

# Raising ambition and accelerating delivery of climate finance

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Third report of  
the Independent  
High-Level Expert Group  
on Climate Finance

November 2024

## Preface and acknowledgements

The Independent High Level Expert Group (IHLEG) on Climate Finance has been supporting the deliberations on the climate finance agenda under successive COP Presidencies since COP26. The group is co-chaired by Amar Bhattacharya, Vera Songwe and Nicholas Stern. Eléonore Soubeyran serves as the Secretariat. The full membership is provided at the end of the report. This independent group was tasked to help develop and put forward policy options and recommendations to encourage and enable the public and private investment and finance necessary for delivery of the commitments, ambition, initiatives and targets of the UNFCCC Paris Agreement, reinforced by the Glasgow Climate Pact, the Sharm el-Sheikh agenda, and the COP28 Global Climate Finance Framework.

This third report of the IHLEG has benefited enormously from the active and high-quality participation, guidance and input of the group's members, and from feedback from a wide range of stakeholders. The views expressed are the responsibility of Amar Bhattacharya, Vera Songwe, Eléonore Soubeyran and Nicholas Stern, and are not necessarily those of individual members, nor does the report claim to represent the views of the COP29 Presidencies or the Climate Champions.

The writing team was led by Amar Bhattacharya with Eléonore Soubeyran, with the guidance of Vera Songwe and Nicholas Stern. The following people led on different sections: Amar Bhattacharya (investment, financing pathways, multilateral development banks, country-led investments); Eléonore Soubeyran (investment, climate finance landscape); Swati Ghosh (cost of capital); Homi Kharas and Charlotte Rivard (debt); Katherine Stodulka, Mattia Romani and Zoe Greindl (private finance); Marilou Uy (debt, domestic resource mobilisation, concessional climate finance, carbon markets); Camilla Born, Annabel Mahgerefteh, Talia Smith, Harris Rahman, Jesse Hoffman (tracking and monitoring). Georgina Kyriacou edited the report.

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The estimates of investment needs for adaptation and resilience in 2030 for China and other emerging markets and developing countries were provided by the Finance chapter team of the UNEP *Adaptation Gap Report* (Nella Canales, Dipesh Chapagain and Paul Watkiss), based on 2024 analysis using data from updated 2022 analysis of modelled costs, finance needs and international public adaptation finance flows. The data were produced with co-financing from: the ECONOGENESIS project funded by UK aid from the UK government and by the International Development Research Centre, Canada as part of the Climate Adaptation and Resilience (CLARE) research programme; the Assessing Climate Change Risk in Europe project (ACCREU), funded by the EU through the Horizon Europe Research and Innovation Action and UK Research and Innovation under the UK Government's Horizon Europe guarantee; and core funding to the Stockholm Environment Institute from the Swedish International Development Cooperation Agency.

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The views in this report are those of the authors and do not necessarily represent those of any of the funding or host institutions. Any errors and omissions remain the authors' own.

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# Contents

Executive summary .....	4
<b>1. Investment imperative and opportunities .....</b>	<b>11</b>
1.1. Understanding the investment needs for climate action .....	11
1.2. Uneven gains for rapid cost reductions in clean technology .....	18
1.3. Unlocking savings and generating employment and economic growth opportunities .....	18
<b>2. Financing pathways to achieve the Paris Agreement goals .....</b>	<b>22</b>
2.1. Where are we on climate finance? .....	22
2.2. Pathways to scaling up climate finance in EMDCs other than China to 2030 and beyond .....	23
<b>3. Accelerating delivery of the action agenda on climate finance .....</b>	<b>27</b>
3.1. Key stakeholders in delivering the climate finance agenda .....	27
3.2. Unlocking climate investment at scale .....	28
3.3. Managing debt and fiscal space .....	29
3.4. The imperative to boost domestic resource mobilisation .....	31
3.5. Creating a new highway for private finance and tackling the cost of capital .....	32
3.6. An MDB system that works for climate action .....	36
3.7. Tapping the potential of carbon markets .....	38
3.8. Delivering and expanding options for concessional finance .....	39
<b>4. Tracking and monitoring the delivery of the action agenda .....</b>	<b>43</b>
References .....	44
IHLEG membership .....	49

# Executive summary

## Investment imperative and opportunity

**The world faces an unprecedented investment imperative and opportunity.** The transition to clean, low-carbon energy, building resilience to the impacts of climate change, and protecting nature and biodiversity, require a rapid step-up in investment in all countries.

**The needs and opportunities are especially significant in emerging markets and developing countries (EMDCs) other than China:** they are the countries that will account for the largest share of the increase in investments needed for a global energy transition, they are the most vulnerable to climate impacts, and they are home to the vast preponderance of the world's nature and biodiversity resources.

**We estimate that the global projected investment requirement for climate action is around \$6.3–6.7 trillion per year by 2030, of which \$2.7–2.8 trillion is in advanced economies, \$1.3–\$1.4 trillion in China, and \$2.3–2.5 trillion in EMDCs other than China.**<sup>1</sup> These latter countries will account for almost 45% of the average incremental investment needs from now to 2030 but they have been falling behind, especially Sub-Saharan Africa. For 2035, we estimate global investment requirements for climate action to be around \$7–8.1 trillion per year, with advanced economies needing \$2.6–3.1 trillion, China \$1.3–1.5 trillion, and EMDCs other than China requiring \$3.1–3.5 trillion. These needs are our estimations of what is required for delivery on the Paris Agreement, and the investments will also make a vital contribution to sustainable growth and the achievement of the Sustainable Development Goals.

**Rapidly falling technology costs especially for solar power, and the huge expansion in supply, notably from China, represent an unprecedented opportunity for developing countries.** Africa, for example, accounts for about 60% of the world's best solar resources, but received less than 2% of the investment in clean energy in 2023.

**Ramping up climate investments in EMDCs is the only way to reach the Paris Agreement goals of limiting the global temperature increase to well below 2 degrees Celsius and adapting to climate change, and arrest the accelerating threat to nature and biodiversity.** Doing so also represents a huge growth and development opportunity following the investment slowdown in the aftermath of the COVID-19 pandemic.

**Our updated analysis indicates that of the projected investment needs of around \$2.4 trillion per year in 2030 for EMDCs other than China, around \$1.6 trillion is for the clean energy transition, \$0.25 trillion for adaptation and resilience, \$0.25 trillion for loss and damage, \$0.3 trillion for natural capital and sustainable agriculture, and \$0.04 trillion for fostering a just transition.** To emphasise, these are the investment levels that are necessary for delivery on the Paris targets. They are analytical deductions in relation to our estimates of what is needed, not a 'first bid' in a negotiation.

**Any shortfall in investment before 2030 will place added pressure on the years that follow, creating a steeper and potentially more costly path to climate stability.** The less the world achieves now, the more we will need to invest later. Delayed action means we will need to mobilise even larger sums in shorter timeframes to catch up on critical targets. Additionally, investment needs for adaptation and resilience, as well as loss and damage and restoration of nature, will rise sharply as climate and nature risks escalate.

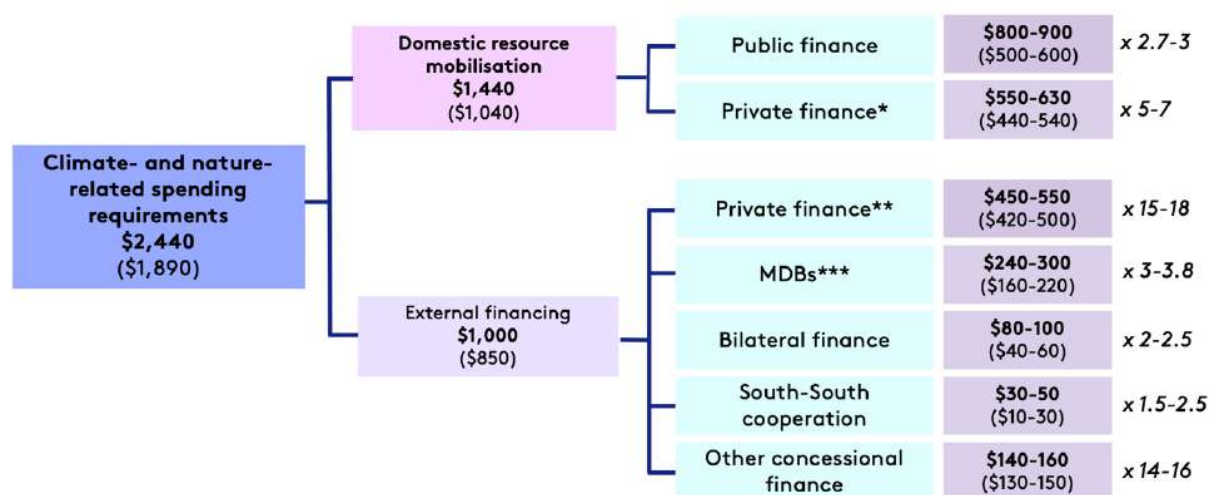
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<sup>1</sup> All figures are in US dollars. Numbers may not sum to totals due to rounding.

This ramp-up of investment can unlock the growth story of the 21st century and yield huge avoided costs and co-benefits (versus the costs of inaction) while generating very large savings. The avoided costs (such as adverse impacts on productivity and health, damages to assets, and loss of biodiversity) and co-benefits of climate action (such as increased productivity, improved ecosystem services and strengthened social stability) could amount to about 15–18% of global GDP in 2030. In addition, financial savings from a shift to a low-carbon economy could be as much as 11–18% of global GDP (coming, for example, from reduced investments, consumption and imports of fossil fuels, and fewer environmentally harmful subsidies). These benefits and savings will depend on the pace of the transition and accrue over time. The challenge, therefore, is to foster the enabling conditions for the ramp-up of investments and mobilise finance of the right scale, of the right kind and at an affordable cost.

## Criticality and structure of finance

### Mobilising the necessary financing for EMDCs other than China (\$ billion per year by 2030, increment from current in parentheses)



Notes: \*Includes household savings. \*\*A significant proportion of this private finance would be directly and indirectly catalysed by MDBs, other development finance institutions and bilateral finance. \*\*\*Includes multilateral climate funds.

The large and rapid scale-up of finance to support a big investment push can only be achieved by harnessing all pools of finance. For each strand, it is important to pursue ambitious targets consistent with the investment goals but based on credible pathways to delivery. The approach must utilise the comparative strengths of each strand in financing the different types of investment. And it will be important to tap the synergies from the different strands of finance to enhance leveraging power and bring down risks and the cost of capital.

Domestic resources, which currently account for around 70% of climate finance, can reasonably finance \$1.4 trillion per year of the total investment need of \$2.4 trillion by 2030 and \$1.9 trillion of the total investment need of \$3.2 trillion by 2035. The role of the private sector will be much more important than in the past, given the changing nature of investment.

External finance from all sources, international public and private along with others, will need to cover \$1 trillion per year of the total investment need by 2030 and around \$1.3 trillion by 2035. We argue that cross-border private finance can meet about half of

these needs given the changing nature of investment opportunities. This would imply a 15- to 18-fold increase on current levels. Given their important direct and catalytic role, the IHLEG and the G20-mandated Independent Expert Group (IEG) on multilateral development bank (MDB) reform have argued that financing from MDBs needs to triple by 2030. Bilateral climate finance from advanced economies, which currently amounts to \$43 billion per year, needs to double or more, given the central role that it plays in building trust and financing the most difficult needs.

**Building a climate finance system that meets the test of both scale and quality requires shifting beyond a traditional focus on mobilising funding to prioritising impact and systemic change.** This means scaling up climate finance to be accessible, predictable, affordable and transparent, rooted in justice and inclusion. Resources must be distributed equitably, historical responsibilities acknowledged, and marginalised communities included in decisions. Increased attention to gender equality is crucial for climate finance that effectively addresses the differing constraints and opportunities for men and women. Agreement and implementation of Article 2.1(c) of the Paris Agreement can greatly bolster the effectiveness of the climate finance system.

**Different sorts of investment need different sources of finance and thus the composition of the different sources of the \$1 trillion per year in external finance by 2030 is of great importance, and so too is the cost of capital.** For example, private finance will be the main source of investment in infrastructure for renewable energy generation. Thus the \$1 trillion in external finance for EMDCs other than China is much broader in scope than the commitment by developed countries at COP16 in 2010 to mobilise \$100 billion per year by 2020 for developing countries. The figures presented in this report imply a more than fourfold increase in total climate finance and a more than sixfold increase in external finance by 2030.

**Non-traditional financing sources can play an important role in closing the financing gap.** There is tremendous potential for expanding South-South cooperation between EMDCs on climate finance. Non-conventional sources of concessional finance will also need to be pursued, including voluntary carbon markets, use of special drawing rights (SDRs), solidarity levies on internationally-polluting activities, other international taxes, debt swaps and private philanthropy. This could raise around \$150 billion in additional revenues by 2030.

**A fit-for-purpose climate finance agenda has important implications for the New Collective Quantified Goal on Climate Finance (NCQG).** Agreement on the NCQG is a matter for the Parties. With its overall external finance of \$1 trillion per year to EMDCs other than China by 2030, and its basic elements of private, MDB, bilateral and other concessional flows, this framework provides the key conceptual and practical set of numbers for climate finance, and can inform discussions about the NCQG. These numbers come from a transparent and deductive analysis of the finance required for the investments that will be necessary for delivery on the crucial temperature and climate-resilience targets of the Paris Agreement. Without these investments in EMDCs other than China, the world will fail to achieve those goals. To deliver on the \$1 trillion of external finance, ambitious but credible targets will be required for the different strands, recognising the need for synergies and leverage to achieve scale and effectiveness. The tripling of MDB finance, for example, is crucial to scaling up private finance and reducing the cost of capital. This framework and the key elements within it should be the main focus of the NCQG.

**Within this larger framework, advanced economies need to demonstrate a credible commitment, including through the NCQG, to provide and mobilise the finance needed for climate action in developing countries.** This would entail a tripling of the

\$100 billion annual commitment made at COP16 for 2020, and reaffirmed and extended to 2025 at COP21 in 2015. Other stakeholders also need to come forward with ambitious commitments, including the MDBs, the private sector, and developing countries that are in a position to provide support. Indeed, cooperation between developing countries ('South-South cooperation') is already making a significant contribution and there is great scope for enhanced support and financing from leading developing countries.

## **Accelerating the delivery of the climate finance action agenda**

**Momentum has been building on the climate finance agenda since COP26. COP26, COP27 and COP28 all made climate finance a central priority.** The Global Climate Finance Framework launched by the UAE COP28 Presidency in 2023 and supported by the IHLEG set out an action agenda to deliver on adequate, accessible and affordable climate finance that has been endorsed by an important coalition of world leaders. COP29 and COP30 will be crucial in taking forward this climate finance agenda, with a need to agree on the NCQG, launch a new round of ambitious nationally determined contributions (NDCs) in 2025, and accelerate the implementation of the agenda set out in the Global Climate Finance Framework.

**Climate finance now features prominently in all key international discussions, including the UN, the G20, the international finance institutions (IFIs) and the private sector.** The Brazilian G20 Presidency launched a special initiative this year, TF-Clima, to bring together different stakeholders and build support for an action agenda on climate. The Network for Greening the Financial System (NGFS), which has enlarged to 141 members comprising central banks and regulators, and the Coalition of Finance Ministers for Climate Action, which now comprises finance ministries from 95 countries, have become important networks to build consensus and ambition on the climate action agenda. Several other coalitions have also emerged to identify and pursue priorities for action, including the Bridgetown Initiative (with Bridgetown 3.0 launched in September 2024), the Paris Pact for People and the Planet (4P, with a permanent secretariat now established at the OECD), the Nairobi Declaration of the Africa Climate Summit, and the V20 with its action agenda.

