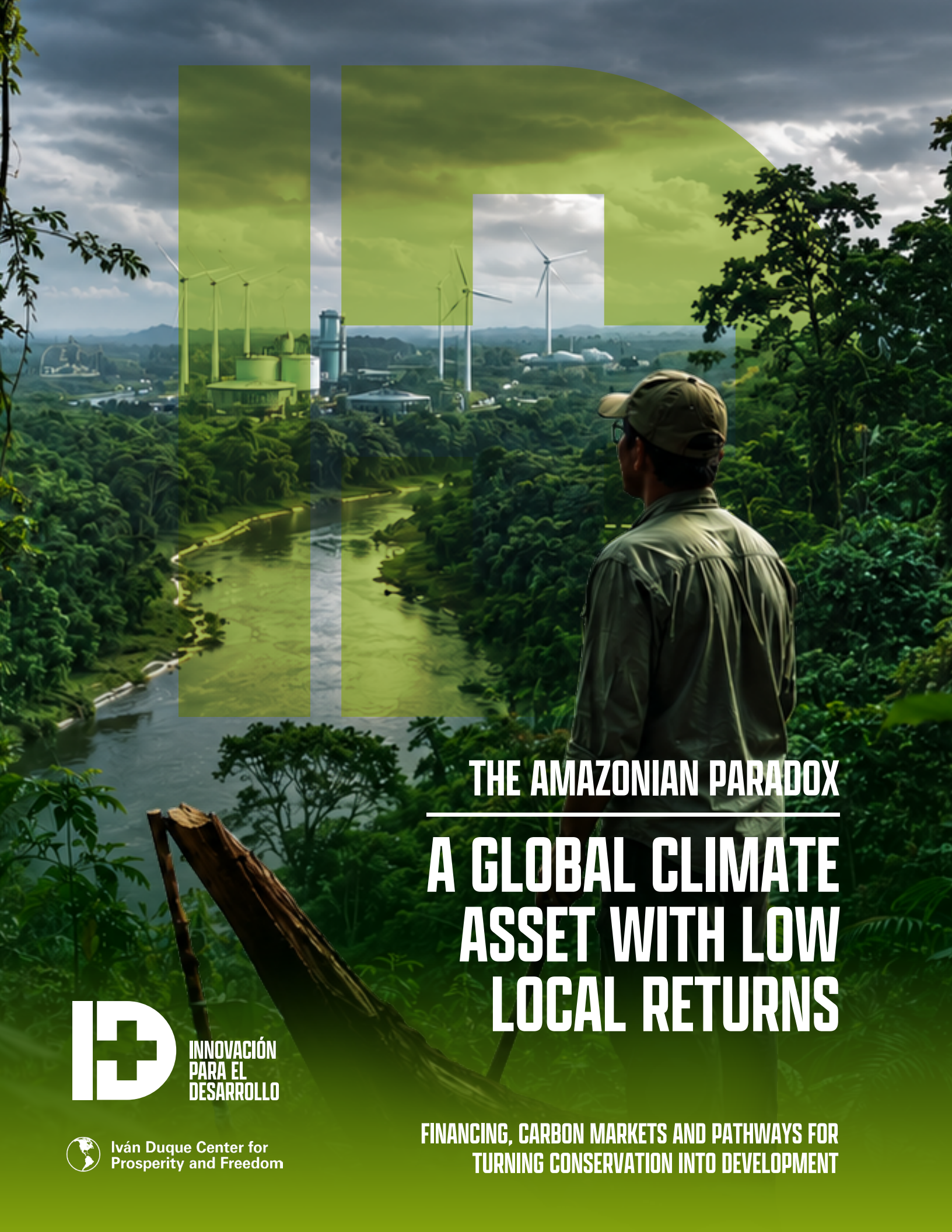




THE AMAZONIAN PARADOX

A GLOBAL CLIMATE ASSET WITH LOW LOCAL RETURNS



**INNOVACIÓN
PARA EL
DESARROLLO**



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Prosperity and Freedom**

**FINANCING, CARBON MARKETS AND PATHWAYS FOR
TURNING CONSERVATION INTO DEVELOPMENT**

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EXECUTIVE SUMMARY

The rising physical impacts of climate change translate, increasingly, into significant economic costs. Over the past two decades, **the costs associated with climate damage have more than doubled, rising from levels close to USD 450 billion** in the early 2000s to figures that exceed USD 1 trillion today.

Various studies warn that if the current emissions trajectory holds, taking temperatures to around 3°C above pre-industrial levels, cumulative global GDP could fall by between 16% and 22% by the end of the century.

Commitments, regulations and incentive schemes for climate action have accelerated significantly over the past decade, particularly since the adoption of the Paris Agreement in 2015. Even so, current policies are insufficient to meet those objectives and to consolidate more even progress worldwide.

Mobilising finance at scale depends on strong multilateral institutions, predictable rules and risk-sharing mechanisms that reward long-term investment. Institutional weakness threatens climate goals and raises the economic, social and political costs of inaction. **Without a functional and credible system of international cooperation, the transition to a low-carbon economy will be slower, more expensive and more unequal.**

Finance has become one of the main bottlenecks for global climate action, particularly in emerging markets and developing economies (EMDEs). In 2023, global climate finance reached an all-time

high of USD 1.9 trillion. Yet only USD 332 billion, drawn from both domestic and international sources, went to EMDEs. That figure represents barely 14% of the roughly USD 2.4 trillion a year these countries will need to invest in mitigation and adaptation by 2030 to stay aligned with the goals of the Paris Agreement (World Economic Forum [WEF], 2025).

Rebalancing the relationship between fiscal space, debt sustainability and climate action is one of the most critical macroeconomic challenges facing developing countries today. The sharp rise in borrowing costs, driven by tighter global financial conditions, has placed public finances under considerable strain and reduced the capacity of states to implement National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) effectively, deepening existing inequalities.

According to WEF (2025), although **international private flows to EMDEs rose from USD 17 billion in 2021 to USD 36 billion in 2023**, their relative weight within total climate finance remains marginal. Reaching the threshold of USD 1 trillion a year by 2030 would require these flows to multiply by a factor of close to 28, which points to the urgency of transforming the risk, return and scalability conditions of climate investment in these markets.

Paradoxically, the scarcity of capital is not the central problem. The world's largest asset owners manage volumes of capital far above the estimated climate finance needs

of EMDEs. The challenge, therefore, is not the availability of resources. It is the capacity to channel them efficiently toward viable climate projects in contexts perceived as high risk.

The growing convergence of the climate, biodiversity and development agendas has placed nature at the centre of the global climate finance debate. Ecosystem restoration, sustainable land management and the protection of natural systems are no longer treated as environmental measures alone. They are economic variables that generate benefits aligned with mitigation and adaptation goals, particularly in highly vulnerable regions. The Amazon stands out as one of the planet's most significant environmental assets, both for its ecological scale and for its potential to structure long-term climate investment flows.

Deforestation, forest degradation, the expanding agricultural frontier, illegal economies and institutional weakness are nonetheless eroding large areas of the territory at speed. Estimates from WWF indicate that between 14% and 17% of all Amazon forest has already been lost, and suggest that a key tipping point will be reached if between 20% and 25% is lost.

Financing the Amazon remains a challenge because of entrenched market failures, the absence of well-structured investment projects and limited data availability that would allow the physical, transition and governance risks attached to projects to be assessed with precision. The United Nations Environment Programme (UNEP) estimates that tropical regions alone require annual investment of USD

85.6 billion in forests by 2035. With the right instruments, these ecosystems can become one of the most cost-effective contributions to global climate stability.

A recent comparative assessment by WWF of the NDCs of eight Amazon countries shows that, while there is general recognition of the biome's relevance, **governments have not incorporated sufficiently ambitious targets, clear operational policies or robust financing schemes that would allow effective implementation.** Among the Amazon countries, Colombia and Bolivia record the most ambitious forest NDCs, with strong conservation and sustainable management targets and policies. Brazil, Venezuela and Ecuador follow with more modest objectives. Guyana and Suriname, by contrast, lack detailed and specific objectives (WWF, 2025).

The assessment of Amazon countries' NDCs reveals a persistent gap between the climate importance of the Amazon and the level of ambition, specificity and financial viability of the commitments made.

That gap cannot be read simply as a deficit of national political will. It reflects a structural asymmetry between responsibilities, fiscal capacity and access to climate finance.

Agricultural commodity production is one of the main drivers of global deforestation, ecosystem conversion and forest degradation. Permanent agriculture, defined as the long-term loss of tree cover for small and large-scale cultivation, remains one of the causes of tropical deforestation. Almost two thirds of this deforestation is linked to the production of four key commodities: beef, soy, palm oil and paper.

Paradoxically, the scarcity of capital is not the central problem. The challenge lies in the capacity to channel resources efficiently toward viable climate projects in contexts perceived as high risk.



International markets play a more significant role than deforestation figures attributed directly to exports would suggest. Shifts in global consumption and trade patterns have produced divergent impacts across products and destination countries. This shared responsibility cannot stop at abstract climate goals. It has to take the form of trade, financial and regulatory instruments that effectively reduce pressure on forests.

Trade treaties and bilateral and multilateral agreements are therefore a strategic lever for aligning trade flows with the forest and sustainable development objectives of the Amazon countries.

Deforestation in the Amazon does not depend only on raising national ambition. It requires building a coherent regional architecture, with clear targets, comparable metrics and shared financial mechanisms. The NDCs offer a base, still incomplete, but the strategic opportunity lies in turning this mosaic of national commitments into an integrated response capable of protecting the forest, guaranteeing rights and contributing to climate goals.

Amazonia Bonds should be structured to attract a diverse range of investors seeking high environmental and social impact. For issuers, this represents an opportunity to diversify funding sources, potentially access more favourable financing terms and broaden the investor base beyond traditional bond buyers (Inter-American Development Bank [IDB] & The World Bank, 2025). In a global environment where investors increasingly demand instruments with verifiable environmental and social impact, these bonds offer a clear narrative and a credible structure for channelling capital toward one of the territories most critical to global climate stability.

International concessional finance, including grants, plays a catalytic role. It

reinforces the mobilisation of domestic resources through technical assistance and capacity building. It also allows countries to obtain and direct international public and private finance while de-risking investment in development, climate and nature (Independent Expert Group, 2024). Given the critical importance of the Amazon territory, there is a global effort to increase the supply of concessional finance, both national and international, with methodological frameworks that align projects with local priorities and global sustainability objectives in order to maximise the impact of investment.

The need to mobilise private capital domestically and internationally brings us to Emissions Trading Systems (ETS), today one of the central instruments of climate policy for internalising the cost of carbon and steering investment decisions. Far from following a single model, ETS show growing diversity of design, reflecting differentiated economic contexts, productive structures and political priorities.

More than 60% of ETS permit the use of carbon credits, generally under quantitative limits and strict quality criteria. For regions such as the Amazon this interaction is strategic, since it opens the door for nature-based solutions to be integrated into compliance markets.

Article 6.2 of the Paris Agreement enables bilateral cooperation and the use of Internationally Transferred Mitigation Outcomes (ITMOs), allowing mitigation measures implemented in one country to be counted toward another country's Nationally Determined Contribution, toward other international mitigation purposes, or toward the voluntary carbon market, under strict accounting rules and corresponding adjustments to avoid double counting. Article 6.4, for its part, creates a centralised crediting mechanism, the Paris Agreement Crediting Mechanism (PACM), under the aegis of

the United Nations, with more demanding standards of additionality, governance and environmental and social safeguards than its predecessor, the Clean Development Mechanism (CDM). This mechanism also seeks to mobilise the private sector by offering incentives to participate in mitigation activities.

For carbon markets in transition, and for regions such as the Amazon, this new framework is particularly relevant. The possibility of generating offsets of high environmental integrity, aligned with NDCs, both domestic and international, and with voluntary carbon markets, opens a window to raise the ambition of the Amazon's forest and bioeconomy objectives by connecting nature-based solution projects to international climate demand.

The Amazon Cooperation Treaty Organization (ACTO, known by its Spanish acronym OTCA) plays a complementary role in this design. From a political standpoint, the sustainability of carbon pricing requires understanding and actively managing the interests of key actors. The most significant progress therefore occurs where broad and durable coalitions are built, and a regional agenda capable of constructing a common narrative aligned with development priorities is decisive.

According to the report State and Trends of Carbon Pricing 2025 (World Bank, 2025), the global carbon pricing landscape has reached a point of structural maturity. In 2025 there are 80 direct carbon pricing instruments in operation (37 ETS and 43 carbon taxes), covering approximately 28% of global emissions, up from 5% in 2005.

The report notes that the private sector continues to lead demand for carbon credits through both compliance and voluntary markets, which underlines the role of carbon markets in channelling private capital toward decarbonisation projects. Voluntary buyers' preferences leaned toward nature-based removal projects and clean cookstoves.

Yet although carbon pricing generated more than USD 100 billion in revenue in 2024, that figure remains small against global spending on fossil fuel consumption subsidies (USD 620 billion in 2023, as reported in World Bank (2025), drawing on IEA data). **Globally, carbon pricing systems still do not offset the scale of the fiscal incentives that favour fossil fuel consumption.**

Carbon credit markets will not consolidate as credible climate finance instruments without strategic leadership from governments, especially in developing countries. Current trends suggest that governments will take on greater relevance in carbon credit markets as more countries develop carbon pricing instruments and as demand for credits is driven up significantly under Article 6, motivated among other things by regulatory compliance. In that context, carbon credit markets will need protective mechanisms if they are to support climate action effectively.

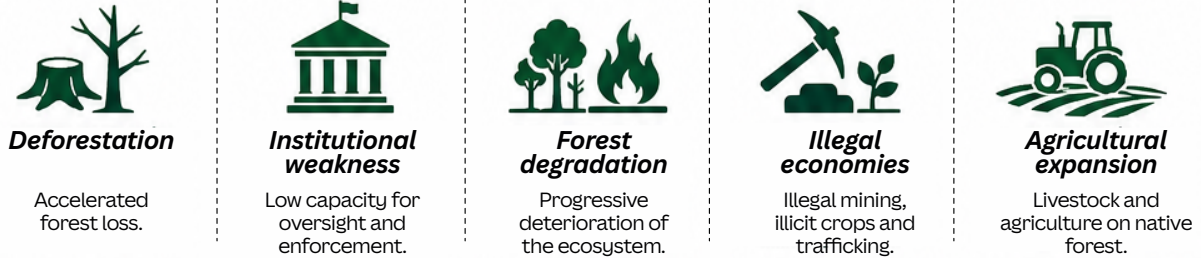
In sum, the global picture shows a growing trend in carbon pricing mechanisms and in the opportunities that follow from them to consolidate carbon markets capable of mobilising climate finance for countries with large environmental assets.

Deforestation in the Amazon does not depend only on raising national ambition. It requires building a coherent regional architecture, with clear targets, comparable metrics and shared financial mechanisms.



The Amazonian Paradox: a global climate asset with low local return

The five risks threatening the Amazon



Between **14%** and **17%** of the Amazon has already been lost.



The tipping point could be reached at between **20%** and **25%**.

How ambitious are the NDCs of the Amazon countries?



The Amazon is strategic for the global climate, but NDCs still show a gap between ambition, financing and implementation.

Instruments and institutions for Amazon finance



The global context



80 carbon pricing mechanisms
(37 ETS + 43 carbon taxes)



28%
of global emissions



More than **US\$100 billion** collected in 2024

1. INTRODUCTION

This document examines three dimensions of the global climate transition:

- The climate finance shortfall.
- The need to turn environmental assets into comparative advantages.
- The consolidation of carbon markets as instruments for mobilising capital.

Throughout, the emphasis falls on the Amazon and on developing countries.

Chapter 2 recognises the critical climate finance gap facing developing countries, which have growing investment needs in mitigation and, above all, in adaptation, in a context of fiscal constraint, high financing costs and macroeconomic vulnerability. The climate finance architecture as it currently stands is insufficient to cover these demands, which forces a rethinking of the mechanisms for mobilising domestic and external resources.

Chapter 3 addresses the Amazon as an environmental asset critical to reducing greenhouse gas (GHG) emissions, to climate stability and to global food security, and stresses that its preservation cannot come at the cost of the economic and social development of the Amazon countries. The analysis concludes that protec-

ting the Amazon cannot be framed as an economic sacrifice. It is a development strategy, and one that requires adequate incentives, alignment of public policy and international recognition of the value of its ecosystem services.

Chapter 4 turns specifically to carbon markets as instruments capable of connecting finance and environmental assets. The global expansion of emissions trading systems and carbon taxes, progress on Article 6 of the Paris Agreement, and the implementation of border adjustment mechanisms such as the European Union Carbon Border Adjustment Mechanism (CBAM) are redefining international competitiveness. In this new environment, carbon intensity becomes a key determinant of market access and of countries' strategic positioning.

The transition to net zero emissions will be viable and politically sustainable only if it integrates development, equity and competitiveness. For developing countries the challenge is not a choice between growth and climate. It is to design the institutions, incentives and markets that allow the protection of their natural assets to become the basis of their economic resilience and of their strategic position in the emerging global climate order.

2. THE CLIMATE FINANCE GAP AND GLOBAL RESPONSIBILITY

Climate change is no longer a future risk. It has become a structural problem of the global economic system. Scientific evidence shows that the impacts of global warming are increasing, and that they are doing so at an accelerating pace as greenhouse gas (GHG) accumulation in the atmosphere intensifies. **Since the start of industrialisation approximately 2,300 gigatonnes of carbon dioxide have been released, of which around 40% have been emitted in the last three decades alone.** This rate of emissions has pushed the atmospheric concentration of CO₂ to a record annual average of roughly 423 ppm in 2024, a level unprecedented in at least three million years (World Economic Forum & Boston Consulting Group [BCG], 2024).

As a direct consequence, average global temperature has already risen by around 1.2°C above pre-industrial levels.

That warming, apparently marginal, has been enough to alter climate patterns significantly, increasing the frequency, intensity and duration of extreme events.

According to the World Meteorological Organization, the incidence of climate-related disasters, including heatwaves, floods, droughts, storms and wildfires, has increased fivefold over the last fifty years.

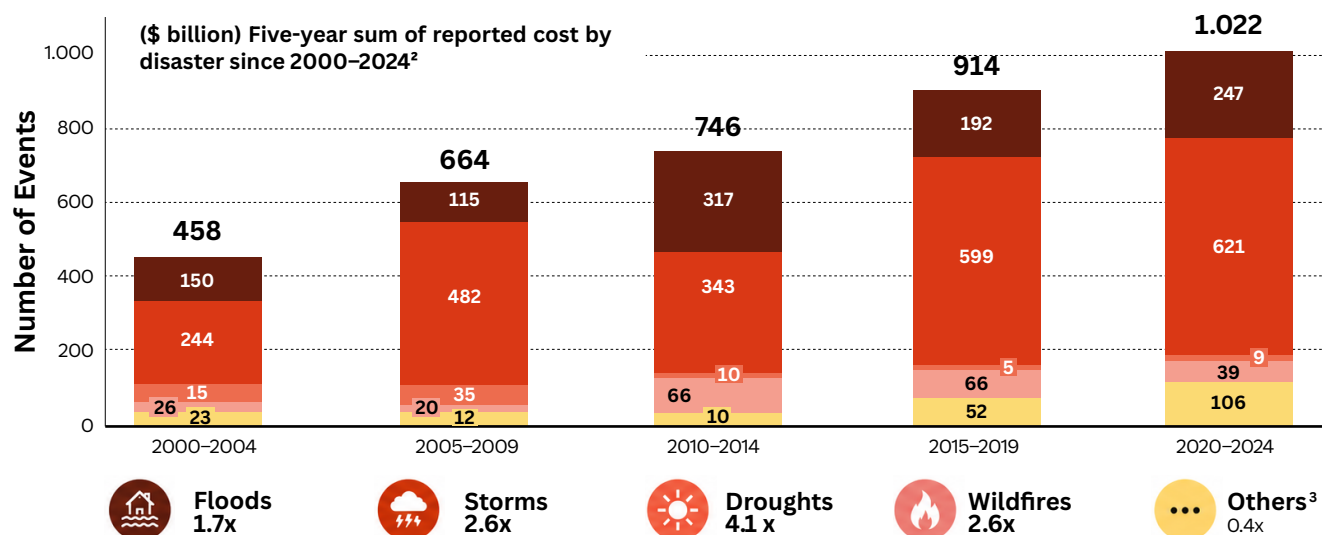
The rising physical impacts of climate change translate, increasingly, into significant economic costs. **Over the past two decades, the costs associated with climate damage have more than doubled, rising from levels close to USD 450 billion** in the early 2000s to figures that exceed USD 1 trillion today. These estimates nonetheless tend to understate the true eco-

nomic cost of climate change, since they concentrate mainly on direct damage and largely exclude indirect and long-term effects.

While global temperature rises by 1.2°C, climate disasters multiply fivefold and their economic costs reach historic levels.



Figure 1. Economic cost related to natural disasters¹



1. The EM-DAT database categorises and shares economic data on floods, storms, extreme temperature events, droughts, mass movements (dry and wet), that is, landslides and mudslides, wildfires, volcanic activity and earthquakes. Disasters related to volcanic activity and earthquakes are excluded, as they are not directly related to climate or to climate change.

2. Data for 2024 disasters are extrapolated from 2020–2023 averages in order to show the five-year trend from 2020 to 2024.

