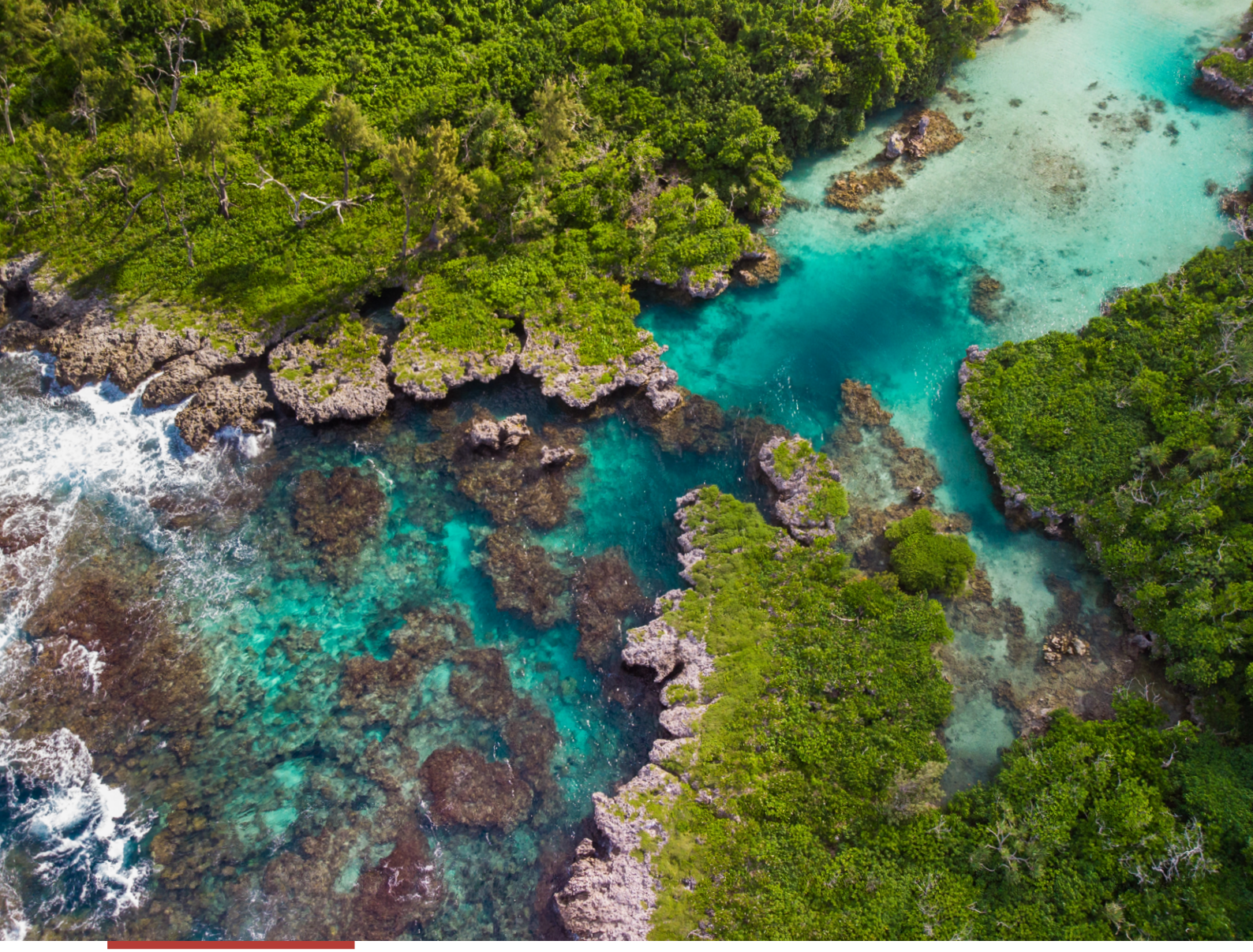

Global Landscape of Climate Finance 2024: Insights for COP29

October 2024

CLIMATE POLICY INITIATIVE

AUTHORS

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ABOUT CPI

CPI is an analysis and advisory organization with deep expertise in finance and policy. Our mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has seven offices worldwide, in Brazil, India, Indonesia, South Africa, the United Kingdom, and the United States.

