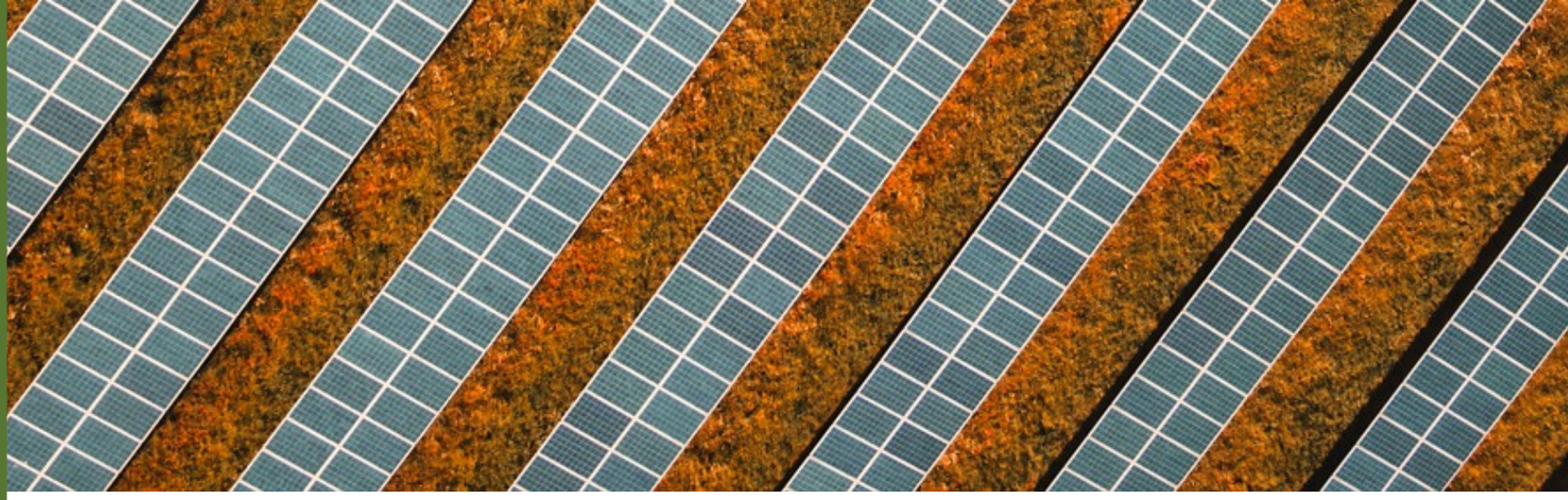
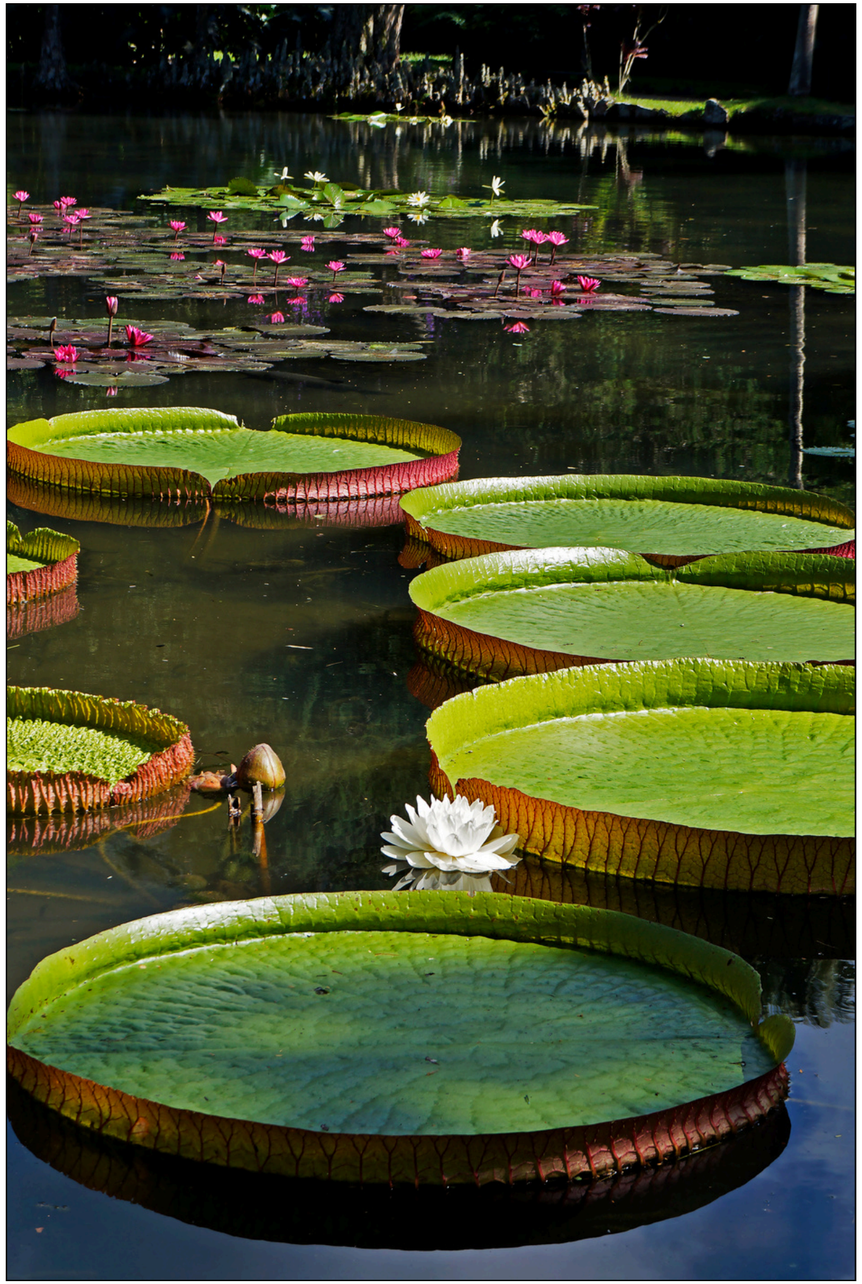


# Beyond Private Finance: the Limits of Capital Markets in Financing EMDE Transition

Winston Fritsch, Moritz Kraemer and Vera Songwe

November 2025

Paper presented at a COP 30 Finance Day Event





ABOUT THIS WORK

## This paper is a contribution to the ‘Baku-to-Belém Roadmap to $1.3 trillion.’

It tackles the question of how to finance the climate transition across all emerging markets and developing countries, excluding China, that are signatories to the Paris Accord—a challenge central to the Baku-to-Belém roadmap. It draws on financing structures that have shown promise in pilot stages but must be scaled to reduce the risks of climate-impact projects and attract private institutional investors from developed countries.

An earlier version of this paper was discussed by an independent council convened by the COP30 President-designate, Ambassador André Corrêa do Lago, to provide guidance on the economic dimensions of COP30. This included input to the ‘Baku-to-Belém Roadmap to $1.3 trillion,’ to be presented by the President of COP29 and the COP30 President-designate, as well as contributions to the COP30 Action Agenda.

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The authors also thank **Pedro Eymael** for his valuable research assistance.

# Abstract

Drs. Fritsch, Kraemer, and Songwe assess whether blended finance can realistically draw private investment into climate projects across emerging markets and developing economies (EMDEs) at the scale of the $1.3 trillion annual target set in Baku.

They find that access to private capital remains starkly uneven. Countries with or near investment-grade ratings can use national programmes and credit-enhancement schemes to attract investors. Those with lower or no ratings must rely on concessional and innovative risk-mitigation instruments. Yet in both cases, the funds available fall well short of the Baku target.

The authors advocate a coordinated use of proven financial tools, backed by governments and multilateral development banks, and adapted to each country's risk and project's market profile. For economies with stronger market access, initiatives such as Brazil's ECOInvest and the Inter-American Development Bank's Reinvest+ could help scale up private flows and narrow the gap.

However, for low- and lower-middle-income countries, the most sophisticated de-risking structures would mobilise only about $100 billion of foreign private financing—far below what is needed. The study concludes that blended finance alone cannot close the shortfall. Meeting the Baku-to-Belém climate goals will require fresh public resources, including solidarity levies, issuance of special drawing rights, the removal and redirection of fossil-fuel subsidies, the expansion of carbon markets, and stronger domestic resource mobilisation.





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# Introduction: The Urgency of EMDE Decarbonisation and the Protection of Tropical Forests

With several climate-risk tipping points already breached and the world veering off course from the Paris 1.5-degree trajectory, it is increasingly clear that one of the decisive battles against climate change will be waged over financing decarbonization investments in emerging markets and developing economies (EMDEs).

These countries now account for roughly one third of global emissions. At current trends, most—particularly the many low- and lower-middle-income EMDEs—face formidable obstacles to delivering credible decarbonization investment pathways that align with their development goals, domestic savings, and demographic trajectories, without a substantial infusion of external capital.