3. "Other" includes extreme temperatures and mass movements (dry and wet); data for these phenomena fluctuate because of reporting.

Notes: The chart uses 2023-adjusted dollar figures throughout the analysis to ensure parity; figures prior to 2000 carry reporting bias and were excluded from the analysis. These costs represent only a subset of the total damage caused by physical risks and therefore understate likely total impacts and costs.

Sources: EM-DAT's international disaster database, hosted by the Centre for Research on the Epidemiology of Disasters (CRED), UCLouvain; BCG analysis.

Among these unaccounted impacts are the deterioration of public health, the loss of labour productivity, the degradation of ecosystems and the depletion of natural capital. Sectors vulnerable to climate change could also face asset devaluation and liquidity or credit risk. Together, these factors generate persistent economic pressure that falls disproportionately on society, and in particular on countries with less fiscal and financial capacity to absorb such shocks.

There is a deep asymmetry between those who have contributed historically to the problem and those who face its worst consequences. Low and middle-income countries, despite having contributed marginally to global warming, are exposed to higher climate risks. Their economies

depend more heavily on climate-vulnerable sectors, their infrastructure tends to be more fragile, and they have fewer resources to invest in adaptation. That combination turns climate change into a powerful multiplier of pre-existing inequalities. The climate transition cannot be separated from the fight against social and economic inequality.

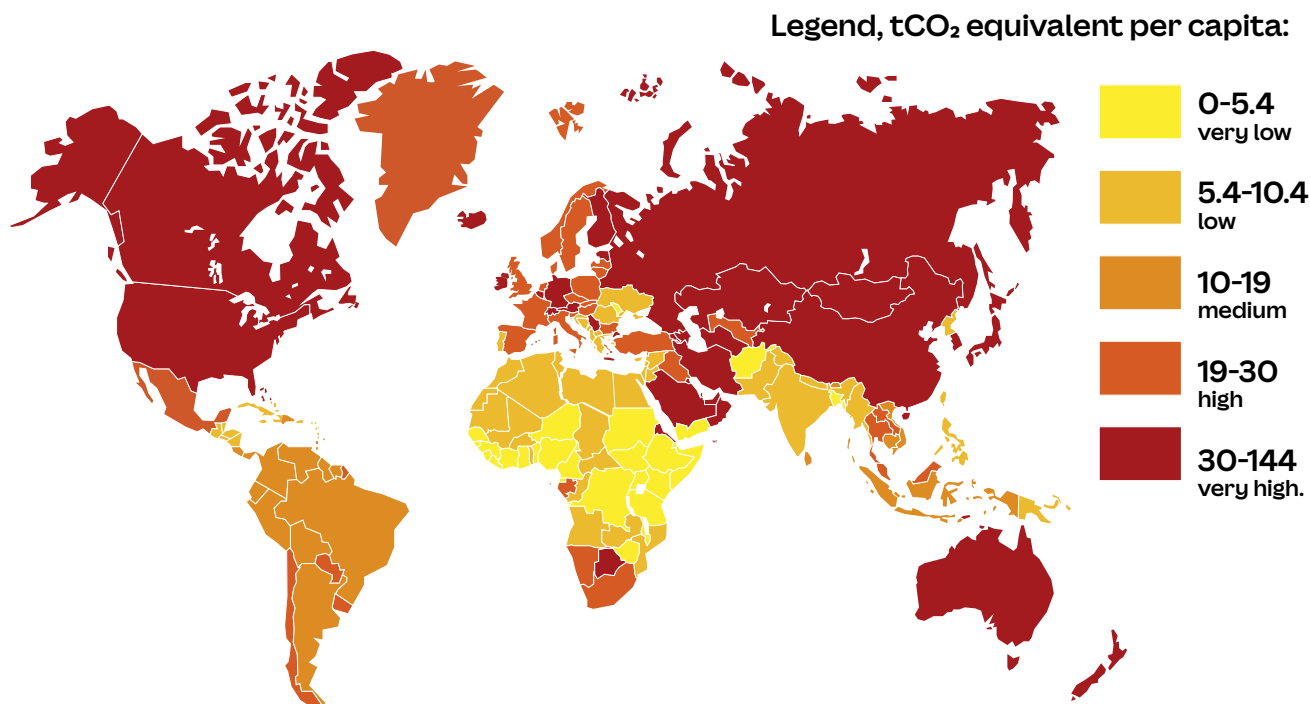
The 2025 global Multidimensional Poverty Index (MPI) report presents new data indicating that the climate crisis is reshaping poverty worldwide. It finds that 8 in 10 people living in acute multidimensional poverty, 887 million of the 1.1 billion worldwide, are directly exposed to climate hazards. Of these, 608 million are exposed to high temperatures, 577 million to air pollution, 465 million to floods and 207

million to droughts. No fewer than 651 million are affected by two or more climate hazards, while 309 million face three or four simultaneously. Almost two thirds of the poor population lives in middle-income countries, and most of them, some 637 million, reside in lower-middle-income countries. **These conclusions highlight the urgent need to act globally to address the unequal burden that climate-related hazards place on the most vulnerable people** (United Nations Development Programme [UNDP] & Oxford Poverty and Human Development Initiative [OPHI], 2025).

The Paris Agreement rests on the principle of shared responsibility. **Its premise is that all countries must reduce their emissions so that all benefit from mitigation.** But while mitigation requires collective

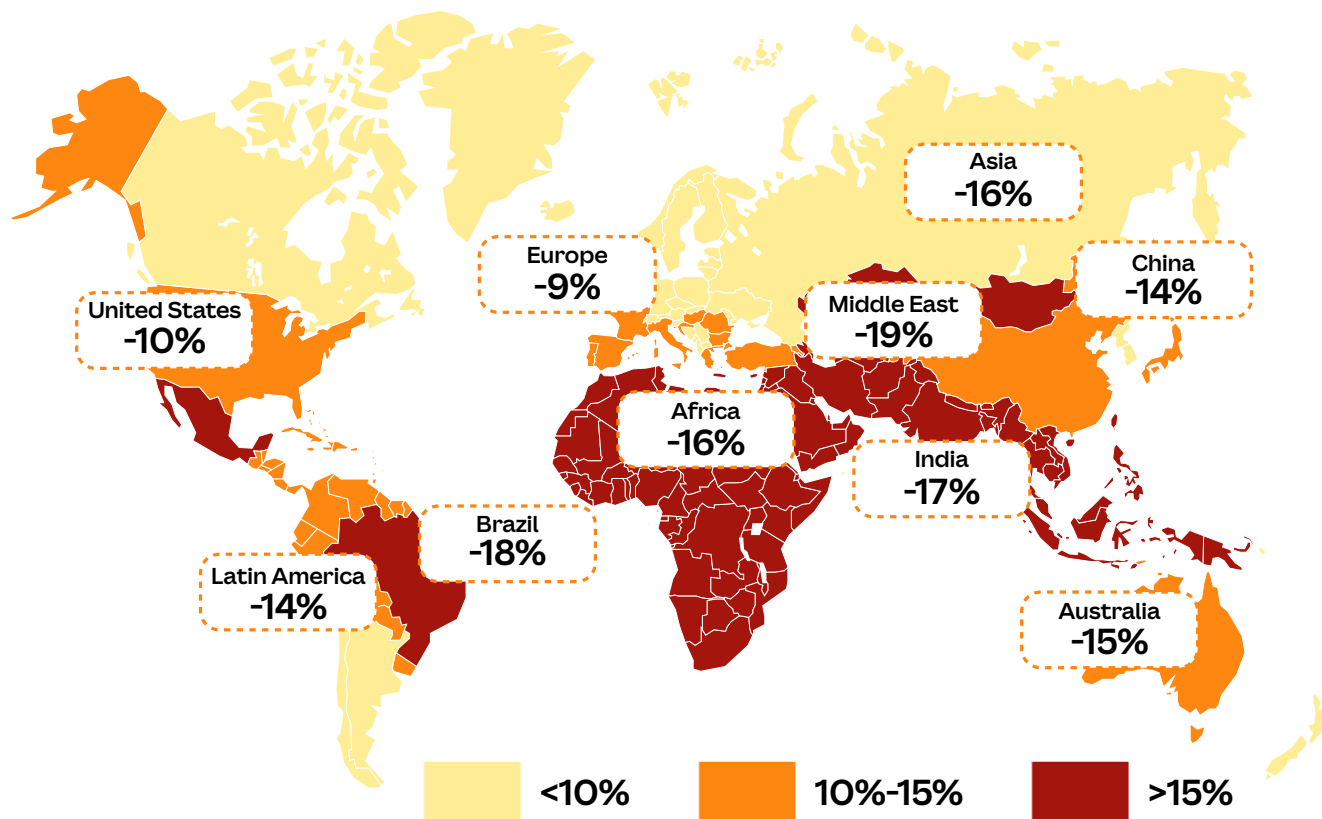
action, costs and benefits are not distributed equitably. From the perspective of the Global North, there is resistance to bearing the costs of a crisis whose most severe economic impacts are felt, in relative terms, in the Global South. From the perspective of the Global South, it is unjust to carry disproportionate responsibility for a crisis to which it has historically contributed only marginally. That gap is visible in the data: G20 countries account for approximately three quarters of global emissions and around 85% of global GDP, while Africa, as a continent, is responsible for just 4% of global GHG emissions. Even so, there is growing awareness that no country can escape the physical and economic damage of climate change (BCG & University of Cambridge, 2025).

Figure 2. Top 10% carbon emitters (all sectors; %)



Source: World Inequality Database, emissions for 2019.

Figure 3. Estimated GDP loss in 2050 due to climate change



Source: NGFS; BCG analysis.

Macroeconomic projections reinforce the urgency of acting. **Various studies warn that if the current emissions trajectory holds, taking temperatures to around 3°C above pre-industrial levels,** cumulative global GDP could fall by between 16% and 22% by the end of the century. Those losses would be between 10% and 15% greater than in a scenario of warming below 2°C. Against this backdrop, climate finance emerges as a risk mitigation strategy with significant economic returns. The evidence indicates that allocating approximately 2% of global GDP to mitigation measures would put the global economy on a trajectory compatible with holding warming below 2°C. To that must be added the need to invest around 1% of global GDP in adaptation to confront the impacts already locked in. Together, these investments could avoid the economic losses projected

for this century, with a fivefold social and economic return (WEF & BCG, 2024).

One of the most persistent barriers to accelerating climate action is, surprisingly, the way political debate continues to sideline economic analysis. Despite mounting empirical evidence on the scale of the impacts, climate action is perceived as a cost rather than as a strategy for protecting the economic system. For as long as it is not systematically integrated into public and private planning, it will remain vulnerable to political cycles and short-term priorities. Comparative projections show that in certain scenarios, low and lower-middle-income countries could face losses in Gross Domestic Product up to 3.6 times greater, on average, than those of developed countries. These impacts compromise the development trajectories of EMDEs and also

generate systemic risks for the global economy, affecting financial stability, trade flows and international supply chains.

While a greater number of mitigation measures avoids higher adaptation costs, some adaptation costs will remain necessary even in the best case, that is, holding global warming below 2°C. In a 3°C scenario adaptation costs would of course be higher still, although reliable estimates are not possible because impacts are highly localised. **Most mitigation spending has been concentrated in East Asia and the Pacific (41%), Western Europe (28%), and the United States and Canada (14%) (BCG & University of Cambridge, 2025).** The World Bank estimates that robust adaptation measures can generate up to four times their cost in economic benefits, so adaptation finance should not be seen merely as assistance. Despite this recognition, a structural imbalance in resource allocation persists. Adaptation finance continues to represent less than a third of global climate finance, a proportion insufficient against the needs of the most vulnerable countries, and it perpetuates structural inequalities relative to countries with greater fiscal and financial capacity¹.

Meeting this challenge requires more than voluntary commitments from the private sector. The scale of the investment needed demands clear regulatory frameworks, adequate economic incentives and decisive action by states and international financial institutions. This is where the central gap that this chapter sets out to examine becomes clear: the distance between the scale of the climate challenge and the volume and direction of the finance available, especially for the most vulnerable countries.

[1] WEF 2025, COP30 en Brasil: ¿Qué está en juego para la colaboración mundial en materia de clima y naturaleza? [COP30 in Brazil: what is at stake for global collaboration on climate and nature?]

Commitments, regulations and incentive schemes for climate action have accelerated significantly over the past decade, particularly since the adoption of the Paris Agreement in 2015. Even so, current policies are insufficient to meet those objectives and to consolidate more even progress worldwide. **One message cuts across international debate with clarity: the urgency of moving from diagnosis to concrete results on mitigation and adaptation.**

National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) are the principal instruments for connecting climate action to development strategy. NAPs allow priority vulnerabilities to be identified, adaptation to be integrated into public policy, and project pipelines to be structured for access to finance, while NDCs define national mitigation and adaptation commitments under the Paris Agreement.

The third generation of NDCs (NDC 3.0), covering the period 2025–2035, represents a critical turning point. These contributions are expected to be more ambitious and more consistent with the objective of limiting global warming to 1.5°C. According to ClimateWatch's NDC Tracker², 133 economies, responsible for 78% of global greenhouse gas emissions, have submitted updated NDCs, though more than 170 countries are expected to do so. The 2025 NDC cycle offers the opportunity to set the world on a safer path at the pace required. That makes the new commitments crucial for aligning short-term action with long-term goals. While the plans submitted so far represent a step in the right direction, they do not yet reach the ambition needed to keep the Paris Agreement's objectives within reach.

[2] <https://www.climatewatchdata.org/ndc-tracker>

Figure 4. NDCs 3.0, unconditional

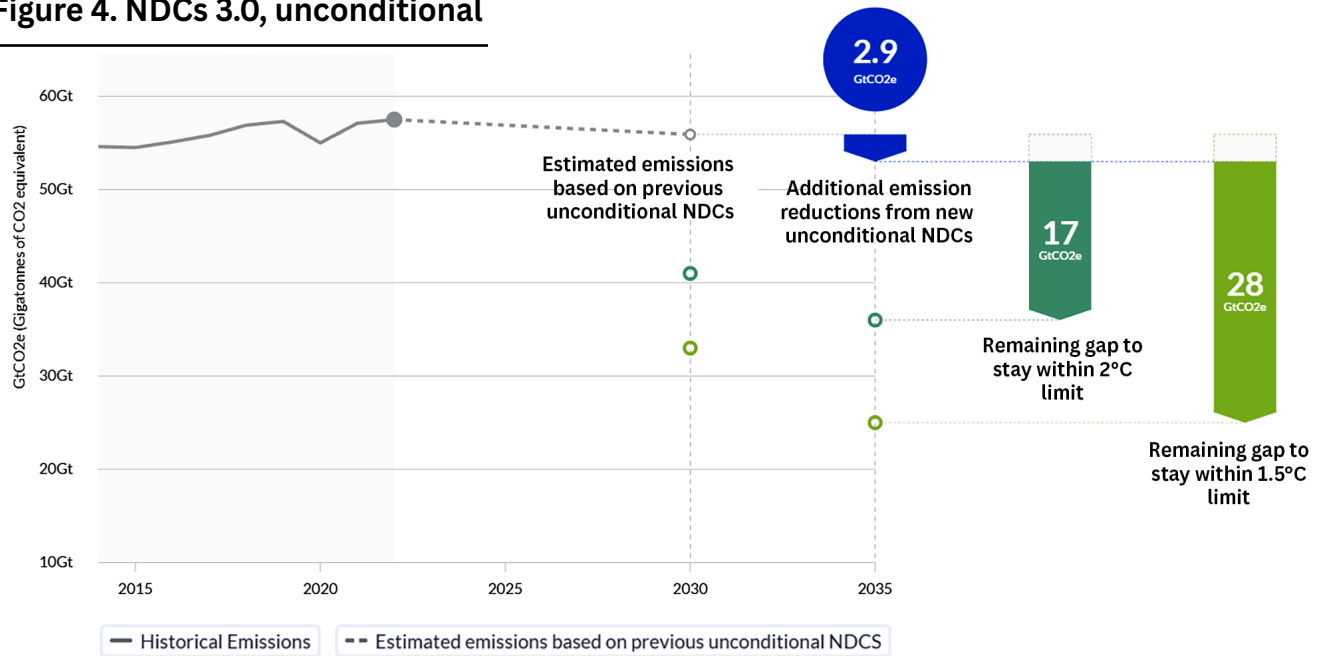
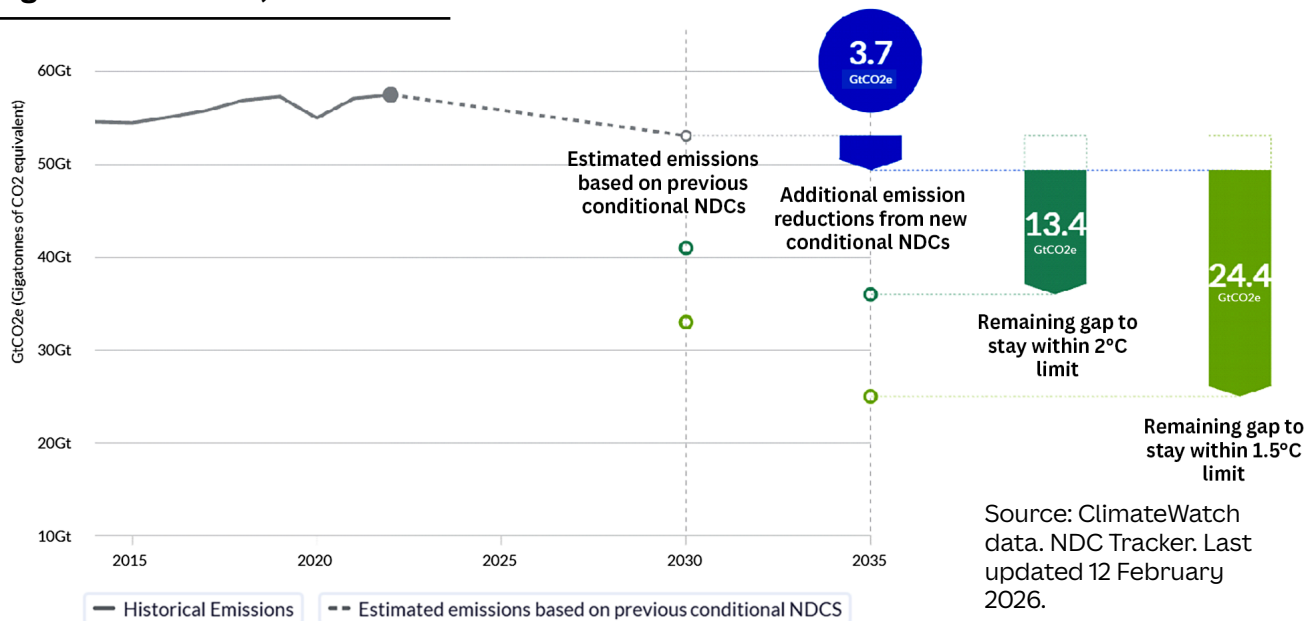


Figure 5. NDCs 3.0, conditional



Coherent integration of climate and development policy in NDCs could allow one in five people to move out of poverty by 2050. If energy transition investment is complemented by food security measures, access to basic services and governance reform, most least developed countries could substantially improve their socioeconomic

outcomes over the coming decades (OECD & UNDP, 2025). The challenge, however, is not only to increase the number of commitments. It is to improve their quality from an investment perspective. In their current form, many NDCs remain high-level statements of ambition with no clear operational or financial translation.

To mobilise capital at scale, NDCs must evolve into roadmaps with detailed sectoral plans, clear timetables, coherent regulatory frameworks and explicit financing strategies. National policy lays the groundwork by steering resources toward climate priorities and creating incentives for investment. Optimising public finance, re-directing private finance and strengthening international support are the routes to expanding financing, and the balance among the three will depend on each country's socioeconomic context and circumstances.