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The Cost of Inaction

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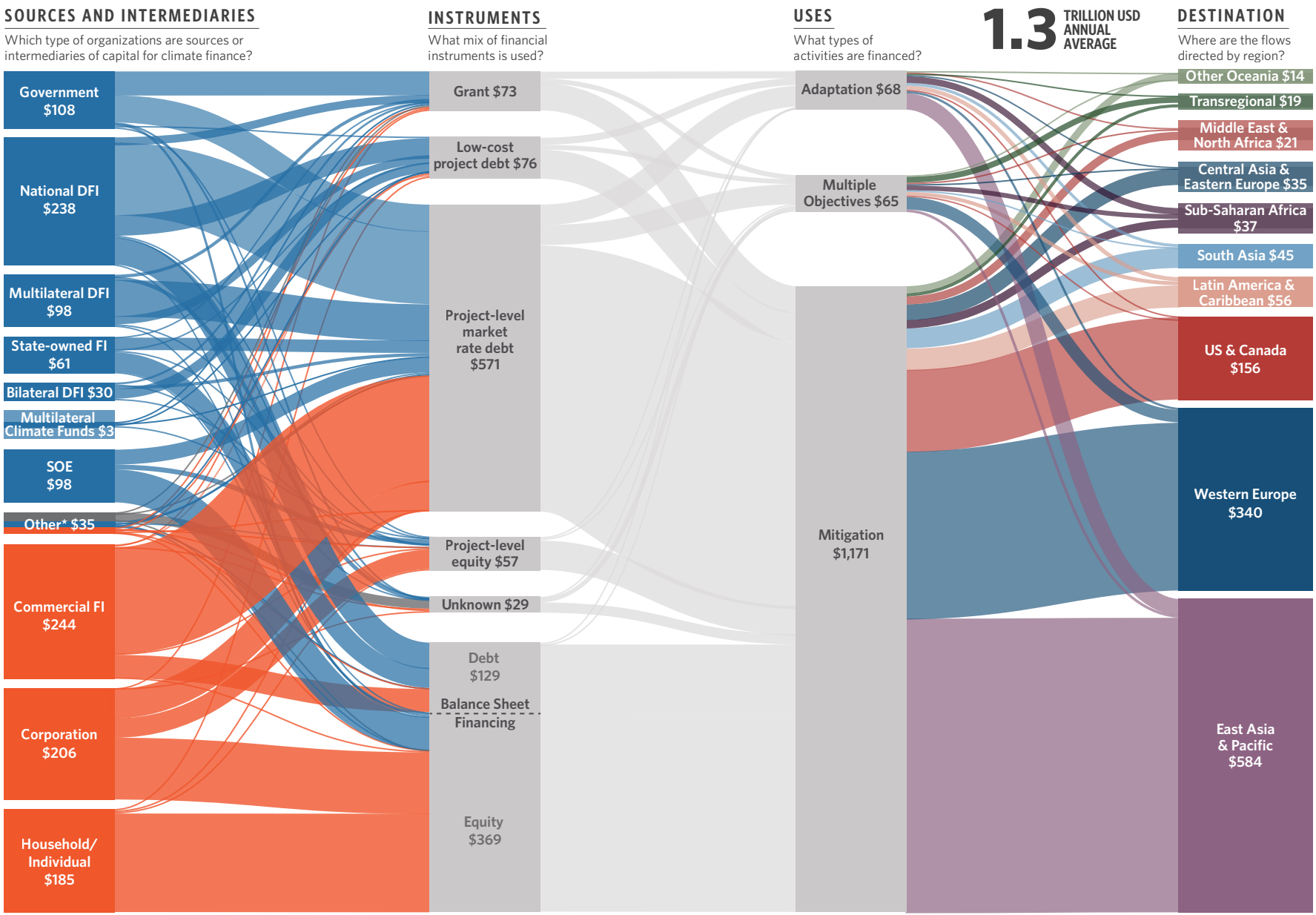
LANDSCAPE OF CLIMATE FINANCE IN 2021/2022

Global climate finance flows along their life cycle in 2021 and 2022. Values are averages of two years' data to smooth out fluctuations, in ***USD billions***



"Other" public sources include export credit agencies and unknown public funds
"Other" private sources include institutional investors, funds, and unknown

EXECUTIVE SUMMARY

The Global Landscape of Climate Finance 2024 reflects on how climate finance has evolved from 2018 to 2022, exploring both mitigation and adaptation flows across different economies.[1] It also provides a preview of what to expect from the data for 2023, which will be presented in full in next year's report.