They also hold the last remaining large-scale carbon sinks, which are under mounting threat. The ongoing destruction of tropical forests—among the final substantial reservoirs of biodiversity and a crucial global carbon sink—adds further urgency to focusing on EMDEs. According to the latest data from Global Forest Watch, forest loss hit a new record in 2024, soaring by an alarming 80 percent compared with 2023 (Goldman et al., 2025).

The growing urgency of addressing climate investment finance in EMDEs in recent years has sparked a lively debate over the design of innovative credit-enhancement structures and other risk-mitigation instruments to channel private capital into climate and nature projects, including the preservation of tropical forests.

The consolidation of this debate has raised the hope that private capital can be mobilised at the scale necessary to meet the goals of the 'Baku-to-Belém Roadmap to $1.3 trillion'. Political will from policymakers is crucial to align these efforts with multilateral development banks (MDBs) and developed countries, creating incentives that encourage the private sector to channel greater resources into climate finance.

The degree of public support given to the Tropical Forests Forever Fund (TFFF), the recent approval of a new Financial Intermediary Fund that aims to protect tropical forests by the World Bank Board, gives hope that at least this part of the equation can be addressed by well structured multilateral financial instruments[1].

However, projects for decarbonization and greater resilience in different EMDEs still encounter distinct barriers to accessing private capital, meaning that effective climate-financing instruments must reflect their variety. In countries that are near or already at investment-grade ratings, national solutions can be deployed using proven, targeted credit-enhancement schemes and mechanisms to reduce foreign-exchange volatility. For countries far from investment-grade status, concessional financing at scale remains essential.

The debate on mobilising additional financing, and the proposals set out here, are therefore tailored to countries with differing levels of market access. In implementation, an approach that limits further fragmentation of the global aid architecture while maximising synergies with existing financing mechanisms is essential. Within this framework, the instruments discussed have the potential both to better coordinate climate-finance activities and to support the more effective deployment of additional public resources.

Given low levels of development and correspondingly low savings rates, domestic resources alone will be insufficient to finance the climate investments required. The proposals set out in this paper therefore emphasise the crucial role of foreign capital as a complement to domestic resource mobilisation.

The paper outlines an integrated solution to attract private foreign capital across the full spectrum of EMDEs, differentiated by project types and market-access levels. The proposal envisages a coordinated deployment of financial instruments that have already been tested and developed with the support of several governments and multilateral development banks. It combines catalytic public—both national and multilateral—and philanthropic capital, tailoring instruments to the specific risk profiles of different country-project pairings to maximise private-sector investment. Finally, we discuss the likelihood that the proposed integrated solution would attract the levels foreign finance required to bridge the climate investment gap in EMDEs estimated in the Baku to Belem Roadmap.

1 Please see appendix A for further details on the protection of tropical forests and the newly created TFFF.

# The Challenge of Decarbonising EMDEs

The challenge of reducing carbon intensity in EMDEs remains acute, given projected population growth and the imperative of rapid per-capita income growth in most developing countries. This dynamic is captured by the Kaya identity, which illustrates that, to achieve declining emissions, the rate of decarbonisation—measured as emissions per unit of GDP—must outpace the combined growth of population and per-capita GDP[2].

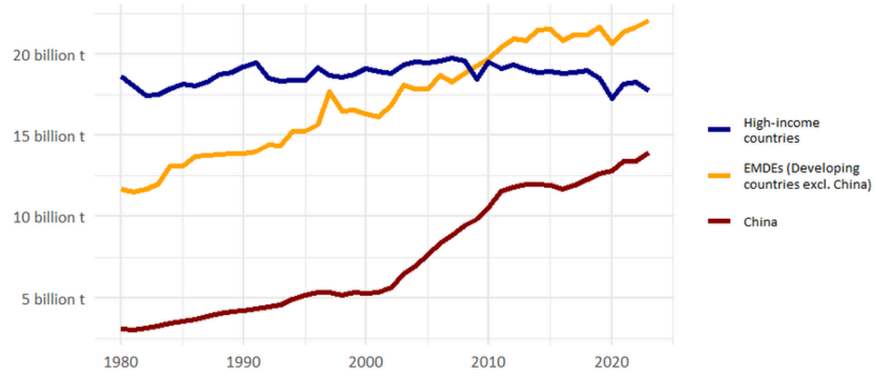
Thus, in countries still experiencing high population growth, the per-capita income gains required to alleviate poverty will necessitate substantial investments in decarbonisation to reduce the economy's carbon intensity and reverse the growth of greenhouse-gas emissions (GHG).

This is confirmed by the recent experience of China, where, even with low population growth, exceptionally rapid development based on a largely coal-dependent energy matrix propelled the country to become by far the world's largest GHG emitter.

The recent rise in GHG emissions from EMDEs, as illustrated in Graph 1, and the rapidly growing share of these countries in global emissions under a "business-as-usual" scenario of carbon-intensity reduction projected by multiple authoritative sources, is therefore a matter of serious concern.

**Graph 1: Annual Greenhouse Gas Emissions 1980 - 2023**

Includes carbon dioxide, methane and nitrous oxide from all sources, including land-use change measured in tonnes of carbon dioxide-equivalents.




Source: Jones et al. (2024).

2 For further detail see appendix B.

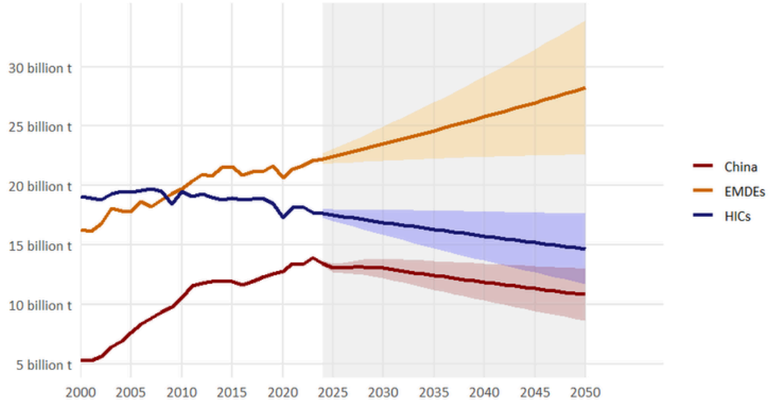




A simple exercise applying the Kaya identity to project future GHG emissions—based on current demographic trends, plausible per-capita income growth scenarios, and recent carbon-intensity trends—presents a bleak outlook: explosive emissions growth in EMDEs and a rapidly increasing share of global GHG emissions from these countries, as illustrated in Graphs 2 and 3.

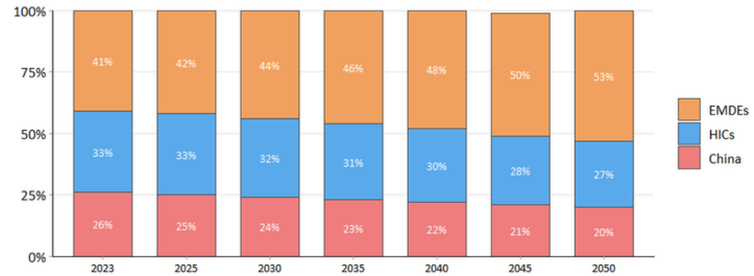
**Graph 2: Projected GHG Emissions from 2024 to 2050**

(in Billion Tons of $CO_2$ Equivalent)




Note: Projected emissions were estimated using the Kaya Identity, which decomposes GHG emissions into population, GDP per capita, energy intensity, and carbon intensity. For EMDEs and HICs, average annual GDP growth and GHG intensity trends between 2010 and 2023 were extrapolated through 2050. For China, GDP growth projections from the IMF World Economic Outlook (2024–2030) were used to derive an average annual growth rate, which was then extended to 2050. Uncertainty bands were arbitrarily added to reflect increasing projection uncertainty over time: the shaded areas represent a range from ±1% of the mean in 2024 to ±10% in 2050, increasing linearly.
Source: Jones et al. (2024), World Bank, and IMF GEO. Projections by authors based on current trends.

