

Addressing inequities in low-carbon finance flows towards developing countries

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The current landscape of climate finance

Finance is critical to a timely low-carbon transition aligned with the 1.5°C target, requiring investment totalling around \$150 trillion globally between 2023 and 2050 (IRENA 2023). The distribution of climate finance presently favours developed and emerging economies, particularly in East Asia & Pacific, Western Europe, and North America, which have received the bulk of funding. Only a quarter has gone to countries in other regions, with Africa receiving a mere 5% of total global climate finance (CPI 2022, UNFCCC 2022). However, the investment challenge is expected to be in developing countries as their emissions will grow substantially in the coming decades as a result of higher energy use to achieve greater economic development and improvements to the quality of life. For instance, African energy consumption per capita is less than 20% of the global average and can thus be expected to rise with higher incomes. It is essential for global climate stability that the industrial growth in these countries is powered by low carbon technologies, which will only be possible when substantial flows of capital accompany mature low-carbon technologies. A step-change in the scale of investment is thus needed in developing countries, where current financial flows must increase by a factor of 4 to 8 (IPCC 2022, IRENA 2023), to ensure a just low-carbon transition.

In addressing this investment challenge, the transfer of finance from developed to developing countries has taken centre stage. Initially established in the 2009 Copenhagen Accord, the commitment to raise \$100 billion annually by 2020 (later extended to 2025) for climate finance in developing nations continues to be a significant milestone in global climate cooperation. This pledge and future commitments are rooted in the principle of equity, acknowledging that countries have differentiated responsibilities in addressing climate change due to their historical emissions and economic development, and varying abilities to cope with climate change impacts. Despite enlarging this commitment to cover and balance both mitigation and adaptation needs of developing countries, the target remained unfulfilled in 2020 with the largest flows going towards clean energy systems, followed by sustainable transport and buildings and infrastructure projects. While efforts are rightly being made to increase these flows, the equitable and effective distribution of these funds, particularly to the most vulnerable countries, does not receive adequate attention.

International climate finance is disproportionately directed towards large middle-income countries which leaves the poorer and more climate-vulnerable developing nations relatively underserved (Rickman et al 2023). In particular, when it comes to climate mitigation finance, which comprise the majority of flows mobilised, least developed countries receive only a minor fraction of investment while fast-growing developing countries are the main destination. Meeting the needs of developing countries and establishing equity in the low-carbon transition thus requires an understanding of the distributional inequity in international climate finance. Distributional considerations need to become a focal point in actions taken to shape the architecture of climate finance.

Drivers of inequity in the distribution of mitigation finance

This unequal distribution of finance reflects different investment risk considerations across countries. Disparity in local financial environments, including macroeconomic conditions, business confidence, policy uncertainty and regulatory frameworks impact perceptions of risks and the willingness of both domestic and international investors to allocate funds (Ameli et al 2021a). In regions perceived as risky, equity investors and financial lenders apply high country risk premiums, i.e. the additional compensation that investors demand due to the increased level of risks associated with investing in a particular country. Such countries face challenges in accessing finance under favourable terms in comparison to countries with lower perceived risks. Country risk premiums exhibit significant variation across nations. Within the African continent, for example, lower economic and financial development, poor regulatory quality and low business confidence¹ cause Zambia and Ghana to experience premiums of around 18%, whereas in more conducive contexts like South Africa and Morocco, these premiums could be as low as 4% (see figure 1).

Where investors choose to make low-carbon investments is significantly influenced by countries' investment suitability (Rickman et al 2023). Macroeconomic conditions, along with the business environment, are the strongest drivers of investment, highlighting the importance of local financing conditions for renewable assets with high upfront capital costs and long-term revenue streams. Countries with diverse and capable economies are considered more stable and in conjunction with a supportive business environment can attract greater investment. Turkey for instance has achieved a much larger renewables penetration per capita compared to fellow upper middle-income economies such as Malaysia or South Africa on the basis of its economic strength and conducive business environment. Strengthening renewables policies can deliver short-term improvements in a country's investment suitability. For example, the Rwanda Renewable Energy Fund has been established to induce private sector investments in the country's off-grid renewable energy expansion and rural electrification programme, alongside a longer-term renewable energy policy that aims to leverage private sector finance for transforming its energy system. But many low-income developing countries may lack the fiscal space to provide adequate financial support and economic incentives, particularly as they struggle with servicing high levels of debt typically financed at high interest rates. An important barrier to investments is also the level of electricity access among the population, which constrains the potential for on-grid renewable energy expansion. Low electricity access levels in the poorest developing countries thus put them at a further disadvantage in attracting capital, as is the case with many countries in sub-Saharan Africa. This highlights the importance of existing government programmes to increase energy access under the sustainable development goals. Presently, countries with large rural populations that struggle to achieve grid-based electrification are disadvantaged in accessing private capital.