**COP29 in Baku and the G20 Summit in Rio de Janeiro provide an opportune moment to take stock of the climate finance agenda, deliver an ambitious NCQG, and identify priority actions for ramping up progress.** In 2025, the Financing for Development conference in June, the G20 agenda under the South African Presidency, and COP30 with its priority goal of a new round of ambitious NDCs must all enable a big push on the necessary investment and its financing.

**A big push is required on three priorities:** (i) to prepare and implement high-quality investments; (ii) to put in place the necessary macroeconomic and sectoral policy and institutional reforms and tackle the severe constraints facing many countries due to high debt and limited fiscal space; and (iii) to mobilise finance at scale and improve access to affordable capital. These priorities were confirmed at two roundtables convened by the UN Climate Change Executive Secretary in partnership with the IHLEG in 2024, in Bonn and New York, to take stock of and impart momentum to the climate finance action agenda.

**The starting point is unlocking climate investment at scale.** First, countries must set out well-articulated strategies and transition plans to provide a clear source of direction, including to the private sector. Second, countries must put in place and strengthen institutional structures for translating strategies into tangible investment programmes and project pipelines. Third, countries need to pursue sustained policy and institutional reforms to tackle barriers to investment and incentivise the shift to low-carbon climate-resilient development. Country platforms, led and owned by countries with the involvement of all

stakeholders including development finance institutions (DFIs) and the private sector, can create the basis for more purposeful and accelerated action to unlock investments and mobilise the financing that is needed. Encouragingly, there is growing momentum behind the adoption and implementation of country platforms. This whole agenda will require stronger and better coordinated efforts to build capacity across all levels of institutions.

**Elevated debt and debt servicing burdens, and limited fiscal space, require urgent action.** Concerted and innovative approaches are needed, tailored to country circumstances, including faster and better implementation of the Common Framework for Debt Treatments and use of debt swaps where there is scope. Improved access to low-cost finance and improving the terms of existing debt will be key. It is also essential to tackle the vicious cycle between climate and debt vulnerability, particularly in low-income and highly climate-vulnerable middle-income countries. Finally, Debt Sustainability Assessments will need to consider how climate affects financial risks but also how to incorporate the long-term growth and sustainability payoffs from climate action.

**An integrated approach to climate finance is needed.** While a very large proportion of climate finance will be from the private sector, public domestic resource mobilisation will be foundational. Increasing tax revenues must be the central pillar of domestic resource mobilisation, and there is major scope to raise tax revenues in many EMDCs. Carbon pricing provides tremendous potential to raise revenues during the transition while efficiently providing incentives to reduce carbon emissions, as does the elimination of fossil fuel and other damaging subsidies. All of these efforts to boost public domestic resources will require strong international cooperation that ensures that developing countries get an equitable share of tax revenues and are supported in enhancing their tax collection capacities.

**Despite growing momentum, volumes of private capital flowing to EMDCs are still far too low: the challenge is to increase speed as well as scale.** To meet this challenge, first, the public and private sectors need to strengthen collaboration to develop sectoral investment plans and co-create project pipelines. Second, scaling up and replicating more effective risk-sharing mechanisms and credit enhancement can help improve the availability and reduce the cost of capital in EMDCs. The cost of capital is significantly higher in EMDCs than in advanced economies and is a significant impediment, especially for clean energy projects. Reducing the cost of capital will require a combination of measures at the international and country levels to reduce both actual and perceived risks.

**Revamping the financial system can help create a virtuous cycle for private capital mobilisation in EMDCs.** Concerted efforts are needed to strengthen the domestic financial sector in many EMDCs, including capital markets. Tackling supply-side regulatory and incentive barriers to remove legal and organisational constraints to investing in EMDCs, especially for clean energy and green industrialisation, is a priority task to unlock institutional capital for EMDCs.

**MDBs have embarked on a coordinated programme of reform to implement the agenda of 'better, bigger and more effective MDBs'.** While all MDBs have made progress on the reform agenda, the pace and ambition fall short of what is needed. From the perspective of climate action, there are three areas where progress is not yet sufficient to produce transformative change: systematic engagement on system reforms and scaling up investment at the country level, including through more proactive engagement in country platforms; expanding lending capacity; and catalysing private finance, including through tapping long-term institutional capital. MDBs must work with host countries and the private sector to reduce and manage risk and bring down the cost of capital. MDBs should come forward with a commitment and plan to triple lending capacity by 2030 as part of the NCGQ, with each MDB doing its part, which will require shared commitment

and leadership from shareholders. Beyond MDBs, an integrated global network of public development banks through the Finance in Common initiative could act as a powerful force for more coherent and effective support for climate action and finance.

**While bilateral contributions from developed countries are a small component of total climate financing, they are critical to building trust, meeting some of the more difficult needs, and leveraging other sources of finance.** Securing an ambitious IDA21 (the forthcoming 21st replenishment process of the International Development Association) will be vital to supporting climate action in low-income and climate-vulnerable countries. Multilateral climate funds play an important catalytic role in advancing systemic change through partnerships with MDBs, mobilising financing aligned with the Paris Agreement, and building markets. There is an urgent need to secure adequate funding for the Loss and Damage Fund.

**The voluntary carbon market (VCM) also has the potential to generate much-needed revenues for priority elements of the transition in EMDCs.** The VCM has suffered from major setbacks and poor market sentiment. There are important efforts to provide greater assurance of credit integrity. Parties reached consensus at COP29 on the standards for Article 6.4 of the Paris Agreement, which can generate new momentum. Further steps being undertaken include creating clearer operational guidelines for the use of carbon credit regulations that support high quality carbon credits and boost voluntary demand; and enabling EMDCs to develop and manage their use of carbon markets. Developing a programmatic approach beyond project-by-project is important for integration into development finance and action.

**Given the very large needs for concessional finance, non-conventional sources must be actively pursued.** The G20 and the IMF should explore how to tap the substantial potential for voluntary rechanneling from the existing pool of SDRs and modernise the framework to make it less rigid and costly. The IMF and the G20 should also initiate discussions on the next cycle of SDR issuance as part of a system of regular issuance. There is scope for private philanthropy to further augment the scale of its financing and leverage its strengths to deliver much-needed grant financing with flexibility and agility.

**These efforts, however, are unlikely to be sufficient to fill the concessional financing gap, and innovative solutions need to be pursued actively.** One such solution is international taxation of high-emitting sectors, which has the potential to raise significant amounts of revenue that could be used to fill the climate financing gap. At COP28, the Global Solidarity Levies Task Force was launched to explore new avenues for international taxation to finance climate action and sustainable development, including the taxation of international shipping, aviation, fossil-fuel levies and a financial transactions tax. It will be important to broaden the coalition of countries and build consensus on proposals that can attract support by COP30.

## **Tracking and monitoring the delivery of the climate action agenda**

**As the climate finance agenda shifts from outlining the need and pathways for climate finance into delivery, tracking and monitoring systems are critical to accelerating implementation of the climate finance agenda.** Tracking and monitoring foster accountability both by shining a spotlight where progress is being made and by highlighting gaps and opportunities to aid prioritisation of future actions.

**There is now a reasonably comprehensive structure for tracking climate finance flows,** including the UNFCCC's biennial assessment of flows, the OECD's tracking of the delivery of the \$100 billion commitment, and Climate Policy Initiative's (CPI's) Global Landscape on Climate Finance. MDBs also issue an annual joint report on their delivery of climate

finance. However, tracking continues to suffer from a lack of a full consensus on what constitutes climate finance and robust data and systematic measurement mechanisms for tracking the action agenda on climate finance have also been scarce. Here, an important new initiative is CPI's Climate Finance Reform Compass, which assesses implementation against milestones.

**The IHLEG has prepared two complementary instruments to support improved monitoring in partnership with CPI:** a summary of the action agenda priorities, actions and deliverables leading up to COP30 and a State of Delivery report that provides a more rigorous assessment of progress against a composite set of indicators.

# 1. Investment imperative and opportunities

The world faces an unprecedented investment imperative as the window for meaningful action on climate change narrows rapidly. To meet the Paris Agreement goals, have a chance of mitigating the worst impacts of climate change, build resilience and protect nature and biodiversity, transformative investments are essential, particularly in emerging markets and developing countries (EMDCs). Rapidly falling technology costs and the huge expansion of renewables supply, notably from China, are reducing overall investment needs for clean energy – but solutions must be found, too, to address the gaps in funding for adaptation and resilience, loss and damage, natural capital and the just transition. The ramp-up of investment can also yield huge avoided costs and co-benefits while generating very large savings – returns that far outweigh the investment requirements and present significant opportunities.

In this third report of the IHLEG on Climate Finance we update the estimates of investment requirements for climate action and set out the action agenda to deliver the necessary finance for investment in EMDCs other than China.

This chapter provides an overview of the investment needs across key areas, from clean energy to just transition, and describes the enduring value of investing in climate action: to drive economic resilience and equitable growth across regions.

## Key findings

- **Investments in all areas of climate action must increase across all economies:** \$6.5 trillion is needed on average per year by 2030 to meet climate targets in advanced economies, China, and EMDCs other than China.
- **The largest increase in investment is required in EMDCs other than China:** these regions currently have low investment levels, significant development needs, and are projected to contribute over 50% of global emissions by 2030.
- **Investment needs are most clearly defined in the energy transition sector:** while other areas have more uncertainty, sufficient data exists to provide directional estimates that can guide financing pathways across regions.
- **Any shortfall in investment before 2030 will place added pressure on the years that follow, creating a steeper and potentially more costly path to climate stability.** The less the world achieves now, the more we will need to invest later.

## 1.1. Understanding the investment needs for climate action

Greenhouse gas emissions continue to rise and the world is faced with the critical risk of exceeding the 1.5°C threshold of temperature rise and the consequential severe climate impacts. Global emissions reached a record 57.1 GtCO<sub>2e</sub> in 2023, up 1.3% from 2022 (UNEP, 2024a). Under current policies, global warming is projected to reach approximately 3.1°C by the end of the century, far exceeding the Paris Agreement’s 1.5°C target (ibid.). Failing to meet the Paris goals would have devastating consequences, with even the half-degree difference between 1.5°C and 2°C posing severe risks, particularly given that on-the-ground adaptation efforts remain insufficient (UNEP, 2024b). Exceeding 1.5°C could push the world past tipping points in critical ecosystems, such as the Greenland and Antarctic ice sheets, coral reefs and permafrost, triggering feedback loops that accelerate warming (Armstrong McKay et al., 2022). At 2°C, the likelihood of

irreversible damage to ecosystems including the Amazon Rainforest and global oceans rises sharply, leading to severe sea level rise, species extinction, and large-scale carbon release. Such impacts would threaten millions of human lives, displace hundreds of millions, and fuel resource conflicts.

**Meanwhile, EMDCs other than China face significant financial shortfalls amid unfulfilled Sustainable Development Goals.** Since 2019, the combined impacts of COVID-19, conflicts, climate-related disruptions and inequality have pushed an additional 23 million people into extreme poverty and over 100 million into hunger (UN, 2024). Economic growth per capita in half of the world's most vulnerable nations lags behind advanced economies, reversing earlier progress (ibid.). Furthermore, unprecedented levels of external debt in low- and middle-income countries limit their capacity to invest in crucial climate and development measures. The needs and opportunities are especially significant in these countries: they are the countries that will account for the largest share of the increase in investments needed for a global energy transition, they are the most vulnerable to climate impacts, and they are home to the vast preponderance of the world's nature and biodiversity resources.

**Global climate investment to align temperature trajectories with the Paris Agreement goals, foster development and address the needs of the most vulnerable currently falls short of what is required.** Insufficient funding is directed towards mitigation, adaptation and nature-based solutions, whereas substantial investments continue to flow into fossil fuel industries and environmentally harmful activities. Although existing economic and political structures have not delivered sustainable or equitable outcomes, climate action offers an opportunity to unlock new, more inclusive and sustainable economic pathways.

**Developing countries' latest nationally determined contributions (NDCs) estimate annual financial needs between \$455 billion and \$584 billion by 2030** (UNFCCC Standing Committee on Finance, 2024). However, these figures likely fall short of the true requirements: they only encompass NDCs with specific costings, which cover around half of the 5,760 costed and non-costed needs to address climate change identified by 98 developing countries, plus few current NDCs comprehensively cost the investment needs for accelerated energy transition, planned adaptation actions, loss and damage efforts, nature protection and conservation, or the just transition.

**In this report, refining the approach used in our previous report, we provide updated estimates of investment needs of what is required for delivery on the Paris Agreement, across five key areas:**

- Clean energy transition
- Adaptation and resilience
- Loss and damage
- Natural capital
- Just transition

**Our analysis confirms that annual investment of \$2.4 trillion per year by 2030 is essential for EMDCs other than China to meet climate goals, more than quadrupling 2022 spending.**<sup>2</sup> By 2035, these investments will need to rise further to \$3.1–3.5 trillion annually to maintain the momentum needed – though the pace of increase will be less steep than needed by 2030. Although these targets are ambitious, we believe they are achievable through the steps outlined in Chapter 3.

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<sup>2</sup> '\$' indicates US dollars throughout the report. All figures are in 2023 prices.

**The global landscape of climate investment has seen a substantial uptick in the past three to four years, driven largely by a surge in financing for the energy transition, reflecting promising progress overall** (Naran et al., 2024). However, this momentum has been concentrated in advanced economies and China. Despite recent progress, EMDCs other than China accounted for only 8% of the increase in clean energy investment from 2019 to 2023 (IEA, 2024a). The gap in adaptation and resilience funding is widening, and EMDCs face significant funding shortfalls, especially in critical areas like sustainable agriculture and biodiversity conservation. Furthermore, aggregate climate investment needs remain vast and require urgent, frontloaded action, particularly in the crucial period between now and 2030, if we are to meet global climate and development goals.

**We estimate that the global projected investment requirement for climate action is approximately \$6.3–6.7 trillion per year by 2030**, including \$2.7–2.8 trillion in advanced economies, \$1.3–1.4 trillion in China, and \$2.3–2.5 trillion in EMDCs other than China.<sup>3</sup> These latter countries will account for almost 45% of the average incremental investment needs from now to 2030 but they have been falling behind, especially Sub-Saharan Africa.

**This momentum for climate investment must be sustained beyond 2030.** Our assessment suggests that the pace of investment growth could moderate after 2030 – *if* we are able to meet the urgent, frontloaded investment needs of the coming decade. Achieving the required \$6.3–6.7 trillion in climate investments per year by 2030 will be critical to setting the foundation for a more stable, manageable trajectory afterwards.