**Graph 3: Projection of GHG Emissions Shares by Group**




Source: Graph 2

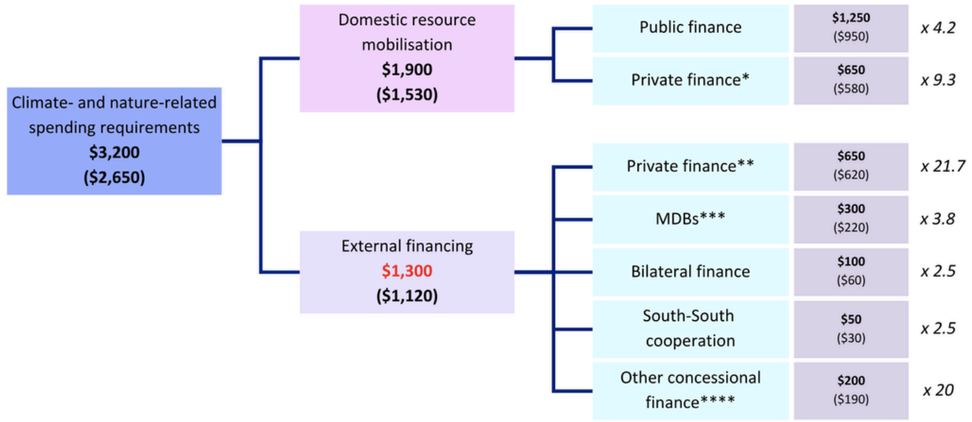
# The Evolution of the EMDE Climate-Investment Finance Debate

Within the framework of the UNFCCC, the first significant attempt to address global decarbonisation investment incentives came under the Kyoto Protocol of 1997. Yet the Protocol exempted developing countries from decarbonisation obligations, placing the responsibility for climate investment squarely on developed nations. In this context, foreign climate finance for EMDEs was largely conceived as development assistance: concessional lending from MDBs and limited contributions from carbon credits generated by projects concentrated in a handful of upper-middle-income countries under the Clean Development Mechanism.

Even after EMDEs began sharing responsibility in combating global warming with the Paris Agreement of 2015, which established a universal system of nationally determined contributions (NDCs) and envisaged international carbon-credit flows under Article 6, progress in implementation remained limited—until the heightened sense of urgency that emerged in the lead-up to COP26 in Glasgow in 2021.

**Figure 1: Mobilising the necessary financing for climate in EMDEs other than China**

**($ billion per year by 2035, increment from current in parentheses)**




Notes: *Includes household savings. **A significant proportion of this private finance would be directly and indirectly catalysed by MDBs, other development finance institutions and bilateral finance. ***Includes multilateral climate funds. ****Includes international flows from carbon markets and innovative finance including SDRs, debt swaps, and Global Solidarity Levies.



THE CHALLENGE OF DECARBONISING EMDES

The run-up to Glasgow fostered a new consensus: without substantial private-sector investment flowing from high-income countries (HICs) to EMDEs, closing the climate-finance gap—a prerequisite for achieving the Paris Agreement's goals—would be impossible. This recognition led to the creation of the Glasgow Financial Alliance for Net Zero (GFANZ), a coalition of major global financial institutions pledging to increase funding for EMDEs. It also gave rise to a climate-finance paradigm grounded in the optimistic assumption that private capital could be mobilised by the market alone, driven by the investment opportunities presented by the green transition.

The seminal work of the Independent High-Level Expert Group (IHLEG)[3] in preparation for COP26 was pivotal in highlighting not only the vast scale of climate investments required to meet the global Paris targets, but also the disproportionate share of these investments directed to developed countries (Songwe et al., 2022; Bhattacharya et al., 2024). It further underscored the critical role of private foreign capital in financing these flows, given the domestic savings constraints of developing countries and the limits of both MDB lending and bilateral concessional public finance.

Estimates from the IHLEG on the sources of finance required for the climate transition in EMDEs, shown in Figure 1, reinforce their earlier conclusions. Under realistic assumptions about domestic savings rates and the availability of non-private external finance, foreign private climate investment would need to increase nearly twenty-two-fold to reach the requisite $3.2 trillion by 2035. This growth is roughly 7.5 times higher than the average increase projected for the other three traditional sources of climate finance listed in the table, including South-South cooperation.

**3** This landmark report—first released at the time of COP 26, reviewed annually since, and instrumental in informing the decision on the new collective quantified goal for climate finance at COP 29 in Baku—is used here as a benchmark. It estimates that EMDEs (excluding China) will require $1.3 trillion in foreign finance annually by the mid-2030s.

# Flaws in the Glasgow Paradigm

The present moment demands a critical reassessment of the optimism underpinning the Glasgow climate-finance paradigm, which was fuelled by high expectations in the wake of the pandemic. On one hand, markets have grown more cautious about climate investment. Since Glasgow, returns on competing safe assets, such as developed-country government debt, have risen sharply, intensifying the competition for capital. Subsequent economic shocks—including the global interest-rate surge of 2022 and major geopolitical events, most notably the intertwined European energy and security crises—have prompted a relative retreat of private funding from climate-finance projects. Combined with a mounting backlash against climate policies in some quarters, these shocks have steadily eroded investor support for private transition-related investments, even among many of GFANZ's founding members.

The challenge today is therefore even greater. Private institutions must be re-engaged amid rising uncertainty over the future of multilateral climate policy, shaped by a resurgence of nationalism and the prospect of higher global military spending, which has amplified financial volatility and systemic risk. Increased defence expenditures are also likely to crowd out official development assistance in several countries, making the mobilisation of private funds even more urgent.

However, it is important to recognise that the expectation that capital would naturally flow to EMDEs at the required scale, guided solely by market incentives, was fundamentally flawed. The assumption that private funds would be drawn in sufficient volume merely by enhancing transparency in sustainability frameworks for privately financed assets and improving information on available opportunities—particularly via official country investment platforms—proved naïve. In practice, this has not materialised. Updated IHLEG estimates show that, although global private financing for climate investments surpassed $1 trillion in 2023, less than $190 billion reached EMDEs (mostly domestic), with the cost of capital emerging as a major barrier (IHLEG, 2025).

Glasgow overlooked the fact that, even under favourable global financial conditions, countries with low or no credit ratings would remain largely excluded from private capital markets. Likewise, climate-related projects that primarily generate public goods are generally unattractive to private investors. These structural barriers have become even more formidable in the current environment of substantially higher long-term interest rates than those prevailing in 2021.

In fact, substantial differences in country risk ratings exist not only between rich and poor nations but also among EMDEs of varying income levels and sizes. As illustrated in Graph 4, there is a wide gap in average sovereign credit risk assessments between HICs (shown in orange) and EMDEs, which critically shapes the appetite of international private creditors—particularly the large pool of institutional investors—for investing in the latter. Few large middle-income EMDEs near or above the investment-grade threshold consistently present a significant flow of projects attractive to private capital. In contrast, the larger cohort of low-income countries, shown in the southwest corner of the chart, typically has low, very low, or no ratings at all. The size of the circles in the graph reflects the volume of current GHG emissions.

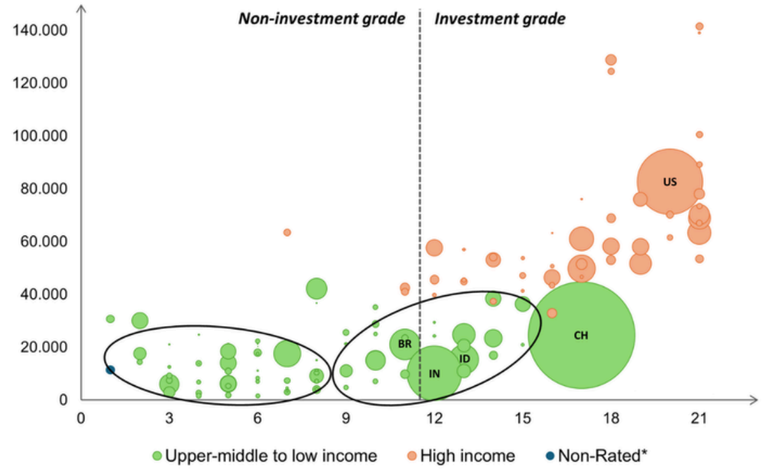
Moreover, it is reasonable to assume a positive correlation between a country's economic size and project quality, and





**Graph 4: GDP PPP per capita (US$) vs. Moody's Ratings**

*Area of circles proportional to GHG emissions*




Notes: We associated numerals to the traditional alphanumeric country ratings designation used by Moody's, with 21 corresponding to the highest (Aaa) rating; "Non-Rated" corresponds to the GDP (PPP)-weighted average of non-rated countries. The authors thank João Cottas for his valuable research assistance in building this graph.

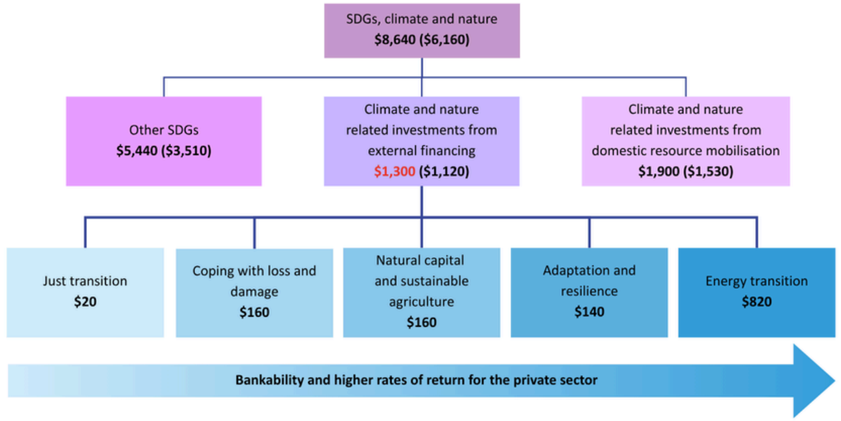
Sources: World Bank; Moody's; Emissions Database for Global Atmospheric Research (EDGAR)

particularly its risk-attractiveness, as private investors tend to be more familiar with larger economies. This further strengthens the draw of private capital to upper-middle-income EMDEs.