Finally, countries' climate vulnerability reduces their suitability for low-carbon investments. This illustrates a dual tragedy for poor and vulnerable countries: their elevated risk status deters investments and amplifies capital costs (Ameli et al 2021a). Simultaneously, climate change impacts will generate economic, social and political externalities that negatively influence sovereign risk and credit ratings, particularly in countries with high levels of indebtedness (Kling et al 2021). The negative influence of climate vulnerability on investment highlights the link between mitigation finance and adaptation efforts - building physical and economic resilience against climate-induced impacts improves investment prospects.

¹ Observed via a range of indicators provided by the World Bank.

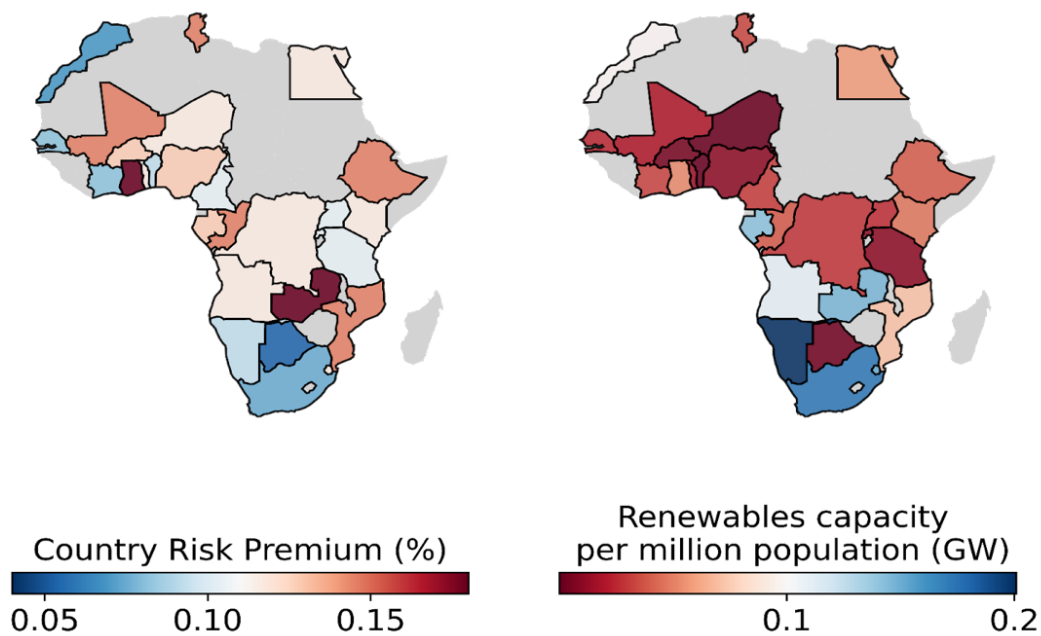


Figure 1. The hand-left panel shows different country risk premiums across African nations, while the hand-right panel illustrates installed renewables capacity per million population, demonstrating how higher country risk premiums result in less installed capacity.

Additionally, the flow of international capital into renewable projects in developing countries is influenced by path-dependency (Rickman et al. 2023). Countries with a track record of renewable investments are more likely to attract future investments leading to positive feedback loops within renewable energy markets (figure 2). As countries build a track record in renewables, market confidence grows bringing down financing costs, and attracting further investments in a virtuous cycle (Egli et al 2018). Flows of investment in renewables thus evolves through the strengthening of historical relationships between countries, rather than the formation of new ties. Indeed, how likely new investment will be in the future seems to be linked to the establishment of a substantial capacity base, typically around 1 GW (Rickman et al. 2023). Crucially, least developed countries fall far below this threshold highlighting the inefficiency of opening finance channels into poorer nations (e.g. low-income countries in sub-Saharan Africa) without the sustained investment in renewable energy roadmaps which can mobilise finance at scale. Such path-dependence ultimately results in an "investment lock-in" that spans countries and income groups, with only a small fraction of countries receiving the majority of investment.

The climate investment trap and its implication for the energy transition

The challenge to attract investment is intensified by the financial constraints faced by developing countries. On a domestic level, these nations are marked by underdeveloped capital markets and lack capital stock (Ameli et al 2021a, Rickman et al 2023). Whereas international finance is restricted due to high sovereign risks and local currency risks on account of volatile economic fundamentals (as projects are funded with foreign currency while returns are generated in local currencies) (Ameli et al 2021b).