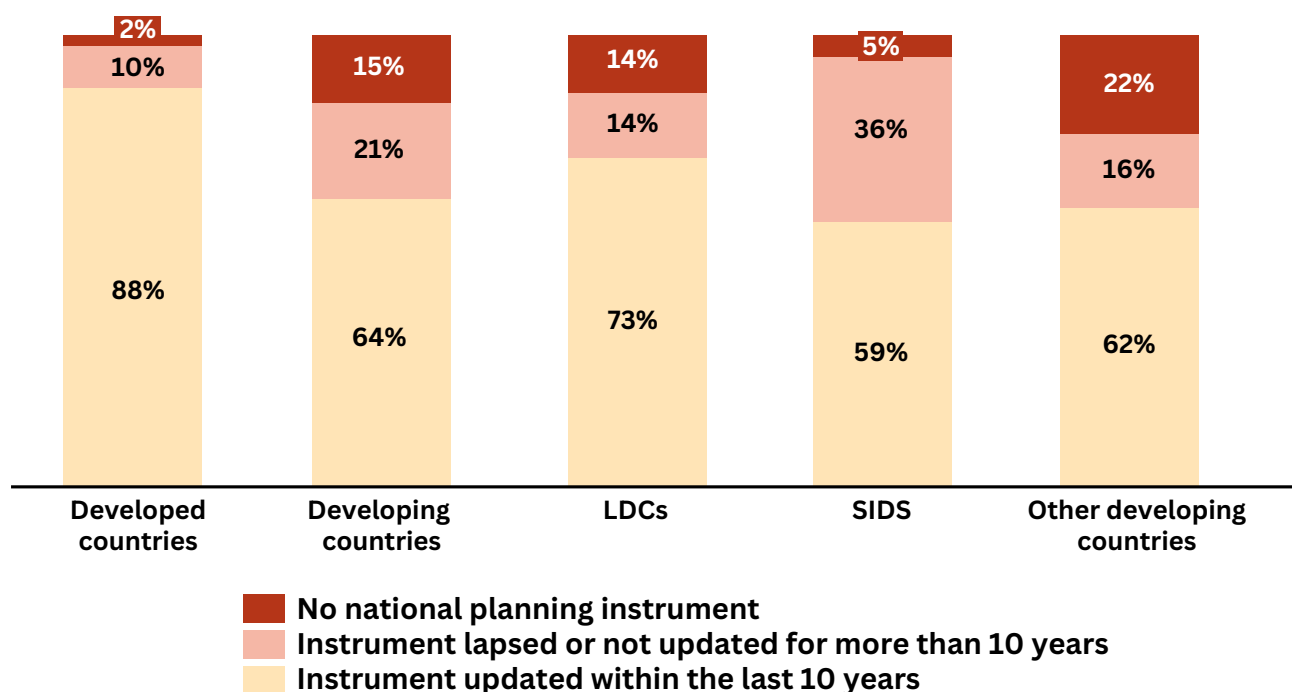
UNEP's analysis (2025) shows that 172 countries have a national adaptation planning instrument in place. Of these, 36 have instruments that have lapsed or have not

If countries align their climate and development policies, one in five people could move out of poverty by 2050.



been updated for at least a decade, which casts doubt on the relevance and effectiveness of those frameworks and indicates that countries struggle to update them in good time. Of the 25 countries that still lack a national adaptation plan, strategy or policy, 21 have begun the development process, although half of these processes have been under way for between 7 and 10 years. The countries without these instruments, or whose instruments have expired, are predominantly developing countries, which suggests that financial, technical and human resource constraints inhibit national adaptation planning. Given accelerating climate impacts and their associated costs, effective planning is the soundest response for closing the financing gap.

Figure 6. Status of national adaptation planning instruments under the UNFCCC framework



Source: UNEP, UN Environment Programme. Adaptation Gap Report 2025.

The OECD (2025) further notes that only 29% of current NDCs with an adaptation component explicitly mention the links between adaptation and mitigation. NDC and NAP processes have the potential to reinforce one another, with effective adaptation plans and strategies supplying the information and objectives subsequently communicated through NDCs. NDCs can give adaptation visibility, highlight the potential co-benefits between adaptation and mitigation, and help governments communicate a coherent vision of their climate policies. Since both processes are iterative, though often on different timescales, there are opportunities to improve their alignment.

The most recent Global Risks Report (WEF, 2026) introduces an element critical to understanding the current limits of global climate action: the progressive weakening of the multilateral system and of traditional mechanisms of international cooperation. **In this environment, geo-economic confrontation emerges as one of the principal systemic risks, identified as the most likely to trigger a significant global crisis in 2026** by 18% of respondents, rising in the ranking relative to previous years. The combination of strategic rivalries, supply chain fragmentation and prolonged conflicts with the potential for regional contagion produces a scenario of high fragility and macroeconomic volatility. This risk is not confined to the short term. Over a two-year horizon, respondents again identify it as the most important, reflecting a persistent perception of an increasingly competitive and less cooperative international order. These perceptions introduce fresh uncertainty that

directly affects the predictability of long-term investment flows.

The report also highlights growing social and political polarisation, which intensifies pressure on democratic systems. In this context, inequality was identified for the second consecutive year as the most interconnected global risk, followed closely by economic recession. The interaction between inequality, political instability and institutional fragility has direct implications for climate action. In societies marked by high levels of polarisation and distrust, for example, long-term policies such as those needed to meet decarbonisation or adaptation objectives can face greater difficulty in implementation. That reduces governments' capacity to sustain ambitious climate commitments and complicates the channelling of resources toward investments with long-term returns, especially in developing countries.

A further finding is particularly relevant: non-environmental risks have gained relative weight against environmental ones in the short term. All environmental risks saw their severity scores fall over the two-year horizon. This loss of centrality nonetheless contrasts with long-term expectations. Over a ten-year horizon, environmental risks remain the most severe. That temporal distance can contribute to delaying investment decisions and widening the gap between declared commitments and effective action. Likewise, as states prioritise immediate national interests over collective action, the international community's capacity to coordinate responses to shared challenges such as climate change is weakened.

Figure 7. Global risks ranked by severity, short term (2 years) and long term (10 years)

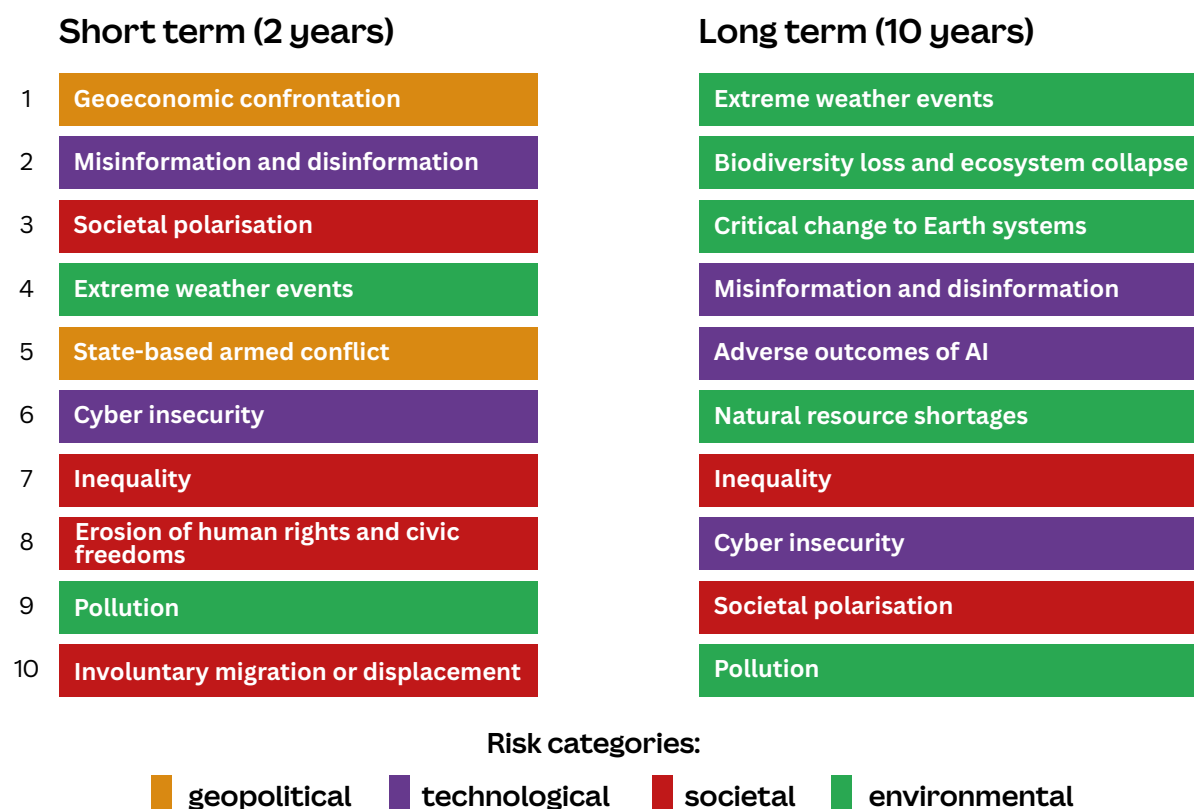
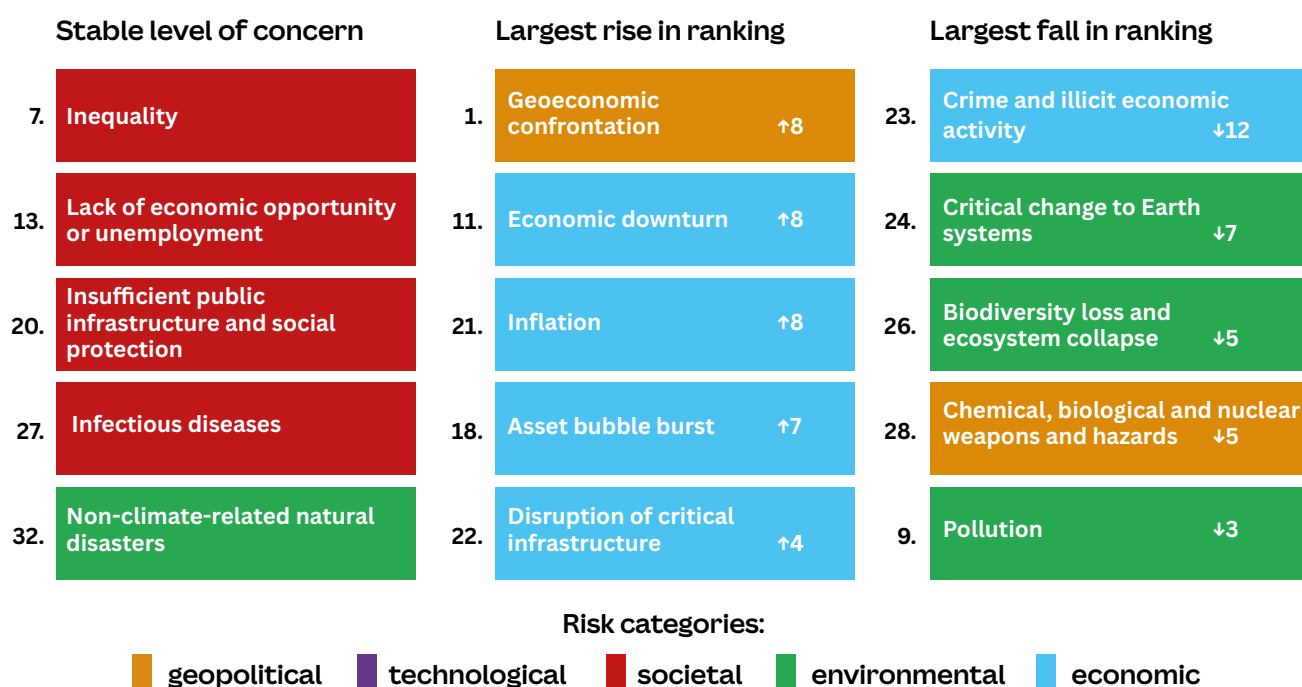


Figure 8. Change in short-term (2-year) risk perception since last year



Source: World Economic Forum Global Risks Perception Survey 2025–2026.

For developing countries, this fragility of the multilateral system has particularly severe consequences. Mobilising finance at scale depends on strong multilateral institutions, predictable rules and risk-sharing mechanisms that reward long-term investment. Institutional weakness threatens climate goals and raises the economic, social and political costs of inaction. Without a functional and credible system of international cooperation, the transition to a low-carbon economy will be slower, more expensive and more unequal. For regions with large environmental assets, such as the Amazon, this institutional fragility adds a layer of uncertainty. It also reinforces the need to design instruments that turn those assets into strategic advantages capable of attracting investment.

Finance has become one of the main bottlenecks for global climate action, particularly in emerging market and developing economies (EMDEs). In 2023, global climate finance reached an all-time high of USD 1.9 trillion. Yet only USD 332 billion, drawn from both domestic and international sources, went to EMDEs. That figure represents barely 14% of the roughly USD 2.4 trillion a year these countries will need to invest in mitigation and adaptation by 2030 to stay aligned with the goals of the Paris Agreement (WEF, 2025). Recent data from the Independent High-Level Expert Group on Climate Finance (IHLEG) indicate, moreover, that by 2035 developing countries will need USD 3.2 trillion a year in climate and nature-related investment. Most of this is expected to go to the clean energy transition (USD 2.05 trillion), followed by adaptation and the response to loss and damage (USD 750 billion in total), the protection of nature and the promotion of sustainable agriculture (USD 350 billion), and securing just transitions (USD 50 billion) (IHLEG, 2025).

The scale of this gap makes clear that the

challenge is not only to increase total financing flows. It is to redirect them toward the economies where climate and development impacts are greatest. The financial structure of these flows also reveals a persistent predominance of debt. That reality reinforces the need to design strategies that expand the use of equity instruments, reduce perceived risk and allow long-term private investment to be mobilised toward sectors strategic for sustainable development.

Rebalancing the relationship between fiscal space, debt sustainability and climate action is one of the most critical macroeconomic challenges facing developing countries today. The sharp rise in borrowing costs, driven by tighter global financial conditions, has placed public finances under considerable strain and reduced the capacity of states to implement NDCs and NAPs effectively, deepening existing inequalities. Integrating debt management explicitly into climate finance strategies is essential. **Innovative instruments such as climate resilient debt clauses and debt-for-climate swaps offer a concrete route to expanding fiscal space.** Disaster pause clauses, by allowing debt service to be suspended temporarily after extreme events, provide immediate liquidity and fiscal relief at moments of crisis. Debt-for-climate swaps, for their part, represent an opportunity to convert financial liabilities into investment in conservation and sustainable development. **In the Amazon countries these swaps could be directed toward financing integrated programmes of forest protection, ecosystem restoration, nature-based adaptation and the strengthening of local economies,** contributing at once to macroeconomic stability and to climate commitments.

The Independent Expert Group (2024) notes that rising public debt, far from being an isolated phenomenon, interacts

directly with the capacity of developing countries to conserve nature, adapt to climate change and advance the decarbonisation of their economies. EMDEs face a dilemma: early investment in resilience can limit future losses, but at the expense of greater short-term financing needs. The sources of that financing, and the conditions on which it is secured, will shape the debt sustainability of these countries.

The current architecture of Debt Sustainability Frameworks and Analyses (DSFs and DSAs), as applied by the IMF and the World Bank, fails to capture this interdependence adequately, penalising climate and environmental investment even where it is essential to long-term macroeconomic stability. One of the central problems identified is insufficient transparency and consistency in the way climate risks are integrated into DSAs. Measures that combine access to more affordable finance with reform of the DSF, so that adaptation efforts are properly measured, can therefore help secure long-term debt sustainability by enabling and rewarding such investment.

The reform proposed by the Expert Group rests on three analytical pillars. **First**, DSAs should integrate the projected impacts of climate change explicitly and consistently into their baseline macroeconomic and fiscal scenarios. This means recognising higher liquidity and solvency risks, and also incorporating the fiscal savings and greater macroeconomic stability associated with pre-arranged disaster risk finance and other climate measures. **Second**, the risks arising from nature loss

need to be incorporated, which requires progress on data and models capable of reflecting their economic impacts and of recognising the fiscal benefits of ecosystem protection and restoration. **Third**, the proposal calls for more systematic use of alternative scenarios comparing trajectories with and without early and ambitious investment in resilience, nature and mitigation. Such scenarios would make it possible to assess how different sources and conditions of financing shape debt sustainability over time. Where data are scarce,

the Group goes further and suggests differentiated treatment of debt tied to verifiable climate and environmental investment, recognising its contribution to reducing future risks.

Climate shocks, therefore, demand greater mobilisation of domestic resources and, consequently, higher borrowing by the countries most vulnerable to them. EMDEs have limited though significant capacity to mobilise resources domestically. It is estimated that these countries could generate around USD 1.4 to 1.9 trillion a year in domestic climate finance by 2030–2035. The remaining shortfall, however, close to USD 1

trillion a year and potentially rising to USD 1.3 trillion by 2035,³ would have to come from external sources, principally international private capital. This reality strains traditional frameworks of climate cooperation, historically centred on concessional public finance, and forces a rethinking of the private sector's role as a central actor in the climate transition.

Climate shocks will demand greater mobilisation of domestic resources and, as a result, higher borrowing by vulnerable countries.



[3] Under the Baku Finance Goal: Report on the Baku to Belém Roadmap to 1.3T.

According to the report The Baku to Belém Roadmap to 1.3T, 78% of external climate finance comes from public sources, principally multilateral banks and development finance institutions, while 22% comes from private sources, in particular commercial banks and corporates (United Nations Framework Convention on Climate Change [UNFCCC], 2025). **Adaptation costs are estimated in a range between USD 310 billion and USD 365**

billion a year for developing countries by 2035. International public adaptation finance flows to developing countries grew at an average rate of 7% a year over 2019–2023, below the 12% annual increase needed to meet the Glasgow Climate Pact. Considering only flows from developed to developing countries, international public adaptation finance declined in 2023 to USD 26 billion, down from USD 28 billion in 2022 (UNEP, 2025).

Figure 9. Estimated adaptation costs by region, income group and sector (indicative central value) for developing countries in 2035

(\$ billion/year), constant 2023 prices.

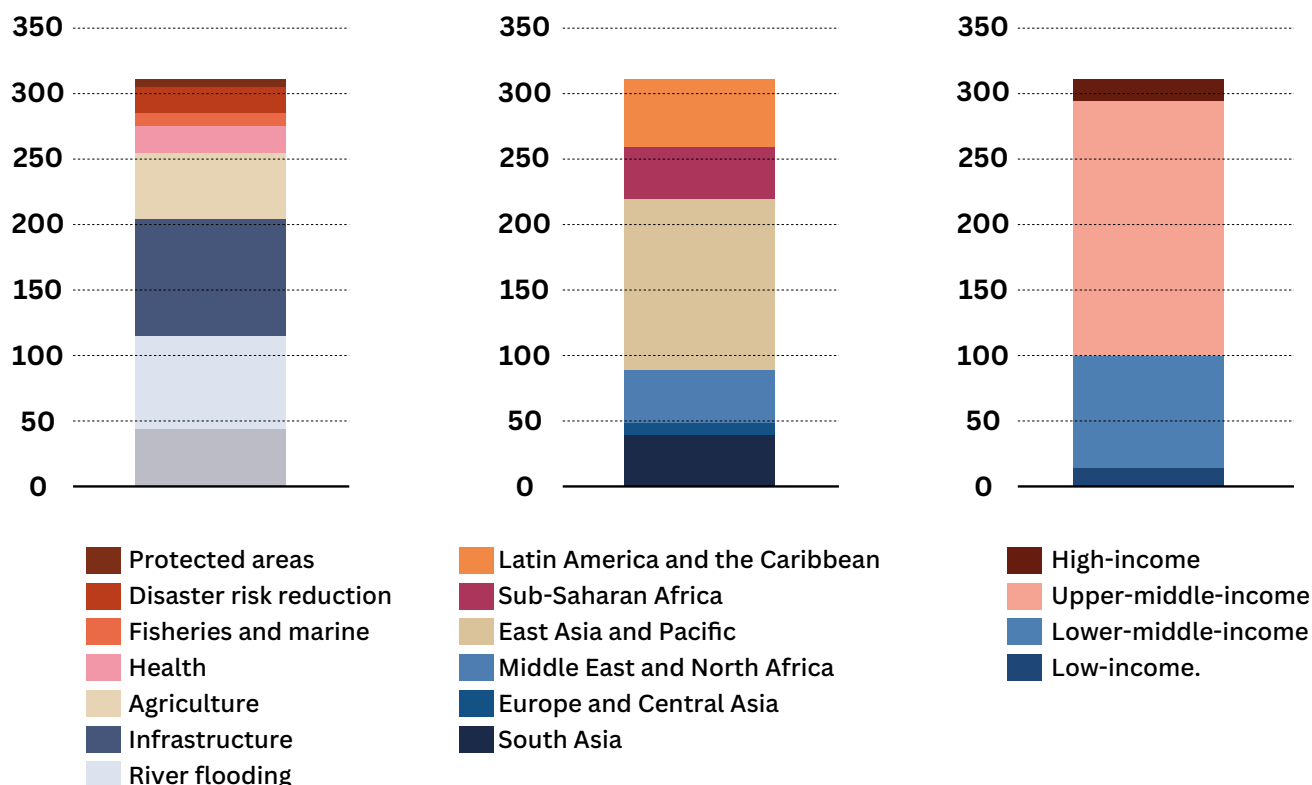
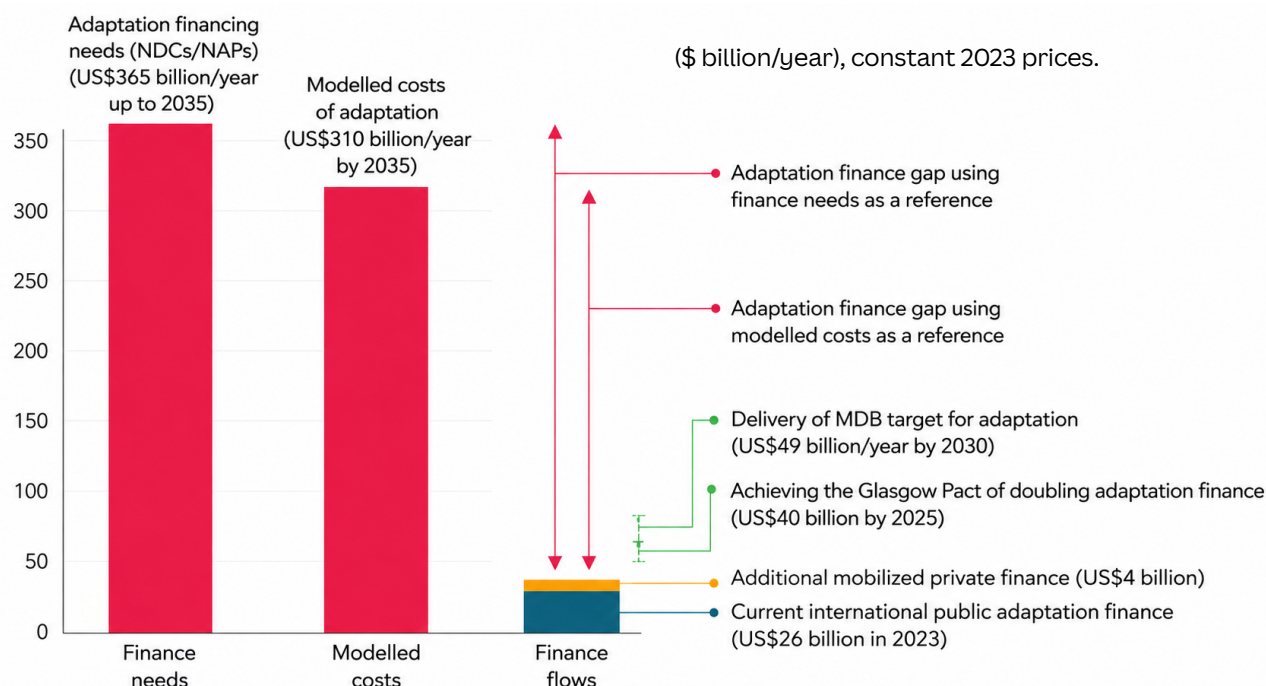


