance for every $9 of public investment.[27] Fiduciary duties to shareholder governments incentivize protection of their own interests ahead of those of cofinanciers. Institutions must strategically deploy the limited pool of catalytic grant capital, purposely structure financing to "crowd-in" private capital (international and domestic), and creatively collaborate with host countries on financing transformative climate strategies.

While investment mobilization is well within their purview, donor agencies often underdeliver because of competing humanitarian demands on resources, unclear mandates and goals for private sector mobilization, weak connectivity to sister DFIs and commercial debt providers, and a lack of experience working with the private sector. Donor agencies are the principal source of bilateral grant capital for climate and development. Donor grant programs are successfully filling an angel investor role in seeding LMIC markets with innovative startups in many cases, but additional risk mitigation is needed to mobilize the growth equity and short-term debt needed to bridge enterprises to commercial viability. While official development assistance (ODA) increased to its highest level on record in 2020 ($161.2 billion), these donor funds were mostly provided in the form of traditional aid. ODA reported as private sector instruments typically represents just 1% to 2% of ODA; there is no upward trend in these figures.[28]

Interventions focused on building robust indigenous climate finance ecosystems are critical for establishing domestic support for climate policy action, driving policy-finance alignment, and scaling investment over the long term. Top-down, cross-border climate finance risks being ineffective, slow in disbursing, and/or counterproductive when it lacks local leadership and/or is disconnected from local needs and policy. Such deficiencies can drive a feedback loop and raise the perception that risks are too great, undermining future efforts. Further, as the pandemic has illustrated, international development funding can be tenuous. Keeping LMIC climate investment decision making centralized in New York; Washington, DC; Beijing; and other international finance hubs can reduce the reliability of that climate finance, especially in times of emergency.

Philanthropy, with its highly flexible grant capital, can play a critical role as a catalytic force to drive the transformation of climate finance to LMICs but is currently severely underinvested in the space. Foundation investments related to climate mitigation globally grew 14% in 2020, to an estimated $10 billion[29] (figures for adaptation are not available, but they are likely much lower). This represents just 2% of total philanthropic giving, only a fraction of which could be considered low-carbon investment for LMICs. An even smaller portion is being used to work with local stakeholders or to crowd-in additional private and government capital.

MDBs, DFIs, and donors—unlike the vast majority of private investors—often have a deep understanding of the economic landscape in LMICs. Additionally, they often have deep technical financial "engineering" skills. Yet only a few have strong knowledge of the practicalities, realities and priorities of the local markets. Unfortunately, most private investors are even further removed and lack historical experience when compared to MDBs and DFIs. Hence, while these institutions are able to see macro considerations and opportunities, they are not currently well positioned to inform and "crowd-in" private capital for climate finance.

MDB and DFI financing approaches extend incumbent North-South technology transfer paradigms and fail to adequately support Global South–led innovation and applications. These institutions are built to take on a range of financial and nonfinancial risks, but technology and business model risks are generally not among them. Global South–led innovations and business models might be perfectly tailored for local markets but fail to attract financing because they depart from the approaches that international financiers are familiar with. Exceptions to the rule—like the African off-grid sector, which has seen solar home systems and PayGo become commercially successful models—have often come through foreign companies tapping foreign venture capital (VC) funds, followed by later-stage development finance. Local companies are largely left behind.

Climate investments targeting adaptation have been especially lacking because of, in part, a lack of data and clarity regarding the potential impact of these investments. It has been estimated that investments of $1.8 trillion in sectors like climate-resilient infrastructure, low-carbon agriculture, and coastal mangrove restoration would generate $7.1 trillion in benefits through a combination of avoided costs and a variety of social and environmental benefits.[30] Yet these investments are generally not moving forward, as the task of coordinating public-private investments to capture both public benefits and private financial returns of adaptation projects is made far more difficult in data-poor environments.