This leads to a chronic lack of available finance to support investment, triggering a 'climate investment trap'. High risk perception leads to low investment in low-carbon technologies

which worsens the impacts of climate change and generates negative externalities (low economic production, high unemployment and political instability) which further increases investors' risk perceptions. This negative feedback loop is coupled in financial markets with increasing risk premia and cost of capital (CoC), referring to the cost of financing a project that needs to be paid to equity investors as dividends and to financial lenders as interest payments. A high CoC can make renewable projects unviable thereby delaying the transition to cleaner energy systems and carbon emission reductions in developing countries (figure 2), (Ameli et al 2021a).

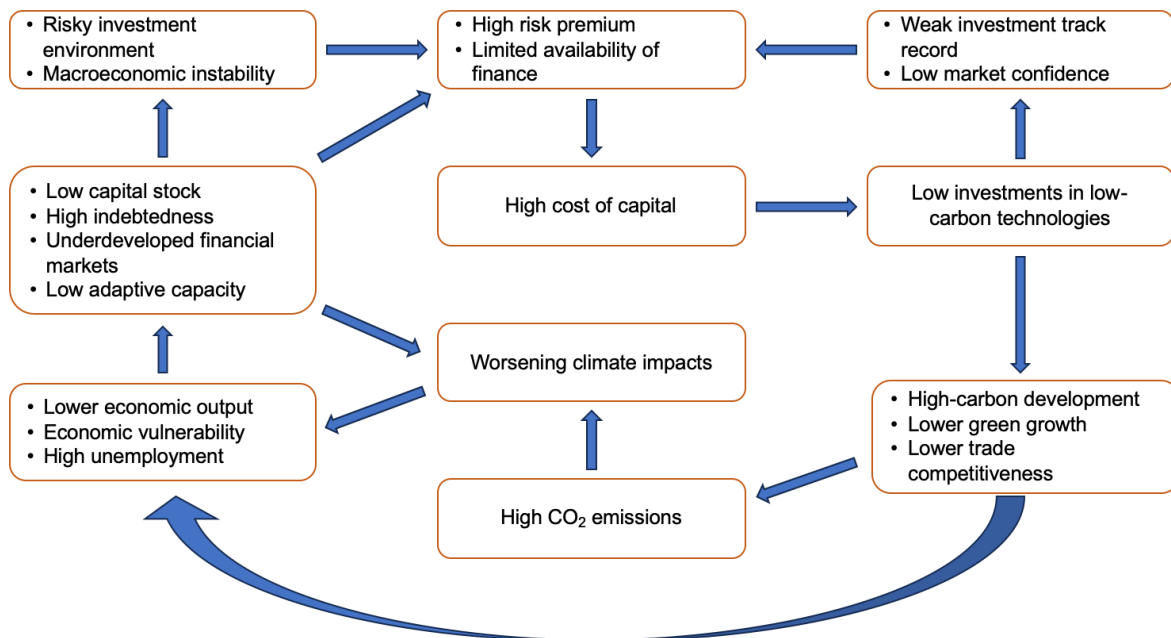


Figure 2: The figure shows the set of self-reinforcing mechanisms and feedback loops occurring in developing economies characterised by the high cost of capital and limited track records in renewable investments. The strength of these links is strongly linked to local conditions implying that the set of self-reinforcing mechanisms could be exacerbated (or less relevant) in some economies.

Energy transitions in developing countries are significantly affected by the cost of capital. Access to finance, measured by the costs of raising funding for a specific project from different sources, varies significantly across countries. In some African nations, such as Congo, Madagascar and Zimbabwe, the cost of capital can reach 30%, while in developed countries such as Germany and Japan, the cost can be as low as just 3% (Ameli et al 2021a). This significant variation in CoC values, notably higher in developing economies than in developed ones, can substantially affect the viability of low-carbon investment in different countries, influencing the pace and the overall cost of the transition in different geographies.

Introducing region-specific CoC values into energy systems models (e.g. TIAM-UCL model) shows how developing economics are disproportionately impacted by unequal access to finance. For instance, applying regional CoC values instead of a uniform CoC has a significant impact on low-carbon electricity generation in Africa. The region deploys roughly 35% less low-carbon electricity over time, and this difference remains relatively consistent in absolute terms after 2050. By 2050 with the same level of investment (approximately \$80 billion), Africa

will deploy one third less low-carbon electricity as a result of more realistic CoC values. This implies that the African continent would need to devote significant capital to cover financing costs rather than directly funding low-carbon technology thereby making the overall cost of pursuing low-carbon pathways more expensive (Ameli et al 2021a).