WHERE ARE WE NOW?

The need to raise ambition for climate action is more urgent than ever. The nine years from 2015 to 2023, inclusive, were the warmest on record, and extreme weather events have increased fivefold in the past 50 years (WMO 2021, 2022, and 2023a). Despite annual climate finance having more than doubled between 2018 and 2022 (from USD 674 billion to USD 1.46 trillion), a further fivefold increase is required to reach the USD 7.4 trillion needed on average each year through 2030 under the 1.5°C scenario. By comparison, consumer fossil fuel subsidies alone amounted to USD 1.4 trillion in 2022 (IISD and OECD, 2023), and investments in new fossil fuel production and distribution reached USD 1 trillion that year (IEA, 2024a). Current climate finance represents only 1% of global GDP, while some estimates for emerging markets and developing economies (EMDEs) suggest that specific countries might have to allocate around 6.5% of their GDP by 2030 (IHLEG, 2022).

THE COST OF INACTION

The projected economic losses that can be avoided by 2100 by realizing a 1.5°C warming scenario are estimated to be five times greater than the climate finance needed by 2050 to achieve it (CPI, 2024a). While climate finance needs will likely ease beyond 2050, economic damages under a BAU scenario will continue to exponentially increase into the future. While we cannot put a true price on elements such as human suffering or loss of nature, conceptualizing climate finance through this lens of the cost of inaction and providing more granular estimates to this end could spur the investment needed to avoid future climate hazards and losses.

In addition, this report includes a geographic regional analysis of the trends within each economic grouping. This allows for a more detailed view of the varying climate finance needs and challenges across different contexts.

1 CPI tracks primary investment in physical assets and activities with direct and indirect mitigation and adaptation outcomes.

ECONOMIC GROUPINGS IN THIS REPORT

This report categorizes economies into two main groups: emerging markets and developing economies (EMDEs) and advanced economies, based on the IMF World Economic Outlook classification (2023a). Within EMDEs, we further differentiate between least developed countries (LDCs), based on the UNCTAD (2024a) classification, and EMDEs excluding LDCs to capture specific economic and climate finance trends. At times, China is discussed separately to the other EMDEs (ex. LDCs), with both its size (accounting for 69% of all climate finance for EMDEs [ex. LDCs] from 2018 to 2022) and climate finance trends, making it a frequent outlier in this group.

Using the UN classification, we also highlight data related to small island developing states and associate overseas islands territories (SIDS)—which sit across both EMDEs and advanced economies—due to their unique vulnerabilities to climate change (UN, 2024).

In addition, this report includes a geographic regional analysis of the trends within each economic grouping. This allows for a more detailed view of the varying climate finance needs and challenges across different contexts.

While still acute, the climate finance gap narrowed marginally between 2018 and 2022, driven by increased flows in advanced economies and some EMDEs.

Mitigation finance grew between 2018 and 2022 at a compound annual growth rate (CAGR) of 20% to reach USD 1.3 trillion. Investments in advanced economies and China drove this increase, primarily in buildings and infrastructure, energy efficiency, battery-electric vehicles (BEVs), and renewable energy (RE). As of 2022, renewable electricity generation capacity reached 42% in advanced economies and 45% in China (IRENA, 2024a). EMDEs (ex. LDCs and China) had an average renewable electricity generation capacity of only 33%, though this was highly variable; Brazil's renewable electricity capacity reached 84% in 2022, for example, while Egypt's was 11% (IRENA, 2024a, 2024b, and 2024c).

Private finance reached 54% of mitigation flows in 2022, with strong growth in private financing for the buildings and infrastructure sector, as well as transport, indicating that such projects are becoming more commercially viable. However, there are still significant opportunities to increase mitigation finance. EMDEs (ex. LDCs and China) accounted for just 12% of mitigation financing in 2022, while only 1% went to LDCs.