Figure 10. Adaptation financing needs, modelled costs and international public adaptation finance flows in developing countries, compared



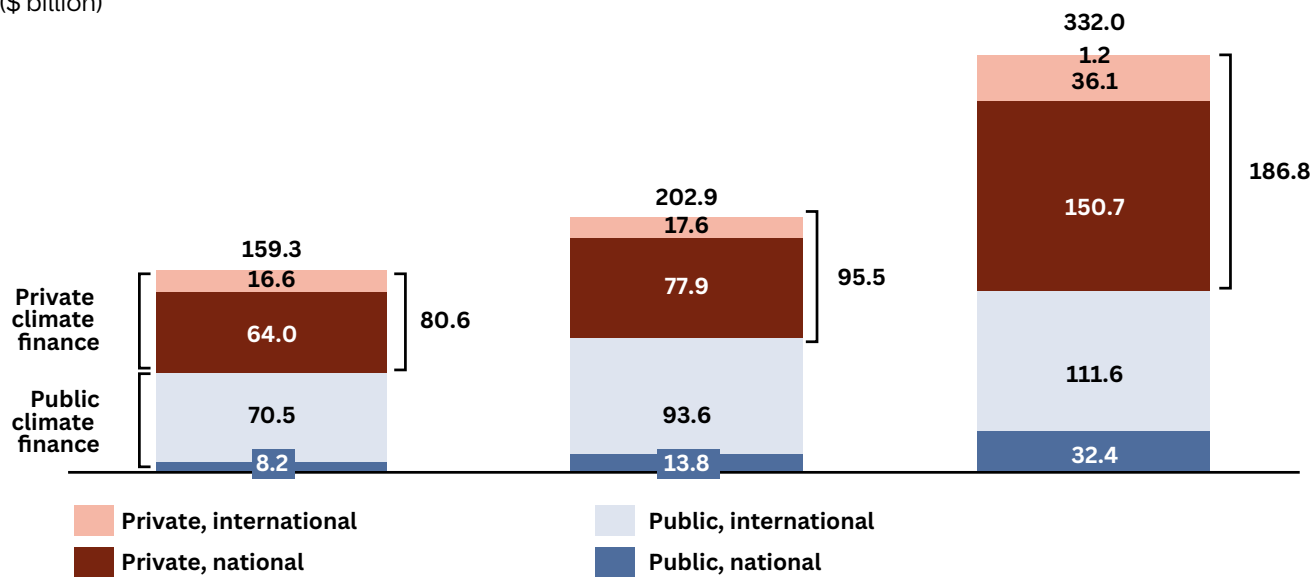
Source: UNEP, UN Environment Programme. Adaptation Gap Report 2025.

In this context, multilateral initiatives such as the New Collective Quantified Goal (NCQG), which seeks to mobilise up to USD 300 billion a year by 2035, represent significant political progress. Yet even under full delivery of that goal, an estimated shortfall of at least USD 700 billion a year would remain. According to WEF (2025), although international private flows to EMDEs rose from USD 17 billion in 2021 to USD 36 billion in 2023, their relative weight within total climate finance remains marginal. Reaching the threshold of USD 1 trillion a year by 2030 would require these flows to multiply

by a factor of close to 28, which points to the urgency of transforming the risk, return and scalability conditions of climate investment in these markets. Domestic private finance, meanwhile, has been the backbone of climate investment in these countries. Between 2021 and 2023 these flows more than doubled, rising from USD 64 billion to USD 151 billion, and they account for more than 80% of all private climate finance. In 2023, however, private finance remained heavily concentrated in mitigation, which absorbed 96% of total flows, while adaptation accounted for just 1%.

Figure 11. Total climate finance for emerging market and developing economies

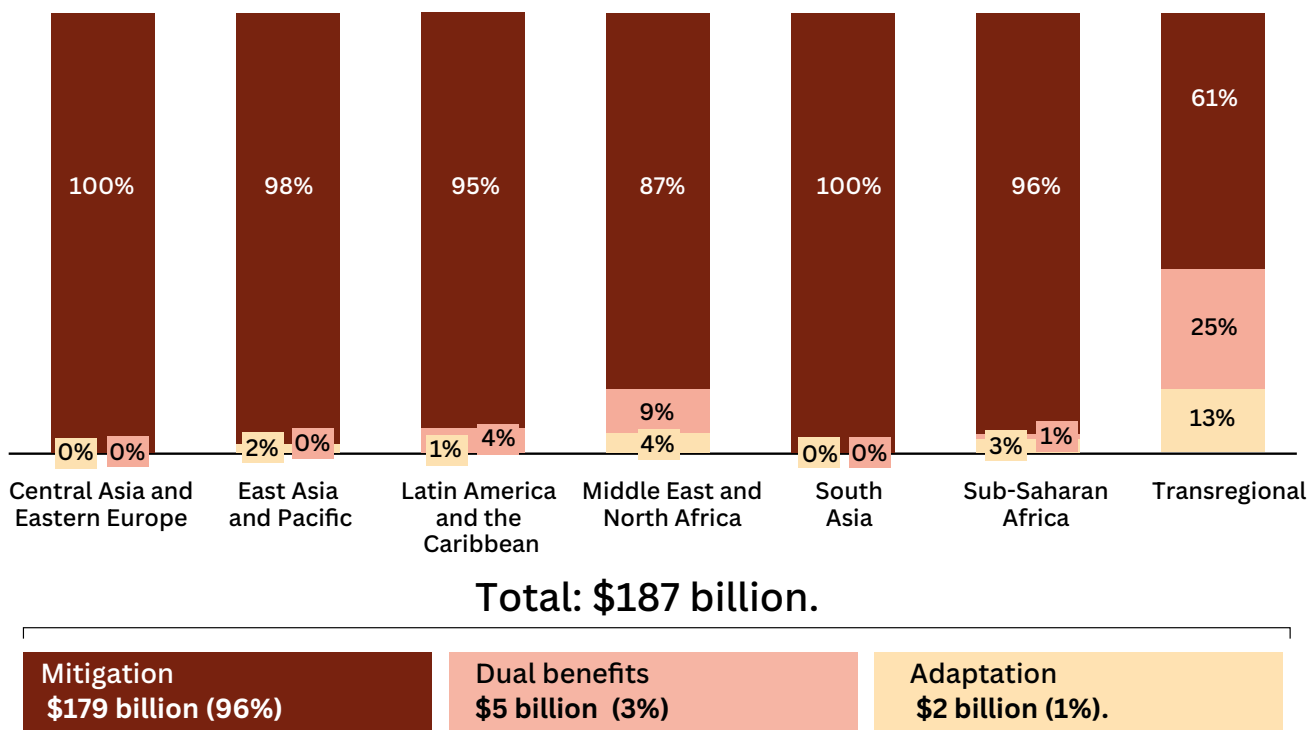
(\$ billion)



Note: The Climate Policy Initiative reports a total of \$332 billion in climate finance to EMDEs in 2023, which includes \$1.17 billion categorised as "unknown international" finance. This is not included in the total of \$186.8 billion of private climate finance for 2023.

Source: Climate Policy Initiative (CPI), 2025. World Economic Forum, From Risk to Reward: Unlocking Private Capital for Climate and Growth 2025.

Figure 12. Regional distribution of private climate finance in emerging market and developing economies, by use (2023)

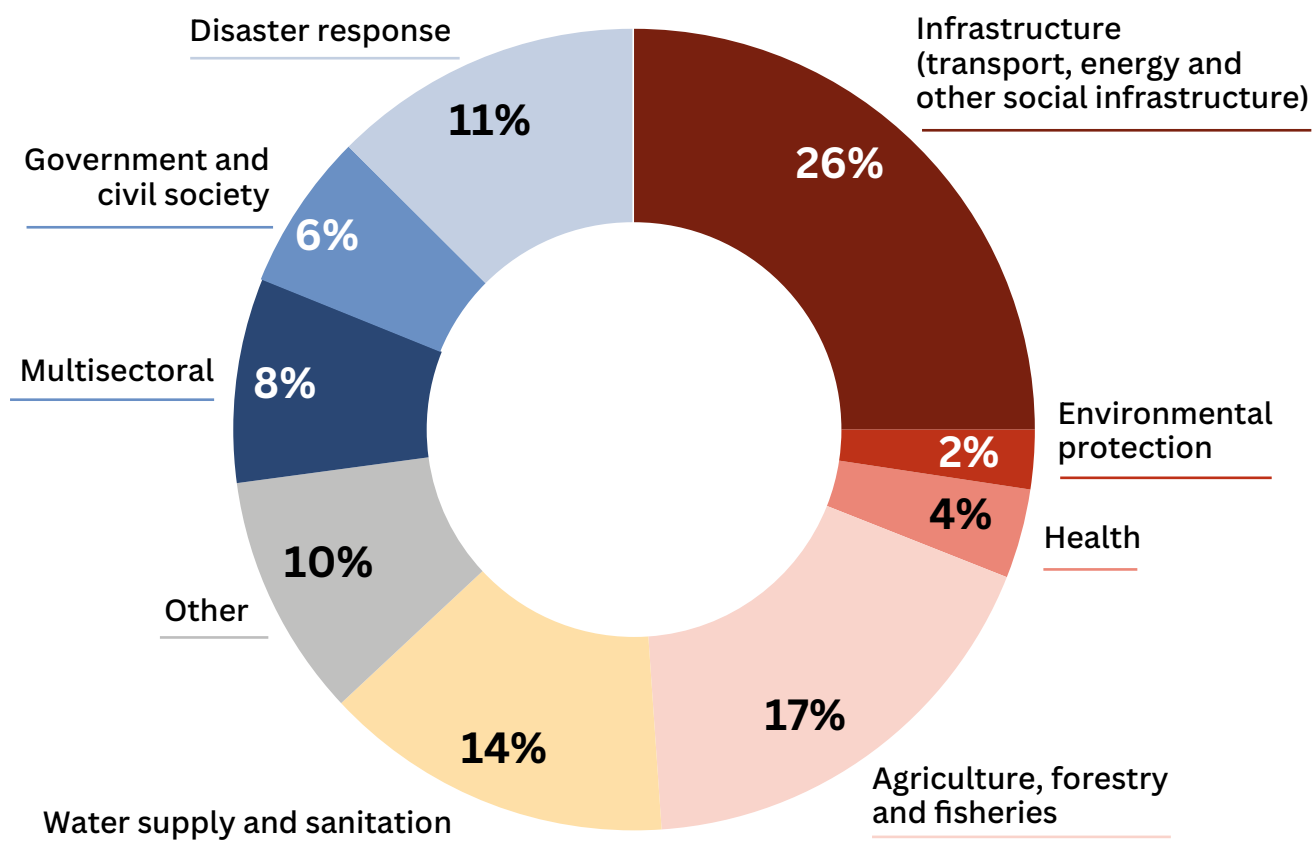


Source: Climate Policy Initiative (CPI), 2025. World Economic Forum, From Risk to Reward: Unlocking Private Capital for Climate and Growth 2025.

The combined volume of finance for the four funds serving the UNFCCC and the Paris Agreement, namely the Adaptation Fund, the Green Climate Fund (GCF), the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF), shows that since 2018 their financing for new adaptation projects had stalled. Data for 2024 and 2025 nonetheless show a strong rebound against the 2019–2023 moving average. While these data could indicate a new positive trend, it is premature to draw conclusions about the implications for long-term trends. It is worth noting that multilateral development banks account for the largest international public adaptation finance flows to developing countries

(57%) and finance other sectors, as well as a different mix of financial instruments, than the UNFCCC funds. As a result, implementation of the UNFCCC financial mechanism has focused more on capacity building and smaller-scale interventions. The most recent adaptation finance gap report estimates that the gap cannot be closed through international public finance alone, since estimated future costs and needs are roughly 12 to 14 times greater than these flows. Highlighting the private sector's potential to help reduce the financing gap, it estimates that private finance could cover between 15% and 20% of priority adaptation needs in developing countries by 2035 (UNEP, 2025).

Figure 13. Implemented adaptation financed by Multilateral Development Banks, by sector, 2019–2023



Source: UNEP, UN Environment Programme. Adaptation Gap Report 2025.

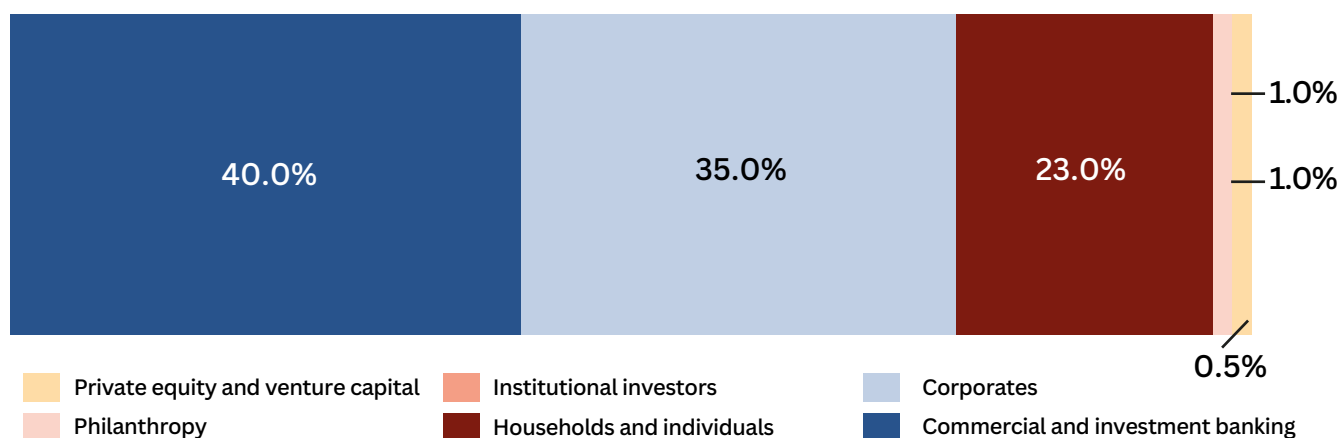
Paradoxically, the scarcity of capital is not the central problem. The world's largest asset owners manage volumes of capital far above the estimated climate finance needs of EMDEs. **The challenge, therefore, is not the availability of resources. It is the capacity to channel them efficiently toward viable climate projects in contexts perceived as high risk.** Over the past decade multiple mechanisms for mobilisation and risk-sharing have been developed, among them blended finance, guarantees, political risk insurance, climate bonds, first-loss capital and climate insurance. These have demonstrated their potential in specific contexts, but their impact remains limited by fragmentation and by the lack of articulation between the tools.

Many initiatives have in fact treated the private sector as a single block, without differentiating the incentives, regulatory constraints and operational barriers facing different types of investor. That has contributed both to the insufficiency and to the inefficiency of climate finance in emerging market and developing economies, generating mismatches between the type of capital on offer and the real

needs of projects. The private sector is not a homogeneous actor. It comprises commercial banks, asset managers, institutional investors, private equity funds, venture capital and philanthropy, each with radically different time horizons, risk tolerances and return expectations.

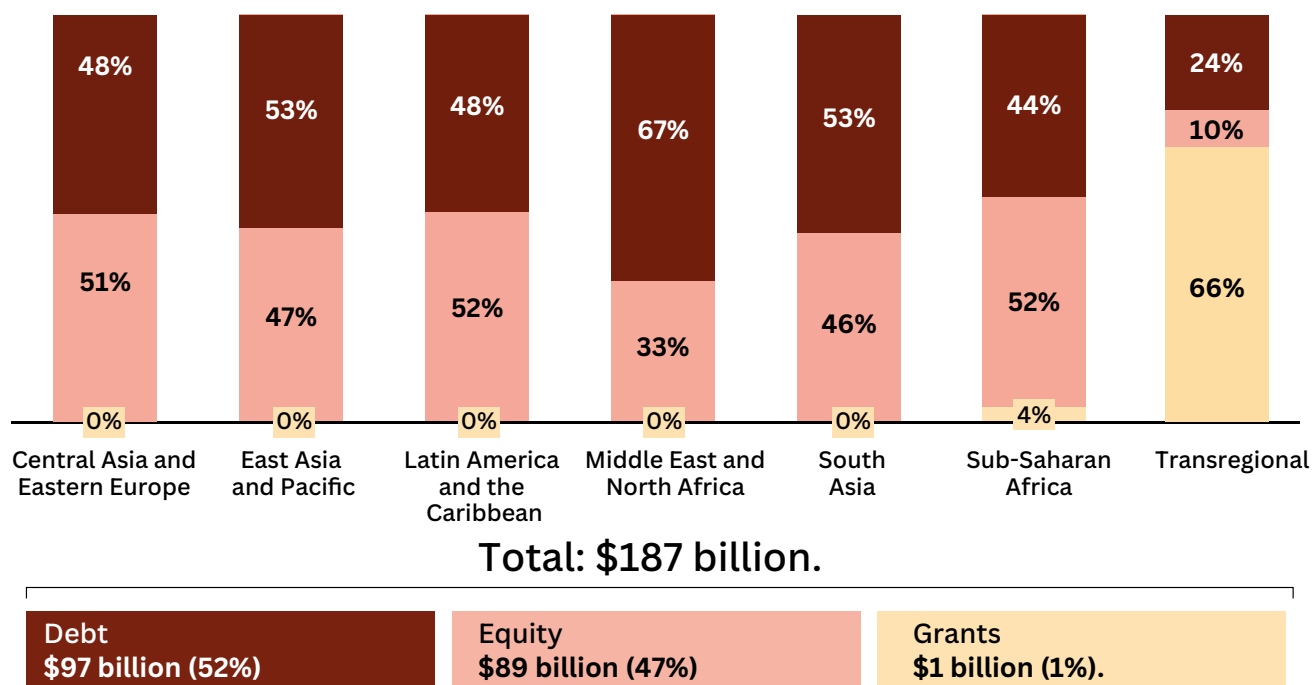
For example, Commercial and investment banks, accounted for most flows in 2023, relying mainly on debt instruments such as syndicated loans and green bonds. Corporates also played a central role, driven by internal decarbonisation processes and by investment in clean infrastructure. Institutional investors and venture capital and private equity funds, by contrast, remain marginal, constrained by the scarcity of project pipelines and by the insufficiency of effective risk-sharing mechanisms. This investment pattern points to heavy dependence on conventional financial channels and underlines the need to move toward a more sophisticated ecosystem for mobilising private capital. That includes strengthening project preparation, improving regulatory clarity and predictability, and scaling blended finance mechanisms capable of attracting different types of capital across the project life cycle.

Figure 14. Private climate finance flows to emerging market and developing economies, by investor type (2023)



Source: Climate Policy Initiative (CPI), 2025. World Economic Forum, From Risk to Reward: Unlocking Private Capital for Climate and Growth 2025.

Figure 15. Regional distribution of private climate finance in emerging market and developing economies, by instrument type (2023)



The regional percentages are reproduced as printed. The assignment of each column to debt, equity or grants could not be established with certainty from the source graphic and must be confirmed against the original before print. The three totals above are unambiguous.

Source: Climate Policy Initiative (CPI), 2025. World Economic Forum, From Risk to Reward: Unlocking Private Capital for Climate and Growth 2025

A further obstacle to mobilising capital is the persistent asymmetry of information.

For investors, the lack of reliable, comparable and verifiable data on climate risk, environmental performance and market conditions translates directly into higher risk premiums and, consequently, into a prohibitively high cost of capital. This is especially problematic in regions where climate investment is most urgent, such as the Amazon, but where perceived uncertainty is greatest.

Without credible information channels, clear disclosure rules and market intelligence platforms, private capital can hardly scale toward mitigation and adaptation projects in complex contexts. This is particularly relevant in sectors intensive in natural assets, where financial returns are closely tied to ecological, climate and social variables that have traditionally been difficult to measure.

Private investors consistently identify simpler access to guarantees and blended finance mechanisms,

especially through the multilateral development institutions, as the single most important factor for expanding climate capital flows to EM-DEs. Blended finance mechanisms are not a universal solution, however, and cannot compensate for structural deficiencies such as institutional weakness. Optimising risk-sharing therefore requires a balance between simplified processes and a deep understanding of national and sectoral realities, particularly in territories with complex social, environmental and regulatory dynamics.