Recommendations

MDBs and DFIs should leverage their unique value-adds within the climate finance ecosystem to (1) more specifically work through local capital providers who have deep knowledge and market networks and (2) apply skills and brand to crowd-in private and public sector capital. Institutions should commit to working with local capital players to pilot alternative approaches, particularly those that have multidimensional impacts alongside climate, such as increases in jobs, business resiliency, and gender equity. This means being the coanchor capital partner in the initial stages of the conveyor belt of capital. Instead of holding assets on balance sheets through maturity, which can be 20 years or more, MDBs and DFIs should shift derisked assets to willing counterparties, in the process building connectivity between LMICs and capital markets and freeing up balance sheets of billions of dollars that could be invested in new projects. Bond offerings on portfolios of assets could open additional opportunities to recycle capital back to where it is needed most—new projects—and fully leverage MDB and DFI's market knowledge to crowd-in private capital. Institutions should revisit capital adequacy policies and the way those policies are interpreted by credit rating agencies to generate further lending capacity and increase risk appetite. A number of researchers, as well as an expert panel convened by the Group of Twenty have concluded that MDBs could increase the impact of their capital by focusing on five strategic shifts. These include: (1) adapting their approach to defining risk tolerance while engaging credit agencies, (2) rethinking capital adequacy requirements to give more credit to scalable capital, and (3) adjusting governance structures.[31] MDBs should consider such measures, which could increase lending capacity by several hundreds of billions of dollars over the medium term.

To avoid "reform paralysis," MDBs and DFIs should pilot reforms and innovative approaches within JETPs and other contexts where the presence of complimentary resources (i.e., catalytic capital), a spirit of experimentation, and a targeted policy focus have the potential to demonstrate breakthroughs. Institutions such as the World Bank, with tremendous treasury management skills and recognized market leadership in innovative issuances, should work with local financial institutions to develop cofinancing constructs that increase their access to affordable international finance.

In response to the establishment of the PGII and its mission to take new approaches to international infrastructure development in the developing world, the US Treasury Department should consider how JETPs and other country platforms can be used to respond to local just transition needs and avoid "climate hostage-taking" by LMIC governments. The agency should continue to use its board membership and other positions of leverage with the World Bank and other MDBs to demand private sector mobilization goals, greater investment in Global South–led innovation (through Climate Investment Funds and other platforms), and the sharing of LMIC market knowledge assets.

Also in response to PGII opportunities, the United States Agency for International Development (USAID) should consider a greater focus on investing small, catalytic tranches of capital into locally managed blended capital facilities that can demonstrate innovative approaches to risk mitigation and/or deliver this financing to hard-to-serve low-income geographies or recipient categories, including women. The agency should fully tap its considerable convening power and leverage its US Government in-country market intelligence assets—including State Department and USAID economics offices, Embassy Deal Teams, Power Africa advisors, and the US International Development Finance Corporation's (DFC's) Africa Investment Advisors—to focus the private sector on local opportunities for investment, partnership, and NDC/policy engagement. Using Power Africa as a model, the agency is well-positioned to coordinate an all-of-government approach that focuses the range of government tools as needed to overcome perceived investment risks and work with local institutions to build bankable project pipelines. The Agency should establish an investment mobilization goal and work closely with the DFC and the Export–Import Bank of the United States to deploy catalytic grant capital to projects, funds, and firms where relatively small amounts of concessional capital can mobilize larger tranches of debt and equity from other sources.

Public climate finance should support the development of local champions and local institutions, which can become poles of political power, climate expertise, and finance for SMEs. Programming should support local climate research and advocacy groups, development of local VC and private equity funds and managers, and other locally tailored approaches that build human capacity to drive transformation from within. Further, US agencies should build partnerships with local financial intermediaries and advisors to deploy market-appropriate green finance innovations. This could be coupled with support for greening existing local financial products that are understood by local markets, investments in local green banks, and supporting green bonds and other issuances that help capitalize and/or refinance local climate finance institutions and provide local currency. Capitalizing green banks with high governance, transparency, and environmental standards provides an opportunity to skew the local green space to more Western-favorable approaches, while leveraging local partnerships to ensure relevance and viability of the financing initiatives.