Second, project attractiveness to private investors also varies according to the intended use of proceeds. It is generally higher for emission-mitigation initiatives, such as green electrification, and increasingly for natural-capital and sustainable agriculture projects, which offer the prospect of market-based returns. By contrast, projects whose benefits are primarily public goods—such as adaptation, loss and damage, and just-transition initiatives—tend to be less appealing to private investors.

Fortunately, as illustrated in the chart below (Figure 2) from the recent IHLEG review of investment needs by use of proceeds, mitigation projects with market-based returns account for the lion's share of climate investment requirements in EMDEs. The chart also highlights that projects with a more public-goods orientation remain significant, comprising nearly one-third of total climate- and nature-related investment needs.

**Figure 2: Investment / Spending Requirements for Climate and Sustainable Development**
**($ billion per year by 2035, increment from current in parentheses)**

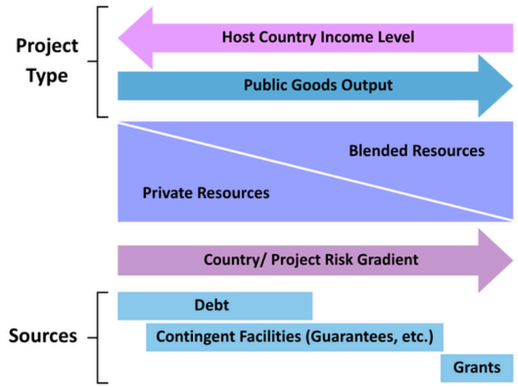



Sources: Authors' estimates based on Bhattacharya et al. (2023) and G20 IEG Triple Agenda Report (2023)

To support mitigation-focused, market-based projects in smaller or lower-rated EMDEs—including many lower-middle-income countries (LMICs) and low income countries (LICs) with very low sovereign risk ratings—while also addressing the substantial demand for public-goods financing across all EMDEs, a mix of instruments is required to de-risk and attract private capital. These include financial structures with varying degrees of blended capital, contingent facilities, and, in some cases, outright grants, as illustrated in Figure 3.

Thus, reviving the ambitious aspirations set at Glasgow for a global public–private effort to mobilise international private capital in support of climate transitions across all EMDEs, in line with the targets of the Baku-to-Belém Roadmap, requires the design of a new, inclusive framework. Such a framework must align the cost of capital for climate investments in specific country–project contexts with risk–return profiles that are attractive to private capital markets in developed countries.

**Figure 3: Project Risk and the Need for Blended Resources**




Sources: Authors' elaboration.





# A Comprehensive Proposal Using New Climate-Finance Instruments

In recent years, climate finance in EMDEs has seen substantial innovation. Advances in technology, particularly in green electrification, have spurred a range of blended-finance schemes and new sources of catalytic capital to mitigate project risk, including foreign-exchange volatility. This has accelerated green financing, especially in developing countries with larger markets and higher investment-grade ratings. These schemes can—and should—be extended to all eligible countries.

For countries and projects rated below investment grade, or for initiatives that generate public goods—such as tropical-forest protection—the challenge of attracting foreign private finance has remained formidable. Yet the multilateral investment challenges of recent years have not been limited to climate change. Responses to the pandemic, including the European Union's measures to address its economic fallout, generated a wave of innovative ideas that could be leveraged to channel the vast pool of private institutional capital in developed countries toward financing public goods, supported by catalytic public capital.

The International Finance Facility for Immunisation (IFFIm) and the EU's Next Generation EU programme are just two examples of such successful financial innovation[4]. Similar Financial Intermediary Funds (FIFs), mostly in structures endorsed by the World Bank board of directors, have been proposed to finance climate action broadly, both for mitigation—such as electrification and other market-revenue projects in higher-risk countries—and for resilience projects, where public goods are the primary focus.

The combination of these financial innovations, with blended finance at the national level for the relatively larger and more developed EMDEs, and multilateral FIF structures supported by developed-country donor capital to mitigate risk for projects in higher-risk countries or those producing public goods, enables the creation of a framework offering a unified approach. This framework uses both national and multilateral instruments to address the twin challenges of:

- Catering to the highly differentiated needs of the nearly 130 EMDEs that are signatories of the Paris Accord, as noted above, while
- addressing the varying levels of de-risking required to mobilise international private investment across the full spectrum of risk associated with the different types of investments necessary for all EMDEs to meet their NDCs.

We propose combining a set of instruments to finance distinct projects according to their use of proceeds:

- Mitigation and market-based Nature protection and Sustainable Agriculture
- Resilience, encompassing adaptation, loss and damage, and just-transition initiatives

4 Please see https://iffim.org/ and https://next-generation-eu.europa.eu/index_en

# Nationally Managed Programmes with Combined Host Country and MDB Contributions

The objective is to mobilize private-sector resources by deploying risk-mitigation instruments for projects with market-based revenues in larger EMDEs that already have reasonable access to private capital markets. These projects would encompass not only decarbonization initiatives but also nature-based solutions that generate market returns through sustainable and alternative land-use practices. The approach would build on the models of the successful Brazilian ECO Invest Programme, a joint initiative between the Brazilian government and the IADB, and the IADB's Invest+ platform, launched in September 2025.

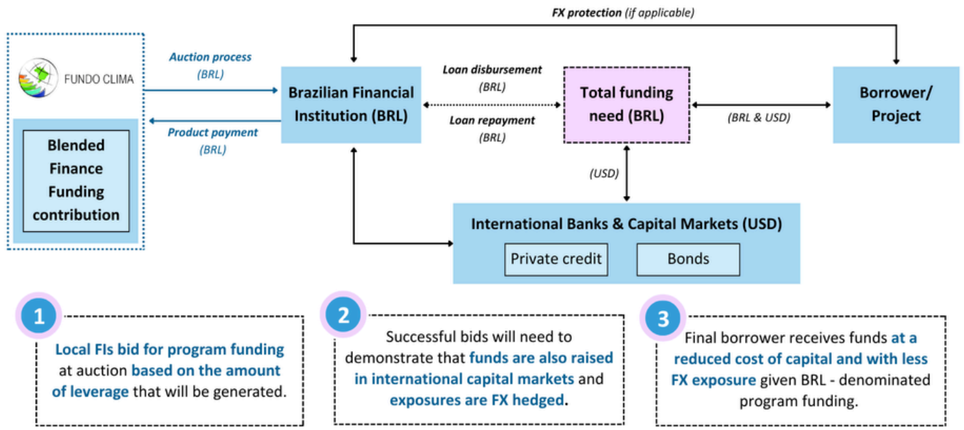
## 1. The ECO Invest Program

The main instrument of ECO Invest is a long-term blended-finance facility funded by Brazil—a large upper-middle-income country currently rated just below investment grade by the main credit rating agencies, with a recent upward trend—and the IDB. Resources are allocated competitively at very low cost to banks operating in Brazil through auctions, in which bids are primarily evaluated based on the leverage ratio of resources the banks commit to projects relative to the use of funds from the programme facility. The scheme is illustrated graphically in Figure 4.

At the project level, these resources can, if necessary, be supported by additional instruments provided by the programme to mitigate exchange-rate volatility risk, including a long-term foreign-exchange liquidity facility and hedging instruments, both of which are being developed in collaboration with MDBs and private financial institutions [5].

**Figure 4: Functioning of the ECO Invest Program**

**Objective:** *Reduce the cost of capital through blended financing to promote* ***integration of Brazilian companies into the global financial system****, attract foreign investments, and foster a sustainable and resilient economy.*




Source: Adapted from Brazilian Treasury.

5 For further detail see appendix B.





The programme's first auction, held in November 2024, focused on energy transition, bioeconomy, circular economy, green infrastructure, and adaptation projects, with 50 percent of resources pre-allocated to energy transition. Nine of the larger, mostly private, financial institutions operating in Brazil submitted winning bids totaling R$37.5 billion (US$6.9 billion) against R$6.8 billion (US$1.2 billion) in blended finance allocated by the programme—an average leverage of 5.5 times—resulting in nearly R$45 billion (US$8.3 billion) being deployed to projects over the next 24 months.

The second auction, held in August 2025, focused on the recovery of degraded land. Adjustments were made to allow for longer grace periods required for reforestation and, given the higher risk associated with some pioneering native reforestation projects, a much lower minimum leverage ratio. The auction allocated R$16.5 billion (US$3 billion) of catalytic resources, attracted 11 winning financial institutions, and will enable R$31.4 billion (US$5.8 billion) of investment to restore 1.6 million hectares—over half the area of Belgium—of degraded pastures to sustainable agricultural practices over the next two to three years.