The introduction of policies to lower capital costs can have a significant impact on the speed of the low-carbon transition in developing countries. Credit guarantee schemes, for example, can shift risk away from private investors, resulting in lower CoC values and the achievement of much higher levels of low-carbon electricity deployment and faster emissions reduction in developing economies. For Africa, compared to the reference scenario where the cost of capital is uniformly set at 5%, earlier CoC reduction by 2050 would lead to an almost 50% increase in low-carbon electricity generation by this time. Reducing the cost of capital by 2050 would allow Africa to reach net-zero emissions approximately 8 years earlier than when reduction is not considered, with higher investments in the near term (Ameli et al 2021a). This in turn implies that earlier action to improve financing conditions and lower risk premia associated with country contexts could have a significant impact on the speed and timing of the low-carbon transition.

What is needed to improve the architecture of climate finance?

A just and inclusive energy transition requires that financial flows are channelled into diverse countries globally, particularly in low-income and vulnerable economies. To break the investment lock-ins that perpetuate inequity in global climate finance and improve access to capital for developing countries, several areas of action should be at the core of public efforts. Chiefly, expanding financing capacities and mechanisms, ensuring a more equitable distribution of finance globally, and a better alignment of public and private finance will be essential to mobilise and better allocate capital to the regions that most need it.

Multilateral development banks and international institutions need to expand their financing capacities and ease lending conditions to improve access to finance in developing countries, where macroeconomic conditions exacerbate sovereign risk and increase the cost of capital. This can be achieved through the provision of interest rates that are lower than prevailing market rates, extending the grace periods for loan repayments and broadening the coverage of existing financing mechanisms. The IMF's Resilience and Sustainability Trust (RST), for example, provides affordable, extended financing to countries for tackling long-term challenges. Notably, Rwanda stands as the pioneer African nation to leverage the RST in pursuit of climate-related objectives. Additionally, it is essential for these institutions to deploy robust de-risking mechanisms that can absorb investment risks and foster a conducive investment environment. An effective strategy in this regard involves a more substantial redistribution of IMF's special drawing rights (SDRs). These SDRs, function as international reserve assets and present a potent solution to mitigate currency risks, as put forth in the Bridgetown Agenda². By supplementing official reserves of member nations and employing a distinct international currency, the SDRs can effectively provide the necessary liquidity support for low-carbon investments while addressing currency volatilities.

² <https://www.foreign.gov.bb/the-2022-barbados-agenda/>

Ensuring a more equitable distribution of finance by targeting least developed and most climate-vulnerable countries can provide resources towards nations which do not have fiscal space to adopt new debt. Global mechanisms for raising capital should be used for reconstruction grants after climate events and could compensate for greater exposure to climate risks, while boosting resilience and investment in more vulnerable economies. Additionally, more innovative instruments, such as debt-for-climate swaps should be extended to nations towards climate action. These financial arrangements involve a voluntary exchange or restructuring of a developing nation's debt in exchange for their commitment to invest in climate mitigation and adaptation projects or initiatives that promote sustainability.

Finally, a better alignment of public and private finance can mobilise capital and overcome investment lock-ins created by path-dependencies in financing. International (public) efforts should focus on installing a critical renewables base which signals confidence to financial markets, after which point private capital is mobilised at scale. Combined with domestic policy instruments, these need to target the evolution and the medium-term growth of the renewables sector. Innovative mechanisms are needed to move beyond project-specific inducements to support holistic renewable roadmaps and build networks of relationships to initiate path-dependent flows.

Current evidence shows how unequal access to capital and distributional inequities are inherent in international climate finance flows. They confirm the disparity that poorest countries have highlighted in obtaining the necessary finance, with least developed economies receiving a very small portion of such flows. The effect of these inequities in access to capital are reflected in the higher costs for low-carbon investments impeding sustainable development progress in developing countries.

Distributional considerations and mechanisms to allocate finance equitably are thus instrumental to enhance justice in global climate action. They would need to be key pillars of future global climate finance architectures as the work on long-term finance, instituted as part of the Glasgow Climate Pact, presents its inputs at forthcoming climate negotiations. These international arenas represent an opportunity to deliver further climate finance commitments, based on the principle of equity, that meet the needs and priorities of developing countries at national and local levels.

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