Adaptation finance more than doubled between 2018 and 2022, reaching USD 76 billion in 2022.[2] The public sector has continued to provide the bulk of adaptation flows (92% in 2022), dominating water and wastewater (88% in 2022), AFOLU[3] (87% in 2022) and cross-sectoral adaptation finance (99% in 2022). Information on climate adaptation finance from public domestic budgets and the private sector remains opaque. However, in an effort to close data gaps, we tracked increased adaptation-relevant private finance through enhanced data collection resulting in USD 4.7 billion in additional flows (between 2019 and 2022) from asset managers, commercial FIs and project-level flows.

Many EMDEs (ex. LDCs) experienced significant increases in private climate finance, particularly in the buildings and infrastructure sector, as well as energy systems, though such increases were highly dependent on country-specific factors. Private finance between 2018 and 2022 exceeded 50% of the total mitigation finance in EMDEs (ex. LDCs) located in Latin America and the Caribbean (LAC), Central Asia and Eastern Europe, South Asia, and the Middle East and North Africa (MENA). In 2022, domestic finance also exceeded international funding to EMDEs (ex. LDCs) in LAC, South Asia, and East Asia and the Pacific. In areas where local constraints have hindered progress, international public actors have continued to provide support to EMDEs.

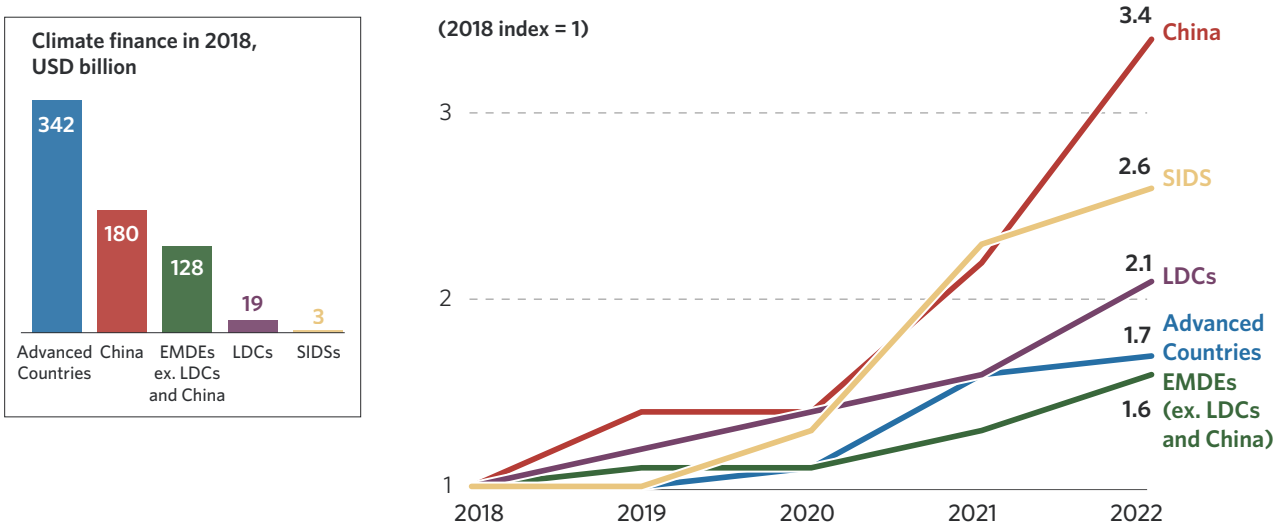
However, increases in climate finance have been inconsistent across economies, with the urgency for funding in some regions and sectors now particularly severe.

While there was overall growth in EMDEs, this was largely driven by national policies and, therefore, varied across countries and economic groups. China had a compound annual growth rate (CAGR) of 36%, LDCs averaged 20%, and EMDEs (ex. LDCs and China) only 12%. The growth of climate finance stagnated in many EMDEs between 2018 and 2020 as strained public budgets and worsened borrowing conditions, as well as the COVID-19 pandemic, kept their costs of capital above those of advanced economies (IEA, 2024b). Efforts to decouple economic development from greenhouse gas (GHG) emissions will need to be ramped up in EMDEs, which experienced a 1.8% average annual increase in CO2 emissions between 2010 and 2022 (Global Carbon Budget, 2023).