At least two new auctions are planned for the remainder of 2025, with additional rounds expected thereafter. Following the programme's success in Brazil, it is reasonable to expect that similar initiatives could be replicated by countries with equivalent or higher sovereign risk ratings and comparable levels of development, as illustrated in Figure 4 above.

## 2. The Reinvest+ Program

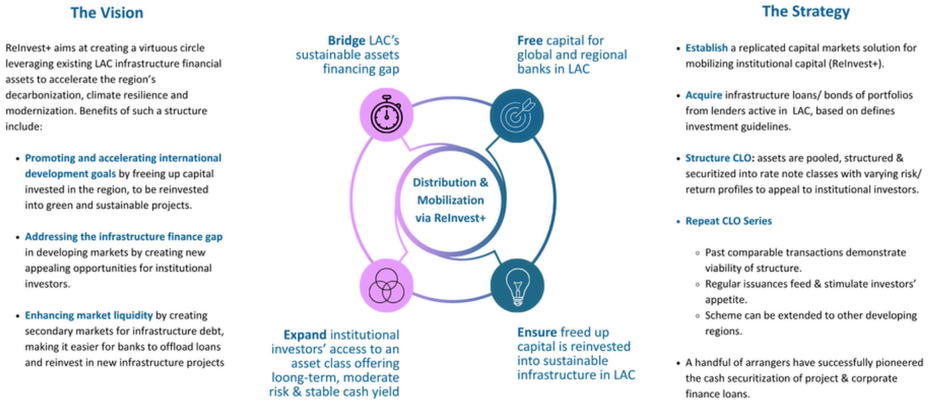
Although still in the process of implementation by the IADB Group, the recently announced Invest+ programme, according to the bank, "seeks to build a systematic pipeline that links local project financing origination to international institutional investors allowing mobilization of private capital at scale for investments in emission reduction projects and related infrastructure in developing markets, starting with Latin America and the Caribbean" [6].

The scheme is fundamentally based on packaging a portfolio of performing local-currency bank loans into dollar-denominated, investment-grade financial assets. This is achieved through credit-enhancing guarantees, which are offered to institutional investors. Selling the loans frees up space on EMDE banks' balance sheets, allowing them to lend to new mitigation projects at a lower cost of capital.

The originating banks receiving the funds commit to reinvesting the proceeds into sectors aligned with NDCs and other climate goals, with the option to securitise and sell these loans again in the future. This process can generate a self-reinforcing cycle of capital flowing into new projects. In schematic terms, the movement of assets and funds is illustrated in figure 5 below.

6 This description is based on preliminary information provided by the IADB Group in September 2025. Please see: https://www.iadb.org/en/news/idb-group-launches-reinvest-going-where-money-unlock-private-climate-finance

**Figure 5: ReInvest+ Key Objectives**




Source: Adapted from IDB ReInvest+ Call for Proposals

The result, according to the IDB, is "to empower local banks closest to the projects to become key actors in identifying and financing new opportunities. This inclusive model aligns incentives across stakeholders: national governments, local firms, banks, and global investors. It is, in fact, tantamount to swapping old loans for new green project finance at a lower cost of capital"[7].

A study commissioned by the IDB Group estimates that approximately $500 billion in such performing long-term loans exist across Latin America and the Caribbean alone—part of a global pool that could exceed $3 trillion. If this Latin American experience is replicated by other regional banks in collaboration with development finance institutions, it could channel hundreds of billions of dollars in new private investment into projects aligned with EMDE climate objectives.

7 Please see: https://www.iadb.org/en/news/idb-group-launches-reinvest-going-where-money-unlock-private-climate-finance



A COMPREHENSIVE PROPOSAL USING NEW CLIMATE-FINANCE INSTRUMENTS

# Impact of the Two Mechanisms

The impact of these two funding mechanisms – ECOInvest and Reinvest+ – focused on the large EMDEs is substantial. The table below shows that the 24 countries with investment or near-investment grade ratings which could, in principle, successfully implement these programs are responsible today about 2/3 of EMDE GHG emissions:

**Table 1: GHG Emissions by Country Group and Credit Rating**

| Groups | Rating | Number of countries | GHG emissions (% of global) |
|---|---|---|---|
| Upper middle income excl. China | Investment grade (Aaa - Baa3) | 10 | 6.54% |
| | Highest non-investment category (Ba1 - Ba3) | 7 | 3.85% |
| | B1 - C | 12 | 5.43% |
| | No rating | 4 | 0.89% |
| Lower middle income | Investment grade (Aaa - Baa3) | 2 | 8.49% |
| | Highest non-investment category (Ba1 - Ba3) | 5 | 1.75% |
| | B1 - C | 21 | 4.13% |
| | No rating | 8 | 0.50% |
| Low income | B1 - C | 7 | 0.73% |
| | No rating | 16 | 0.98% |
| SIDS | Investment grade (Aaa - Baa3) | 1 | 0.01% |
| | Highest non-investment category (Ba1 - Ba3) | 2 | 0.16% |
| | B1 - C | 9 | 0.06% |
| | No rating | 23 | 0.07% |
| | **Total** | **127** | **33.58%** |

Note: SIDS stands for Small Island Developing States.
Source: World Bank, Moodys, Emissions Database for Global Atmospheric Research (EDGAR).

# A Multilateral Solution: the Financing Facility Against Climate Change (F2C2)

The second pillar of the proposed framework is the establishment of a new vehicle: the Finance Facility against Climate Change (F2C2). Its objective is to unlock private capital through the issuance of green bonds earmarked for climate and nature protection. The facility would target two categories of higher-risk private projects:

- climate and nature impact projects with market-based revenues, particularly those focused on the energy transition and nature protection, in lower-income countries with elevated sovereign risk; and
- projects with a significant share of public goods and positive externalities in all EMDEs.

This financing instrument builds on a proposal presented in April 2025 by the Independent Expert Group on Debt, Nature and Climate (Expert Review on Debt, Nature and Climate, 2025). Under reasonable assumptions, F2C2 could mobilise a cumulative $1 trillion over a decade[8]. For context, the combined total outstanding debt of all MDBs combined amounts to approximately $2 trillion

The facility is particularly well-suited to finance projects with market-based revenues, such as electrification initiatives in low credit rating countries. With a broader use of risk mitigation mechanisms, it could also support projects in any EMDE that generate significant positive externalities through the provision of environmental public goods but have limited or no direct access to private capital markets.

The issuance of F2C2 bonds would be backed by future commitments of official development assistance (ODA) from advanced economies and, potentially, from China and other countries formally classified as developing but already active in international development finance. These ODA pledges would provide the credit quality necessary to mobilize large-scale private funding through capital markets. This mechanism would enable low- and lower-middle-income countries to finance market revenue-based projects with significant upfront costs—particularly those promoting nature-positive, low-emission, and climate-resilient development—while spreading the fiscal burden for taxpayers in both donor and recipient countries over several decades. F2C2 would lower borrowing costs for developing countries in two key ways:

1. First, pledges from highly rated advanced economies would cover a substantial portion of F2C2 bonds' debt service obligations. In essence, F2C2 would build a bridge from the future to the present, enabling the frontloading of urgently needed mitigation investments while minimizing the short-term fiscal impact on sponsor countries' budgets.
2. Second, credit rating agencies are expected to treat the pledges from advanced economies backing F2C2 obligations as equivalent to the full faith and credit of the sovereigns providing those guarantees. This precedent has already been established by the agencies in the context of both the IFFIm and the Next Generation EU (NGEU) bonds. As a result, F2C2 bonds would likely achieve ratings in the AA category, or even AAA ratings, depending on the size, quality, and overcollateralization of advanced economy commitments. F2C2 loans made to EMDE governments would enjoy preferred creditor status, enhancing the credit quality of bonds.

8 Please see: https://www.iadb.org/en/news/idb-group-launches-reinvest-going-where-money-unlock-private-climate-finance

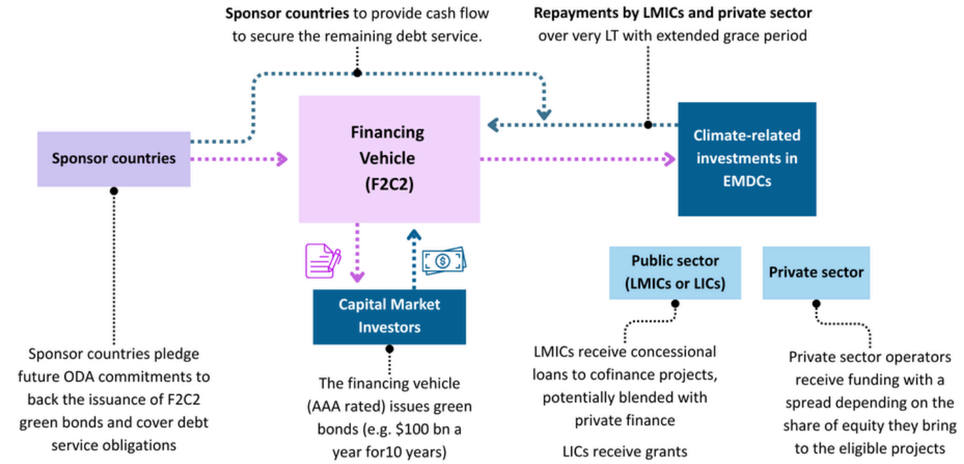


A COMPREHENSIVE PROPOSAL USING NEW CLIMATE-FINANCE INSTRUMENTS

One of the main advantages of F2C2 is its scalability. Both traditional and non-traditional sponsor countries could participate in backing its green bonds. Those unable or unwilling to join at its inception would have the flexibility to do so later, when fiscal conditions improve or policy priorities return to climate action. Another notable strength of F2C2 is that it requires no upfront paid-in capital, meaning it can be established without immediate budgetary outlays. The mechanism through which F2C2 operates is illustrated in the figure below.