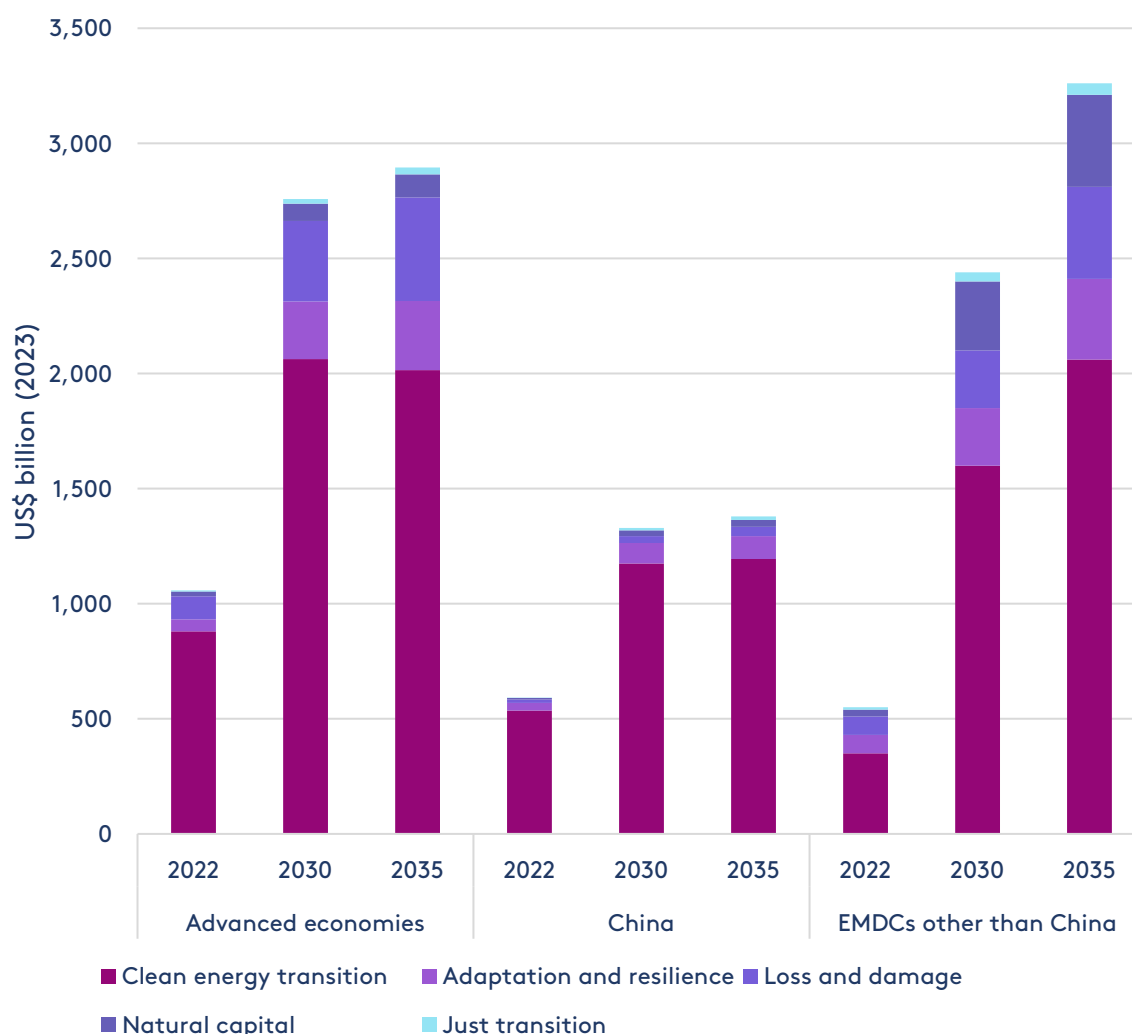
**The global projected need could reach approximately \$7–8.1 trillion per year by 2035**, reflecting a plateauing of investments needed in advanced economies and China, and a slower pace of increase in other EMDCs (see Figure 1.1). The balance of investments tilts further to EMDCs, with advanced economies needing \$2.6–3.1 trillion, China \$1.3–1.5 trillion, and EMDCs other than China requiring \$3.1–3.5 trillion. These needs are our estimations of what is required for delivery on the Paris Agreement, and the investments will also make a vital contribution to sustainable growth and the achievement of the Sustainable Development Goals.

**The delay in action to date means we will need to mobilise even larger sums in shorter timeframes to catch up on critical targets.** Additionally, investment needs for adaptation and resilience, as well as loss and damage, will rise sharply as climate risks escalate. Closing the gap by 2030 is essential, not only to reduce future financial demands but also to ensure a just and manageable transition towards global climate and development goals.

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<sup>3</sup> Numbers may not sum to totals due to rounding.

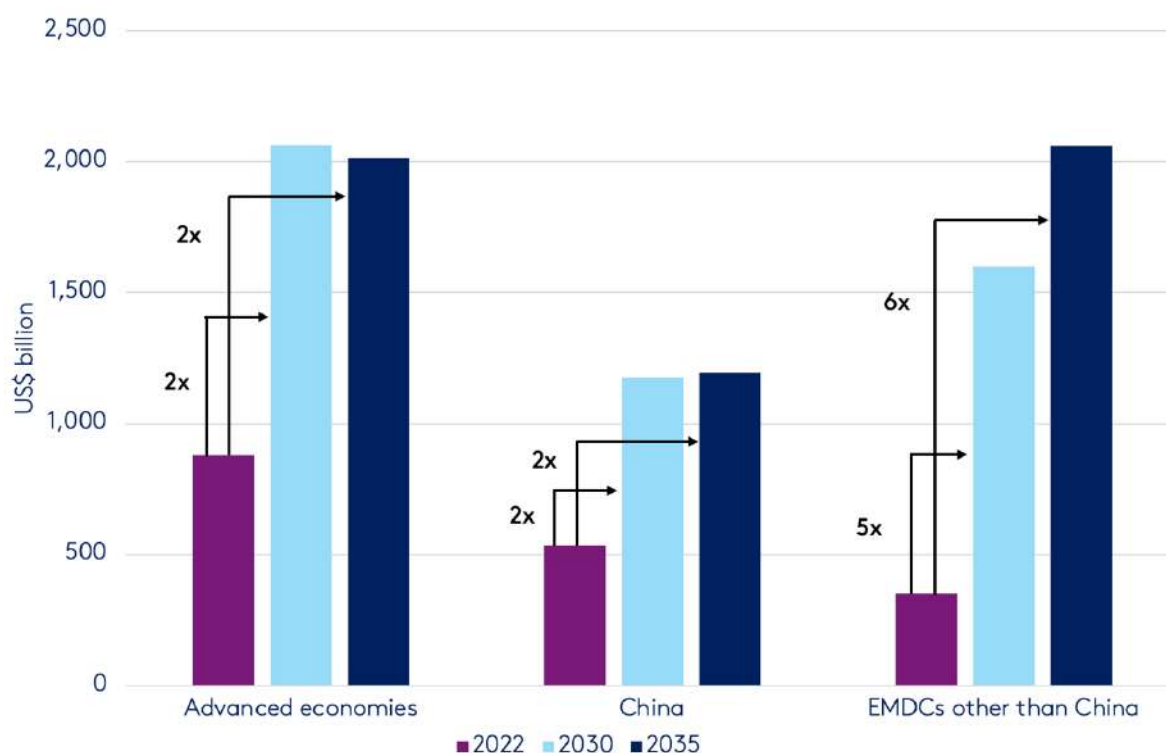
Figure 1.1. Total climate investment needs by economic regions for 2030 and 2035



### Clean energy transition

Achieving a global clean energy transition requires a major step up in investment across advanced economies, China, and EMDCs other than China, reaching around \$4.8 trillion per year by 2030 and \$5.3 trillion per year by 2035, compared with \$1.88 trillion in 2023 and \$1.25 trillion in 2019 (IEA, 2024a). Investments in the clean energy transition represent the largest portion of total capital needed for climate action in both 2030 and 2035. In contrast with their low share in investment in the past five years, EMDCs other than China will account for almost 50% of the increase in needed clean energy investments in 2035 to meet global climate goals. They will be the driving force of the clean energy transformation. These countries, driven by demographic growth and economic expansion, face rising energy demand and must build energy infrastructure from the ground up to support sustainable development. As such, the commitments made at COP28 to triple global renewable energy capacity and double the rate of energy efficiency improvements by 2030 will require significantly greater investment increases in EMDCs other than China than in both advanced economies and China (IEA, 2024a).

Figure 1.2. Clean energy investment needs by economic regions for 2030 and 2035



Note: Clean energy investment needs are estimated based on IEA projections, supplemented with additional figures to account for early coal phase-out and just transition-related costs.

**To stay on track with climate goals, clean energy investment in EMDCs other than China must increase almost fivefold from 2022 to reach \$1.6 trillion per year by 2030, rising to between \$2.1 trillion per year by 2035** (see Figure 1.2). These targets are based on the projections made by the International Energy Agency (IEA, 2024b) but are slightly higher, as our estimates also cover the costs of early phase-out of coal and other just transition related costs. Currently, much of the investment is concentrated in a few large economies including India and Brazil, while many developing nations and regions face limited investment in clean energy projects due to challenging policy environments, high costs of capital, and lower returns compared with fossil fuel investments. Sub-Saharan Africa receives the least investment despite its vast potential for renewable energy, attracting only \$12 per capita in energy transition investments in 2023 – 40 times less than the global average (IRENA, 2024a). Indeed, EMDCs are rich in renewable resources, holding 70% of global solar and wind resources and 50% of critical minerals. This presents an opportunity to build resilient, low-emission power systems and leapfrog traditional energy models (Singh and Bond, 2024).

**Investment needs vary across regions, with the Middle East requiring up to a 15-fold increase in clean energy spending per year by 2035 from 2022 levels.** Despite having some of the highest solar potential globally, the Middle East accounted for around only 1% of clean energy investment in 2023 (IEA, 2024a). Similarly, in Africa, where around 80% of the global population without access to electricity live, clean energy investment increased by only \$11 billion from 2019 to 2023. In 2023, the continent attracted just 2% of global clean energy investment (ibid.), highlighting a significant funding gap that demands a sevenfold increase in spending by 2030 and a ninefold increase by 2035. Closing this investment gap could not only drive sustainable development and accelerate the clean

energy transition in these regions but also create a powerful engine for global transition efforts by enabling substantial clean energy exports.

**A renewables revolution holds the potential to transform regions that have historically lagged behind, especially in Sub-Saharan Africa, where energy transformation could lay the foundation for green industrialisation** (G20 TF-CLIMA Group of Experts, 2024; UNECA, 2024). Yet, to truly realise these benefits, the clean energy transition must extend beyond simply replacing fossil fuels. It needs to drive a 'whole-of-economy' transformation by establishing new industries and value chains that support sustainable, inclusive growth across all sectors. Without this kind of economy-wide shift, the renewable energy transition may fall short of delivering on the broader development goals essential for meaningful progress.

### Adaptation and resilience

**Adaptation and resilience remain critically underfunded.** As climate impacts intensify, the need for adaptation investment becomes urgent, especially in vulnerable regions already facing high poverty, limited services and governance challenges. Without adequate adaptation investment, these communities risk losing decades of development progress. Despite this urgency, global adaptation finance in 2022 reached only \$76 billion – just 5% of total climate finance flows (Naran et al., 2024). Current funding in EMDCs other than China is far below the **\$200–300 billion needed annually by 2030** and the further **\$300–400 billion per year by 2035**. Adaptation investment must grow and shift from a reactive, incremental, project-based approach to anticipatory, strategic and transformational action, especially in vulnerable and non-market sectors (UNEP, 2024b). Focusing only on technical or easily funded solutions, as in mitigation, will not achieve the needed scale or type of adaptation (ibid.).

### Loss and damage

**Loss and damage from climate change are escalating, but estimating the full costs is challenging due to the lack of a universally agreed definition, limited data, and the difficulty in predicting future adverse climate events.** In 2022, EMDCs suffered over \$109 billion in economic losses from major climate events, excluding non-economic impacts like health and cultural heritage losses (Richards et al., 2023). Between 2000 and 2019, Vulnerable Twenty (V20) economies lost around \$525 billion due to climate change, averaging \$143 billion annually in extreme weather-related costs (V20, 2022). While progress has been made with the creation of the Fund for Responding to Loss and Damage at COP27, which received initial pledges of nearly \$700 million at COP28, this funding falls short of the needs of EMDCs other than China, which we estimate to be **at least \$250 billion per year by 2030** and upwards of **\$400 billion per year by 2035**.

### Natural capital

**Investing in nature not only supports climate and development goals but also yields significant economic payoffs.** Nature-based solutions such as conservation and sustainable land management could cut emissions by 11.3 billion tonnes of CO<sub>2</sub>-equivalent by 2030, comparable to putting a stop to burning oil globally (Griscom et al., 2017) and offering a cost-effective approach that also supports jobs, poverty reduction and food security. In addition, every \$1 invested in ecosystem restoration can yield returns of \$7–30 (Verdone and Seidl, 2017). Sustainable agriculture is particularly critical to simultaneously advance mitigation, adaptation and development objectives. However, funding is insufficient and biased towards advanced economies, despite more than 70% of the investment needs in natural capital being concentrated in EMDCs other than China. To tackle climate change, global investments in natural capital must increase from \$46 billion in 2022 (Naran et al., 2024) to **\$400 billion per year by 2030** and **\$480–580 billion per year**

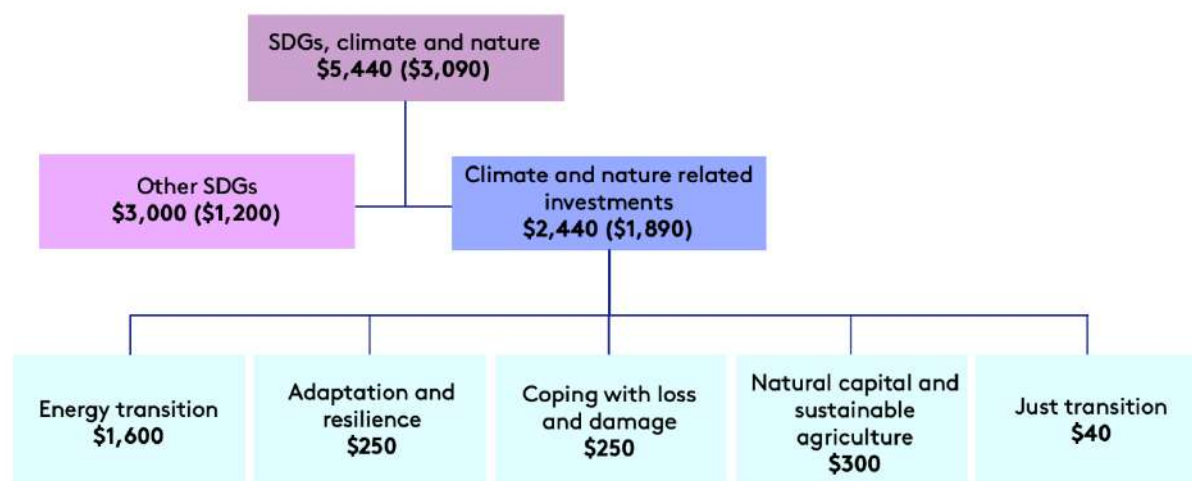
by 2035, of which the predominant share must be in EMDCs. Recent international commitments, including the Kunming-Montreal Biodiversity Framework, highlight progress, but accelerated funding and action are critical to protect ecosystems and foster resilience against climate impacts.

### Just transition

A just transition is crucial for an equitable shift to a low-carbon economy, especially in EMDCs, where the impacts of this shift will be felt most acutely. While the transition unlocks significant social and economic opportunities (see section 1.4), it also demands fundamental economic restructuring – disrupting jobs, shifting prices and introducing new standards and regulations. Managing these disruptions is essential to ensure equity, sustain public support, and secure the political commitment needed to reach net zero goals. Achieving a just transition requires investment in people, communities and, in some cases, direct income support. Effective climate finance must prioritise justice and inclusion, ensuring fair resource distribution, addressing historical inequities and engaging marginalised communities. We estimate that global financing needs for the just transition will reach at least **\$70 billion per year by 2030** and **\$95 billion per year by 2035**.<sup>4</sup> Only a few country-specific assessments exist on the investment needed to ensure a just transition. For example, South Africa is estimated to require \$10 billion by 2050 to support communities affected by this shift (Blended Finance Taskforce and Centre for Sustainability Transitions, 2022).

Figure 1.3 presents our revised assessment of investment requirements in EMDCs other than China, which has been updated further to our 2023 report based on the latest data and a new series of studies. We provide a comprehensive representation of investment needs, both in total and by investment areas, with the energy transition remaining the main component of the investment needs.