2 Available information on adaptation finance mostly concerns the international flows from advanced economies to EMDEs, as well as, to a lesser extent, finance provided by national development finance institutions.

3 Within this report, AFOLU refers to agriculture, forestry and other land use as well as fisheries

Figure 1.2: Growth in climate finance (right) compared to 2018 absolute values (left), by country grouping



Note: *The data on SIDS has been isolated for comparison purposes. It is, however, also included in the countries' respective categories (EMDEs ex. LDCs, and LDCs). The USD figures used in graphics throughout the report reflect nominal USD.*

LDCs and SIDS face acute challenges for public climate finance, including high debt burdens and stretched government budgets. Private finance has also remained low, contributing less than 10% of climate finance to LDCs every year except 2021 and under 2% to low- and lower-middle-income SIDS between 2018 and 2022.

Three persistent challenges across all economies are: lagging adaptation finance, a chronic investment gap in high-impact sectors, and the danger of increasing investment in fossil fuels.

Adaptation finance continues to lag. Despite more than doubling between 2018 and 2022, annual flows are currently at just one-third of the volume required until 2030 in EMDEs alone. In 2022, 19% (USD 14.5 billion) of adaptation finance went to LDCs, and 2% (USD 1.5 billion) went to SIDS. However, the total amounts remain highly insufficient, given that economies in these groupings are among the most vulnerable to climate impacts. For example, USD 12 billion is required annually across SIDS, which face some of the greatest risk of climate disasters (GCA and CPI, forthcoming).

Investment in climate mitigation remains slow outside of the energy, buildings and transport sectors. Although the AFOLU, industry, and water and wastewater sectors have a large mitigation potential, their climate investment levels have remained at low levels from 2018 to 2022 (UNEP, 2024). Countries need to provide strong enabling environments, investment in

research and development, concessional finance for project preparation, and domestic policy contexts to facilitate climate mitigation investment in these sectors.

There is a looming danger of increased fossil fuel investment, particularly in advanced economies, despite commitments to phase out fossil fuel subsidies by G7/G20 countries. Between 2020 and 2022, advanced economies increased their investments in fossil fuels by 28% (IEA, 2024c) and tripled their fossil fuel subsidies for consumers (IISD and OECD, 2023). In EMDEs, investments into fossil fuels increased by 9% from 2020 to 2022 (IEA, 2024c), while fossil fuel subsidies for consumers increased fivefold to over USD 1.2 trillion (IISD and OECD, 2023). Fossil fuel investment continued to increase globally throughout 2023 and 2024, estimated to reach USD 1.12 trillion in 2024 (IEA, 2024c).

Increasing the scale and improving the quality of climate finance is urgently needed. Delaying action will result in higher costs and increased financing needs in the future.

Several large-scale processes need to occur simultaneously in the next five years to accelerate the scale, speed, and quality of climate finance amid constrained budgets and conflicting political and financial priorities. Countries are now working to establish the New Collective Quantified Goal (NCQG), which is expected to be agreed at COP29. This represents a unique opportunity to enhance ambition and increase international cooperation for a more coherent climate finance architecture. Key strategies to enhance the scale and effectiveness of global climate finance are summarized below.

Table ES1: Recommendations overview

Topic	Strategy Summary	Action Areas
Innovation & replication	Scaling finance through a fit-for-purpose global climate financial architecture, using both established and innovative financing approaches to support climate, nature, and development goals.	Concessional finance
		Capital adequacy frameworks
		Risk mitigation vehicles
		Project preparation facilities
		Private finance mobilization
		Carbon pricing
		Fiscal space and debt architecture
Targeting & allocation	Stepping up support for LDCs, SIDS, and low-income communities on the front lines of the climate crisis, as well as allocating finance to high-impact, hard-to-abate sectors or themes.	Outcomes and effectiveness
		Access criteria and requirements
		Deep decarbonization and systemic resilience
		Just transition
Domestic policies & ownership	Building the policy and enabling environment to mobilize domestic resources, bolstering domestic markets, and fostering country ownership of internationally funded climate action.	Whole-of-economy approaches
		Redirecting fossil fuel expenditures
		Climate action plans
		Country sector platforms
Cross-cutting & multi-stakeholder action	Providing data and mandating disclosures to build trust and communicate progress towards time-bound targets, with more alignment across the fragmented climate finance landscape.	Taxonomies, data, and disclosures
		Capacity building and technical assistance
		Coordination and accountability