In effect, F2C2 would emulate—on a far larger scale—the proven model of the IFFIm, created in 2006 to raise bond-financed resources for immunisation programmes in low-income countries. It would also draw on the financial architecture of the €800 billion NGEU borrowing programme of the European Union. In essence, F2C2 adapts and repurposes these established frameworks for the fight against climate change and nature loss.

**Figure 6: The F2C2 Mechanism**




Source: Adapted from Kraemer and Volz (2024).

The funds raised through the issuance of F2C2 bonds could be on-lent to developing countries for eligible projects or directed to private sector entities providing equity to climate-related initiatives within those countries. The financial parameters governing how F2C2 would lend its raised funds are a critical design feature to be refined in subsequent implementation studies. The main considerations can be illustrated through a possible design scenario:

- **Grants or loans to EMDE governments:** LICs would receive outright grants, while LMICs would provide a 10 percent co-financing contribution and benefit from highly concessionary terms—50 percent below the World Bank's most favourable IDA rates, repayable over 50 years with a 10-year grace period, resulting in very low annual payments of 1.25 percent from year 11. F2C2 would primarily fund GHG emissions reduction, with a portion available for adaptation projects.
- **Loans to private entities for low-emission and climate-resilient projects:** F2C2 can provide blended finance at scale to make otherwise bankable projects viable by lowering financing costs and mitigating political risk. Private developers can borrow from F2C2 if projects align with national climate and nature strategies. A sliding scale would adjust loan costs: the more equity the developer contributes, the lower the markup over F2C2 funding. Projects with over 50 percent private equity could benefit from even modest discounts to attract capital. Political risk insurance, for example through the Multilateral Investment Guarantee Agency, would also be provided, with support scaled to the private equity share in the investment.



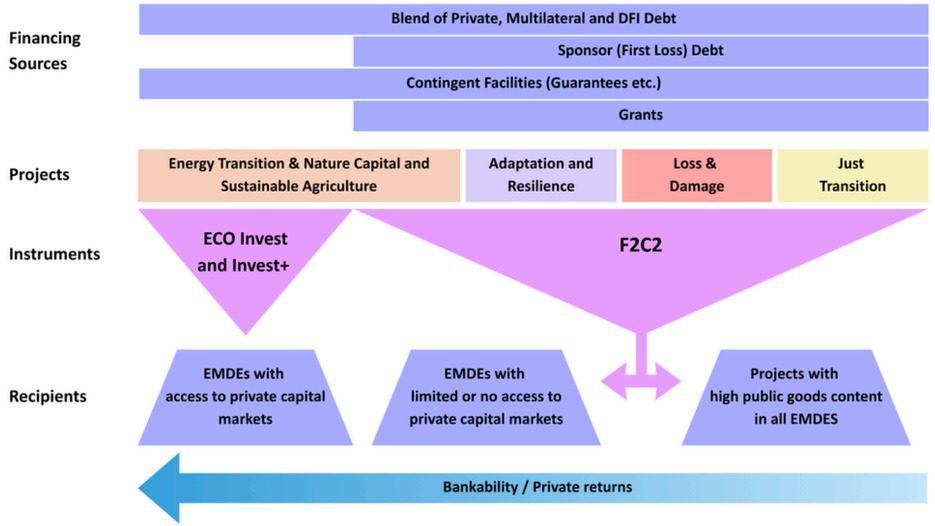
A COMPREHENSIVE PROPOSAL USING NEW CLIMATE-FINANCE INSTRUMENTS

# Summing Up the Proposal

A comprehensive graphic illustration of this proposal, showing its three key instruments, potential funding sources, allocation of resources, and the likely beneficiary countries, is presented below.

There is an ongoing debate over whether adaptation projects should be classified purely as public goods, since many can attract public–private partnerships due to their measurable effects on land value and other private benefits for developers. However, for the purposes of this discussion, we assume that all Adaptation and Resilience projects are treated as public goods.

**Figure 7: Multilateral Framework to Leverage Private Finance for EMDEs Transition**



# Implementation Considerations

**Implementation arrangements are critical to the success of any climate and nature financing initiative.** The urgency of the climate and nature challenge, coupled with the need to finance the investments required for a 1.5-degree world, has spurred a wealth of innovative initiatives and institutional arrangements. To achieve effectiveness and efficiency, these efforts require consolidation, rationalization, and improved management of funding.

**Climate funds manage a significant share of global climate resources.** Under Brazil's G20 presidency, a report was commissioned to review the operations of these funds with a view to streamlining access. It highlighted several areas for improvement, including complex bureaucratic and governance procedures that delay decision-making, a financial architecture skewed towards advanced economies that constrains private capital, and unclear operational processes. Although some progress has been made, fragmentation persists and the process is handicapped by accreditation requirements. With a new set of initiatives emerging ahead of COP30, it is crucial to revisit the governance and implementation framework outlined in the G20 report and accelerate the adoption of its recommendations. We propose simplifying principles to guide the implementation of these new initiatives.

**The World Bank Group should serve as an innovative climate finance incubation platform.** As solutions to various multilateral financial challenges have emerged, the World Bank Group, as the leading multilateral development institution, has served as an incubator. Over time, however, he number of FIFs at the Bank has proliferated. These are global partnerships that pool resources from multiple donors and channel them toward coordinated responses to specific issues of mutual concern.

By fiscal year 2024, the World Bank administered 26 active FIFs, up from just nine in 2008, with total transfers reaching $10.1 billion—a figure that has grown substantially since 2019. On the climate front, thelargest FIF managed by the World Bank is the Global Environment Facility (GEF). In its review, the Bank recommended consolidating FIFs into fewer, larger programmes to enhance oversight, clarify roles, reduce fragmentation, and ensure alignment with its overall strategy.

**The climate-related FIFs managed by the World Bank are currently unrated.** A key distinction between the traditional GEF FIF and the proposed F2C2 and the Tropical Forest Forever Facility (TFFF)/TFIF is that the latter would be rated instruments and therefore could not be integrated into the GEF. Moreover, if successfully scaled, F2C2 could mobilize a far larger pool of resources, surpassing by orders of magnitude the $10 billion currently managed across all World Bank FIFs. This provides a strong rationale for F2C2 to function as a standalone FIF alongside the TFFF and GEF, consistent with the Bank's view that FIFs should only be established when no other reasonable alternative can achieve the intended objectives—a criterion these rated instruments satisfy.

**Keeping F2C2 and the TFFF under World Bank management offers a key advantage: as FIFs, they could benefit from stronger coordination with other funds.** This would enhance the efficiency of resource use and, over time, create the possibility of merging funds to prevent the proliferation of multiple FIFs with overlapping objectives—whose competition for scarce catalytic financing and



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administrative demands places excessive strain on the Bank's operational capacity.

**Regions will continue to drive innovation in the climate space.** Under a model of the World Bank Group and regional development banks (RDBs) working in concert, RDBs could create collaborative structures to share innovations and replicate successful initiatives at the regional level, such as the IDB's ECOInvest and ReInvest+ programmes. These initiatives could be housed within RDBs, leveraging their ability to incorporate local perspectives into governance and operational structures. At the same time, RDBs would coordinate with the World Bank to ensure alignment and maximize leverage across projects. In this context, country platforms could play a crucial role in fostering collaboration and minimizing duplication.

**Strengthening the foundations for long-term economic resilience is central to the successful implementation of the multilateral framework.** We propose that a portion of the financial resources channelled through these vehicles be directly invested in strategic areas of each country's macroeconomic framework. This could include technical assistance grants to improve data collection and management, build project development capacities, strengthen the performance of state-owned enterprises such as utility providers, and reinforce a sound monetary and fiscal policy environment. These measures would boost efficiency and macroeconomic performance, gradually improving countries' credit ratings and expanding their access to financial capital. As access grows, a modular graduation system could be introduced: as ratings improve, countries would continue to receive the same resources under increasingly favourable terms during a grace period. Initial allocations could follow existing World Bank Group formulas, supplemented by a metric reflecting climate-related priorities.

# The Limits of Private Capital Markets in Financing EMDE Investment Needs

The instruments outlined above, combining tested mechanisms to mobilise institutional investment at scale and with speed, represent a realistic approach. Whether they are sufficient to achieve the $1.3 trillion target set out in the Baku to Belém roadmap is another matter.