Figure 1.3. Investment/spending requirements for climate and sustainable development in EMDCs other than China (US\$ billion per year by 2030, increment from current in parentheses)



<sup>4</sup> These figures exclude the costs specific to the energy transition (early phase-out of coal and just transition-related costs), which are included in our estimates of clean energy investment needs.

**Our estimates of climate investment requirements differ from some other assessments mainly due to variations in sectoral coverage and methodological approaches.** For the energy transition, we have based our assessment on the International Energy Agency's (IEA's) recent estimates and projections which provide granular information on the financing requirements both for the energy supply and decarbonisation of energy demand. Estimates provided by the Energy Transitions Commission (ETC, 2024) are lower, principally because of differences in coverage. Similarly, the Climate Policy Initiative's (CPI's) assessment draws on the available range of studies for key elements of the energy transition (Strinati et al., 2024; UNEP, 2024a), some of which have higher estimates than the IEA, especially for industry.

## **1.2. Uneven gains for rapid cost reductions in clean technology**

**Dramatic declines in clean technology costs are reshaping the global energy landscape.** Between 2010 and 2023, the cost of clean energy technologies dropped sharply, establishing renewables as the most cost-effective choice for new power generation in many regions (IRENA, 2024b). Solar photovoltaic (PV) technology, for instance, saw costs fall by 90% from \$0.460/kWh in 2010 to just \$0.044/kWh in 2023 (ibid.). Onshore wind also saw a 70% drop over the same period, making it significantly cheaper than fossil fuels at \$0.033/kWh, while offshore wind costs fell by 63%, driven by advances in turbine technology and supply chain efficiencies (ibid.). With China's rapid expansion in renewable energy capacity, prices (notably of solar panels) continue to decline, with projections suggesting they may soon reach record lows. This downward trend is expected to persist as China's large-scale capacity growth and strong competition among providers drive further cost reductions, making renewables even more accessible on a global scale.

**These cost reductions position renewables as a strategic tool for energy security, price stability and sustainability.** With renewables now frequently undercutting fossil fuels on costs, investing in solar and wind is not only environmentally sound but also economically wise. This moment provides a unique opportunity for developing countries to bypass traditional energy models and capitalise on the advantages of clean technology.

**Realising these benefits requires fully tackling integration challenges.** Grid upgrades and regulatory reforms are essential to leveraging renewables' full potential, enhancing energy resilience and reducing dependence on costly and volatile fossil fuels.

**While global cost reductions in clean technologies are promising, they do not appear to be reaching all regions equally.** Weaknesses in supply chains, distribution networks and technical expertise contribute to this disparity, and these challenges are compounded by variations in the cost of capital, which further raise project costs. Limited access to infrastructure like grid systems also slows down the adoption of lower-cost solar and wind technologies. To bridge this gap, targeted financial support and capacity-building initiatives are essential to make clean energy both affordable and accessible where it is needed most.

## **1.3. Unlocking savings and generating employment and economic growth opportunities**

**Robust climate action presents not only an opportunity to mitigate climate risks but also a pathway to significant economic, financial and social benefits, from accelerating growth to fostering resilience and stability.** Climate investments can drive powerful multiplier effects through various channels, especially in today's context of weak global investment demand. Increasing climate-focused investments stimulates

productivity gains and innovation in critical areas such as energy, cities, land use and transport. Transitioning to a low-carbon, climate-resilient economy further promises significant savings and avoided costs related to environmentally harmful activities. Yet, the long-term benefits of these investments remain under-quantified, even as they contribute directly to a more sustainable economic future.

**The clean energy transition brings substantial direct economic and financial benefits.**

Moving to a net zero scenario could save around \$500 billion annually by 2030 by reducing fossil fuel investments (IEA, 2023). Additionally, shifting from fossil fuels lowers fuel import and consumption costs – renewable energy additions since 2000 alone saved \$409 billion globally in 2023 (IRENA, 2024). Renewable energy also offers vast efficiency gains: nearly two-thirds of fossil fuel energy is lost in production and delivery, costing \$4.6 trillion per year (Walter et al., 2024). Renewables reduce this waste, eliminate the need for fossil fuel subsidies – currently \$1.5 trillion explicitly and \$5.7 trillion implicitly (Black et al., 2023; IISD and OECD, 2024) – and make funds available for sustainable investments.

**Investing in natural ecosystems also yields direct economic and financial benefits.**

Harmful subsidies for agriculture, fisheries and forestry drive environmental degradation, costing \$1.63 trillion annually (Koplow and Steenblik, 2024). Redirecting these funds could support sustainable practices and ecosystem protection. Sustainable practices also reduce input costs: for instance, the fertilizer markets are projected to reach \$241.87 billion by 2030 (Statista, 2024). Nature-positive practices such as regenerative agriculture reduce dependency on these inputs, bringing down costs and improving food security.

**Beyond direct economic and financial savings, all climate investment avoid immense economic and social costs from climate inaction.** Economies face mounting climate impacts and insufficient resilience, with social and economic losses from inaction projected to reach at least \$1,266 trillion between 2025 and 2100 (Alberti, 2024). Investing in climate adaptation is essential to prevent the economic toll of climate-related disasters, which amounted to \$270 billion in losses in 2022 alone (Munich RE, 2024). Strategic adaptation measures, such as climate-resilient infrastructure and early warning systems, offer significant returns, with \$1.8 trillion in adaptation investments from 2020–2030 estimated to yield \$7.1 trillion in net benefits (Global Commission on Adaptation, 2021). While the magnitude of these avoided costs is large, they are not always fully quantified. The health-related savings in particular could be sizeable: air pollution from fossil fuel combustion cost \$4.95 trillion in healthcare expenses in 2021 alone (Romanello et al., 2024). Furthermore, clean energy helps avoid stranded assets, preventing unproductive investments in fossil fuel infrastructure. While the size of these stranded assets is difficult to estimate because it depends on different future scenarios and how they would affect the value of the underlying assets, potential stranded fossil fuel assets amount to at least \$1 trillion (Semieniuk et al., 2022).

**As well as reducing losses from climate change, climate investments deliver significant co-benefits, including increased productivity and strengthened social stability.** Addressing climate change boosts productivity through the replacement of outdated technologies and practices with cleaner and more efficient technologies and practices. Resilience investments also open up opportunities in high-risk areas: London’s Canary Wharf financial district, for example, depends on flood protection from the Thames Barrier. In low- and middle-income countries, every dollar invested in infrastructure resilience generates \$4 in economic returns, highlighting the high value of adaptation investments in vulnerable regions (Hallegatte et al., 2019). Climate action also strengthens social stability by mitigating displacement and economic insecurity driven by climate-related disruptions and biodiversity loss.

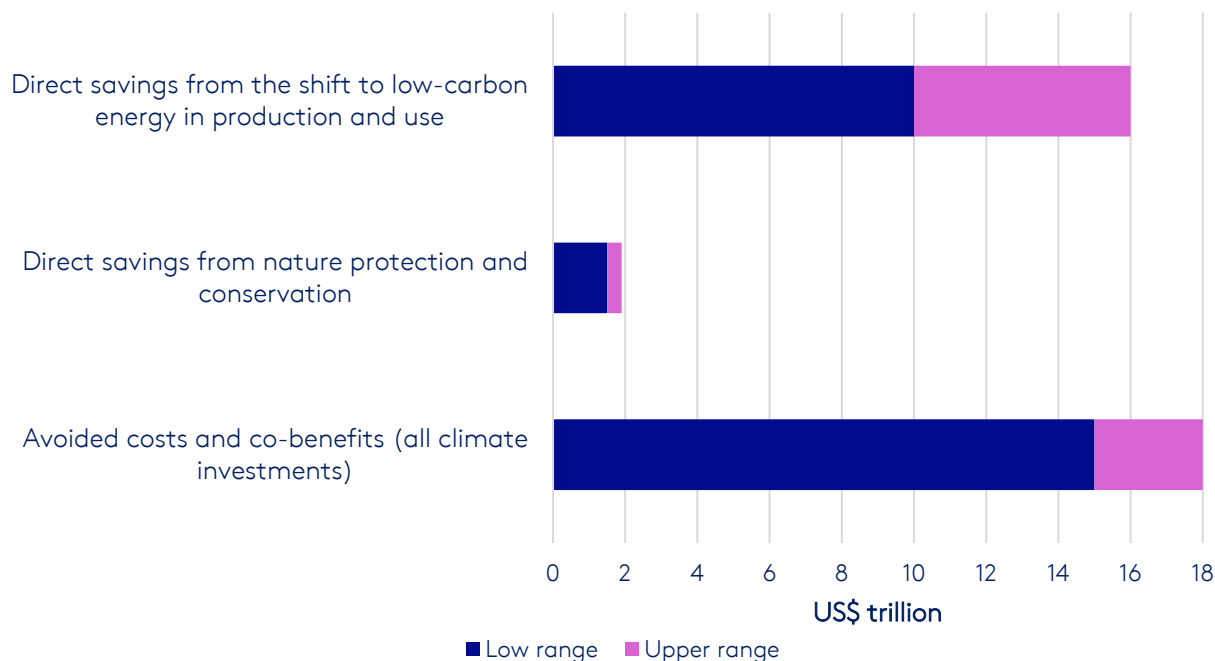
**Employment gains from climate action can be transformative.** Climate investments generate more jobs per dollar invested than unsustainable alternatives, with net gains potentially reaching 27 million jobs by 2030 (New Climate Economy, 2018). Nature-based solutions, such as ecosystem restoration, can also yield high returns, generating jobs in sustainable tourism and conservation. To ensure these gains reach the most vulnerable, policymakers must prioritise job quality, regional access and gender inclusivity (Lankes et al., 2023). Skills training and support for disadvantaged communities, particularly women, are critical to a fair transition.

**Climate action is a growth catalyst and can unlock the growth story of the 21st century.** Strong climate policies and investment can boost global output, adding as much as \$26 trillion to the global economy by 2030 (New Climate Economy, 2018). In Africa alone, the shift to clean energy could increase output by 6.4% between 2021 and 2050 (IRENA and AfDB, 2022). While impacts vary by region, climate-focused investments consistently stimulate growth, especially in developing regions, where clean infrastructure investments generate strong multiplier effects across industries.

**While climate action and poverty reduction often reinforce each other, ensuring that climate benefits reach the most vulnerable requires an integrated policy approach.** Effective strategies must catalyse investments in human, natural, physical and social capital to support an inclusive, equitable transition and align climate goals with poverty alleviation efforts (Lankes et al., 2023).

**The direct savings from clean energy and nature investments could reach 11–18% of global GDP under a conservative estimate, while the savings arising from avoided costs and co-benefits of all climate investments could amount to at least 15–18% of global GDP (Figure 1.4).** This transformation carries enormous macroeconomic implications, positioning climate action as a key driver of global economic stability and growth. These benefits and savings will depend on the pace of the transition and accrue over time. The challenge, therefore, is to foster the enabling conditions for the ramp-up of investments and mobilise finance of the right scale, of the right kind and at an affordable cost.

Figure 1.4. Potential savings from the shift to a low-carbon, climate-resilient economy per year in 2030




### Clean energy investments

#### Direct savings

- 1 Reduced fossil fuel investments in exploration and production
- 2 Reduced fuel costs from fossil fuel consumption and reduced imports
- 3 Reduced energy costs from renewables and efficiency
- 4 Reduced operation & maintenance (O&M) costs
- 5 Phased-out fossil fuel subsidies



### Nature investments

#### Direct savings

- 1 Phased out environmentally-harmful subsidies
- 2 Reduced input costs from pesticides and fertilizers

### All climate investments (energy, adaptation and resilience, loss and damage, nature, just transition)

#### Avoided costs (or cost of inaction)

- 1 Reduced economic costs (including impacts on productivity, damages to assets and capital, disruptions in global economic activity such as trade and tourism, stranded assets)
- 2 Reduced environmental and social costs (including health and wellbeing, loss of biodiversity and nature, conflict and migration, global and local inequalities)

#### Co-benefits

- 1 Growth and development benefits (such as increased productivity from the use of more efficient technologies, improved ecosystem services, job creation, enhanced investment viability through risk reduction)
- 2 Social co-benefits (including strengthened social stability and overall societal wellbeing)

## 2. Financing pathways to achieve the Paris Agreement goals

This chapter examines the current state of global climate finance and the necessary pathways to achieve the Paris Agreement goals. Section 2.1 assesses recent trends, highlighting the growth in climate finance but underscoring the persistent shortfall and imbalances across regions and sectors, particularly for EMDCs. Section 2.2 outlines strategies to scale up financing gap to 2030 and beyond, proposing a coordinated approach that leverages domestic and international sources of finance, mobilises private sector participation, and taps into innovative funding sources to meet the urgent investment needs of a low-carbon, climate-resilient future.

### 2.1. Where are we on climate finance?

**Global climate finance flows have grown significantly but remain insufficient.** Annual investments crossed the trillion-dollar threshold in 2021/22, a milestone attributed to intensified commitments to the low-carbon transition (Naran et al., 2024). However, early estimates for 2023 suggest that while climate finance has continued to increase, it may reach only \$1.5–1.6 trillion per year – still far below the levels necessary to meet climate goals (ibid.). This shortfall is further highlighted by the surge in explicit fossil fuel subsidies, which reached \$1.5 trillion in 2022 (IISD and OECD, 2024), reflecting a persistent misallocation of resources that hinders sustainable progress.

**Regional and sectoral imbalances in climate finance allocation reveal serious disparities, in particular from the perspective of EMDCs other than China.** In 2022, EMDCs other than China (including least developed countries [LDCs]) attracted only 17% of global climate finance, amounting to \$244 billion, while the LDCs on their own received just 3% of total flows (Naran et al., 2024). The predominance of mitigation funding leaves adaptation finance at a mere 5% share, despite notable growth since 2018. Additionally, most investments are concentrated in energy and transport – sectors that together attracted 68% of funding in 2022 – while the agriculture, forestry and other land use (AFOLU) sector remains critically underfunded at only 3%, despite its importance for climate mitigation and biodiversity (ibid.). The focus of finance on traditionally male-dominated sectors such as energy and transport means that women-dominated sectors like small-scale agriculture generally lack the finance needed for adaptation and investment in clean technologies.

**Private sector contributions to climate finance are increasing but remain geographically concentrated.** In 2021/22, the private sector accounted for 50% of total climate finance, although most of this was directed to advanced economies, with only 7% benefitting EMDCs other than China (Naran et al., 2024). Additionally, private climate finance mobilised through official development finance is focused on developing countries with higher income levels and mitigation outcomes, similarly to climate finance overall (Taskin et al., 2024). The majority of climate finance is still delivered as debt (60% of total flows), and grants remain limited to just 6% (ibid.). This raises particular concerns for EMDCs that are experiencing high debt stress, as loan-based climate finance can intensify fiscal burdens. Moreover, this approach disproportionately affects women, who face greater barriers to accessing loans (Seema et al., 2021) and bear the brunt of fiscal adjustments (Ghosh, 2021), ultimately limiting their ability to adapt to climate change and engage in the new green economy.

**Transparency and accountability issues continue to undermine trust in climate finance commitments.** Although advanced economies achieved, in 2022, the goal set at COP16 in

2010 of mobilising \$100 billion annually for developing countries (OECD, 2024a), significant concerns remain regarding the transparency of reported versus delivered finance. This lack of clarity complicates the alignment of funds with local priorities and weakens trust in international climate commitments, creating challenges for effective climate action on the ground. Negotiations are underway on the New Collective Quantified Goal (NCQG) on Climate Finance to establish a new, post-2025 climate finance target, with a focus on improving transparency, accountability and responsiveness to the financial needs of developing countries. However, reaching consensus on the scale, timeframe and reporting standards of the NCQG remains a complex task that will be critical to restoring confidence in climate finance systems.