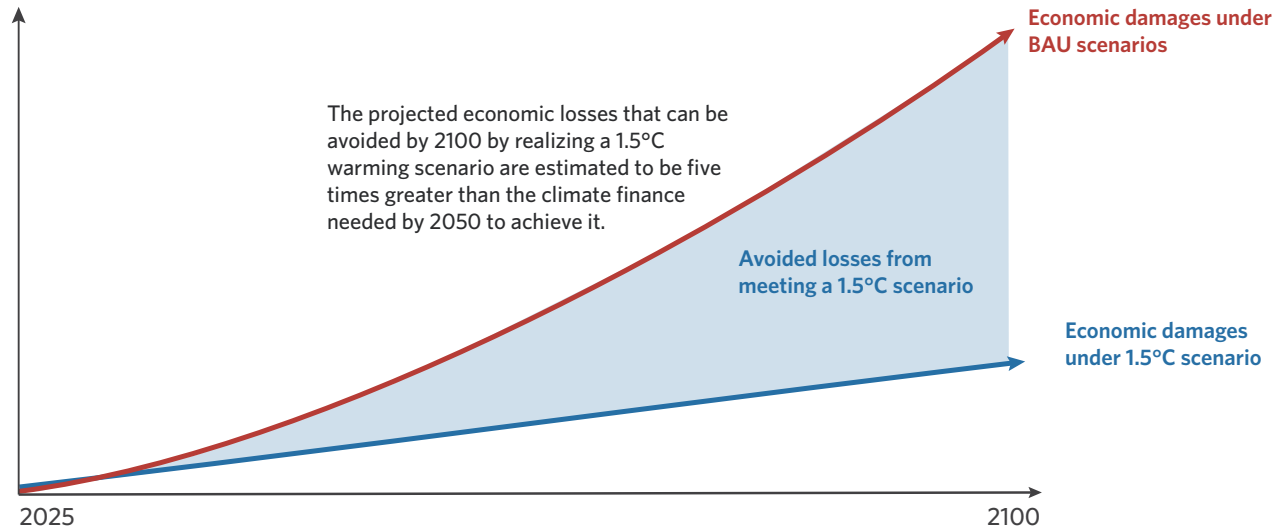
CONTENTS

1. INTRODUCTION

The need to raise ambition for climate action is more urgent than ever. The nine years inclusive from 2015 to 2023 were the warmest on record, and extreme weather events have increased fivefold over the past 50 years (WMO, 2022). However, climate flows continue to fall short of needs, with an estimated USD 6.7 trillion to USD 10 trillion required annually until 2050 to avoid the most catastrophic effects of climate change by keeping warming below 1.5°C. It was agreed that developed countries would jointly mobilize 100 billion per year to developing countries by 2020,[4] and that a New Collective Quantified Goal (NCQG) on climate finance would be agreed by 2025. As such, climate finance is expected to be a top agenda item at COP29. The persistent finance gap and growing incidence of devastating climate events around the world highlight the immediate need to accelerate and significantly scale flows from all actors: public and private, domestic and international.

Globally, the cost of inaction—a scenario in which climate finance needs are not met—greatly exceeds the cost of acting now. Physical assets and productive land risk being lost to extreme weather events and rising seas, while labor productivity and agricultural yields are set to decrease due to rising temperatures. Research suggests that, conservatively, over half of the USD 2,300 trillion in global climate change-induced economic losses expected by 2100 could be avoided if current climate finance needs are met (CPI, 2024a). The damages avoided by 2100 under a 1.5°C scenario are five times greater than the climate finance needed by 2050 to achieve it (CPI, 2024a). Since 1970, extreme weather events exacerbated by climate change have caused more than two million deaths and over USD 4.3 trillion in economic damage, and the rate of sea-level rise has more than doubled over the past decade (WMO, 2023, 2023a and 2023b). Under the worst warming scenarios, the costs of climate change are expected to escalate rapidly, putting severe strain on public budgets and financial markets globally.