A simple way to test its capacity to deliver the $1.3 trillion target is to examine whether it can realistically generate the resources needed to meet the investment requirements estimated by IHLEG—not only in aggregate, but crucially across the different risk levels associated with each type of investment and category of beneficiary country.

Figure 8 below links the sources of finance proposed in this paper—namely the nationally or regionally managed ECOInvest and ReInvest+ programmes, and the multilateral F2C2—to the investment uses identified in the IHLEG studies[9]. These are:

1. Energy Transition*,
2. Adaptation and Resilience,
3. Natural Capital and Sustainable Agriculture*,
4. Loss and Damage and
5. Just Transition.

It is constructed on the following assumptions:

- National and regional programs targeting higher-income, higher-rated countries primarily invest in projects related to energy transition and natural capital and sustainable agriculture (marked with an asterisk in the list above), while
- F2C2 primarily finances projects across all five uses in EMDEs except market-based projects in higher-income, higher-rated EMDEs which would fall under the national and regional programs referenced in the preceding bullet point.

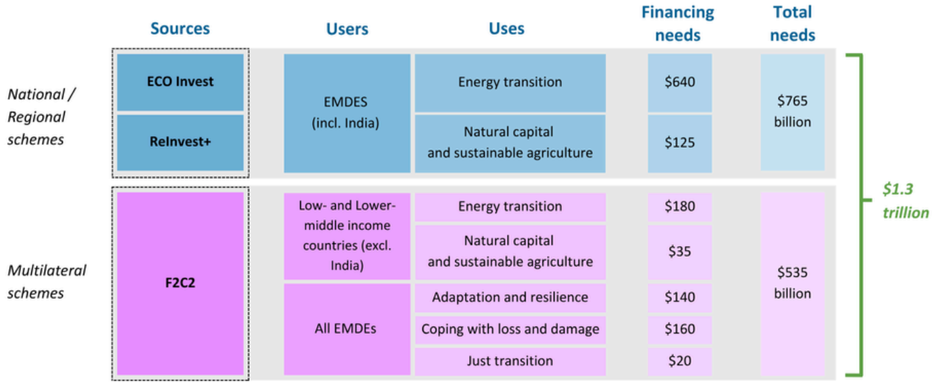
Given India's relatively well-developed financial market—a lower-middle-income country with investment-grade ratings—Indian projects in energy transition and sustainable agriculture can be financed through national schemes modelled on ECOInvest or ReInvest+. Projects in the other categories would be eligible for funding through F2C2.

Assuming, perhaps optimistically, that the larger investment needs of more developed and higher-rated EMDEs, including the market-based transition projects in India, could be met through regional development banks via ECOInvest and ReInvest+. By contrast, it seems unlikely that F2C2 alone could mobilize the full amounts required by poorer countries and projects with public good character for all EMDEs, estimated at $535 billion annually (see Figure 8).

In fact, even an instrument as powerful as F2C2, using the most effective risk-mitigation mechanisms to lower the cost of capital for long-term projects, could not realistically generate anywhere near the roughly $535 billion annually required. Achieving that target would imply F2C2 issuing well over $5 trillion of issuances in a decade—more than two and a half times the approximately $2 trillion in outstanding issuance by all MDBs combined. From today's perspective, securing government pledges at that scale seems inconceivable. Therefore, a more realistic, though still ambitious, target of $100 billion in annual issuance, supported by sovereign pledges is proposed.

The climate community must avoid repeating the misplaced optimism of Glasgow. Our calculations suggest that we cannot reasonably expect that the supply of international private finance, even supported by state-of-the-art blended finance and credit risk mitigation mechanisms, could put EMDEs on a decarbonization path aligned with UNFCCC targets. Under existing constraints on institutional investment in higher risk financial assets, private capital appears insufficient to close the financing gap, even when supported by politically feasible de-risking measures from MDBs or developed-country guarantees. It is therefore essential to go beyond blended finance private flows with other sources, including grants, solidarity levies, special drawing rights, and carbon pricing in various forms.

**Figure 8: Financing needs by instrument (rounded totals)**
**($ billion per year by 2035)**




Note: Estimates assume that India's mitigation investments—in energy transition, natural capital and sustainable agriculture—are implemented through ECOInvest/ ReInvest+ type programs.
Source: Authors' estimates based on Bhattacharya et al. (2023), G20 IEG Triple Agenda Report (2023), and TFFF - Concept Note 3.0

9 For further detail see appendix C.

# Beyond Finance: The Crucial Role of Non-Financial Instruments

**External finance alone would not close the financing gap.** The proposal outlined above concentrates on mobilizing the substantial foreign financing required for the EMDE transition through blended or de-risking mechanisms using public or multilateral resources for risk mitigation. However, countries will also need to complement these inflows with domestic resource mobilization and sound policy choices. Figure 8 suggest that through the proposed instruments an amount of approximately $850 billion could be raised annually, some $765 billion on regional and national programmes and some $100 billion through F2C2. This amount falls short of the $1.3 trillion target by some $450 billion. In the following section we investigate some avenues to fill that remaining gap.

**Domestic resource mobilization remains a cornerstone of EMDE climate finance.** It should be emphasized that domestic resources will still provide roughly 40 percent, or $1.25 trillion, of the financing required to tackle the climate crisis (IHLEG, 2025). Raising domestic savings through higher productivity and economic growth, supported by climate-related infrastructure projects and sound fiscal policies that increase public savings, is therefore a crucial element of EMDE climate investment strategies. Foreign finance remains essential, but it is fundamentally a complementary component of EMDE capital formation.

**Solidarity levies could play a significant role in closing the funding gap.** Estimates from the Global Solidarity Levies Task Force suggest that levies on the aviation sector—covering private jet use, tickets, and fuel consumption—could raise approximately $184 billion annually, depending on their scope. An oil extraction levy could yield $45 billion to $571 billion per year by 2035, depending on ambition, participating countries, and rate design. A levy on equity transactions alone could generate nearly $87 billion annually (Global Solidarity Levies Task Force, 2025). Combined, these three measures could approach $850 billion per year if fully implemented. Expanding levies to other sectors, such as shipping, or through alternative channels—such as the Brazilian G20 proposal to increase wealth taxes (Zucman, 2024)—could further augment this pool, providing substantial support to F2C2. These resources may prove crucial if global macroeconomic conditions constrain developed countries' ability to sustain international private capital flows in line with the urgent demands of the climate agenda.

**Special Drawing Rights can serve as a powerful tool to support EMDEs in financing climate and development priorities.** The 2021 issuance of $650 billion in Special Drawing Rights (SDRs)—the largest ever, aimed at helping countries navigate the COVID-19 pandemic—was both bold and necessary. To date, over 44 EMDEs have fully drawn down their SDR allocations, using them to repay debt, create fiscal space for investment, or bolster their currencies amid a strengthening dollar. In contrast, advanced economies largely accumulated SDRs, earning interest, and in some cases on-lent them to the IMF to support the Poverty Reduction and Growth Trust and the Resilience and Sustainability Trust (RST). The RST, a new IMF window designed to support countries implementing green programs, has raised $40 billion to date and disbursed significant resources, primarily benefiting lower- and lower-middle-income countries.

Given the rising climate finance needs of LMICs and LICs and the slow pace of additional resource mobilization, a new SDR issuance could provide much-needed liquidity. Countries could use the SDRs to reduce the cost of market debt, repay existing obligations, and strengthen their credit ratings, thereby improving access to new financing at lower interest rates.

**Beyond debt, equity and carbon revenues play a critical role in mobilizing climate finance.** This proposal, like the paper as a whole, has concentrated on the cost of debt, which risks overshadowing other crucial drivers of climate finance. In particular, primary equity flows, especially foreign direct investment, which often leads and correlates with project finance, are essential. Equally, the focus on the cost of capital downplays the role of carbon credits, which provide an additional source of net revenue for climate impact projects, raising their internal rate of return and attracting greater private investment for any given cost of capital.

EMDEs can accelerate the adoption of carbon pricing as a key policy instrument, building, where feasible, on the proven Emission Trading System (ETS) model, and supporting a rapid transition toward a global framework to strengthen compliance markets. In particular, larger EMDEs should urgently implement efficient national ETSs, while the UNFCCC must prioritize the full operationalization of Article 6.



BEYOND FINANCE: THE CRUCIAL ROLE OF NON-FINANCIAL INSTRUMENTS

# Conclusion

Despite enormous challenges, the pace of innovation, both in solutions and structured finance, remains encouraging. The scale of investment required for EMDEs to achieve the climate resilience targets set in Baku is daunting in today's low-growth, geopolitically complex environment. Policymakers at global, regional, and national levels must ensure that resources are allocated efficiently to maximize impact. Countries will also need capacity building and knowledge sharing to accelerate the rollout of successful pilots, with MDBs and RDBs providing essential support for implementation.