**The UN-led climate negotiations have made important strides but highlight persistent funding gaps.** Since the Paris Agreement, these negotiations have underscored the urgent need to address the financing imperatives of developing nations. Frameworks like the Glasgow Climate Pact and Sharm el-Sheikh Implementation Plan have amplified calls for support. These agreements advocate a reformed and inclusive climate finance system, including operational guidance under Article 2.1(c) to align financial flows with climate goals. The establishment of the Fund for Responding to Loss and Damage at COP27 in 2022 marked a major achievement, but significant challenges remain in fully operationalising finance mechanisms to support EMDCs effectively.

## **2.2. Pathways to scaling up climate finance in EMDCs other than China to 2030 and beyond**

**EMDCs will face the greatest challenges in mobilising finance at the scale and pace needed.** While ramping up climate finance is needed in both advanced economies and EMDCs, the task is much harder in EMDCs. China has considerable investment needs but also a well-developed system of public and private finance to be able to respond. At the same time, LDCs attract the lowest levels of private climate finance and generally have less developed financial systems (Taskin et al., 2024). There is a clear correlation between levels of private climate finance mobilised, financial system development and country income level (ibid.). Our focus, therefore, is on how to meet the financing needs of EMDCs other than China.

**The large and rapid scale-up of finance to support a big investment push can only be achieved by harnessing all pools of finance.**

- **First, for each strand of finance, it is important to explore ambitious targets consistent with the investment goals but based on credible pathways to deliver the financing.**
- **Second, the approach must utilise the comparative strengths of each strand in financing the different types of investment.** Thus, private financing will be well suited to investments with well identified revenue streams such as renewables, multilateral development bank (MDB) finance for long-dated public infrastructure, and highly concessional or debt-free finance for loss and damage or sectors and countries at very high risk.
- **Third, it will be important to tap the synergies from the different strands of finance to enhance leverage and bring down risks and the cost of capital.** MDB finance, financing from multilateral climate funds and bilateral climate finance all play a role in leveraging other sources including private finance, use different types of leveraging instruments with different risk characteristics, and focus on private finance mobilisation in different sectors. There is scope to expand new sources of climate finance, including through South–South cooperation and new ways of mobilising concessional climate finance, in addition to the traditional sources of climate finance

in the form of bilateral finance from advanced economies, MDB finance and private finance.

- Fourth, the full toolbox of financial instruments needs to be used: grants, concessional, debt, guarantees, equity and local currency products.

Figure 2.1 presents the mix and scale of domestic and external financing to meet the climate investment goal by 2030 in EMDCs other than China and Figure 2.2 shows the potential mix of financing to meet different investment requirements in these countries.

Figure 2.1. Financing climate action in EMDCs other than China by 2030 – matching sources to needs

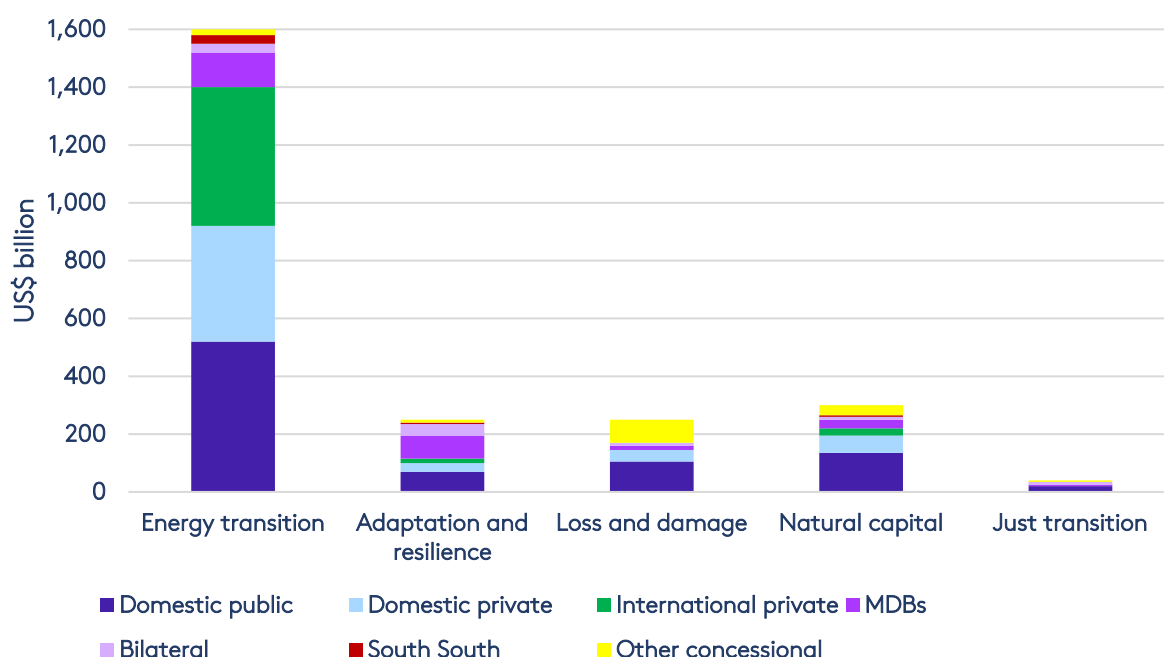
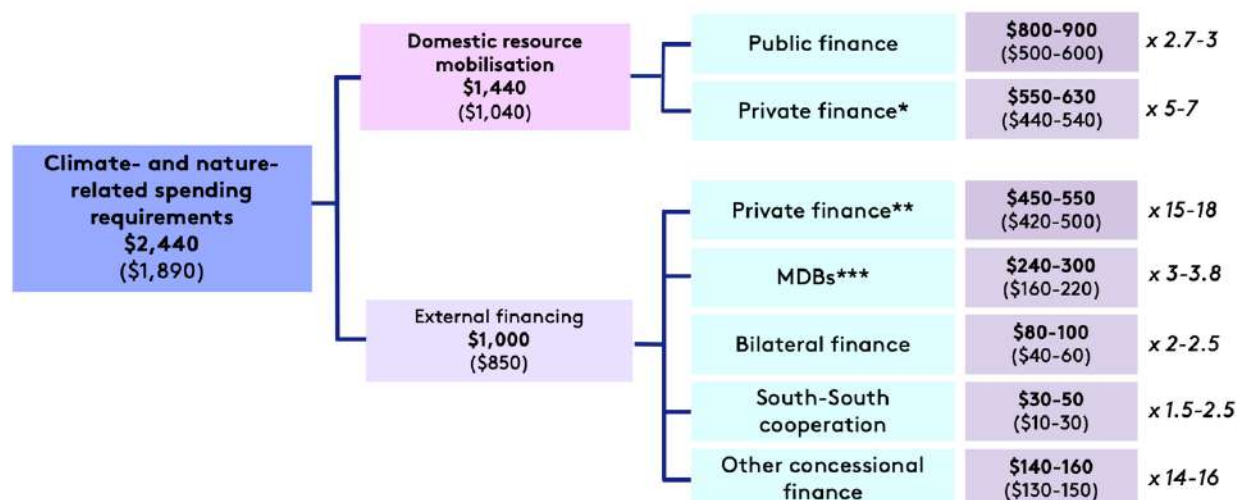


Figure 2.2. Mobilising the necessary financing for EMDCs other than China (\$ billion per year by 2030, increment from current in parentheses)



**Notes:** \*Includes household savings. \*\*A significant proportion of this private finance would be directly and indirectly catalysed by MDBs, other development finance institutions and bilateral finance. \*\*\*Includes multilateral climate funds.

**Domestic resources, which currently account for around 70% of climate finance, can reasonably finance \$1.4 trillion of the total investment need of \$2.4 trillion by 2030 and \$1.9 trillion of the total investment need of \$3.2 trillion by 2035.** Of this, around 60% would be domestic public resource mobilisation and around 40% private, including from households and companies. The role of the private sector will be much more important than in the past given the changing nature of investment. Investments in the clean energy transition are now predominantly private and there are greater opportunities even in adaptation and natural capital. Domestic private finance has a leading role to play given the proximity to local project developers and companies, with households also playing a key role. Local development finance institutions (DFIs) also have a critical role in scaling up and crowding in private finance. As shown in Figure 2.2, public resource mobilisation would need to increase by almost three times by 2030 and domestic private finance by seven to eight times.

**External finance from all sources, international public and private as well as other sources, needs to cover \$1 trillion of the total investment need by 2030 and around \$1.3 trillion by 2035.** As the most rapidly growing component of climate finance over the last five years, MDBs account for about half of international climate finance, and mobilise the vast majority of private climate finance. Given the important direct and catalytic role that MDBs play, the IHLEG and the G20-mandated Independent Expert Group (IEG) on MDB Reform have both argued that financing by the MDBs needs to triple by 2030.

**There is a credible path to achieve such a tripling.** External private finance to EMDCs other than China at present is only around \$30 billion. It can and must reach \$450–500 billion by 2030, an increase of 15 to 18 times. This is the most important task in reaching the \$1 trillion needed in external finance and will require a major revamp in approach and partnerships. In particular, the amount of external finance directly and indirectly mobilised by MDBs and bilateral climate finance will have to increase many fold. Bilateral climate finance, which was around \$41 billion in 2022, needs to at least double by 2030 given the central role that it plays in supporting priority needs of developing countries and in anchoring the NCQG. The amount of concessional finance within this must more than double given the priority needs. The increased integration of climate action into development finance is a welcome development in this regard (OECD, 2024b). There is also great scope for expanding bilateral DFI lending and export credits.

**Non-traditional financing sources can play an important role in closing the financing gap.** There is tremendous potential for expanding South–South cooperation on climate finance. The comparative advantage and huge capacity of China on clean energy, and the greening of the Belt and Road Initiative (BRI), position China well to provide developing countries with critically needed support in deploying the lowest cost of available technologies and at a reasonable cost of finance. Some other emerging market leaders such as India and Brazil can also make an important contribution. High-income and upper-middle-income countries should also contribute to expanding low-cost climate finance, including through the MDBs and the multilateral climate funds. Finally, the larger DFIs such as the Brazilian development bank BNDES and the Development Bank of South Africa can expand financing in their own regions.

**New sources of concessional finance will need to be pursued given the large prospective needs.** Bilateral climate finance will not be sufficient to meet the total need for concessional finance. These prospective sources include voluntary carbon markets, use of special drawing rights (SDRs), solidarity levies on internationally polluting activities, other international taxes, debt swaps and private philanthropy. This could raise around \$150 billion in additional revenues by 2030, an increase of 10 to 15 times from current levels (see further Section 3.7).

**Building a climate finance system that meets the test of both scale and quality requires shifting beyond a traditional focus on mobilising funding to prioritising impact and systemic change.** This approach calls for climate finance that is not only scaled up but also accessible, predictable, affordable and transparent, to drive meaningful outcomes. In addition, this framework must be rooted in the principles of justice and inclusion, ensuring that resources are equitably distributed, historical responsibilities are acknowledged, and diverse stakeholders, particularly marginalised communities, are included in decision-making. Increased attention to gender equality is crucial for climate finance that effectively addresses the different constraints, challenges and opportunities for men and women. Agreement and implementation of Article 2.1(c) of the Paris Agreement, which requires “finance flows [to be] consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”, can give powerful impetus to making the climate finance architecture more effective.

**A fit-for-purpose climate finance agenda has important implications for the New Collective Quantified Goal on Climate Finance.** As set out here, such a framework must bring together the different strands of finance to deliver on the Paris Agreement and related Sustainable Development Goals. In terms of the scale of ambition, per year, around \$2.4 trillion of climate finance will be needed by 2030 and around \$3.3 trillion by 2035. With a major push on domestic resource mobilisation, per year, at least \$1 trillion of external finance must be mobilised by 2030 and around \$1.3 trillion by 2035. To deliver on this, ambitious but credible targets will be needed for private cross-border finance, multilateral climate finance including from MDBs, and especially for bilateral climate finance. There must also be an explicit recognition of the need to mobilise other sources of concessional finance. These targets should foster synergies and incentives to leverage private finance especially, in order to achieve scale and effectiveness. The target for finance to be provided and mobilised by developed countries should be consistent with the larger goals. It too should be based on principles of accountability and transparency.

**Agreement on the NCQG is a matter for the Parties.** This framework provides the key conceptual and practical set of numbers for climate finance and can inform discussions about the NCQG, with its overall external finance of \$1 trillion per year to EMDCs other than China by 2030, and its basic elements of private, MDB, bilateral and other concessional flows. These numbers come from a transparent and deductive analysis of the finance required for the investments that will be necessary for delivery of the Paris Agreement targets. Without these investments in EMDCs other than China, the world will fail to achieve those goals. To deliver the \$1 trillion of external finance, ambitious but credible targets will be required for the different strands, recognising the need for synergies and leveraging power to achieve scale and effectiveness. The tripling of MDB finance, for example, is crucial to scaling up private finance and reducing the cost of capital. This framework and the key elements within it should be the main focus of the NCQG.

**Within this larger framework, advanced economies need to demonstrate a credible commitment, including through the NCQG, to provide and mobilise the finance needed for climate action in developing countries.** This would entail a tripling of the \$100 billion annual commitment made at COP16 for 2020, and reaffirmed and extended to 2025 at COP21 in 2015. Other stakeholders also need to come forward with ambitious commitments, including the MDBs, the private sector, and developing countries that are in a position to provide support. Indeed, South-South cooperation between EMDCs is already making a significant contribution and there is great scope for enhanced support and financing from leading developing countries. All commitments should be based on accountability and transparency, with clear objectives on both the quantity and quality of the finance to be provided.

### 3. Accelerating delivery of the action agenda on climate finance

**Momentum has been building on the climate finance agenda since COP26.** COP26, COP27 and COP28 all made climate finance a central priority, with the IHLEG providing independent input on the climate finance agenda. The Global Climate Finance Framework launched by the UAE COP28 Presidency in 2023 and supported by the IHLEG set out an action agenda to deliver adequate, accessible and affordable climate finance that has been endorsed by an important coalition of world leaders. Since then, the COP28 Presidency has convened key stakeholders on the implementation of the agenda in partnership with the IHLEG.

**COP29 and COP30 will be crucial in taking forward this climate finance agenda with the need to agree on the New Collective Quantified Goal, launch a new round of ambitious NDCs in 2025,** and accelerate the implementation of the agenda set out in the Global Climate Finance Framework. Other opportunities in 2025 include the Financing for Development conference in June, and the G20 agenda under the South African Presidency with its summit in Rio de Janeiro.

**A big push is required on three priorities:** (i) to prepare and implement high-quality investments; (ii) to put in place the necessary macroeconomic and sectoral policy and institutional reforms and tackle the severe constraints facing many countries due to high debt and limited fiscal space; and (iii) to mobilise finance at scale and improve access to affordable capital. This chapter reviews the key elements of this action agenda after first setting out some of the main stakeholder groups.

#### 3.1. Key stakeholders in delivering the climate finance agenda

**Climate finance now features prominently in all key international discussions, including the UN, the G20 the international finance institutions (IFIs) and the private sector.**

**The G20 has put climate and climate finance at the centre of its agenda.** The Brazilian G20 Presidency launched a Task Force for the Global Mobilization Against Climate Change ('TF-Clima') to promote a high-level dialogue among governments, financial institutions and international organisms to enhance global macroeconomic and financial alignment to implement the goals of the Paris Agreement. An important aspect was bringing together Ministries of Environment, Finance and Foreign Affairs with a wide range of stakeholders. An action agenda emerging from TF-Clima will be adopted by G20 Leaders in November 2024. The Brazilian G20 Presidency also commissioned an expert group that published its report *A Green and Just Planet* in October 2024 (G20 TF-Clima Group of Experts, 2024).