Expanding climate finance to the scale required to implement NDCs and National Adaptation Plans in developing countries demands a strategic repositioning of concessional finance. Grants, patient capi-

tal and debt on favourable terms remain indispensable instruments for enabling long-term investment. Concessional finance makes it possible to strengthen state capacity, support the design of climate policy, develop nascent markets and prepare project pipelines aligned with NDCs and NAPs. In parallel, it acts as a catalyst for private capital by absorbing early-stage risk and reducing the cost of capital. The growing fragmentation of funds and initiatives has nonetheless produced a complex and opaque ecosystem that hampers efficient resource allocation and dilutes impact. The gap between announced commitments and resources actually mobilised likewise points to the need for more agile, transparent and results-oriented mechanisms capable of translating commitments into tangible climate finance.

For territories rich in environmental assets, mobilising local capital takes on an additional dimension. In regions such as the Amazon, where a significant share of economic value is tied to the conservation, restoration and sustainable use of natural capital, relying exclusively on external capital is insufficient. Developing local financial markets capable of valuing these assets, structuring projects in local currency and attracting domestic investment is a critical step toward turning environmental wealth into opportunities for economic and social development.

The insurance sector also acquires strategic relevance. The availability of adequate insurance has become a key indicator of the long-term value of assets, especially in

contexts exposed to growing physical risk. To maximise its impact, the insurance sector should be involved from the earliest stages of project development. **Early collaboration between governments, insurers, private investors and development banks makes it possible to identify risks in advance**, incorporate mitigation measures and design more efficient financial structures.

Philanthropic finance also emerges as a strategic actor. Its flexibility, risk tolerance and capacity to act at early stages make it a particularly suitable instrument for supporting climate innovation, nature-based solutions and inclusive development models. To maximise its impact, however, this finance needs to be better coordinated with national and regional priorities, avoiding dispersion and aligning with the investment trajectories set out in NDCs and NAPs.

Developing local financial markets capable of mobilising investment is a key step toward turning environmental wealth into opportunities for economic and social development.

Within this constrained financial picture, Article 6 of the Paris Agreement can play a transformative role by consolidating carbon markets to channel commercially viable capital toward climate action, especially in EMDEs. **Article 6 introduces two fundamental market mechanisms.** It permits trade in carbon credits between countries through bilateral or multilateral agreements (Internationally Transferred Mitigation Outcomes, or IT-MOs), and it enables a centralised carbon

Developing local financial markets capable of mobilising investment is a key step toward turning environmental wealth into opportunities for economic and social development.



market in which a range of organisations, including states, private sector companies and other entities, can register credits from emission reduction projects for purchase and sale. These markets have the potential to reduce the cost of implementing national climate plans by USD 250 billion a year. These developments can also have multiplier effects, because a share of the revenue from the Paris Agreement Crediting Mechanism is directed to the Adaptation Fund (UNFCCC, 2025). Governments play a decisive role here in stimulating private sector entry into carbon markets. A coalition of governments is needed in particular to drive both high-integrity voluntary markets and compliance markets. Chapter 4 examines this analysis in greater depth.

The following recommendations point together toward a single objective: closing the financing gap in EMDEs and turning a fragmented universe of climate initiatives into coherent, visible and scalable portfolios.

1. One of the most persistent constraints on private capital mobilisation is the limited availability of project pipelines that simultaneously meet technical, financial and governance standards compatible with commercial investment. Overcoming this constraint requires directing effort toward the early phase of project preparation and structuring, where future viability is determined. In particular, it requires strengthening the mechanisms that support micro, small and medium-sized climate enterprises, with dedicated instruments of patient capital, technical assistance and risk mitigation, so that they can scale or reach the visibility large investors require.

2. Expand public-private platforms for climate innovation and venture capital that combine concessional resources

with specialised technical support. These vehicles reduce project preparation costs, improve corporate governance and raise reporting and transparency standards, easing the transition from nascent initiatives to bankable assets. To maximise their impact, such platforms should be connected to national project databases and to strategic frameworks aligned with Nationally Determined Contributions (NDCs), so that smaller companies can be integrated into aggregated portfolios visible to institutional investors.

3. Integrate climate adaptation components into public infrastructure projects that are already bankable. This approach allows climate investors to co-finance high-impact components without assuming the entire risk of the underlying infrastructure, turning adaptation into a low-risk investment opportunity with high social returns.

4. Regulatory coherence is key to steering investment. Governments influence corporate and household decisions directly through fiscal, regulatory and informational instruments. Well-designed subsidies, price signals including carbon taxes, and clear regulatory standards can accelerate the adoption of low-carbon technologies and discourage investment incompatible with NDCs and NAPs.

5. For larger-scale projects, the expansion of syndicated climate loans is a key tool for mobilising private capital. By distributing risk across multiple actors and combining the participation of commercial banks, institutional investors and development banks, these instruments make it possible to finance projects that individually would be too large or too risky.

6. Expand and strengthen national information platforms on climate investment, integrating project data, climate risks, environmental impacts and socioeconomic

performance so as to consolidate market intelligence structures capable of reducing due diligence costs and improving investor decision-making. In the Amazon's case, this means developing ecological and impact metrics for investment decisions, through indicators covering ecosystem restoration, species protection, food security, climate resilience and socioeconomic outcomes, including livelihoods and the inclusion of vulnerable communities. This extensive data collection ensures that investors have access to quantifiable and verifiable metrics.

7. Local partnerships play a critical role.

Deep knowledge of regulatory frameworks, market dynamics and social needs makes it possible to design financial solutions that are contextually relevant and sustainable, building trust and aligning incentives between public and private actors. Development banks and development finance institutions can play a strategic role here as facilitators. Drawing on their presence in countries and their local networks, these institutions can act as bridges between global investors and local actors.

8. Promote local-currency financial instruments for domestic institutional investors such as pension funds and insurers. Expanding the local green bond market, under regulatory frameworks aligned with international standards, offers an effective route for channelling institutional savings toward climate projects while strengthening local capital markets.

9. National green financial policies play a growing role in integrating climate objectives with capital markets. Climate disclosure frameworks, sustainable finance taxonomies and green bond standards make it possible to translate NDC ambitions into operational criteria for capital allocation. By improving the transparency of information, they allow investors to identify more clearly the projects aligned with national decarbo-

nisation and adaptation trajectories.

10. Strengthen national financial institutions, including commercial banks, credit unions and development banks, so that they can mobilise capital toward climate investment. In many countries these institutions lack the technical capacity to assess climate risk or to structure financial products aligned with NDCs. Public action can close this gap by promoting international frameworks for climate risk assessment and disclosure, and through technical assistance programmes for capacity building.

11. Multilateral finance remains a significant challenge for developing countries. International providers, multilateral development banks and multilateral climate funds should work to harmonise requirements, reduce bureaucracy and fragmentation, and expand direct access modalities (OECD & UNDP, 2025). What is needed is a coherent development finance system in which multilateral development banks, development finance institutions, Vertical Climate and Environment Funds and national development banks operate as a unified ecosystem (IHLEG, 2025).

12. Beyond expanding private investment and strengthening multilateral institutions, it is important to increase the sources of both concessional capital and innovative instruments, through official bilateral finance, South-South cooperation, carbon markets, Special Drawing Rights (SDRs), solidarity levies, debt swaps, innovative blended finance and philanthropy (IHLEG, 2025).

13. Basel III⁴ and related prudential rules should be recalibrated to recognise mul-

[4] Basel III is a set of international banking rules designed to strengthen the stability of the financial system. Created by the Basel Committee on Banking Supervision after the 2008 crisis, they require banks to hold more and better capital, to control their leverage and to maintain liquidity in order to avoid future crises.

tilateral development bank guarantees, long-term green assets and investments that improve climate resilience within risk models, all of which current rules still penalise. Progress has been made over the past ten years in ensuring that climate risks and the risk-reducing potential of climate investment are accurately reflected in financial system rules and information flows, but more can be done, building on existing international agreements (UNFCCC, 2025).

14. The preparatory debates for COP30 highlighted the relevance of specific instruments such as the Fund for responding to Loss and Damage and the UAE Framework for Global Climate Resilience, conceived to support the communities most affected by climate impacts. These mechanisms seek to reinforce the equity and legitimacy of the international climate regime by addressing the irreversible losses associated with climate change more directly.

The gap between ambition and action persists. **This is not a matter of missing technical solutions or unavailable capital. It is a matter of misaligned incentives, incomplete narratives and poorly understood risks.** Only coordinated commitments and bold partnerships can release the resources, innovation and impact needed to shift the global climate finance landscape toward a more sustainable future.

Beyond the recommendations set out for developing countries to meet their

climate objectives, it is worth highlighting their competitive advantages in ecological terms, which should serve to consolidate economic instruments such as the gradual introduction of carbon pricing. That measure would expand the market and progressively remove fossil fuel subsidies without neglecting the principles of equity and access. In this way, alongside the reductions in financing and risk management costs outlined in this chapter,

accelerating finance for nature-based solutions should guide policy planning, particularly in the countries of the Amazon basin, a climate, ecological and socioeconomic asset fundamental to global climate stability. Recognising its importance is not enough. The protection, restoration and sustainable management of the Amazon must be reflected clearly, ambitiously and operationally in climate policy frameworks.

The next chapter examines the extent to which the Amazon has been integrated into the core of the Nationally Determined Contributions (NDCs) of the Amazon countries, assessing the coherence between the scale of the challenge, the level of ambition in the commitments made, and the enabling conditions, institutional, financial and governance-related, needed to turn this strategic biome into an effective vector for attracting climate investment.

Bold partnerships and coordinated commitments can mobilise the resources, innovation and impact needed to shift climate finance toward a more sustainable future.



3. THE AMAZON AND NATURE FINANCE: A STRATEGIC ASSET FOR CLIMATE AND DEVELOPMENT

Regional coverage of the Amazon biome



Credits: RAISG, Red Amazónica de Información Socioambiental Georreferenciada (Amazonian Network of Georeferenced Socio-Environmental Information).

The growing convergence of the climate, biodiversity and development agendas has placed nature at the centre of the global climate finance debate. Ecosystem restoration, sustainable land management and the protection of natural systems are no longer treated as environmental measures alone. They

are economic variables that generate benefits aligned with mitigation and adaptation goals, particularly in highly vulnerable regions. The Amazon stands out as one of the planet's most significant environmental assets, both for its ecological scale and for its potential to structure long-term climate investment flows.

International evidence is increasingly clear that nature-based solutions can deliver scalable, high-integrity climate outcomes provided they are backed by adequate policy frameworks and well-designed financial mechanisms. These solutions are therefore a particularly effective route to aligning global climate objectives with national development priorities.

Forests perform a uniquely dual function, as climate regulators and as providers of solutions. They store vast carbon reserves, shape rainfall patterns, and sustain biodiversity and more than a billion people. Tropical forests in particular are essential to meeting global climate and biodiversity goals, and to maintaining food, water and energy security. **Restoration offers large-scale carbon sequestration that is cost-effective and politically viable, and it strengthens ecosystems at the same time.** Tropical forests are nonetheless more often treated as a risk, because of deforestation and degradation, than as a solution (UNFCCC, 2025).

In this context the Amazon stands out as a global asset of biodiversity and cultural heritage. Although it covers less than 1% of the Earth's surface, it holds almost 10% of the planet's biodiversity, 18% of vascular plant species, 14% of birds, 9% of mammals, 8% of amphibians and 18% of tropical fish. Many of these species are endemic: around 34% of mammals and 20% of birds are found nowhere else. From a climate perspective, Amazon forests play an irreplaceable role as a reservoir and regulator of atmospheric carbon. They store approximately 250 to 300 billion tonnes of carbon, equivalent to 15 to 20 years of current global greenhouse gas emissions (WWF, 2025). The Amazon is also home to 47 million people, including more than 2 million Indigenous people representing more than 400 distinct groups. Indigenous peoples collectively manage more

than 30% of the Amazon, and satellite evidence shows that deforestation rates in these territories are almost 50% lower than on comparable surrounding land (WWF, 2025).

As the world's largest tropical forest, this biome performs critical functions in climate regulation, the hydrological cycle and the provision of essential ecosystem services that extend well beyond the national borders of the countries that host it. Its scale, more than six million square kilometres across nine countries, means that any alteration to its integrity has global implications.

Deforestation, forest degradation, the expanding agricultural frontier, illegal economies and institutional weakness are nonetheless eroding large areas of the territory at speed. To these pressures is added the impact of climate change, which amplifies the risks of prolonged drought, wildfire, loss of soil fertility and disruption to hydrological cycles. The combination of these factors has led certain areas of the Amazon to begin behaving as net sources of emissions rather than carbon sinks, an alarming signal from a climate standpoint. Estimates from WWF indicate that between 14% and 17% of all Amazon forest has already been lost, and suggest that a key tipping point will be reached if between 20% and 25% is lost. Such changes would compromise the objectives of the Paris Agreement, and they would also directly affect the productive base and livelihoods of millions of people, worsening food insecurity, rural poverty and social conflict.

While the governments of the Amazon countries hold primary responsibility for protecting and sustainably managing the biome, the scale of the challenge far exceeds their fiscal and financial capacity. The Amazon generates global public benefits, but the costs of conserving it fall on the countries that host it, many

of which face severe budget constraints and urgent economic and social development needs. **Financing the Amazon remains a challenge because of entrenched market failures, the absence of well-structured investment projects and limited data availability** that would allow the physical, transition and governance risks attached to projects to be assessed with precision. These factors mean that environmental assets are not translated into financial assets, perpetuating the undervaluation of the territory. According to the Independent High-Level Expert Group on Climate Finance (IHLEG), investment in nature in developing countries must reach USD 250 billion a year by 2030 and USD 350 billion by 2035. UNEP estimates that tropical regions alone require annual investment of USD 85.6 billion in forests by 2035. With the right instruments, these ecosystems can become one of the most cost-effective contributions to global climate stability.

A central element is the role of Indigenous peoples, local communities and women as guardians of these ecosystems. Despite their contribution to the conservation and sustainable use of natural resources, these actors continue to receive a minimal fraction of climate and environmental finance. International experience shows that channeling resources through locally managed mechanisms, with full respect for territorial and governance rights, improves environmental outcomes and also strengthens social and economic resilience.

The global challenge of addressing climate change and deforestation is taken up across multiple international fra-

networks and agreements. Article 5 of the Paris Agreement encourages Parties to implement and support measures to reduce emissions from deforestation and forest degradation, to conserve and enhance forest carbon stocks, and to manage forests sustainably in developing countries. Mitigation activities in the forest sector must be reported transparently and be aligned with NDCs and national greenhouse gas inventories. The urgency of these climate objectives,

and the fundamental role of forests in meeting them, were highlighted in the Glasgow Climate Pact agreed at the 26th United Nations Climate Change Conference of the Parties (COP26). These agreements were accompanied by the Global Forest Finance Pledge, a commitment of USD 12 billion for forest-related climate finance between 2021 and 2025. The Joint Donor Statement on the forest tenure of Indigenous Peoples and local communities also included a collective commitment of USD 1.7 billion in finance over the same period (UNEP, 2022).

Integrating the protection of the Amazon into the core of NDCs and national development strategies is consistent with global climate commitments, and it also represents an opportunity

to redefine the relationship between nature, economic growth and investment. The future of the Amazon and the success of global climate action are deeply intertwined, and resolving them demands a collective response combining political leadership, financial innovation and a fairer understanding of the economic value of ecosystems.

A recent comparative assessment by

The Amazon generates global public benefits, but the costs of conserving it fall on the countries that host it, many with fiscal constraints and urgent economic and social development needs.



WWF of the NDCs of eight Amazon countries shows that, while there is general recognition of the biome's relevance, governments have not incorporated sufficiently ambitious targets, clear operational policies or robust financing schemes that would allow effective implementation. Among the Amazon countries, Colombia and Bolivia record the most ambitious forest NDCs, with strong conservation and sustainable management targets and policies. Brazil, Venezuela and Ecuador follow with more modest objectives. Guyana and Suriname, by contrast, lack detailed and specific objectives. Only three countries, Brazil, Bolivia and Venezuela, included specific Amazon-related objectives and targets in their NDCs, while two, Colombia and Guyana, emphasised the importance of the Amazon for biodiversity and cultural heritage without setting any specific target (WWF, 2025).

There are nonetheless some positive signals. Six of the eight countries assessed explicitly recognise the importance of the Amazon biome or include at least one related target or action. Colombia stands out here: its NDC 3.0 explicitly sets out halting deforestation and securing a "living Amazon" as strategic pillars for reaching carbon neutrality and contributing to the global objective of limiting the temperature increase to 1.5°C. Bolivia, for its part, introduces a relatively clear target aimed at promoting sustainable production systems and the use of non-timber forest products, with the objective of strengthening the bioeconomy and reducing pressure on forests, though without detailing the specific mechanisms for avoiding deforestation.

Brazil incorporates the Amazon through the Amazon Restoration Arc, an initiative announced at COP28 that sets ambitious medium and long-term forest restoration objectives. That ambition is not fully reflected in its NDC, however,

which includes no explicit objectives for eliminating deforestation in the Brazilian Amazon.

On protected areas and sustainable forest management, six NDCs include relevant measures, though at varying levels of robustness. Colombia and Bolivia stand out again. Colombia structures its commitment through a long-term programme that secures the conservation and financing of a significant portion of its territory by strengthening the National System of Protected Areas (SINAP), contributing directly to reducing deforestation and increasing ecosystem resilience. Bolivia sets an explicit target of eliminating deforestation in protected areas by 2035. Guyana also presents a relatively solid approach in this area, though one heavily dependent on international financial support.

The inclusion of Indigenous Peoples and local communities is one of the most widespread features of the region's NDCs, appearing in all eight countries assessed. The depth of that inclusion nonetheless varies considerably. Colombia, Bolivia and Venezuela go beyond symbolic participation and recognise Indigenous peoples as actors with collective rights and strategic roles in climate action and forest management. In other cases the mention is limited to capacity building or consultative processes, without full recognition of their role as partners in protecting the biome.

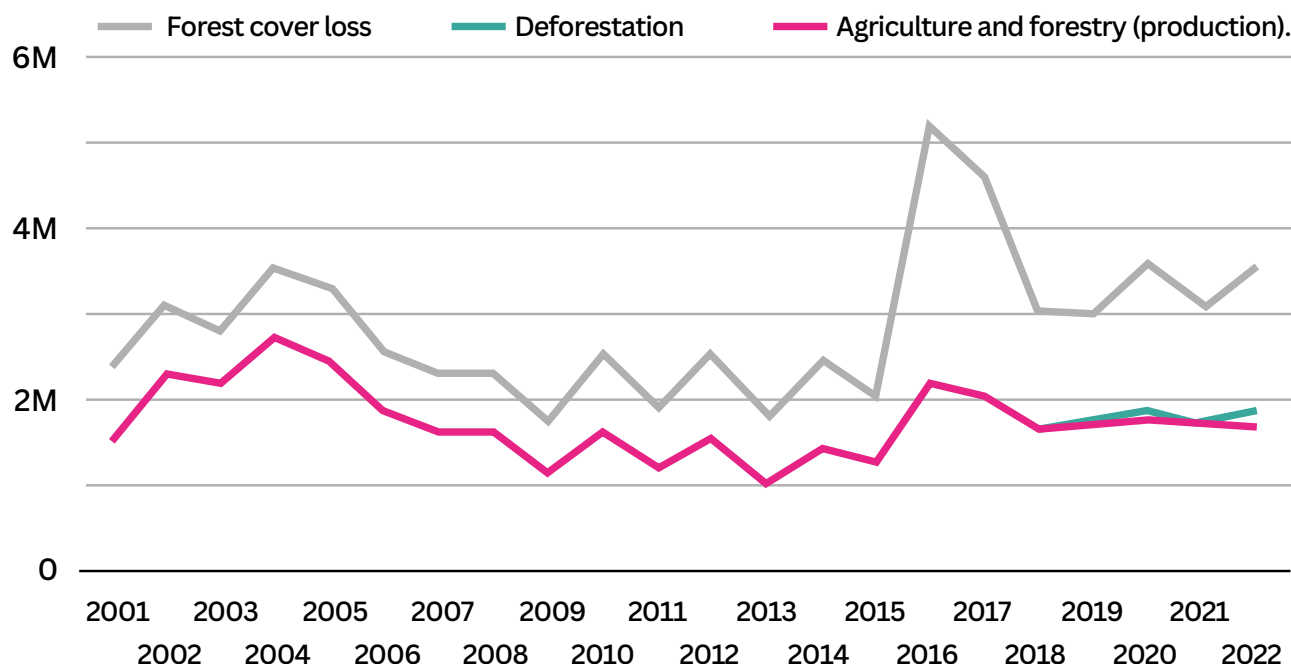
Despite this progress, the assessment reveals a structural gap in both ambition and action. None of the NDCs assessed commits to ending deforestation by 2030, though five have set other deforestation targets. The assessment of Amazon countries' NDCs reveals a persistent gap between the climate importance of the Amazon and the level of ambition, specificity and financial viability of the commitments made. That gap cannot be read simply as a deficit of national po-

litical will. It reflects a structural asymmetry between responsibilities, fiscal capacity and access to climate finance. What happens in this biome shapes the development trajectories of the Amazon countries, and it also defines the margins

of climate, food and ecological security for the planet as a whole, which underlines the need for international financial support as an essential pillar for implementing the forest objectives set out in the NDCs.

Figure 16. Forest cover statistics

Ha, hectares.