Accelerating the implementation of resilience strategies reduces the future costs of the transition. Countries that focus on building resilient economies enjoy a faster decline of climate transition costs. Regional and national platform approaches to resilience have proven effective, leaving political will as the primary barrier to moving from planning to implementation.

This proposal complements initiatives put forward by other members of the COP30 President's Ad-hoc Council on Climate Economics and Finance. Many of these initiatives rely on models estimating the welfare impacts of specific mitigation or resilience projects, demonstrating that the benefits to developed sponsor countries contributing to the funds proposed here create "win-win," Pareto-superior outcomes for both donors and recipients.

Given the potentially large global positive externalities from energy transition projects in poorer countries and tropical forest preservation, some studies use social carbon prices to make a compelling case for sponsor contributions to both F2C2 and TFFF. Others quantify welfare gains from avoiding Loss & Damage and supporting Just Transition, broadening the argument for sponsoring these initiatives beyond ethical imperatives and providing a strong economic justification for funding through F2C2.





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# Appendix

## Appendix A. The Tropical Forest Forever Facility

While restoration efforts on degraded lands have advanced considerably in recent years—spurred by rising demand for carbon removal credits and policies promoting land recovery (Sanjayan, 2025)—they have not yet closed the gap in directly valuing protected tropical forests.

As a result, the most critical areas for nature protection continue to receive insufficient resources despite their immense positive externalities. Beyond carbon sequestration, these ecosystems provide essential services such as maintaining balanced rainfall patterns, supporting soil health, and enhancing agricultural productivity. Their rich biodiversity offers vast potential for innovation, including new pharmaceuticals and other scientific discoveries. Culturally, tropical forests sustain the livelihoods of Indigenous communities, safeguarding invaluable cultural legacies and underscoring their multifaceted value to humanity.

The TFFF, proposed by Brazil and now supported by a coalition of leading tropical forest countries in partnership with the World Bank, has the potential to become the primary multilateral financial instrument dedicated to conserving the world's tropical forests. The initiative aims to protect over one billion hectares of tropical forest by providing fixed annual payments to Tropical Forest Countries (TFCs) and local communities for each hectare verified as preserved.

These payments will be funded through returns generated by a multilateral FIF, structured using innovative mechanisms described below. This global initiative was first introduced by the Government of Brazil at COP 28 in Dubai (November 2023) and later presented with a proposed financing structure at the 2024 G20 meetings in Brazil. Its architecture was developed by an Interim Steering Committee comprising six Tropical Forest Countries (TFCs)—Brazil, Colombia, the Democratic Republic of the Congo, Ghana, Indonesia, and Malaysia—and five potential sponsor countries: France, Germany, Norway, the United Arab Emirates, and the United Kingdom.

Brazil also consulted a wide range of stakeholders—including finance specialists, economists, scientists, NGOs, and organizations representing Indigenous Peoples and Local Communities, who will directly benefit from the scheme—to refine the proposal. On October 21, 2025, the Executive Board of the World Bank approved becoming the TFFF Trustee and assuming the role of interim secretariat until the final legal entities are formally established.
The facility is structured as an umbrella mechanism with two complementary components. The first, the Tropical Forest Investment Fund (TFIF), will raise and manage financial resources to provide annual payments to participating TFCs that conserve or expand their tropical and subtropical forest cover. The second, the Tropical Forest Forever Facility ("the Facility"), will oversee the forest cover rewards system, including eligibility criteria, monitoring methodologies, and disbursement procedures.

The TFIF will be established as an independent legal entity under the laws of a selected jurisdiction, with its assets ringfenced and managed separately from the TFFF to ensure operational and financial integrity. The Facility, structured as a Financial Intermediary Fund (FIF), will maintain its own governing body while relying on the World Bank as Trustee.



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The TFIF will be established as an independent legal entity under the laws of a selected jurisdiction, with its assets ring-fenced and managed separately from the TFFF to ensure operational and financial integrity. The Facility, structured as a FIF, will maintain its own governing body while relying on the World Bank to serve as Trustee.

The specific form of these contributions may vary depending on sponsor preferences—ranging from loans and equity-like investments to grants. Funding costs are expected to remain at or below the long-term U.S. Treasury borrowing rate. Except for outright grants, TFIF sponsor contributions would be repaid over 30 years following a grace period.

The bulk of TFIF's resources will come from debt capital markets through the issuance of highly rated, long-term bonds purchased by institutional and retail investors ("Market Investors"), with credit enhancement provided by the sponsors' first-loss tranche.

TFIF will invest the capital raised in liquid public market bonds, combining sovereign and large corporate issuances while adhering to a negative exclusion list and ratings limits. The difference between the portfolio's return and TFIF's weighted average funding cost will finance the annual results-based grants—the Forest Payments—to qualifying TFCs. The initiative has successfully passed key rating stress tests, ensuring that its senior quota remains attractive to global private institutional investors.

The TFFF/TFIF structure, if launched this year as planned, will be domiciled in a yet-to-be-selected country and is expected to begin operations in 2026. For this initiative to Succeed, it is crucial to adopt a long-term perspective: today's restoration projects will become tomorrow's conservation projects.

Finally, it is important to emphasize that the TFFF is designed to complement—not duplicate—existing initiatives. By providing incentives for forest preservation and restoration, it fills a critical gap in the environmental finance landscape. The TFFF works in synergy with programs such as the Global Environment Facility (GEF), REDD+, and other market-based reforestation schemes that focus on rewarding reductions in GHG emissions from deforestation and forest degradation.

Given the large funding shortfall for conservation, leveraging multiple instruments is both practical and essential. This underscores the urgent need to accelerate the development and functioning of carbon credit markets for conservation and broader nature-based projects. In this context, it is worth noting that the science of monitoring and measuring GHG emissions—along with atmospheric-based monitoring systems—is advancing rapidly. Accurate measurement of carbon removals by tropical forests is essential not only for establishing their financial value and associated ecosystem services, but also for the success of the TFFF itself.

We propose that COP 30 discuss the potential of these emerging technologies and methodological improvements. A concrete outcome could be the creation of a scientific committee to review innovations that enhance the accuracy of carbon emissions and absorption measurements across forests, oceans, peatlands, and other ecosystems. This initiative could begin at COP 30 and continue through subsequent conferences, fostering an incremental process to strengthen measurement precision, integrity, and effectiveness—key prerequisites for properly valuing and scaling up ecosystem protection efforts.

# Appendix B. Kaya identity

First proposed as an analytical tool by Kaya and Yokobori (1997), the Kaya identity, in its simplified form, decomposes emissions for a given geography as:

$$GHG = P \times \frac{Y}{P} \times \frac{GHG}{Y}$$

Where:

$GHG$ – Total yearly GHG emissions

$P$ – Population

$\frac{Y}{P}$ – Per capita income

$\frac{GHG}{Y}$ – Carbon intensity

In a reduced form it can be written as:

$$\text{Var } GHG = \text{Var } P + \text{Var } \frac{Y}{P} + \text{Var } \frac{GHG}{Y}$$

Where:

$$\text{Var(x)} = \frac{\text{dx}}{\text{x}}$$

This implies that to achieve a reduction in GHG emissions (Var GHG <0), the rate of decarbonization—measured by carbon intensity—must exceed the combined growth rates of population and per-capita GDP.





# Appendix C. Resource mobilization for the F2C2

This calculation assumes that India's climate mitigation investments—encompassing Energy Transition and Natural Capital & Sustainable Agriculture—will be executed via national schemes like ECOInvest.

EMDE's GDP = $19.55 trillion

Total LMICs & LICs GDP (current U$ 2023) = $7.95 trillion

India's GDP = $3.64 trillion

Total LMICs & LICs GDP excl. India (current U$ 2023) = $4.31 trillion

$$\text{Share (LMICs \& LICs excl. India)} = \frac{GDP_{\text{LMICs \& LICs excl. India}}}{GDP_{\text{Total EMDE}}}$$

$$\text{(LMICs \& LICs excl. India)} = \frac{\$4.31 \text{ trillion}}{\$19.55 \text{ trillion}}$$

(LMICs & LICs excl. India) = 22%

---

Resource mobilization for F2C2 =

(EMDE investment needs in Energy transition) * (Share(LMICs & LICs excl. India)) +
(EMDE investment needs in Adaptation and resilience) +
(EMDE investment needs in Natural capital and sustainable agriculture) * (Share(LMICs & LICs excl. India)) +
(Investment needs in Loss and damage) +
(Investment needs in Just transition)

Resource mobilization for F2C2 =
$820 billion * 22% +
$140 billion +
$160 billion * 22% +
$160 billion +
$20 billion

Resource mobilization for F2C2 =
$180.4 billion + $140 billion + $35.2 billion + $160 billion + $20 billion

Resource mobilization for F2C2 = $535.6 billion

Source: Authors' estimates based on Bhattacharya et al. (2023), G20 IEG Triple Agenda Report (2023), TFFF - Concept Note 3.0, the World Bank, and IMF WEO forecasts.