**Central banks, regulators and finance ministries have also come together strongly on the climate action agenda.** The Network for Greening the Financial System (NGFS), which has enlarged to 141 members comprising central banks and regulators, and the Coalition of Finance Ministers for Climate Action (CFMCA), which now comprises finance ministries from 95 countries, have become important networks to build consensus and ambition on the climate action agenda. The CFMCA presented its second joint Climate Action Statement (CAS) at its October Ministerial, with over 60 members setting out nearly 500 climate actions covering climate policy coordination and strategic economic planning, the scaling-up of green finance, implementing carbon pricing, phasing out

inefficient subsidies, and addressing macroeconomic climate and nature risks and financing gaps.

**Several other important coalitions have also emerged to identify and pursue priorities for action.** These include the Bridgetown Initiative, with Bridgetown 3.0 launched in September 2024, the Paris Pact for People and the Planet (4P) with a permanent secretariat now established at the Organisation for Economic Co-operation and Development (OECD), the Nairobi Declaration of the Africa Climate Summit, and the V20 action agenda. These have led to some other initiatives such as the Expert Review on Debt, Nature and Climate launched by Colombia, Kenya, France and Germany, and the Global Solidarity Levies Task Force led by Barbados, France and Kenya.

**Further key stakeholders, including the MDBs and public development banks more broadly, the private sector and private philanthropy, are all engaged in ramping up progress on the climate finance agenda.** In addition to the UNFCCC, other parts of the UN and the international finance institutions (IFIs) have a crucial role to play in advancing the climate finance agenda. There is a big push underway on MDB reform with support for climate action and finance at the centre. The Finance in Common Summit that brings together all public development banks has also made climate finance a central priority. The International Monetary Fund (IMF) and the OECD are also playing major roles in advancing the climate finance agenda in their respective spheres. Several private sector coalitions and institutions are engaged on how to bolster private sector engagement and mobilise private finance for climate action, especially in EMDCs; these include the Glasgow Financial Alliance for Net Zero (GFANZ), Global Investors for Sustainable Development (GISD) Alliance, Sustainable Markets Initiative (SMI), Investor Leadership Network (ILN) and the World Economic Forum (WEF). Other initiatives include the Green Guarantee Group launched by the German government at COP28 to better understand and promote the use of guarantees. Private philanthropy is also now much more systematically engaged on climate finance and its own role. Finally, think tanks, academic institutions and civil society organisations across the world are contributing to the assessment of progress and the agenda for further action.

**Recognising the need to bring together these different strands and stakeholders around a shared and ambitious agenda, the UN Climate Change Executive Secretary in partnership with the IHLEG convened two roundtables to take stock of and impart momentum on the climate finance action agenda.** Taking place in June 2024 in Bonn and in September in New York, an important outcome was an integrated action agenda to provide the basis for continued engagement with key stakeholders on progress and priorities for action with a focus on upcoming deliverables. As described in Chapter 4, it is complemented by a more systematic monitoring and tracking effort in partnership with the Climate Policy Initiative (CPI).

### **3.2. Unlocking climate investment at scale**

**All EMDCs need to foster and scale up climate investments.** As our last report underlined, scaling up climate finance cannot happen without ramping up investment programmes and projects, and this requires concerted actions on three fronts:

- **First, countries must set out well articulated strategies and transition plans to provide clear direction, including to the private sector.** The upcoming round of NDCs provides an excellent opportunity to set out well defined investment and financing plans that can deliver on climate goals and are anchored in national development strategies and plans. Countries must take a holistic approach that considers the links between

climate and development and sets out clear implementation strategies and monitoring systems. This must include strong understanding of and plans for a just transition.

- **Second, countries must put in place and strengthen institutional structures for translating strategies into tangible investment programmes and project pipelines.** EMDC governments should lead on co-creation of investment programmes in key sectors with the private sector and development finance institutions. Emerging good practice such as the GFANZ-BNDES partnership in Brazil needs to be replicated. Project preparation facilities should be scaled up by expanding the Global Infrastructure Facility and harnessing new private sector initiatives. One-stop-shop facilities and initiatives to connect project opportunities with investors can help unlock private finance.
- **Third, countries need to pursue sustained policy and institutional reforms to tackle barriers to investment and incentivise the shift to low-carbon climate-resilient development.** In partnership with DFIs and the private sector, countries must identify and tackle binding constraints focused on priority sectors such as the expansion of renewables. They must deploy a mix of policies to accelerate transitions in critical systems such as energy and food, including carbon pricing, labelling, regulations, feed-in tariffs, subsidies and direct investments. They must streamline planning and permitting while adhering to strong environmental and social safeguards. While many EMDCs have started along this path, deploying explicit carbon taxes and emissions trading schemes, coverage and prices vary widely and must be strengthened to maximise the level and impact of investments.

**Country platforms, led and owned by countries with the involvement of all stakeholders including DFIs and the private sector, can create the basis to unlock investments and to accelerate and scale up climate finance with transformational impact.** There is a growing momentum on the adoption and implementation of country platforms. The Brazilian G20 Presidency has put particular emphasis on country platforms as a powerful instrument to enhance collaboration and attract private investment and finance, with Brazil launching its own country platform supporting its Ecological Transition Plan in October 2024. There are now several countries with ongoing platforms focused on sector transitions and climate resilience, including Egypt, Indonesia, Senegal, South Africa and Vietnam. Lessons from these country platforms can help the development of a new generation of country/sector platforms. Strong involvement and support from the MDBs and development partners, combined with the early engagement of the private sector, is of vital importance. Robust financing packages including sufficient concessional financing and predictable long-term financing are crucial to implementing ambitious investment and transition plans.

This whole agenda will require stronger and better coordinated efforts to build capacity across all levels of institutions.

### **3.3. Managing debt and fiscal space**

**Public debt in EMDCs has risen following the sharp currency depreciations and modest increase in fiscal deficits as governments responded to COVID-19 and concurrent energy and food crises.** At the same time, the creditworthiness of many developing countries declined in 2023 and 2024, when their ability to refinance bunched maturity repayments on private bonds and loans became more difficult. No developing country issued a new bond on global markets in 2023. There are 117 EMDCs with readily available or inferable public long-term credit ratings, all but 12 of which have credit ratings that are worse than investment grade. These countries have faced tighter global capital markets in

the last two years with higher interest rates, lower risk tolerance and a flight to quality (Kharas and Rivard, 2024). Many low-income countries are particularly vulnerable to being shut out or priced out of global capital markets (Mawejje, 2024).

**Elevated debt burden presents finance ministers with a dilemma – retrench fiscally or increase mitigation and adaptation spending.** Retrenching fiscally is the typical recommendation of international financial institutions on how to manage debt distress. But they would then not have the fiscal space to invest in the green transition and a pathway to growth, nor in adaptation and resilience measures that could reduce the damage done by climate change. A climate-induced natural disaster would leave them vulnerable to further debt distress. The alternative, to scale up mitigation and adaptation spending, could increase debt risks.

**Between these two extremes are many possible pathways.** Strong institutional structures for managing public debt can create the pre-conditions for moving forward with a debt-financed investment push. Countries with well-prepared investment programmes and a capacity for effective implementation can more readily pursue an investment push while managing debt burdens in the long run. When the investments enjoy a sound financial rate of return, as in many renewable energy generation projects, creditworthiness is improved even if indebtedness is temporarily raised. This effect is amplified if countries can access low-cost, long-term financing for such projects, for example from multilateral or other official financial institutions. Kharas and Rivard (2022) show scenarios in which countries with access to such financing for scaled-up climate-positive investments achieve stronger growth paths and better creditworthiness compared with ‘business as usual’ scenarios. According to the interim report of the Independent Expert Group on Debt, Nature and Climate (2024), a green growth model is feasible and sustainable, but achieving this virtuous circle will require a step change in financing. Reaching agreement with international financial institutions on affordable medium-term expenditure frameworks that incorporate sound growth, investment and transformation programmes is critical.

**A structured approach to providing financing solutions to countries with different circumstances will be needed.** One such approach that is gathering support is the so-called ‘bridge’ proposal (see also Diwan et al., 2024). Under this approach, countries would prepare and implement sound, bankable projects and enact strong policy and regulatory reforms to ensure high financial and economic rates of return. International financial institutions would provide scaled-up access to affordable, long-term finance to support such proposals and would mobilise private finance where appropriate. The approach would require a strengthening of the MDBs, a process that is underway based on a series of recommendations and Roadmap of reform endorsed by the G20.

**Higher levels of project finance will, however, leave a country more exposed to liquidity risk in the event of a sudden shock.** Automatic mechanisms to provide temporary debt relief in circumstances such as a large natural disaster, for example, are therefore valuable buffers to strengthen the approach. Encouragingly, state-contingent debt clauses are already being used more widely, including by multilateral financial institutions.

**Some countries may not have the capacity for a large scale-up of project identification and implementation.** Where these countries also have crushing debt burdens, there is a need for an orderly resolution of the debt, to maintain political and social stability. The Global Sovereign Debt Roundtable has taken steps to shorten the time to resolve debt negotiations within the Common Framework for Debt Treatments, with some positive results so far. Expeditious support from the IMF, such as from the Poverty Reduction and Growth Trust (PRGT) and Resilience and Sustainability Trust (RST) (see

Section 3.8), including measures to protect investment programmes from fiscal austerity, and access to International Development Association (IDA) and other concessional resources, are important elements of the financing solutions to restore debt sustainability in some low-income countries.

**It is also essential to tackle the vicious cycle between climate and debt vulnerability, particularly in low-income countries.** Streamlining the G20 Common Framework for debt treatments (CF) will make debt restructuring easier for countries that need it. Bilateral donors and IFIs could scale up concessional financing to enable climate-vulnerable countries to invest in adaptation, offset loss and damage, and restore nature loss. Innovative solutions to provide debt relief and release fiscal space, beyond the restructuring process, provide additional support. Debt to support high-growth investments can improve creditworthiness over time and should be built into fiscally responsible IMF programmes. The IMF could also provide enhanced financial safety nets to climate-vulnerable countries.

**Finally, Debt Sustainability Assessments (DSAs) will need to consider how climate affects financial risks** – the potential for damage as well as the returns from adaptation investments that improve future opportunities and growth prospects for developing countries. Climate risks span physical and transition risks. Investing in climate action enables economic transformation, reduces the impact of climate risks and generates savings from reduced loss and damage and restoration of natural capital. Extending DSAs to cover longer-term scenarios could better reflect these growth multipliers. DSAs can then highlight the value of mobilising affordable finance, which will require international support, to better assist an investment push consistent with achieving long-term fiscal sustainability.

### **3.4. The imperative to boost domestic resource mobilisation**

**While a very large proportion of climate finance will be from the private sector, public domestic resource mobilisation (DRM) will be foundational.** More than one-third of the incremental financing for climate action in EMDCs (other than China) is expected to come from public DRM. The World Bank (2023a) estimates that an additional 2.7 percentage points of GDP will need to be mobilised domestically to meet the required level of climate financing by 2030: this would create significant fiscal space to boost investment in climate action. To do so will require tapping the significant scope for DRM through taxation and public spending reforms, making greater use of carbon pricing and more effective international tax cooperation to contain tax base erosion and profit-shifting.

**Increasing tax revenues must be the central pillar of DRM, and there is major scope to raise tax revenues in many EMDCs.** The IMF (2024) estimates that developing countries have an average tax gap of 9% of GDP, so that intensified domestic taxation reforms would have a high upside potential. Common measures include broadening tax bases, improving the progressivity of taxation, and raising tax compliance through administrative reforms and digitalisation of tax and customs administration. In addition, more should be done to improve the efficiency of public spending management. In this context, the IMF and World Bank Group (2024) jointly launched an initiative to provide systemic capacity-building support to developing countries to strengthen tax capacity and improve public expenditure management.

**Carbon pricing provides tremendous potential to raise revenues during the transition while efficiently providing incentives to reduce emissions.** Its implementation will require addressing distributional concerns, however. Explicit carbon taxes and emissions trading systems (ETS) are the two most common forms of carbon pricing. Between 2015 and 2023, their coverage of global greenhouse gas emissions doubled to 23%, and the average price

across carbon pricing instruments increased from \$7 to \$20 per tonne, but coverage and prices vary widely across jurisdictions. There is significant scope for countries to improve the coverage and price of carbon pricing instruments to address climate change. Carbon pricing can generate potentially high revenues: middle-income countries can raise revenues of 0.5–1.5% of GDP with a \$50 carbon price and low-income/lower-middle-income countries revenues can raise around 1–1.5% of GDP with a \$25 carbon price (IMF, 2024). Globally, potential annual revenue would be around \$1.4 trillion by 2030.

**In addition, the elimination of harmful subsidies has huge payoffs in reducing environmental damage and mobilising public revenues.** The IMF estimates that fossil fuel subsidies amounted to 7% of global GDP in 2022 (Black et al., 2023). The World Bank also documents the high levels of environmentally harmful subsidies to the fisheries and agricultural sectors. Phasing out harmful subsidies should be pursued, but this will have to be accompanied by compensation and social protection measures for vulnerable groups affected by increased energy prices and loss of subsidies.

**All of these measures will require strong international tax cooperation.** Cooperating on tax measures globally will also need to give greater consideration to raising the revenues accruing to developing countries, which have so far been relatively modest. Recent initiatives led by the OECD on country-by-country reporting and automatic exchange of information, and the introduction of the global minimum tax of 15%, are significant efforts to tax multinationals more effectively and have led to the decline of offshore tax evasion and profit-shifting. More could be done, however, to improve their revenue-raising potential for developing countries, including through increasing the global minimum tax. Ongoing discussion topics at the G20 include globally coordinated taxation of the super-rich (G20, 2024). If implemented, revenue-sharing agreements will be needed to support developing countries to achieve their climate and development objectives. The ongoing effort to put in place a UN Tax Convention (UN, 2024) promises to provide a forum in which greater consideration can be given to enhancing the revenues that could accrue to developing countries.

### **3.5. Creating a new highway for private finance and tackling the cost of capital**

#### **Reducing the cost of capital**

**The cost of capital is significantly higher in EMDCs than in advanced economies.** In 2022, in a sample of countries, the weighted cost of capital for solar PV investments, for example, was at least twice as high in EMDCs (other than China), averaging 9–12% compared with 5–6% in advanced economies (IEA, 2024c). Economy-wide estimates of the cost of capital show similar magnitudes of difference between advanced economies and EMDCs. For some low-income countries the cost of capital can be five times that of advanced economies.

**The cost of capital is especially important for clean energy projects.** These projects are generally capital-intensive and/or require significant upfront capital outlays; thus, the cost of capital is a key factor in these investments. Utility-scale solar and wind investments are very capital-intensive although they have low operating costs. Moreover, these investments are up to 75% debt-financed. Investments in transmission and distribution grids are also very capital-intensive. For independent power transmission projects in the form of public–private partnerships, the cost of capital can be of particular importance since the remuneration is fixed by the regulators. Battery storage is a third category of investment that is both highly capital-intensive and also highly leveraged. In fact, the cost of capital plays a very significant role in almost 40% of the investments in clean energy

needed in EMDCs during the next 10 years to achieve the IEA's net zero emissions by 2050 (NZE) scenario, and a relatively significant role in another 17% of the investments needed (IEA, 2024c).