Source: <https://www.deforestationfootprint.earth/Amazon>.

Cumulative values, 2001–2022

Country	Forest cover loss	Deforestation	Deforestation linked to agricultural commodity and forestry production
Bolivia	6M	3.8M	3.7M
Brazil	49.5M	31.1M	31M
Colombia	2.3M	1.6M	1.5M
Ecuador	522K	225.2K	210.5K
French Guiana	82.3K	26.7K	19K
Guyana	236.3K	30.4K	11.2K
Peru	3.8M	1.8M	1.8M
Suriname	225.1K	52.8K	16.4K
Venezuela	718.6K	151.2K	133.8K
Total	63.4M	38.8M	38.3M

Source: <https://www.deforestationfootprint.earth/Amazon>.

From an ecological standpoint, Brazil, Bolivia and Colombia account for the largest absolute losses of forest cover and associated emissions, though through different dynamics. In Brazil, deforestation is driven strongly by extensive cattle ranching, infrastructure expansion and industrial agriculture, with growing pressures in the Cerrado that interact with the Amazon. Bolivia faces a critical scenario of recently accelerating deforestation, linked both to cattle ranching and to mechanised soy expansion and large-scale wildfires. Colombia, though with smaller absolute losses, sustains persistent deforestation hotspots associated with the expanding agricultural frontier, illegal mining and infrastructure expansion. Guyana and Suriname, countries with high forest cover and low population density, maintain relatively low deforestation rates but face growing pressures associated with agriculture, the non-agricultural commodities sector and fire, which represents a risk if safeguards are not strengthened.

Agricultural commodity production is one of the main drivers of global deforestation, ecosystem conversion and forest degradation. Permanent agriculture, defined as the long-term loss of tree cover for small and large-scale cultivation, remains one of the causes of tropical deforestation. Almost two thirds of this deforestation is linked to the production of four key commodities: beef, soy, palm oil and paper. Agricultural production, both crops and livestock, has expanded dramatically in recent decades to meet rising global and domestic demand. International trade demand continues to exert enormous pressure on forests and natural ecosystems worldwide. Amazon producers play a fundamental role in halting new deforestation, in adopting responsible and regenerative practices, in rehabilitating degraded land, and in forming cooperatives and platforms that improve traceability and market access (Timmers et al., 2025).

Countries such as Bolivia, Ecuador and Peru show intensifying land conversion associated with crops including soy, oil palm, cocoa and coffee, as well as staple foods such as rice and sorghum. This trend reveals that pressure on Amazon forests is no longer explained by extensive cattle ranching alone. It also reflects a complex interaction between crops and pasture. In general, although livestock remains the dominant factor, a critical trend observed between 2018 and 2022 indicates that crop expansion is becoming a more frequent driver of deforestation across the Amazon region, especially in Bolivia, Ecuador, Peru and Venezuela (WWF, 2025).

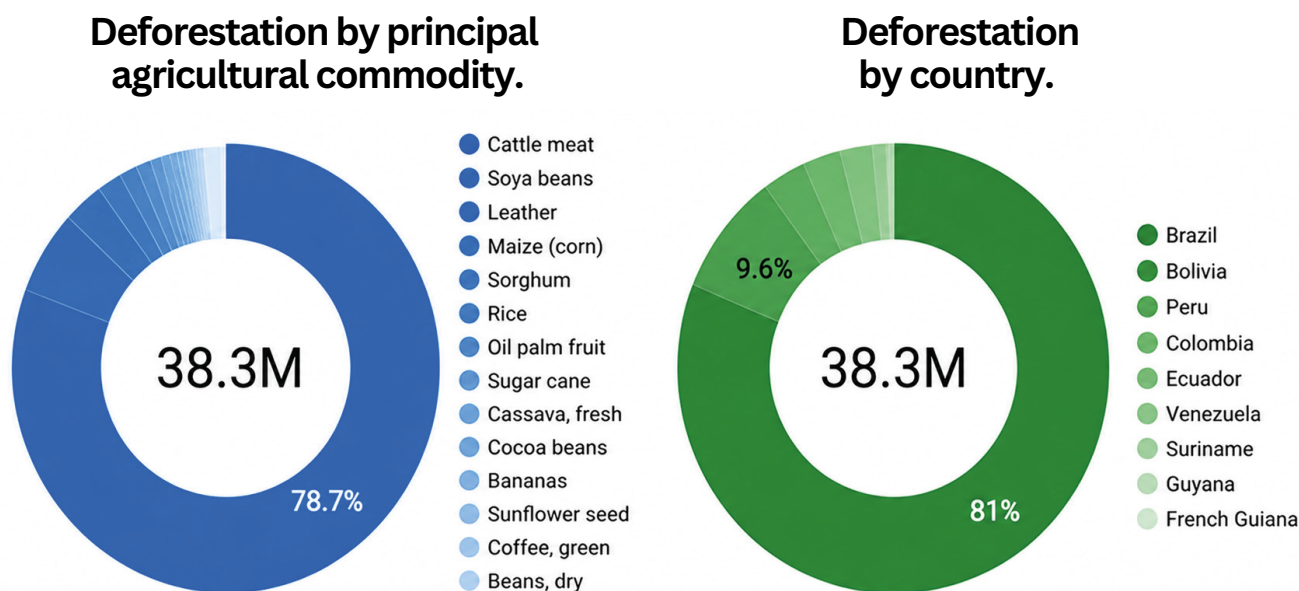
International markets play a more significant role than deforestation figures attributed directly to exports would suggest. Shifts in global consumption and trade patterns have produced divergent impacts across products and destination countries. While some supply chains, such as soy and beef in certain markets, have reduced their relative deforestation intensity, others, including maize, rice, sorghum, coffee and cocoa, have increased their footprint in recent years. The growing share of markets such as China in commodity demand, against the relative decline of other traditional destinations, underlines the need for broader and better coordinated global shared responsibility with the principal trading partners. This shared responsibility cannot stop at abstract climate goals. It has to take the form of trade, financial and regulatory instruments that effectively reduce pressure on forests.

The Amazon as a whole performs a very significant function in global markets. More than 20% of the global deforestation footprint of Brazil, Portugal, Switzerland, Spain and South Korea, and more than 15% of the global footprint of Norway, Japan and the Netherlands, is associated with the Amazon region. Deforestation by product associated with global markets for cattle (59%), sorghum (52%),

sesame seed (48%), potatoes (44%), bananas (35%), soy (33%), plantains (30%), sunflower seed (31%) and maize (27%) is also determined to a large extent by what happens in the Amazon region. The finding that crops are an increasingly important driver of

Amazon deforestation illustrates why it matters to monitor the scope and drivers of land conversion for agricultural production as a whole and across all landscapes, rather than limiting the analysis to the impact of a single commodity on forests (WWF, 2025).

Figure 17. Deforestation statistics



Source: <https://www.deforestationfootprint.earth/Amazon>.

Trade treaties and bilateral and multi-lateral agreements are therefore a strategic lever for aligning trade flows with the forest and sustainable development objectives of the Amazon countries. Explicitly incorporating provisions on deforestation-free supply chains, consistent with NDCs and National Adaptation Plans (NAPs), would turn international trade into a complementary instrument for meeting the climate and biodiversity commitments of producer and consumer countries alike. This alignment is particularly relevant in the context of agreements such as Mercosur-European Union and of new trade negotiations, which can either reinforce or weaken the incentives for sustainable agricultural production.

This comparative diagnosis highlights common challenges that cannot be resolved in isolation and that require

reinforced regional coordination under the umbrella of the Amazon Cooperation Treaty Organization (ACTO)⁵. Among them: (i) harmonising definitions, metrics and zero-deforestation objectives; (ii) addressing cross-border leakage of deforestation, illegal mining and supply chains; (iii) interoperability of national measurement, reporting and verification (MRV) systems; and (iv) the need for clear and coherent policy signals to attract climate finance at scale.

ACTO is a strategic space for articulating regional forest objectives and for designing transformative financial mechanisms, regional funds, payment for ecosystem services schemes and joint platforms to channel public and private capital. Greater coordination would

[5] <https://otca.org/>

reduce risk, increase the scale of impact and strengthen the negotiating position of the Amazon countries within global climate finance flows.

Deforestation in the Amazon does not depend only on raising national ambition. It requires building a coherent regional architecture, with clear targets, comparable metrics and shared financial mechanisms. The NDCs offer a base, still incomplete, but the strategic opportunity lies in turning this mosaic of national commitments into an integrated response capable of protecting the forest, guaranteeing rights and contributing to climate goals.

Translating this responsibility into action means expanding international climate finance and making it predictable, through the New Collective Quantified Goal, the Green Climate Fund or the Fund for responding to Loss and Damage, or mechanisms such as REDD+. Without a qualitative change in the incentive architecture, combining public finance with private sector participation, the 2030 forest objectives risk falling out of reach. A new forest economy is emerging, but faster progress is needed, involving all stakeholders. A further combination of instruments can help close this gap: innovative financial mechanisms such as results-based jurisdictional approaches and the Tropical Forests Forever Facility (TFFF)⁶; the mobilisation of private finance, particularly toward the bioeconomy; sustainable value chains and restoration; and the alignment of fiscal policy, including targeted public finance and sovereign debt management (UNFCCC, 2025).

COP30 in Belém positioned forests and nature as central pillars of climate action, with emphasis on implemen-

ting paragraphs 33 and 34 of the Global Stocktake and on deploying new financial mechanisms. Among these is the Tropical Forests Forever Facility (TFFF)⁷, already mentioned, conceived as one of the largest blended finance instruments for rewarding results-based forest conservation. It will draw on two sources of capital: sponsor contributions from sovereign governments and philanthropy, and senior debt issued on international capital markets. It matters that this mechanism can be integrated with the Baku to Belém Roadmap, which, as noted in the previous chapter, aims to reach USD 1.3 trillion in external finance, mostly from the private sector. Other notable initiatives include the IDB's Amazonia Forever⁸, aimed at scaling investment in sustainable development, resilience and the bioeconomy. These efforts are reinforced by renewed regional cooperation, expressed in the Belém Declaration (2023) and the Bogotá Declaration (2025), which consolidate ACTO's role as a coordination platform, and by the strengthening of dialogue with Indigenous peoples through the Amazon Indigenous Peoples Mechanism (MAPI).

These advances mark a shift in the trajectory of nature finance. The scale of the challenges facing the Amazon nonetheless far exceeds the response capacity of existing instruments. This architecture should be used to work on concrete action at scale. First, investing in resilient, deforestation-free supply chains. These should be understood as a mitigation strategy for importing countries themselves, since the Amazon region contributes substantially to their global footprint. Strengthening low-carbon food chains offers an opportunity to link the climate commitments of consumer countries to innovative financing mechanisms,

[6] Contributions may take the form of loans, donations or guarantees. The debt will be issued as liquid, highly rated fixed-income bonds. The target audience includes pension funds, insurers, asset managers and sovereign wealth funds. Fund target: USD 125 billion. <https://tfff.earth/es/>

[7] <https://tfff.earth/es/over-usd-5-5-billion-announced-for-tropical-forest-forever-facility-as-53-countries-endorse-the-historic-tfff-launch-declaration/>

[8] <https://www.iadb.org/es/quienes-somos/temas/amazonia>

including voluntary carbon markets. Developing carbon credit schemes tied to emission reductions in agricultural supply chains, through projects linked to regenerative agriculture, restoration of degraded land and the elimination of deforestation, can complement regulatory efforts, mobilise private investment and generate shared benefits for producers, governments and consumers.

This underlines the importance of robust systems for data, traceability and transparency in the trade of these products. The availability of geospatial and statistical information in the region makes it possible to identify deforestation hotspots and assess risk along supply chains, offering an empirical basis for decision-making. Zero-deforestation strategies need to be comprehensive, dynamic and global, recognising that effective protection of the Amazon is intrinsically tied to the transformation of agrifood and trade systems at international scale.

Second, advancing financial instruments such as green bonds adapted to the Amazon context and, more specifically, Amazonia Bonds, which offer a structured route to mobilising capital at scale toward investments that address mitigation, adaptation, biodiversity conservation and inclusive socioeconomic development at the same time. Unlike fragmented or standalone project approaches, these instruments allow long-term resources to be channelled toward coherent portfolios of investment aligned with national and regional priorities.

Their alignment with the ICMA Green Bond Principles (International Capital

Market Association) and other recognised international standards is particularly relevant for generating credibility, high levels of transparency and integrity in global financial markets, and for attracting institutional investors. Amazonia Bonds should be structured to attract a diverse range of investors seeking high environmental and social impact. For issuers, this represents an opportunity to diversify funding sources, potentially access more favourable financing terms and broaden the investor base beyond traditional bond buyers (IDB & The World Bank, 2025). In a global environment where investors increasingly demand instruments with verifiable environmental and social impact, these bonds offer a clear narrative and a credible structure for channeling capital toward one of the territories most critical to global climate stability.

They also represent an additional instrument for delivering the conditional commitments included in NDCs and NAPs. By mobilising high-impact debt tied to clearly defined project categories, among them sustainable land use management, ecosystem restoration, the bioeconomy, resilient infrastructure and governance strengthening, these bonds translate strategic objectives into concrete, measurable investments subject to robust mechanisms for monitoring, reporting and verifying environmental and social impact. They can also contribute to inclusive economic growth by channeling resources toward local communities, Indigenous peoples, farmers and other actors who play a central role in conserving the forest but who have faced barriers to accessing

By incorporating social safeguards, environmental risk management and impact criteria, Amazonia Bonds reduce risk and strengthen the viability and sustainability of projects.



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finance. By integrating social safeguards, environmental risk management and impact criteria, Amazonia Bonds offer a framework for reducing risk, strengthening project viability and improving long-term sustainability.

By favouring regional cooperation and alignment among Amazon countries, they can become a platform for coordinating effort, identifying synergies and strengthening existing initiatives. These instruments address the financing gap, and they also reinforce coherence between climate policy and forest objectives and complement other financial instruments, through a collective response to shared challenges.

The IDB and the World Bank (2025) set out eligible project categories for Amazonia Bonds, structured around five pillars that reflect the socioeconomic and environmental characteristics of the region. **The first pillar**, centred on employment, education, health and human rights, recognises that investment in human and social capital is an enabling condition for the sustainability of any environmental intervention. Creating decent and culturally appropriate livelihoods, access to quality education and the strengthening of health systems, including traditional practices, all help reduce the socioeconomic pressures that have historically driven deforestation and environmental degradation.

The second pillar addresses the growing urbanisation of the Amazon and the need for strategic investment in cities, infrastructure and connectivity. The provision of drinking water and sanitation, the development of low-impact multimodal transport systems, the promotion of sustainable buildings and the energy transition are key components for improving the climate resilience of Amazon cities and reducing their environmental footprint. Digital connectivity, in turn, plays an enabling role for

service access, e-governance and early warning systems for climate risk.

The third pillar focuses on the bioeconomy and the creative economy, recognising the potential of Amazon biodiversity as a basis for inclusive and sustainable economic development. Investment in forestry, agroforestry, tree-based supply chains, sustainable fisheries and aquaculture, and in research and development of biodiversity-derived products, makes it possible to generate income while preserving ecosystems. This pillar is particularly relevant for aligning Amazonia Bonds with deforestation and conversion-free supply chain objectives, by strengthening production systems that reduce pressure on forests and improve traceability and local value added. This requires encouraging investment in technical capacity, on-farm infrastructure, logistics systems, technical upgrading and modernisation of the supply chain, and financial institutions that serve Indigenous peoples, traditional farmers and traditional communities, as well as other stakeholders supporting the whole supply chain. Within this pillar there is also emphasis on promoting the formalisation, expansion and diversification of tourism enterprises that recognise traditional knowledge, life and the ecological value of the Amazon region.

The fourth pillar is directed at promoting sustainable agricultural, livestock and forestry systems. Regenerative agriculture emerges as a central component of this strategy, integrating agronomic practices that improve soil health, increase land use efficiency and strengthen resilience to extreme climate events. Complementing this, sustainable livestock production represents a key opportunity, through support for silvopastoral systems, the recovery of degraded pasture, improved herd management practices and adequate waste management, all of which raise productivity per hectare,

reduce the need for new areas of expansion and improve the sector's environmental performance. A strategic element here is the strengthening of individual cattle traceability systems, which make it possible to identify and exclude from markets producers linked to illegal land clearing, aligning financial flows with zero-deforestation objectives.

The fifth pillar complements this productive transformation with an explicit focus on combating deforestation and strengthening environmental governance. Forest conservation and reducing deforestation require sustained investment in institutional capacity, technology and social participation. Within this framework, financing advanced systems for forest monitoring and land use change detection allows authorities to identify illegal activity with greater precision and to act more effectively. Programmes for wildfire prevention and control, combined with environmental education and responsible fire management practices, are likewise essential to reducing the growing risks associated with climate change.

Strengthening biodiversity protection and the management of ecosystem services extends the reach of this pillar toward a more integrated view of the territory. Land use planning, effective management of protected areas and control of the flora and fauna trade are central to preserving the Amazon. At the same time, compensation schemes for ecosystem services, such as payments for environmental services tied to water regulation or biodiversity maintenance, offer concrete mechanisms for recognising and remunerating the role of local communities in providing environmental benefits of public and global interest.

International concessional finance, including grants, plays a catalytic role. **It reinforces the mobilisation of domestic resources through technical assistance and capacity building.** It also allows

countries to obtain and direct international public and private finance while de-risking investment in development, climate and nature (Independent Expert Group, 2024). Given the critical importance of the Amazon territory, there is a global effort to increase the supply of concessional finance, both national and international, with methodological frameworks that align projects with local priorities and global sustainability objectives in order to maximise the impact of investment. One such initiative is the Green Coalition, an alliance of 20 public development banks working to mobilise resources that advance the sustainable development of the Amazon. By aligning financial action with environmental management, the Coalition seeks to secure the wellbeing of people and ecosystems while contributing to global and national climate and biodiversity objectives⁹.

In terms of financial flows, the Green Coalition disbursed USD 185 billion in 2023, of which USD 19.4 billion (10.5%) went to the Amazon region, and of that amount USD 7.6 billion (39%) went to sustainable investment. The Coalition notes that a financing shortfall of USD 63 billion persists, which underlines the need to expand financial mechanisms and to diversify funding sources beyond the banks that make up the coalition. Services and industry contribute 67% of Amazon GDP but receive only 11.1% of sustainable investment. To address this imbalance, an estimated USD 30.3 billion in industrial investment and USD 28.9 billion in services will be needed by 2030. The agriculture and livestock sector receives 46.2% of sustainable investment, reflecting its economic weight. Demand in this sector is nonetheless estimated at four times current investment. Closing that shortfall will require dedicated finance, clear communication on investment eligibility, and collaboration between funders and beneficiaries to support the implementation of

[9] <https://green-coalition.com/>

good agricultural practices and to strengthen sustainable production chains. Microcredit, a crucial tool for local economic empowerment, remains underused, accounting for only 14% of total investment. Low banking penetration and limited access to financial services hold back the growth of local communities. Strengthening financial inclusion and the formalisation of micro, small and medium-sized enterprises (MSMEs), and of cooperatives, could release significant economic potential and resilience in the region (Green Coalition Members, 2025).

The proposals that follow gather and complement what this chapter has set out, in order to guide national governments, regional actors and the international community toward a transformative approach capable of turning the protection of the Amazon into an engine of sustainable development and long-term climate investment.

1. Policy and regulatory alignment as a market signal: a strong political push to improve forest objectives and measures in NDCs, and greater integration of those targets with global frameworks. The objective is to ensure that robust forest components of NDCs are matched by forest finance, through the TFFF, REDD+, regional and international funds¹⁰, green bonds, carbon markets and multilateral banking. This means specifying the financing needs of conditional commitments in NDCs and NAPs, and setting ambitious, time-bound objectives. These instruments should also create incentives for production and trade meeting Deforestation and Conversion-Free (DCF) requirements at scale. This alignment reduces the political and regulatory risk perceived by investors and creates an enabling environment for instruments such as:

[10] The Green Climate Fund (GCF) is the world's largest climate fund. Its mandate is to help developing countries meet their NDCs, through instruments that reduce investment risk in order to mobilise finance at scale, especially for adaptation and for nature-based solutions in developing countries. <https://www.greenclimate.fund/>

- **Green bonds and Amazonia Bonds**, linked explicitly to national climate, biodiversity and land use targets.

- **Sustainability-linked bonds** (SLBs), which combine finance for both green and social initiatives.

- **Concessional finance** and blended finance, used strategically to absorb early-stage risk and mobilise private capital.

In this context, trade and international cooperation agreements become key levers for reinforcing coherence between the supply of and demand for climate investment.

2. Measurement, reporting and verification (MRV) systems and traceability: consolidating robust MRV systems is essential to guaranteeing environmental integrity, transparency and credibility. The experience examined in this chapter shows that deforestation in the Amazon is deeply tied to indirect land use dynamics and to complex supply chains, which calls for robust jurisdictional approaches. The most effective MRV systems are those that integrate satellite data, fieldwork and community knowledge, and that allow simultaneous reporting of progress on climate, biodiversity and forests. They must be compatible at national, subnational and sectoral level. Interoperability of these systems across Amazon countries is key to avoiding regulatory gaps and enabling regional approaches, particularly within the ACTO framework. Strengthening these systems enables:

- High-integrity carbon markets, both voluntary and compliance.

- Results-based financial instruments, such as payments for performance and bonds with coupons linked to verified avoided deforestation or restoration.