Philanthropy should avoid following or displacing donor activities and focus on demonstrating the economic viability of new models, leverage nimbleness and capital flexibility to fill gaps in priority projects, support development of local champions and platforms for engagement, and rapidly mobilize ad hoc partnerships and resources around critical bottlenecks to progress. Like the other forms of risk-tolerant capital, it should look to be aligned and leveraging with other forms of early stage capital applications. The Global Energy Alliance for People and Planet[32]—a partnership between the Rockefeller Foundation, IKEA Foundation, and Bezos Earth Fund that aims improve lives and livelihoods of 1 billion people through the accelerated deployment of equitable low-carbon energy strategies in LMICs—is one example of how theories of change can be adapted to focus on demonstration and scale through private sector partnership. Supporting research that quantifies impacts and clarifies relationships between key resilience-enabling sectors/technologies (e.g., climate-smart agriculture) and country-/community-level resilience is critical to accelerating climate investment into private sector–led adaptation projects and firms.

MDBs, DFIs, and donors should take steps to more fully marry in-house expertise and resources with the deep knowledge (and social and business context) of domestic capital providers in LMICs. They should look

to inform and mobilize private investors who face their own knowledge gaps in these markets. One often-cited step that could be taken is providing the private sector with access to certain key data from the Global Emerging Markets Risk Database (GEMs),[33] one of the world's largest emerging market credit risk databases, operated by 24 MDBs and DFIs. In 2021, information from this major knowledge asset was shared publicly for the first time and revealed lower-than-expected levels of risk in LMIC infrastructure projects and MDB portfolios generally. As Center for Global Development researchers have pointed out, "More transparency about the MDB track record in and of itself would be a powerful force for making and expanding markets. It would very likely challenge some preconceptions about risk, and it would help more accurately assess risk where the absence of information results in excess risk premia."[34] Sharing other essential GEMs data—and perhaps even expanding it to integrate climate risk into the database—could be a powerful force in reducing private sector risk perceptions of frontier markets.

MDBs and DFIs should evaluate the range of programs that have been piloted to address the problem of North–South technology transfer bias and the related challenge of ticket sizes being too large for most SMEs to access. The most successful should be scaled. The DFC's Portfolio for Impact and Innovation initiative,[35] for example, aims to bridge this financing gap by targeting innovative, early-stage enterprises requiring smaller investment sizes. SME fund structures that channel DFI and MDB capital to local fund managers to source and oversee these types of investment opportunities also remain an underused approach.

APPENDIX A

Table A1. Participants in the New Frontiers in Climate Finance Private Roundtable, July 28, 2022, Washington, DC

Name	Organization
Bhim Adhikari	International Development Research Centre
Raul Alfaro-Pelico	Rocky Mountain Institute
Nick Anstett	Pollination
Sarah Armitage	Environmental Defense Fund
Rishikesh Ram Bhandary	Boston University—Global Development Policy Center
Jonathan Coony	World Bank Group
Jackson Ewing	Duke University—Nicholas Institute for Energy, Environment & Sustainability
Carolyn Fischer	World Bank
Lida Fitts	US Department of the Treasury
Alexandra Hackbarth	E3G
Catalina Cecchi Hucke	Center for Climate and Energy Solutions
Ben Hunt	World Wildlife Fund
Sashi Jayatileke	United States Agency for International Development
Suzi Kerr	Environmental Defense Fund
Clemence Landers	Center for Global Development
Joan Larrea	Convergence
Richenda van Leeuwen	Aspen Network of Development Entrepreneurs
Shuang Liu	World Resources Institute
Bronwyn Llewellyn	Office of U.S. Senator Chris Coons
Kenneth Markowitz	Akin Gump Strauss Hauer & Feld LLP
Scott Morris	Center for Global Development
Jacqueline Musiitwa	Georgetown University—Walsh School of Foreign Service
Rick Nogueira	Pollination
Jide Olutoke	Climate Policy Initiative
Jonathan Phillips	Duke University—James E. Rogers Energy Access Project
Victoria Plutshack	Duke University—James E. Rogers Energy Access Project
Abhay Rao	Duke University—Nicholas School of the Environment
Cassie Rowlands	Export-Import Bank of the United States
Guly Sabahi	NDC Partnership
Liilnna Teji	Duke University—James E. Rogers Energy Access Project
Bella Tonkonogy	Climate Policy Initiative
Christopher Van Es	Export-Import Bank of the United States
Drew von Glahn	Collaborative for Frontier Finance
Vikram Widge	Climate Policy Initiative
Fei Yu	Asian Development Bank
Samuel Zukin	Collaborative for Frontier Finance