**The higher risk premium in EMDCs reflects investors' assessments of two broad sets of risks:** the first is country-level or macroeconomic risks that apply to any investment in a particular jurisdiction, and the second is sector- or project-specific risks that are an add-on to any country-level risks. A 2023 survey undertaken by the IEA on investor concerns in investing in clean energy projects in a sample of EMDCs identified political, currency, regulatory, off-taker and transmission risks (the latter two types being sector-specific) as the five key elements that need to be addressed to reduce the cost of capital in EMDCs. Among these, macroeconomic risks, namely sovereign, political and currency risks, were stated most frequently as being the top three types of risk. A separate analysis that breaks down the required rate of return for equity and debt, and estimates a "climate investment rate risk premium" for solar projects in a wide sample of advanced economies and EMDCs, finds that the average required cost of debt is around 6% in advanced economies, compared with 21% in EMDCs, while the average required rate of return to equity is 12% in advanced economies and 27% in EMDCs (Gautam et al., 2023). The estimated "climate investment risk premium" averages only 4.6% in advanced economies, while in EMDCs the corresponding average is 15% (ibid.).

**Reducing the costs of capital will require a combination of measures at the international and country levels to reduce both actual and perceived risks.** The provision, composition and structure of blended finance and other de-risking mechanisms will depend on factors such as the phase of project development, project scale, the maturity and nature of the technology, the level of capital market development and macroeconomic conditions and their attendant risks. At the same time, policies and measures are needed at the country level to strengthen the macroeconomic conditions and the investment climate, develop domestic capital markets and adopt appropriate regulatory and legal frameworks. By reducing the risk premium required by investors, these measures would help lower the cost of capital.

**Data- and information-sharing is another important element in reducing the cost of capital as investors' perceived risks of investing in EMDCs are often higher than the actual realised risks of projects.** Data-sharing by project operators on project performance, for instance, can help lower these perceived risks; so too can providing credit information (such as default and recovery rates) on sovereign, semi-sovereign and private loans in emerging markets (such as the information provided through the Global Emerging Markets Risk database [GEMs]).

**A lower cost of capital in EMDCs will be key to enabling the requisite climate investments and facilitating the global energy transition.** The IEA has calculated that a 1-percentage point reduction in the cost of capital would result in reducing average clean energy financing costs by \$150 billion per year. In turn this reduction would represent a 10–20% decrease in the cost of capital across sectors compared with current values. In part, this large impact is due to the large weight the cost of capital has on solar PV and wind energy production and the fact that these two sources of energy represent 15% of the investment needs in the NZE scenario. A 2-percentage point reduction could double this reduction to \$300 billion.

### **Mobilising private finance at scale**

**Mobilising at least \$1 trillion a year of private capital for climate action in EMDCs by 2030** is a critical lever to drive global growth and sustainable development. Action to unlock this volume of private capital – both domestic and external – has gained

momentum in recent years, especially since COP26, and there are many good examples of progress. Climate and transition finance opportunities in EMDCs are becoming increasingly attractive to the private sector as technology tipping points reduce the cost of low-carbon, nature-positive solutions and the scale of the opportunity becomes clearer. This is especially true in the power system. Over the next 10 years, EMDCs should account for over 60% of the absolute increase in clean energy, creating outsized opportunities for private finance.

**Despite growing momentum, volumes of private capital flowing to EMDCs are still far too low: the challenge is one of both speed and scale.** In 2021–22, only \$15 billion of international private investment went to climate action in EMDCs, less than 5% of what is needed (Buchner et al., 2023). Rising interest rates in the large economies and a stronger dollar have also driven significant capital outflows from EMDC stocks and bonds in recent years, leading to low portfolio allocations from institutional investors. Where they are investing, it is often not in green: environment, social and governance (ESG)-focused funds allocate significantly fewer resources to EMDC assets, often comprising only 6% of their portfolios as these tend to have lower ESG scores (IMF, 2022). Meanwhile, less than 1% of domestic private capital is invested in climate action due to a range of policy and capacity barriers. Increasing the breadth and depth of private capital is one of the most important, but hardest, actions for climate finance.

**These numbers are even poorer when disaggregating for Least Developed Countries (LDCs):** private capital represents less than 10% of total climate finance in LDCs, compared with 50% for other EMDCs (Naran et al., 2024). Mobilisation rates in low-income and lower-middle-income countries are also very low – in 2023 only \$8 billion of direct private capital was mobilised out of total MDB lending of \$75 billion. LDCs also accounted for less than 10% of private climate finance mobilised through official development finance interventions, compared with 57% for upper-middle-income countries and 34% for lower-middle-income countries (Taskin et al., 2024). For a majority of EMDCs – including LDCs – a lack of an investable pipeline, the high cost and limited availability of capital, low levels of financial sector development and regulatory barriers remain significant impediments to unlocking more private investment.

**Urgent, coordinated action is needed to tackle these impediments.**

**Firstly, the public and private sector need to strengthen collaboration to develop sectoral investment plans and co-create project pipelines.** The adoption of transition finance frameworks and NDC investment plans offers an opportunity to collaborate and tackle policy bottlenecks; they are an important way to signal investment opportunities and policy priorities to the private sector and give certainty around critical issues like planning, permitting and procurement. Country platforms are also a powerful way to engage investors around sectoral planning. With the early involvement of the private sector, country platforms have already helped update local content rules and prioritise grid finance solutions. Refreshing the institutional architecture for project preparation is also critical. Project preparation funding can typically leverage 20 to 50 times the initial investment and existing facilities should be scaled up urgently, alongside greater engagement with national and regional development banks which are important project originators. Accelerating partnerships between private and philanthropic organisations to take on some of the early development costs can also help increase the number of bankable climate deals which get to close.

**Secondly, scaling up and replicating more effective risk-sharing mechanisms and credit enhancement can help improve the availability and reduce the cost of capital in EMDCs.** Addressing foreign exchange risk is particularly important to mobilise international capital for renewables where investment is typically in dollars but revenues are in local

currency. Expanding local currency lending can also help manage FX exposure. However, local currency offerings remain modest, representing less than 5% of total development finance, so scaling up affordable hedging solutions and other innovative mechanisms to manage currency risk remains crucial. Increasing the use of green guarantees and first loss equity can also help address investor risks (both macro and micro), providing the credit enhancement needed to unlock private capital for EMDC transactions; these are an important part of the toolkit to reduce the cost of capital. On average, guarantees mobilise five to six times more private finance than traditional loans, which explains why they have received growing attention in the climate space.

**The World Bank has committed to triple its guarantee capacity by increasing the size of the Multilateral Investment Guarantee Agency (MIGA) to \$20 billion by 2030.**

Furthermore, several new guarantee companies have been launched, many in local currency, which demonstrates the demand for catalytic instruments that can tackle certain macro risks, and the growing focus on mobilising domestic capital. These guarantees, along with other blended finance tools, should be targeted to mitigate specific risks across the investment lifecycle, from early-stage project development to the secondaries market. There has been some progress on ensuring that the treatment of risk-sharing products (especially guarantees) is compliant with Basel III capital adequacy requirements and other regulations; this must be standardised to ensure these de-risking mechanisms provide the appropriate credit enhancement. Proposals to turn MDB A/B loans into a recognised asset class should also be explored. Standardising and scaling up insurance mechanisms can help unlock investment in adaptation projects, which usually generate savings rather than revenue and are chronically underfunded.

**It will also be important to take into account the lower risks associated with MDB lending and guarantees.** At present, the de-risking effect of MDB guarantees is not taken into account by credit rating agencies as MDBs have a probability of default roughly three times lower than commercial lenders from the same borrowers (0.37% compared with 1.13% for bank loans and 1.37% for sovereign bonds [Paris Pact for People and the Planet /4P, 2024]). Political momentum on this issue is growing, and in September 2023 16 heads of states committed in a joint 4P Leaders Communiqué to establish a roadmap and constructive dialogue with credit rating agencies, regulators, governments, investors and other relevant stakeholders to enhance the transparency and accuracy of credit ratings and country risks assessments. 4P is now establishing a coalition to implement this commitment.

**Along with the use of de-risking and credit enhancement mechanisms like first loss, liquidity facilities, guarantees and hedging, MDBs can play an outsized role in unlocking institutional capital** by securitising assets off their balance sheets (originate-to-share) and developing large-ticket, long-term, liquid/investment grade products in risk-diversified portfolios for pension funds. Sharing the historical performance and default rates of these assets/portfolios can help demonstrate that the perceived risk of EMDCs is typically much higher than actual risk, reinforcing the importance of transparent, timely and shared data. More broadly, different blended finance instruments and approaches can play complementary roles in mobilising private finance towards climate action. In the context of the high adaptation financing needs, blended finance can be particularly promising in driving private finance towards key adaptation areas, based on the specificities of the respective sectors, and the financing and development context (OECD, 2024c).

**Thirdly, revamping the financial system can help create a virtuous cycle for private capital mobilisation in EMDCs.** The most immediate priority is to shift domestic financial systems to support green investments, encouraging local banks to work in partnership

with MDBs and DFIs to unlock larger lending volumes, especially for renewables, and then develop the right financing structures to aggregate projects and access capital markets. Clean energy transitions require leadership from governments and state-owned enterprises to attract private capital that can complement public funding. Domestic banks should establish partnerships with international and development banks to significantly increase financing for renewable energy projects, looking at countries such as India for successful models to replicate. Increasing cross-border flows is also critical to achieving the scale of private finance needed. Alterra, the \$30 billion catalytic climate finance vehicle launched by the UAE at COP28, can provide important insights on how to attract and deploy institutional capital for climate investments in emerging markets that are not able to attract such finance.

**Finally, tackling supply-side regulatory and incentive barriers to remove legal and organisational constraints to investing in EMDCs, especially for clean energy and green industrialisation, is another important way to unlock institutional capital for EMDCs.** Reforming the policies of regulatory and rating agencies can help achieve consistency in capital treatment of transactions across jurisdictions, along with recognition of the risk-mitigating features of blended finance and other strategies such as A/B loan structures, updating prudential capital requirements for banks, insurance companies and pension funds to reflect the actual risk of investment in EMDCs, updating external ratings methodologies by adjusting subjective risk premiums assigned to EMDCs, and incorporating climate risk parameters into credit rating assessments. While supply-side regulation like the prudential regime for insurance and reinsurance undertakings in the EU, Solvency II, is still a critical barrier to insurers, pension funds arguably do not have the same legal or fiduciary constraints. For instance, for infrastructure projects, Solvency II introduces a capital buffer for insurers of 25% for projects in OECD countries and of almost double that at 49% for non-OECD countries, but this is not a risk-based criterion and increases the cost of investments in non-OECD countries with a penalising effect (4P, 2024). As part of the 4P Coalition on Realigning Real and Perceived Investment Risks, 4P is establishing an Eminent Group of Experts to review the impacts of prudential regulations on investments in developing countries, with a view to revising these regulations by the relevant bodies if necessary. Education and guidance on the interpretation of climate in fiduciary duty and the scale of the investment opportunities can address behavioural and cultural barriers to investing in EMDCs. Clear, forward-looking commitments from asset owners to EMDC portfolio allocations and climate finance deployment targets (aligned within their relevant risk frameworks and associated fiduciary and legal obligations and in adherence to their respective business models) would have an outsized impact across the whole market, giving asset managers and developers a runway to structure products that can absorb large-scale institutional allocations.

### **3.6. An MDB system that works for climate action**

**Multilateral development banks (MDBs) have been at the forefront of the expansion in international climate finance.** MDBs' climate finance commitments to low- and middle-income countries increased from \$41.5 billion in 2019 to \$74.7 billion in 2023 (EIB, 2024). In addition, MDBs expanded their climate finance commitments to high-income countries from \$20.1 billion in 2019 to \$50.3 billion in 2023, mainly to Europe through the European Investment Bank. The World Bank has had the highest growth rate in climate finance, accounting for one-third of the scale-up in international climate finance and half of all climate finance from MDBs in 2023. Two-thirds of the climate finance from MDBs has been for mitigation and one-third for adaptation.

**MDBs have also embarked on a coordinated programme of reform to implement the agenda of “better, bigger and more effective MDBs”** (Heads of MDBs, 2024). Ten MDB Heads have set out their vision for what the MDBs should do, individually and collectively, under five areas: 1. scaling up MDB financing capacity; 2. boosting joint action on climate; 3. strengthening country-level collaboration and co-financing; 4. catalysing private sector mobilisation; and 5. enhancing development effectiveness and impact (ibid.). These areas correspond closely with the vision laid out by the G20 Independent Expert Group to triple annual sustainable lending levels, add global public goods including climate to the mandate, co-create multi-year country platform programmes, bring engagement with the private sector to the centre, sharpen analytical support and speed up business processes for enhanced impact. The G20 Brazilian Presidency has developed a G20 Roadmap on MDB reform for approval by G20 Finance Ministers and Leaders (G20, 2024). The roadmap sets out a detailed blueprint and specific recommendations on how the MDBs can implement the vision of better, bigger and more effective MDBs. The shared understanding on this agenda will be invaluable in giving impetus to reform and tracking progress.

**While all MDBs have made progress to implement the reform agenda, the pace and ambition fall short of what is needed.** This is underscored by the October 2024 IEG Update (Mishra et al., 2024) and the latest update of the Center for Global Development’s MDB Reform Tracker shows that progress has been uneven across the MDBs (CGD, 2024). However, the Viewpoint Note of the MDB Heads records progress across MDBs on the reform agenda (Heads of MDBs, 2024). In our assessment, there are three areas where progress is not yet enough to produce transformative change: there has been a lack of systematic engagement on system reforms and scaling up investment at the country level, including through more proactive engagement in country platforms; insufficient expansion of lending capacity at the scale and pace needed; and insufficient catalysing of private finance, including through tapping long-term institutional capital, as discussed above. These efforts can be supported by rewiring MDBs from being just financiers to mobilisers and co-creators, driven by the integration of mobilisation and climate into mandates, incentive systems and targets (OECD, 2021).

**Much greater expansion in lending capacity will be needed to meet the investment goals to deliver on the Paris Agreement.** Several MDBs have been making progress to implement recommendations made in the G20 Independent Review of Multilateral Banks’ Capital Adequacy Frameworks (G20 Expert Group on Capital Adequacy Framework, 2022), including lowering equity/debt leverage ratios and other measures to optimise balance sheets. Several are also exploring the use of guarantees and hybrid capital to boost lending capacity. While there has been some positive response, both options could be significantly expanded with support from shareholders and buy-in from investors such as sovereign wealth funds. This should be a priority for the coming year. New capital has been injected into the European Bank for Reconstruction and Development and IDB Invest, the private sector arm of the Inter-American Development Bank. The International Bank for Reconstruction and Development is receiving the last instalments of its 2018 capital package and has called for a shareholder review of its capital adequacy in 2025. The Asian Development Bank has approved capital management reforms to unlock \$100 billion in new funding capacity over the next decade to address the region’s overlapping, simultaneous crises. Making capital contributions to the MDBs remains one of the most effective ways to expand climate finance at low cost and long maturities and provide the risk capital to catalyse private finance.

**MDBs should come forward with a commitment and plan to triple lending capacity by 2030 as part of the NCQG.** To date, identified measures have raised the lending headroom of the MDBs by \$357 billion, implying an increase in sustainable lending of

approximately \$30 billion per year, a 30% increase over 2019 levels (G20 IEG, 2024). This is far short of the tripling in sustainable annual lending levels by MDBs that is needed to deliver on the investment needed by developing countries. MDBs have a unique opportunity to support the clean energy revolution in developing countries and meet the urgent need for funding for climate resilience and natural capital. They can only do this with adequate and predictable long-term financing. All options therefore must be vigorously pursued, including proactive capital increases. Major shareholders must overcome their differences and give full support to the scale and urgency of the task.