- Transparency of geospatial and commercial data, which becomes a

financial asset in its own right rather than only an instrument of public policy.

3. Governments can also reform their fiscal policies to advance climate and nature objectives, through appropriate carbon price signals. Well-designed carbon pricing can strengthen national compliance markets and encourage the expansion of the voluntary markets needed to attract private investment at scale. It can also generate additional public resources that extend the reach of such investment, or provide backing through guarantees that help mitigate perceived risks, particularly toward environmental assets such as the Amazon.

4. Redirect subsidies that currently incentivise deforestation toward nature-based solutions. Reducing these subsidies could release significant fiscal space and improve debt sustainability.

5. Coordination through ACTO is key to establishing regional mechanisms that identify territorial priorities for climate investment in direct dialogue with Indigenous peoples and local communities, ensuring an equitable and intercultural allocation of resources.

6. Project bankability and aggregation at scale: another structural obstacle identified is the fragmentation of projects and the limited capacity of many local actors to access capital markets directly. This calls for aggregation and standardisation mechanisms such as:

- Jurisdictional or sectoral project platforms that group together initiatives in regenerative agriculture, sustainable livestock, restoration, conservation and ecosystem services, among others.
- Thematic funds for the Amazon, capable of combining debt, equity and results-based finance.
- Pre-financing structures for carbon credits, or forward purchase and

offtake agreements. These are contracts under which a buyer commits to acquiring carbon credits at a predetermined price and date before they are issued, providing working capital to the developer.

These mechanisms are particularly relevant for connecting the Amazon bioeconomy and low-carbon production systems to institutional investors.

7. Integration of social safeguards and territorial governance: security of land tenure, effective participation of Indigenous peoples and local communities, and the protection of human rights are decisive factors in project risk and financial viability. In practice this means:

- Clear and verifiable benefit-sharing structures within projects.
- Financial instruments that recognise Indigenous territorial management, including payments for ecosystem services and participation in carbon credit revenue.
- Due diligence frameworks aligned with international standards, which raise investor confidence.

8. Strategic connection to carbon markets: carbon markets emerge as a bridging instrument between climate commitments, finance and productive transformation. In the Amazon context their role extends beyond emissions off-setting, functioning as:

- A price signal mechanism for conservation and sustainable land use.
- A vehicle for channelling international resources toward territories of high climate and biodiversity value.
- A complement to debt instruments such as Amazonia Bonds, through hybrid schemes that combine carbon revenue with structured finance.

Strengthening high-integrity voluntary carbon markets, linked to low-carbon supply chains and jurisdictional approaches, allows consumer countries and companies to align their climate commitments with direct investment in the Amazon.

The Amazon does not lack climate investment opportunities. What it lacks is financial architecture adequate to turn systemic risks into high-impact opportunities. The combination of policy align-

ment, environmental integrity, financial scalability, territorial governance and carbon markets creates the conditions for mobilising capital at the scale required.

On this basis, Chapter 4 examines in greater depth the specific role of carbon markets as innovative financial mechanisms, analysing their design, integrity and potential to accelerate a just, deforestation-free and nature-positive transition in the Amazon.

4. CARBON MARKETS FOR SUSTAINABLE DEVELOPMENT: THE AMAZON'S COMPETITIVE ADVANTAGE

Paradoxically, in countries with large environmental assets it is precisely the degradation and transformation of those assets that drives a substantial share of GHG emissions. The Amazon countries are a case in point. Although forest reserves are a decisive solution for mitigating the rise in global temperature, that solution has today become a problem with serious repercussions. Deforestation and inadequate forest management, explained in large part by livestock and by agricultural activities that convert land use, are responsible. Local and global food security depends in turn on these countries and sectors. In Amazon agricultural supply chains, international markets share responsibility for this challenge. Hence the need to connect trade, climate commitments and forest objectives. Both compliance and voluntary carbon markets have an important part to play as instruments of finance for conservation and development, provided the necessary regulatory and operational harmonisation is achieved among the countries of the Amazon basin.

The analysis in Chapter 2 shows that the central gap facing the Amazon is not one of political ambition alone. It is a gap in the capacity to convert climate and zero-deforestation commitments into investment flows that are scalable, predictable and long-term. Closing it requires moving toward a financial ecosystem that reduces risk, increases project bankability and generates clear signals for capital markets and climate investors. Carbon markets managed at

local or regional level, such as jurisdictional approaches, make it possible to align economic incentives with the conservation of large tracts of forest while respecting the rights and livelihoods of Indigenous peoples and traditional communities.

As Chapter 1 set out, the financing needs are both large and pressing. The USD 3.2 trillion a year of investment required by 2035 will have to be financed from a range of sources. USD 1.9 trillion could come from domestic finance, half of the USD 1.3 trillion in external finance could come from private investors, and the other half from development finance institutions and other sources of finance on favourable terms, such as grants, low-cost loans and carbon markets. Recent work by IHLEG (2025) identified the following potential sources:

- Bilateral finance on concessional terms from developed countries, amounting to USD 80 billion.
- Multilateral finance on concessional and non-concessional terms from multilateral development banks and multilateral climate funds, amounting to USD 300 billion.
- South-South cooperation, worth USD 40 billion.
- Cross-border private finance, both mobilised and direct, worth USD 650 billion.
- New sources of low-cost finance, such as carbon markets, solidarity levies, Special Drawing Rights, debt swaps and private philanthropy, worth USD 230 billion.

Adaptation costs for agriculture alone in developing countries are estimated at around USD 60 billion a year through to 2035. Of total finance directed to climate action, only 7% went to agrifood systems in 2023, 80% of it from domestic sources. Climate-related international development finance directed to agrifood systems totalled USD 225 billion between 2014 and 2023. The sector's share of total climate finance has nonetheless fallen from 47% in 2000 to 19% in 2023. Adaptation accounted for 45% of those flows, mitigation 34% and cross-cutting activities 21%. Food production, including crops, livestock and fisheries, remains underfunded, receiving only 8% of those flows in 2023 (UNFCCC, 2025).

The need to mobilise private capital domestically and internationally brings us to Emissions Trading Systems (ETS), today one of the central instruments of climate policy for internalising the cost of carbon and steering investment decisions. Far from following a single model, ETS show growing diversity of design, reflecting differentiated economic contexts, productive structures and political priorities. This heterogeneity is a functional feature that explains their global expansion, and it also poses significant challenges of coordination, interoperability and long-term investment signalling.

A first structural distinction separates ETS with predetermined emissions caps, typically cap-and-trade systems, from those based on emissions intensity, where there is no absolute cap but relative targets tied to output. In the former, such as the EU Emissions Trading System, the total quantity of permitted emissions is set *ex ante*, granting environmental certainty but introducing potential tensions with competitiveness and sectoral growth. In the latter, emissions can vary with activity levels, prioritising productive fle-

xibility at the cost of less predictability over the system's aggregate emissions.

The shift toward intensity-based schemes has accelerated in recent years. Large-scale systems such as the China National Emissions Trading System have adopted this approach, which explains why, in aggregate, most emissions covered by ETS worldwide now sit under intensity regimes. From an investment perspective this change matters: intensity systems tend to reduce the risk of constraints on output, favouring political acceptance and industrial participation, but they offer a carbon price signal more dependent on future regulatory decisions.

A second key axis of design concerns the methods for allocating emission allowances. Grandfathering and benchmarking generate different impacts on economic rents and on investment incentives. Methods based on historical emissions can smooth the initial transition, but they risk entrenching carbon-intensive production structures. Benchmarking, by contrast, especially where it is based on output levels, creates an incentive to reduce emissions intensity, though it does not necessarily imply an absolute reduction in emissions (OECD, 2025).

Temporal and sectoral flexibility is another central feature of modern ETS. The possibility of banking allowances rewards early reductions and improves investment planning, while borrowing, though less common, can ease short-term liquidity constraints. To this is added the use of carbon credits as a compliance option, a decisive element for connecting ETS to hard-to-abate sectors and to territories where mitigation opportunities are most cost-effective.

More than 60% of ETS permit the use of carbon credits, generally under quan-

titative limits and strict quality criteria. For regions such as the Amazon this interaction is strategic, since it opens the door for nature-based solutions to be integrated into compliance markets. The diversity of designs nonetheless poses a challenge of interoperability between systems. As ETS evolve heterogeneously, in their caps, allocation methods or use of credits, the possibility of linking markets or of mutual recognition of credits demands higher levels of regulatory coordination.

On the same theme, the use of offsets within ETS is one of the most sensitive and at the same time most strategic points in carbon market design. Offsets represent emission reductions or removals generated outside the regulated perimeter of the ETS but usable by covered entities to meet part of their obligations. Their inclusion allows emissions within the ETS to exceed the nominal cap, provided that excess is fully compensated by verified reductions, holding aggregate emissions constant. Unlike emission allowances, which are created and allocated by the regulator as permits to emit, offsets originate in specific projects, assessed against a baseline and certified by crediting mechanisms. This difference is central. Allowances reflect a regulatory constraint, whereas offsets reflect additional mitigation activity whose integrity depends critically on methodological design, the governance of the crediting system and the quality of monitoring (Theuer et al., 2023).

In practice, ETS have taken diverse approaches to the geographic origin of offsets. Some systems have prioritised

domestic offsets in order to maximise domestic economic and political benefits. Others have turned to international offsets. More recently, an ecosystem of independent standards such as Verra and Gold Standard has emerged which, although not originally designed for compliance, is increasingly under consideration by ETS in development. From an economic and political standpoint, offsets serve several functions at once.

First, they reduce compliance costs by widening the set of available mitigation options, often at lower marginal cost than internal reductions. Second, they extend the carbon price signal to sectors not covered by the ETS, such as agriculture, forestry and land use, where significant mitigation and removal opportunities are concentrated. Third, they can facilitate more ambitious political agreements by making stricter caps viable within the regulated system.

Accumulated experience nonetheless shows that these benefits come with risks. **Excessive reliance on offsets can weaken the incentives for structural decarbonisation**

of covered sectors, delay investment in clean technologies and erode the environmental credibility of the ETS. As a result, ETS now tend to design offset use under two broad types of restriction. Quantitative restrictions set a maximum limit, to ensure that a significant proportion of the reduction occurs within the system. Qualitative restrictions define which types of project, technology, sector or region are eligible, prioritising those with greater environmental integrity and social co-benefits.

More than 60% of ETS permit carbon credits, opening a key opportunity for the Amazon to integrate nature-based solutions into compliance markets.

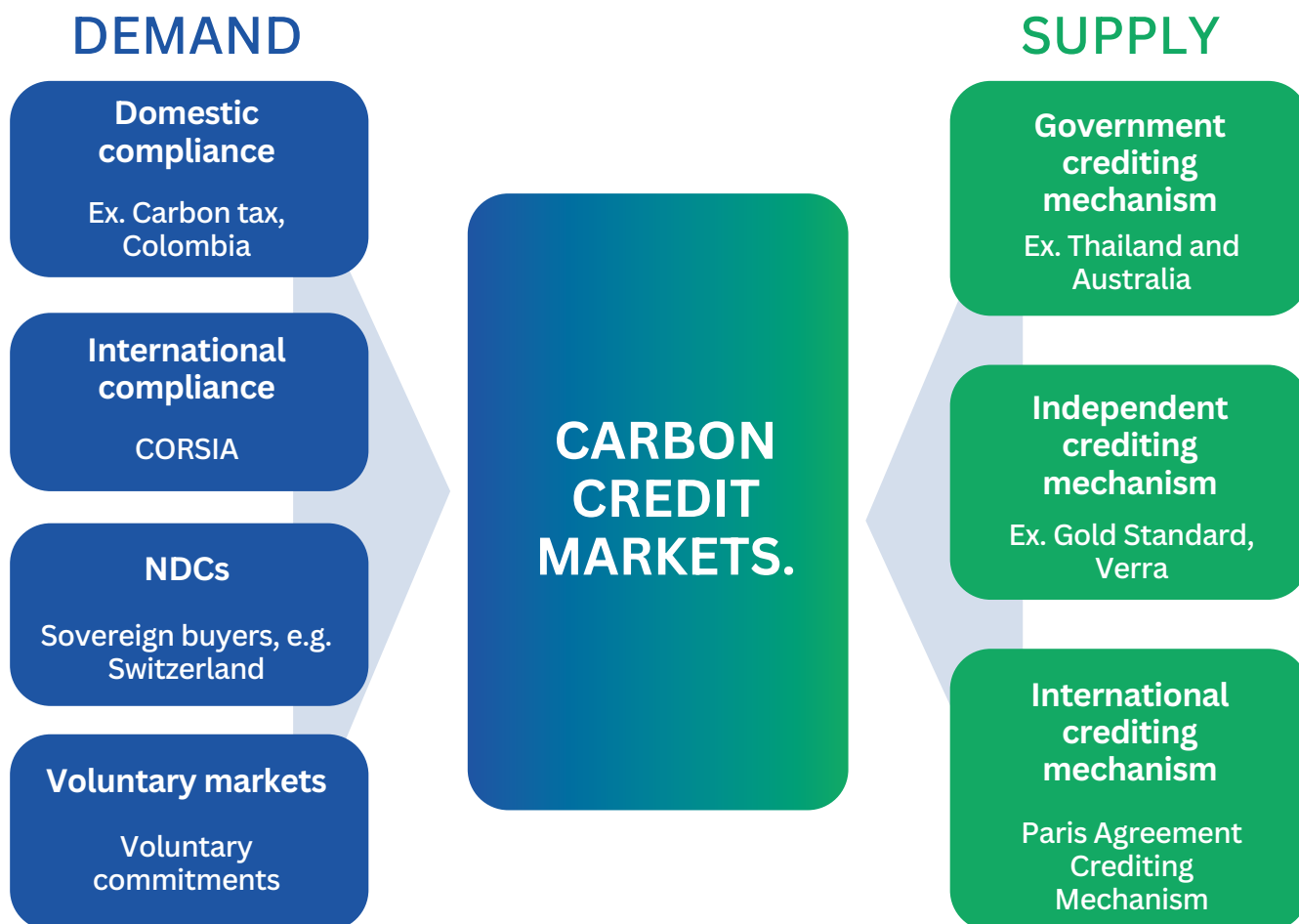


In the context of Article 6 of the Paris Agreement, this debate takes on a new dimension. **Article 6.2 enables bilateral cooperation and the use of Internationally Transferred Mitigation Outcomes (ITMOs)**, allowing mitigation measures implemented in one country to be counted toward another country's Nationally Determined Contribution, toward other international mitigation purposes, or toward the voluntary carbon market, under strict accounting rules and corresponding adjustments to avoid double counting. Article 6.4, for its part, creates a centralised crediting mechanism, the Paris Agreement Crediting Mechanism (PACM), under the aegis of the United Nations, with more demanding standards of additionality, governan-

ce and environmental and social safeguards than its predecessor, the Clean Development Mechanism (CDM). This mechanism also seeks to mobilise the private sector by offering incentives to participate in mitigation activities.

For carbon markets in transition, and for regions such as the Amazon, this new framework is particularly relevant. The possibility of generating offsets of high environmental integrity, aligned with NDCs, both domestic and international, and with voluntary carbon markets, opens a window to raise the ambition of the Amazon's forest and bioeconomy objectives by connecting nature-based solution projects to international climate demand.

Figure 18. Sources of demand and supply in global carbon credit markets



Source: World Bank, State and Trends of Carbon Pricing 2025.

For this, the first priority is to treat environmental integrity as a financial asset. In a scenario of linkage between ETS and the potential use of ITMOs, the Amazon can only position itself competitively if its credits incorporate robust project-level additionality standards, sector-specific methodologies and explicit mechanisms for managing reversal and leakage risk. Second, a clear delineation between domestic mitigation and the export of mitigation outcomes. The literature warns that excessive reliance on offsets can disincentivise national climate action and raise long-run marginal mitigation costs, especially in developing countries. Amazon regulatory frameworks must therefore define explicitly what volume and what type of reductions or removals can be converted into transferable credits without compromising delivery of unconditional NDCs. Third, the explicit incorporation of co-benefits as an economic criterion. Empirical evidence confirms that incentives tied purely to emission reductions are insufficient to guarantee positive social impacts and to avoid adverse effects on local communities. The Amazon consequently requires schemes that recognise and remunerate co-benefits such as biodiversity, livelihoods, territorial rights and climate resilience, through price premiums or complementary certification mechanisms.

Comparative experience in developing countries shows that the main obstacle to ambitious carbon pricing is not technical. It is political and economic. Resistance from regulated companies, fed by concerns over competitiveness or compliance costs, leads recurrently to low-ambition initial designs: low prices, high caps, broad sectoral exemptions, among others. While such decisions ease early adoption, they also erode environmental effectiveness and generate political rigidities that are difficult to reverse over time. This is particularly relevant for the Amazon countries,

given their uneven regulatory capacity and the differing levels of dependence on carbon-intensive activities and land use across the region. In this context, carbon pricing can consolidate as a credible instrument only if it is conceived as part of a long-term development trajectory, with a low initial baseline but a path of progressive and predictable increases in ambition.

The evidence indicates that even at moderate prices, **well-designed policies can stimulate foreign direct investment, formalise employment, energise renewable energy markets and improve countries' international position in relation to mechanisms such as border carbon adjustments.** An appropriate carbon pricing policy can therefore have positive macroeconomic impacts and attract capital aligned with environmental commitments, provided it is formulated with each country's most pressing capacities and needs in view, and particularly the trade-offs facing developing countries. The evidence also underlines that in contexts of lower institutional capacity, governance and effective enforcement matter as much as the formal design of the instrument. Credible MRV systems, simplified procedures in the early stages and robust fiscal or regulatory frameworks can build confidence among regulated entities and in markets alike (World Bank, 2024).

ACTO plays a complementary role in this design. From a political standpoint, the sustainability of carbon pricing requires understanding and actively managing the interests of key actors. The most significant progress therefore occurs where broad and durable coalitions are built, and a regional agenda capable of constructing a common narrative aligned with development priorities is decisive. The political economy of carbon pricing should be understood as a structural factor conditioning the credibility, depth and scalability

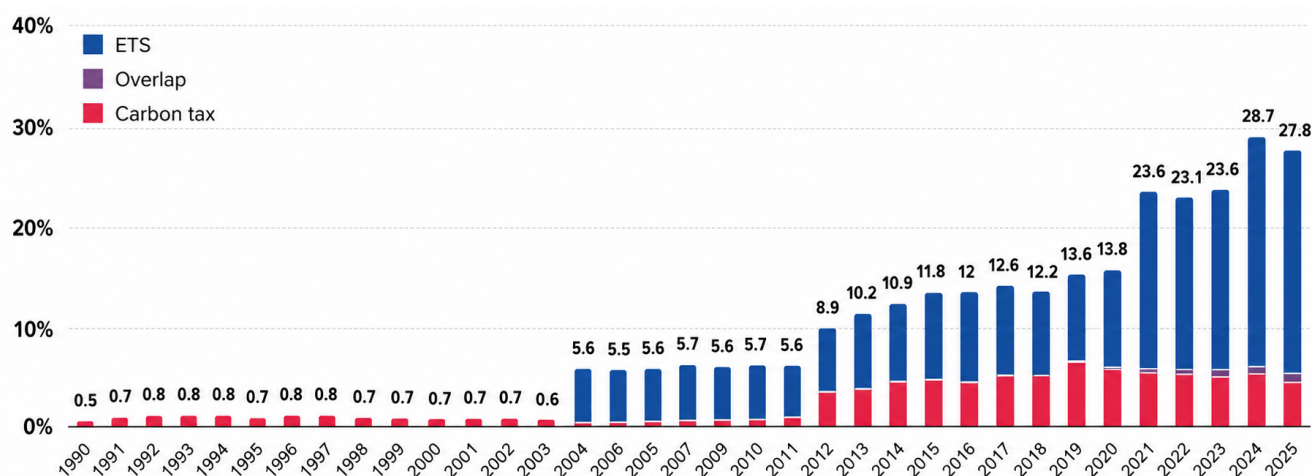
of these markets, and therefore their economic and social impact.

According to the report *State and Trends of Carbon Pricing 2025* (World Bank, 2025), the global carbon pricing landscape has reached a point of structural maturity. In 2025 there are 80 direct carbon pricing instruments in operation (37 ETS and 43 carbon taxes), covering approximately 28% of global emissions, up from 5% in 2005. The economies applying a direct carbon price account for almost two thirds of global GDP. The dominant trend is the expansion of emissions trading systems, in-

cluding new developments in Brazil, India and Türkiye. The fact that more than half of power sector emissions and almost half of industrial sector emissions face a direct price means that carbon already forms part of the structural cost of production in the major economies. Coverage in other sectors is lower, however, and agricultural emissions remain unpriced. On revenue, for the second consecutive year these instruments generated more than USD 100 billion for public budgets, with more than 50% earmarked for environmental, infrastructure and development projects¹¹.