APPENDIX B

EMERGING ECONOMIES IN FOCUS: THE NEXT 15

Overview

Low-carbon development in low-income and LMICs, outside the group of top 15 emitters, is emerging as a critical need. This note outlines a methodology to identify the Next 15 countries where high economic growth, high population growth, high climate vulnerability, and low levels of development make low-carbon development pathways critical national priorities. This category excludes OECD; Brazil, Russia, India, and China; and Emerging 15 countries. They require urgent climate finance and capacity building to shift away from potentially high-growth, carbon-intensive development trajectories.

Parameters Considered: Next 15 Ranking

- **Economic Growth:** The average of actual and forecasted data from the IMF for 2021–2027 has been used to determine those countries anticipated to have an average growth rate of 5% or more over this period.[36]
- **ND-GAIN Country Index:** The University of Notre Dame's Global Adaptation Initiative (ND-GAIN) index summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. It is designed to help governments and other stakeholders prioritize investments for a more efficient response to the immediate global challenges ahead. The ND-GAIN index has been included for its insight into human development, climate resilience, and vulnerability.[37]
- **Population Growth:** The World Bank's data on population growth has been included to reflect the increase in a country's resource requirements over the coming years.[38]
- **Population Size:** Alongside population growth, population data has been included to consider the baseline upon which a country's resource requirements will grow over the coming decades.[39] Additionally, a population cut-off of 10 million is incorporated to focus results on countries where opportunities for scale are strongest.

Weightages and Calculation

The scoring criteria equally weigh economic growth, climate vulnerability and resilience, and population parameters.

- **Economic growth (*E*)** is weighted at 33%. A higher growth rate results in a higher overall score.
- **ND-GAIN index (*G*)** is weighted at 33%. A lower ND-GAIN score, which indicates lower climate resilience and higher vulnerability, results in a higher overall score.
- **Population growth (*PG*)** is weighted at 17%. A higher population growth rate results in a higher overall score.
- **Population (*PO*)** is weighted at 17%. A higher population results in a higher overall score.

Formula for overall scoring: $(E) \times 33\% + (1/G) \times 33\% + (PG) \times 17\% + (PO) \times 17\%$

Table B1. The Next 15

Country	Economic Growth, % (2021–2027)	ND-GAIN Score (2020)	Population Growth, % (2021)	Population Size, millions (2021)	Score	Rank
Bangladesh	6.6	36.9	1.0	166.3	30.5	1
Ethiopia	6.1	37.2	2.5	117.9	22.1	2
Philippines	6.3	43.9	1.3	111.1	21.0	3
Congo, Dem. Rep. of the	6.5	31.1	3.1	92.4	17.9	4
Tanzania	5.5	39.1	2.9	61.5	12.3	5
Kenya	5.7	38.7	2.2	55.0	11.3	6
Uganda	6.3	35.4	3.0	47.1	10.1	7
Mozambique	7.3	37.6	2.9	32.2	7.9	8
Ghana	5.3	44.0	2.1	31.7	7.2	9
Niger	7.7	32.9	3.7	25.1	6.8	10
Côte d'Ivoire	6.3	39.6	2.5	27.1	6.7	11
Burkina Faso	5.4	37.2	2.8	21.5	5.5	12
Senegal	6.5	41.0	2.7	17.2	5.1	13
Cambodia	5.5	38.7	1.4	17.0	4.7	14
Rwanda	7.4	42.0	2.5	13.2	4.7	15

ENDNOTES

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