**Beyond the MDBs, an integrated global network of public development banks (PDBs) through the Finance in Common Summit (FiCS) initiative, can be a powerful force for more coherent and effective support for climate action and finance.** The FiCS coalition manages \$23 trillion in assets and about \$2.5 trillion in annual investments, more than 10% of total investment flows. Given the ability of PDBs to develop and support investment and scale up and crowd in financing, they can play a central role in a global framework for sustainable investment. The last Summit in Cartagena in September 2023 agreed on a work programme to align finance with the SDGs, Paris Agreement and Global Biodiversity Framework, further increase cooperation between all PDBs by deploying innovative tools, and mobilise and join forces with other willing stakeholders.

### **3.7. Tapping the potential of carbon markets**

**Carbon markets have an important potential role to play in financing the climate transition which is as yet largely untapped.** Compliance markets through which firms pay government-mandated carbon pricing are central to the sovereign policy toolkit to provide incentives for the climate transition and raise public revenues. More countries are implementing carbon taxes and emissions trading systems, and these raised \$100 billion in 2022 (World Bank, 2023b). Yet, the average level of carbon pricing globally at \$5 per tonne (across priced and unpriced emissions) is too low, and the coverage at 25% of global emissions too limited. More countries should expand compliance markets by 2030 to raise revenues, including for global climate finance.

**The voluntary carbon market (VCM) – which differs from compliance markets by trading verified emission reductions or removal – also has the potential to generate much-needed revenues for priority elements of the transition in EMDCs.** Proceeds can be used to support a just transition around the world and initiatives to protect and restore nature, for which funding has not been readily available to date. Voluntary carbon credit markets raise additional financing for developing countries, as private companies and other actors seek to purchase carbon credits to align themselves with a 1.5°C pathway. The expansion of voluntary markets could potentially provide up to \$50 billion in the medium term (to 2030) (TSVCM, 2021; Trove Research, 2021).

**However, the VCM has suffered from major setbacks and poor market sentiment.** In 2023 the voluntary market saw a significant drop in the market value of traded carbon credits, from \$1.87 billion to \$723 million (World Bank, 2024). Whether and how much the VCM grows will depend on the confidence in its integrity and the robustness of the governance architecture of the market. There have been important efforts to build market credibility, but bolstering market trust and confidence has been difficult, in part because of the uncertain regulatory landscape. This includes the slow negotiation and implementation of the mechanisms created by Article 6 of the Paris Agreement. Efforts to improve methodologies and safeguards will lead to better alignment with the Paris Agreement and promote greater interoperability with public oversight of carbon markets.

**The consensus reached on the standards for Article 6.4 and a mechanism to update them was a welcome early development at COP29.** The endorsement by the COP of the

recommendations put forth by the Supervisory Body will pave the way for fully operationalising Article 6 and for global standards to underpin key elements of a robust architecture for market integrity.

**Further steps are being undertaken to provide greater assurance of credit integrity.**

The Integrity Council for the Voluntary Carbon Market (ICVCM) introduced a Core Carbon Principles Framework in 2023. Having made its first set of assessments of credits eligible using this framework, the ICVCM is currently in the process of strengthening the framework to provide clear and comprehensive guidance to promote good understanding among market players of the quality of the credits assessed. These efforts, along with the consensus reached on Article 6, will facilitate convergence to a stronger architecture to build credit integrity.

**Clear and operational guidelines for the use of carbon credits by buyers in their decarbonisation strategies is core to the integrity architecture.** At this time, companies that have met the criteria established by the Voluntary Carbon Markets Integrity Initiative (VCMI) have not been able to use the carbon credits. The VCMI is currently going through an important public consultation process to finalise its framework for high-integrity demand, including outlining the role of carbon credits in compensating for part of Scope 3 emissions that allows the pricing of emissions that might otherwise not be covered by such policy, enabling investment in critical climate-positive activities. Additionally, public authorities can take supportive regulatory actions to boost demand for high integrity credits.

**Advanced economies can also work together to develop regulations that support high quality carbon credits and boost voluntary demand.** They could increase finance to EMDCs by promoting integration between compliance and carbon credit markets. This will require monitoring and reporting systems on both the demand and supply sides, including interoperable carbon registers, to implement such integration.

**Finally, enabling EMDCs to develop and manage their use of carbon markets is an additional pillar in the pursuit of greater integrity and scale of carbon credit markets.** EMDCs must develop a pipeline of projects that can generate high-quality credits and ensure that these issuances align with their climate commitments and development plans. They will need to build institutional capacity, including to integrate the use of carbon credits into their NDCs, build capacity for monitoring, reporting and verification of emissions reductions, track issued credits in registries that are interoperable with global registries, define who will obtain legal rights in key sectors, with due regard to the laws of local communities, set social and environmental standards, and signal to buyers their strong expectations for high levels of market integrity. International technical and financial support for EMDCs will be required to address the institutional challenge of building carbon markets and tap the potential of compliance and voluntary markets. Development financial institutions such as the World Bank and other MDBs can play an important supportive role.

### **3.8. Delivering and expanding options for concessional finance**

**An inclusive architecture for climate finance will require access to concessional and debt-free financing for investments in priority needs to address climate change in EMDCs** – from adaptation and resilience-building to addressing loss and damage, restoring nature and supporting a just transition. Many of these investments do not yield the revenue streams necessary to attract private financing and in some instances they can only be supported by highly concessional finance. Concessional financing of \$200–300 billion annually will be needed by 2030. Delayed action and worsening climate impacts are only widening this financing gap.

**Mobilising the concessional financing needed can only be delivered by tapping all available pools of concessional finance, including innovative options.** More ambitious contributions from advanced economies will be foundational to raising significant levels of predictable concessional climate financing but will not be sufficient. Other options should be explored, such as expanding the voluntary rechanneling of special drawing rights (SDRs), scaling up private philanthropy, and introducing international taxation of high-emitting sectors.

**Bilateral contributions from advanced economy partners may be a small component of total climate financing but they are critical to fostering trust, meeting urgent needs and leveraging other sources of finance.** Bilateral contributions from advanced economy partners grew from an average of \$32 billion in 2019–20 to \$43 billion in 2022 (OECD, 2024a), but more should be done to increase their scale. We calculate that bilateral finance should double by 2030 and triple by 2035. Grant financing, which amounted to \$25.6 billion in 2022, should more than double by 2030. The quality of financing should be improved by doubling financing for adaptation immediately and through measures to enhance transparency and ease access to financing.

**Critical to supporting climate action in low-income and climate-vulnerable countries will be securing an ambitious IDA21** – the forthcoming 21st replenishment process of the International Development Association. More than 40% of IDA’s annual lending supports climate action. Donor contributions to the 21st replenishment, which concludes in December 2024, must be increased to at least \$28–30 billion, which will only enable IDA lending of \$100 billion.

**Multilateral climate funds play an important catalytic role in advancing systemic change through partnerships with MDBs, mobilising financing aligned with the Paris Agreement, and building markets.** Enhancing their financing capacity, which now stands at \$4–5 billion of commitment annually, will build on their strengths which is essential given the scarcity of concessional financing. The recently completed report by the Independent High-Level Expert Group to review the vertical climate and environmental funds, mandated by the G20, recommended building on work to date to enhance efficiency, including in accreditation processes, project approval times, and accelerated disbursements (G20 IHLEG, 2024). Other notable recommendations include collaborating to harmonise procedures, working together to leverage existing sources of public and private financing, and working as a system in support of country-led investment platforms.

**There is great urgency to secure adequate funding for the Fund for Responding to Loss and Damage.** Advanced economies must take the lead in mobilising the necessary financing for the Fund, which was operationalised at COP28. Nineteen nations have pledged a combined total of \$792 million, including a \$100 million contribution from the UAE. While this is a first step, it is less than 0.3% of the expected loss and damage costs by 2030.

**Following the historic SDR allocation of \$650 billion in 2021, the delivery of the G7’s pledge to voluntarily rechannel \$100 billion of SDRs to countries in need of financing has been a welcome development.** The IMF’s Poverty Reduction and Growth Trust (PRGT) and the Resilience and Sustainability Trust (RST) are currently the lending vehicles for the rechannelled SDRs. The PRGT has now received \$56 billion of SDRs to provide liquidity support to low-income countries, and the RST \$49 billion. While the US and Germany were unable to rechannel SDRs, they have notably found alternative means to contribute financing.

**The IMF will need to address impediments to accelerating RST lending given the strong demand.** The RST has now committed about \$10 billion, about one-third of its loan resources by September 2024, and \$3 billion has been disbursed. To continue its growth over the longer term, it will need to expand its access limits, simplify requirements, and reduce the high cost of rechannelling SDRs.

**Rechannelling SDRs through MDBs can potentially be a significant means to expand the lending of MDBs, and it is important to tackle remaining obstacles.** The Executive Board of the IMF reached a decision in May 2024 to authorise its member countries to use SDRs to acquire hybrid capital issued by prescribed SDR holders, though only after protracted discussions. Despite this approval, the African Development Bank (AfDB) and InterAmerican Development Bank (IDB) have not yet been able to implement their joint hybrid capital initiative in the absence of the critical mass of SDR providers that need to participate in the liquidity support arrangement necessary to preserve the reserve asset character of the SDR. Additionally, increasing the volume of SDRs rechannelled through MDBs is constrained by the stance of the European Central Bank, which precludes the participation of EU countries, which hold many SDRs, in this rechannelling.

**The G20 and the IMF should explore how to tap the substantial potential for voluntary rechannelling from the existing pool of SDRs and agree on the regular issuance of SDRs.** The IMF and member countries should take steps to improve the effectiveness of SDR rechannelling by modernising the framework for the use of SDRs, including the preservation of their reserve asset characteristic, to make it less rigid and costly. The IMF and the G20 should also initiate discussions on the next cycle of SDR issuance as part of a regular system to boost global liquidity in response to macro-critical shocks.

**There is scope for private philanthropy to further augment the scale of financing and leverage its strengths.** Philanthropy can use its financing strengths to support country-led climate and development progress, and support activities where concessional finance is critically needed. It can build partnerships with MDBs, including through subscribing to their new hybrid capital and/or systematically co-financing activities by supporting capacity-building, research, and bringing down the cost of capital for investments. There is also scope for enhancing the role of corporate responsibility in increasing concessional financing in areas that typically need but do not receive adequate levels of grant financing.

**The efforts above, however, will not be sufficient to fill the concessional financing gap, and innovative solutions need to be actively pursued – such as international taxation of high-emitting sectors.** This form of taxation has the potential to raise significant amounts of revenue that could be used to fill the climate financing gap (Macron et al., 2024). International aviation and shipping have largely escaped taxation to address their environmental impacts and corporate taxation: redressing this situation could generate as much as \$200 billion a year by 2035 (Black et al., 2024), which would make a huge contribution to global climate finance. Taxing emissions from these sectors would also induce much-needed decarbonisation: international aviation and shipping contribute 1.5% and 2% of global CO<sub>2</sub> emissions from fossil fuel combustion, respectively, which will rapidly increase under a business-as-usual scenario. Similarly, the global taxation of fossil fuel consumption and production would yield large revenues and strong incentives to decarbonise. A fee of \$5/tCO<sub>2</sub>e on the extraction of fossil fuels in 2024 would generate an estimated \$216.2 billion per year (Sharma and Hillman, 2024). There have been calls to introduce these tax measures from coalitions of countries, including through the Bridgetown Agenda, Paris Global Financing Pact and Africa Climate Summit. As part of a package of initiatives for COP29, Azerbaijan recently announced the Climate Finance Action Fund to invest in climate action in developing countries. Financing for the Fund will

come from annual contributions from fossil fuel producing countries and companies, and Azerbaijan will be a founding contributor.

**At COP28, France, Kenya, Barbados, Antigua and Barbuda and Spain jointly launched a Global Solidarity Levies Task Force to explore new avenues for international taxation to finance climate action and sustainable development.** The Task Force is examining feasible options across a range of options including the taxation of international shipping and aviation, fossil fuel levies and a financial transactions tax (FTT). Several of these measures embody the 'polluter pay principle', whereby levies or taxes are imposed on presently untaxed or under-taxed international carbon-polluting activities and the revenues can compensate the climate-vulnerable. Other options such as the FTT could provide opportunities to generate large revenues with little negative market impact. A 0.1% rate on stocks and bonds instruments and a 0.01% rate on transactions of derivatives globally would generate an estimated \$237.9–418.8 billion per year, depending on the level of market reaction and evasion (Pekanov and Schratzenstaller, 2019). The Task Force is conducting discussions to expand the coalition of willing countries that will support this effort.

## 4. Tracking and monitoring the delivery of the action agenda

As the climate finance agenda shifts from outlining the need and pathways for climate finance into delivery, tracking and monitoring systems are critical to accelerating implementation. Tracking and monitoring foster accountability across the climate finance agenda by both shining a spotlight where progress is being made and highlighting gaps and opportunities to aid prioritisation of future actions. The tracking of climate finance has historically focused on tracking flows but given the time-sensitive nature of climate change and the emergence of major reform agendas, the tracking of actors and actions has also gained momentum.

**Long-standing climate finance flow trackers include:** the UNFCCC's biennial assessment of flows prepared by the Standing Committee on Finance; the OECD's tracking of the delivery of the US\$ 100 billion commitment, which publishes updates to inform the UNFCCC's COP deliberations; the CPI Global Landscape on Climate Finance; and the IEA World Energy Investment. More recently, the ONE Campaign published its 'Trillions Tracker', which tracks the total public spending gap to finance the transition.<sup>5</sup>

**Issues associated with the measurement and transparency of climate finance remain.** Tracking of climate finance continues to be hampered by a lack of consensus on what constitutes climate finance and a dearth of robust data, especially on domestic and private climate finance. However, recent OECD analysis (2024b) can serve as a starting point to better understand how support for climate is interlinked with development finance, and how the different yet interlinked underlying data is being reported.

**Systematic measurement mechanisms for tracking the action agenda on climate finance have historically been lacking.** However, some are beginning to emerge, including CPI's Climate Finance Reform Compass,<sup>6</sup> which assesses implementation across the climate finance landscape, as framed by the COP28 Global Climate Finance Framework. The Compass outlines the required milestones for reform which together could drive the required increases to climate finance. The IHLEG's forthcoming action agenda will complement the Compass, outlining critical actions to COP30, underpinned by a 'State of Delivery' assessment across the six pillars of the IHLEG framework to be launched at COP29. This work is being taken forward in stages, as better information on key elements and indicators becomes available. Other more specific trackers are also being developed, including the Center for Global Development's MDB Reform Tracker<sup>7</sup> and the Paris Pact for People and the Planet's (4P) report assessing delivery (4P, 2023).

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<sup>5</sup> See <https://unfccc.int/topics/climate-finance/resources/biennial-assessment-and-overview-of-climate-finance-flows>; [www.oecd.org/en/topics/sub-issues/climate-finance-and-the-usd-100-billion-goal.html](http://www.oecd.org/en/topics/sub-issues/climate-finance-and-the-usd-100-billion-goal.html); [www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2023/](http://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2023/); [www.iea.org/reports/world-energy-investment-2024](http://www.iea.org/reports/world-energy-investment-2024); and <https://data.one.org/trillionstracker/> respectively.

<sup>6</sup> [www.climatepolicyinitiative.org/climate-finance-reform-compass/](http://www.climatepolicyinitiative.org/climate-finance-reform-compass/)

<sup>7</sup> [www.cgdev.org/media/mdb-reform-tracker](http://www.cgdev.org/media/mdb-reform-tracker)

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# Independent High-Level Expert Group on Climate Finance

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