Figure 19. Share of global GHG emissions covered by an ETS or carbon tax over time

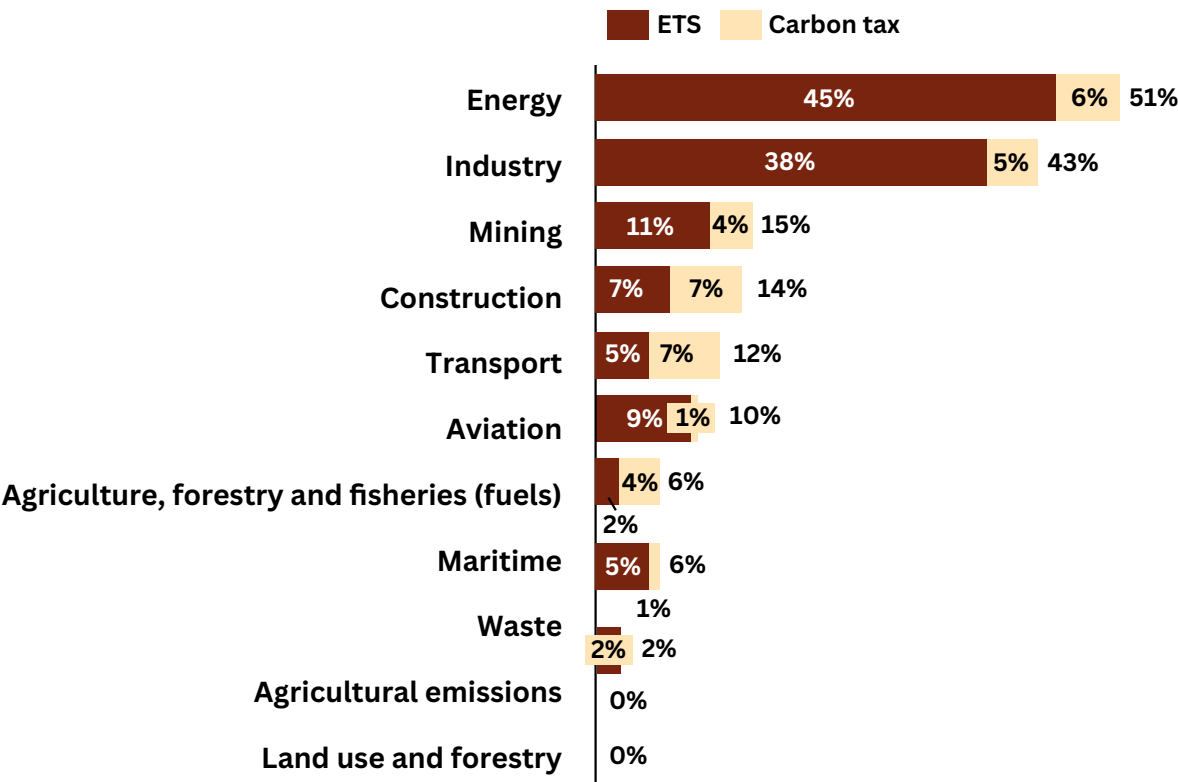
Percentage, annual series.



Source: World Bank, *State and Trends of Carbon Pricing 2025*.

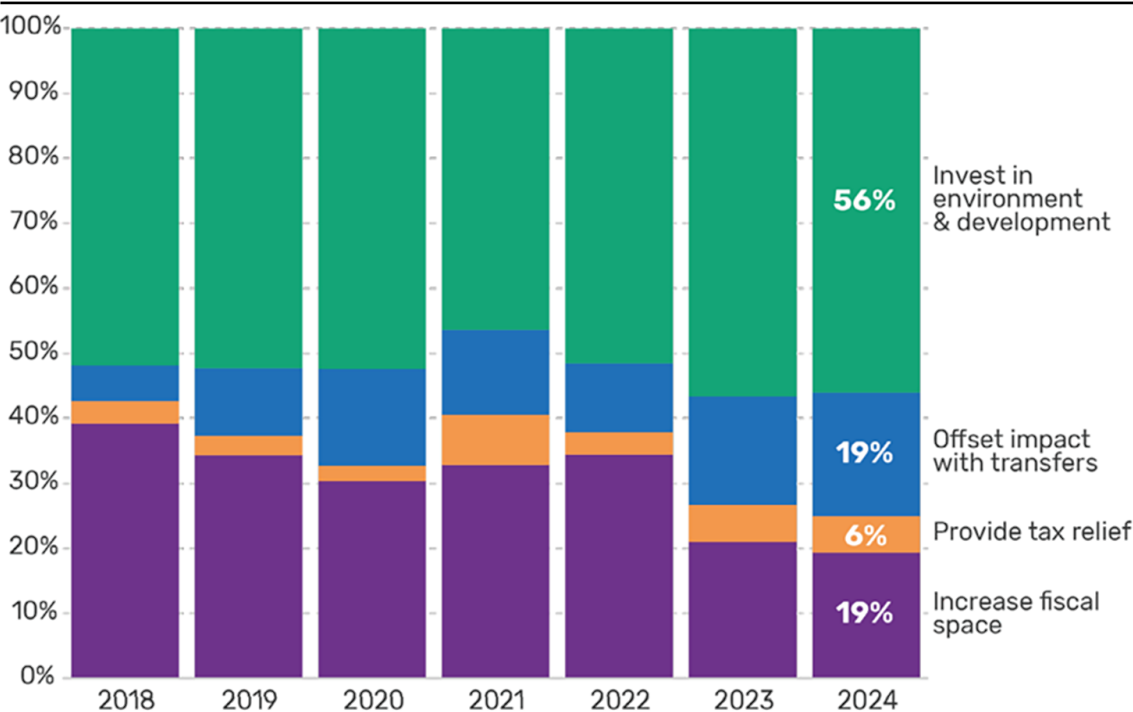
[11] <https://carbonpricingdashboard.worldbank.org/compliance/instrument-detail>

Figure 20. Share of global GHG emissions by economic sector covered by an ETS or a carbon tax



Source: World Bank, State and Trends of Carbon Pricing 2025.

Figure 21. Share of ETS and carbon tax revenue by category, 2018–2024



Source: World Bank, State and Trends of Carbon Pricing 2025.

The report notes that the private sector continues to lead demand for carbon credits through both compliance and voluntary markets, which underlines the role of carbon markets in channelling private capital toward decarbonisation projects. Voluntary buyers' preferences leaned toward nature-based removal projects and clean cookstoves. Notably, nature-based removal credits attracted premiums and higher forward prices, which suggests that voluntary buyers are willing to pay more for these credits than for alternative credit types. For the Amazon, this becomes a strategic opportunity.

The behaviour of the private sector introduces a further element of analysis. The rapid growth in corporate use of internal carbon prices, with 1,753 organisations in 2024, an increase of 89% since 2021, indicates that companies are internalising future regulatory expectations. The growing use of shadow prices, and the rising share of companies applying values above USD 130 per tonne, suggests that capital investment decisions are already factoring in stricter carbon scenarios.

Yet although carbon pricing generated more than USD 100 billion in revenue in 2024, that figure remains small against global spending on fossil fuel consumption subsidies (USD 620 billion in 2023, as reported in World Bank (2025), drawing on IEA data). Globally, carbon pricing systems still do not offset the scale of the fiscal incentives that favour fossil fuel consumption.

Latin America is no exception to this result. Analysis of the Total Carbon Price shows that although the region is generating significant economic signals, these do not come principally from direct pricing mechanisms but from indirect fiscal instruments. Direct carbon pricing, through carbon taxes and emissions trading systems, still carries

marginal weight. Over the past five years its contribution has been below 13% of the total carbon price. This means that the carbon pricing signal in the region remains determined principally by the combination of excise taxes and fuel subsidies.

Energy taxes and subsidies shape the effective price signal facing households and firms. From this perspective the Total Carbon Price (TCP) framework offers a particularly useful lens. What matters is not simply whether a carbon tax or an emissions trading system exists, but the combined effect of excise taxes, subsidies, exemptions, price controls and VAT regimes on the final price of each fuel. An environment in which fossil fuels are subsidised narrows the price differential against clean alternatives, weakening the carbon price signal (World Bank, 2025).

The total carbon price in the region varies significantly across fuels and sectors because fiscal instruments are not referenced to emissions content. Diesel and petrol carry relatively high burdens, but diesel receives preferential treatment relative to petrol. Natural gas and LPG, in many cases, show negative total carbon prices because of subsidies or exemptions. Coal remains virtually untaxed.

Given the need to raise domestic resources to finance climate commitments, reforms that gradually raise the TCP to USD 60 per tonne of CO₂ by 2030 could increase fiscal revenue by between 0.5% and 1% of GDP in 2030. This emerges as an alternative in the face of the region's limited fiscal capacity to finance the energy transition and climate adaptation while also responding to other economic and social challenges. In countries with significant fiscal gaps, mobilising these resources is critical to co-financing green infrastructure, strengthening MRV systems,

capitalising national climate funds and absorbing risk in jurisdictional carbon markets.

It is important, however, to understand the distributional and welfare impacts of TCP reform. Simulations by the World Bank (2025) show that the average impact of gradual TCP reform is moderate, reducing per capita income by between 0.1% and 1.2% in the short run, but that the effects are heterogeneous. The magnitude depends on household spending patterns, the country's economic structure and the current configuration of energy taxes and subsidies. The effect could accordingly be larger for reforms that set the TCP at a higher reference value, for example USD 120 per tonne of CO₂, or for countries with substantial fuel subsidies, such as Bolivia, Colombia and Ecuador, since such reforms would produce larger price shocks. It is also worth noting that the estimates presented in that study do not account for the behavioural response of households to price changes, nor for general equilibrium or the long-term effects of TCP reform. The analysis further indicates that LPG taxes are particularly regressive, while increases on petrol fall relatively more on higher-income households.

The gradual and strategically designed reduction of energy subsidies in Latin America matters for fiscal and climate alignment. For the development of carbon markets in particular, coherence in energy policy is crucial. A country that maintains energy subsidies misaligned with carbon content while simultaneously seeking to sell avoided deforestation credits on international markets faces a problem of regulatory consistency, with implications for the perceived integrity of those credits. Any reform must nonetheless recognise the constraints of institutional capacity, competitiveness, social

asymmetries and the energy dependence of vulnerable sectors.

It is also essential that the carbon markets envisaged for the region, and for the Amazon countries in particular, incorporate emissions associated with agriculture and land use change, which account for more than 40% of regional emissions. If the region's principal emissions vector is not brought into the pricing system, the capacity to generate economic incentives aligned with the most relevant mitigation priorities is limited.

Carbon credit markets will not consolidate as credible climate finance instruments without strategic leadership from governments, especially in developing countries. Current trends suggest that governments will take on greater relevance in carbon credit markets as more countries develop carbon pricing instruments and as demand for credits is driven up significantly under Article 6, motivated among other things by regulatory compliance. In that context, carbon credit markets will need protective mechanisms if they are to support climate action effectively.

Globally, most supply and demand in carbon credit markets operates with limited public oversight. Between 2021 and 2023 approximately 1.74 billion credits were issued and 0.63 billion were retired. Around 62% of supply came from independent crediting mechanisms, and as much as 90% of retirements were voluntary, that is, in the absence of a legal requirement. In most countries, therefore, government-supported supply and government-induced demand represent a small proportion of total carbon credit market activity (OECD, 2025).

Although the Amazon is an asset with enormous potential for developing nature-based solutions, which as noted

are the most sought-after in voluntary markets, it also faces growing scrutiny of their quality. Without a transparent architecture guaranteeing the integrity of supply, the associated risk would affect prices, constrain compliance demand and weaken the capacity to mobilise stable international finance. Consolidating high-integrity carbon markets is not a spontaneous private sector process. It is the result of deliberate institutional design. Governments play a crucial role in this market: setting standards, conditioning eligibility, aligning with NDCs and other development strategies, and using regulatory instruments to stimulate high-quality demand. That last role operates through national crediting mechanisms aligned with the PACM, investment in MRV systems, backstop arrangements and common standards.

The World Bank emphasises that carbon markets can unlock finance if countries are able to generate high-integrity carbon assets. The accumulated experience of the Forest Carbon Partnership Facility (FCPF)¹² shows that generating high-integrity REDD+ credits does not begin with the transaction. It begins with building national capacity: robust measurement, reporting and verification systems, conservative baselines, environmental and social safeguard frameworks, and explicit benefit-sharing plans. The countries that managed to sign Emission Reductions Payment Agreements (ERPAs) did so after sustained investment in that institutional infrastructure. The REDD+ architecture offers an operational reference model for extending the reach of carbon markets through jurisdictional approaches (World Bank, 2023).

Jurisdictional approaches were developed initially to address the deficiencies identified in project-based REDD+

approaches. They are well suited to governments seeking to finance mitigation activities at scale, particularly those related to land use change emissions (LULUCF / AFOLU)¹³, aligned with broader environmental and economic development policy. Revenue sources under jurisdictional approaches come principally from Results-Based Climate Finance (RBCF), but carbon markets are consolidating as a new route to private finance (World Bank, 2025). Consolidating a forest carbon market therefore requires explicit alignment between carbon pricing, rural development policy, benefit distribution and international commitments.

Trust emerges as the governing principle in this process. Trust that credits represent real mitigation, trust that revenues are distributed equitably, and trust that regulatory frameworks will not change arbitrarily. Jurisdictional approaches backed by robust national systems, verifiable safeguards and financial transparency are more likely to capture price premiums and stronger demand. In sum, the global picture shows a growing trend in carbon pricing mechanisms and in the opportunities that follow from them to consolidate carbon markets capable of mobilising climate finance for countries with large environmental assets.

Another central element to understanding the recent acceleration of carbon markets in developing countries is the growing externalisation of climate policy from advanced economies. Border Carbon Adjustments (BCAs) link domestic decarbonisation directly to international trade, introducing a redesign in which global supply chains can be reconfigured around emissions traceability, transparency and carbon intensity certification.

[12] <https://forestcarbonpartnership.org/topics>

[13] LULUCF: Land Use, Land-Use Change and Forestry.
AFOLU: Agriculture, Forestry and Other Land Uses.

The full entry into force of the European Union Carbon Border Adjustment Mechanism (CBAM) from 2026 marks a turning point. The instrument does not create a new carbon price. It extends the internal European price, derived from the EU Emissions Trading System (EU ETS), to imported goods, requiring them to pay an equivalent cost for their embedded emissions. From an economic perspective, CBAM seeks to prevent carbon leakage and level the competitive playing field. From a geopolitical perspective, it introduces an explicit climate conditionality into international trade.

Although CBAM focuses on carbon-intensive industrial sectors, the embedded emissions measurement logic can expand progressively. It also interacts with other European regulations, such as the EU Deforestation Regulation (EUDR), reinforcing the requirement that traded products be deforestation-free and verifiable through due diligence systems. This means that carbon market architecture and sustainable trade architecture converge: future competitiveness will depend on the capacity to demonstrate low embedded emissions and comprehensive environmental compliance.

The principle of shared climate responsibility through trade emerges here as well. If developed economies impose stricter climate standards at the border, they should also facilitate the transition of their trading partners through technical cooperation, climate finance and access to market mechanisms. Otherwise, BCAs could operate as regressive mechanisms that penalise countries with lower institutional and fiscal capacity. Developing countries need to anticipate the consolidation of border adjustments, strengthen their institutional architecture, connect zero-deforestation policy to trade com-

petitiveness, and negotiate actively for financial and technological cooperation mechanisms.

The analysis developed across this chapter confirms that carbon markets are an increasingly important piece of the climate finance architecture. The expansion of emissions trading systems, the consolidation of carbon taxes, progress on Article 6 of the Paris Agreement, the growing sophistication of voluntary markets and the implementation of border carbon adjustments are producing an environment in which the carbon price becomes an economic signal that cuts across trade, investment and competitiveness.

The current picture is nonetheless marked by deep asymmetries. **Coverage of direct pricing remains partial and heterogeneous, and price levels vary significantly across jurisdictions.** Voluntary markets face integrity challenges, and developing countries, including the Amazon countries, participate unevenly in both the generation and the capture of value. Four conclusions follow. First, environmental integrity and institutional credibility are the principal determinant of access to climate capital. Second, carbon intensity is no longer only an environmental indicator. It is also a commercial variable. Demand for nature-based solutions is expected to rise, and carbon markets play a fundamental role in attracting private investment to meet it. Third, under Article 6 of the Paris Agreement, international cooperation is expected to flow more toward developing countries through greater demand in compliance markets. Finally, forest and natural assets represent a strategic advantage in a world moving toward climate neutrality. The countries that hold them will nonetheless need a market architecture that translates that advantage into stable financial flows.

STRATEGIC RECOMMENDATIONS

For strengthening carbon markets and mobilising climate finance

1. Build High-Integrity Institutional Infrastructure

- National MRV systems aligned with the Paris Agreement and compatible with international standards.
- Interoperable digital registries that prevent double counting.
- Integration of social safeguards and benefit distribution plans, especially for Indigenous and rural communities.
- Governments, multilateral development banks and the private sector could dedicate financial and technical assistance to help developing countries build and operate modern carbon market infrastructure, and to support the design of registry and trading platforms alongside international data standardisation initiatives.

2. Integrate Carbon Markets with Fiscal and Energy Policy

- Progressive elimination of

fossil fuel subsidies.

- Harmonisation between excise taxes, carbon taxes and ETS.
- Design of revenue recycling mechanisms to protect vulnerable sectors and finance a sustainable transition.
- Strategic use of these revenues for investment in climate commitments.

3. Scale REDD+ and Jurisdictional Forest Markets

- Consolidate national programmes with results-based payments.
- Facilitate integration with regulated and international markets.
- Integrate forest credits with low-carbon industrial strategies.
- Ensure consistency between ITMO generation and domestic NDC targets.
- The private sector could support the creation of traceability

and transparency platforms in supply chains to underpin investment in resilience.

4. Align Voluntary Markets with Article 6 of the Paris Agreement

- Adoption of high-integrity principles.
- Coordination with the Paris Agreement Crediting Mechanism (PACM) under Article 6.4.
- Clarity on when and how companies may use credits in their transition strategies.
- Development of national standards compatible with multilateral frameworks.

5. Mobilise Innovative Financial Instruments

Attracting private capital at scale requires risk reduction instruments:

- Green and sustainability bonds.
- Sovereign or multilateral guarantees against regulatory, credit or political risk.

- Advance credit purchase platforms.

- Blended finance funds that combine concessional and private capital.

- Securing a more active role for the insurance sector in developing innovative products that help countries prepare better for climate emergencies, reduce financial vulnerability and encourage proactive investment in resilience.

- Bilateral finance providers, multilateral climate funds and philanthropic organisations could collaborate to expand the volume of first-loss or patient capital in investment vehicles, through the use of large pooled funds.

- Securitisation platforms¹⁴. Using securitisation to sell assets from the balance sheets of public development banks to private investors can free up more low-cost lending and contribute to a better investor understanding of country and market risk, thereby reducing the cost of capital. These mechanisms offer the appropriate route for channelling capital from institutional investors such as pension funds and insurance companies, rather than expecting

[14] See IDB Invest, IDB Invest Retaps Originate-to-Share Award-Winning Securitization, 19 December 2025. <https://idbinvest.org/en/news-media/idb-invest-retaps-originate-share-award-winning-securitization>

those investors to co-invest at early stages (UNFCCC, 2025).

- Strengthen collaboration between international public finance and sovereign instruments such as the Tropical Forests Forever Facility (TFFF), including commitments for the initial mobilisation of resources. Multilateral development banks, bilateral donor agencies and philanthropic organisations can establish a platform to support access to the TFFF, providing technical assistance to tropical forest countries so that they can meet eligibility criteria, in particular those relating to Indigenous Peoples and local communities, as well as direct support to civil society so that it can perform independent accountability functions (UNFCCC, 2025).

- Credit rating agencies could improve the transparency of the criteria and assumptions used to assess climate-related risks and opportunities in credit ratings, including through global platforms such as the Global Emerging

Markets Risk Database (GEMs), in order to better assess asset performance and risk (UNFCCC, 2025).

For developing countries, and for the Amazon countries in particular, the objective should not simply be to participate in carbon markets. It should be to shape them so that they:

- Recognise the economic value of their forest assets.
- Reduce commercial vulnerabilities.
- Raise climate ambition without compromising competitiveness.
- Channel financial flows toward the energy transition, ecological restoration and adaptation.

In a context of slow but inevitable climate convergence, the countries that manage to integrate climate policy, market architecture and trade positioning will be better placed to turn the global transition to net zero emissions into an opportunity for sustainable development.

5. CONCLUSIONS

This document has treated the Amazon as a biome critical to global climate stability and as a strategic economic asset. Its forests, its biodiversity and its carbon capture capacity represent a unique comparative advantage in a world moving toward climate neutrality. That advantage will only materialise, however, if there is a market architecture capable of translating conservation and restoration into financial flows that are stable, high-integrity and aligned with Nationally Determined Contributions.

The paradox is clear: the Amazonian countries possess some of the planet's most valuable environmental assets, yet they face severe fiscal and financial constraints. The global climate transition requires functioning markets that internalise the value of carbon, reduce emissions leakage, reward conservation and channel private capital toward territories that today carry the weight of climate vulnerability. For the countries of the Amazon, this means

moving from being passive providers of ecosystem services to strategic actors in the climate finance architecture.

Closing the financing gap, turning environmental assets into competitive advantage and consolidating high-integrity carbon markets are not separate agendas. They are three dimensions of a single challenge: reconfiguring the global economy so that climate protection and sustainable development become complementary engines of prosperity.

If the Amazon succeeds in establishing itself within this new architecture as a reliable generator of high-quality climate assets, backed by strong institutions and clear rules, it will contribute decisively to the planet's climate stability. It will also become tangible proof that the transition to net zero emissions can, and must, be a transition toward greater equity, resilience and economic sovereignty for the countries that safeguard the world's most strategic ecosystems.

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