Figure 1.3: Meeting climate investment needs will avoid exponential future costs



Source: *CPI analysis of NGFS. See CPI (2024a) for details*

4 Was extended until 2025

Avoiding the grave consequences of inaction will require unprecedented global cooperation and financing, particularly for emerging markets and developing economies (EMDEs). Efforts must be made to reduce the cost of capital, bolster domestic markets, and mitigate climate investment risks to spur action in these economies (CPI, 2024b). While the climate finance gap persists, the tools needed to address it already exist. Attention should go to better leveraging existing institutions and financial structures, as well as data and information to scale finance to the level needed to deliver on time-sensitive global climate targets.

Despite inadequacies to date, global momentum to tackle the climate crisis is growing. Of particular importance, the Global Stocktake concluded at COP28 signaled "the beginning of the end" for fossil fuels (WRI, 2023; UNFCCC, 2023). Globally, there has been progress on the adoption of green taxonomies to steer climate-aligned investments,[5] and in 2023, the International Sustainability Standards Board issued an inaugural Sustainability Disclosure Standard, including specific climate-related disclosure requirements (IFRS, 2024). In addition, the Network for Greening the Financial System (NGFS) recently launched a Transition Plan Package to inform financial institutions' (FIs') integrated transition planning regarding both reducing emissions and adapting to the impacts of climate change (NGFS, 2024). At a higher level, the G20 has also elevated climate finance as a focus of its Sustainable Finance Working Group, including through the publication of its (2021) Sustainable Finance Roadmap, a multi-year blueprint to inform action on climate and sustainability generally. The creation of the Task Force on Global Mobilization against Climate Change also marks a significant development by uniting the G20 Sherpa and Finance tracks for the first time to discuss how to keep warming below 1.5°C.

Strides have also been made on finance for biodiversity and nature, with stakeholders increasingly acknowledging the undeniable link between climate change and nature loss. The Kunming-Montreal Global Biodiversity Framework (GBF), agreed upon by nearly 200 countries at the biodiversity COP15 in 2022, highlights increased global awareness of the critical need to halt and reverse the rapid destruction of nature and biodiversity (CBD, 2022a). A headline outcome of the GBF was the pledge to effectively conserve and manage at least 30% of the world's land, inland water, coastal areas, and oceans by 2030, with an associated goal of mobilizing USD 200 billion per year in domestic and international biodiversity finance from public and private sources (CBD, 2022b).

The Global Landscape of Climate Finance 2024 (the Global Landscape) reflects on how climate finance has evolved from 2018 to 2022 and provides an overview of what to expect of 2023 flows.[6] This 2024 edition of Climate Policy Initiative's annual reporting builds on previous analyses, offering a refined perspective on the financial commitments made by various actors on climate mitigation and adaptation efforts in 2022. It includes an updated view of 2022 flows by incorporating OECD-DAC data that was released in June 2024. It also analyzes climate finance in comparison to fossil fuel investment. The report dives into trends in climate flows committed by both public and private actors between 2018 and 2022, based on historical data, considering sources of finance, its uses and sectoral distribution, financial instruments, and the geographical destination of flows. The aim is to identify gaps and opportunities in the funding landscape,

5 Various EMDEs have followed the EU's lead in developing green taxonomies, including countries in Asia (India, Indonesia; Sri Lanka, and Kazakhstan) and Latin America and the Caribbean (Colombia; Mexico; Chile; Dominican Republic) (Thur, 2022); (Souza and Gasparotto, 2023); see also (UNFCCC, 2022).

6 The 2023 climate finance numbers will be published in the 2025 edition of this report, given the two-year lag in international climate finance data provision.

providing key takeaways and recommendations to increase both the quantity and quality of climate finance.

METHODOLOGICAL IMPROVEMENTS TO THE LANDSCAPE

The Global Landscape offers the most comprehensive overview of global climate finance flows, providing crucial insights into the resources dedicated to addressing climate change. Our analysis focuses on primary financing directed to real economy sectors that actively contribute to reducing GHG emissions and enhancing climate resilience. However, limitations, including data confidentiality and a lack of reporting by public and private FIs, mean that comprehensive tracking remains elusive for certain areas. Figure 1.4 shows the coverage of tracked finance as of 2022.

Figure 1.4: Data coverage in Global Landscape (USD bn, 2022)

Note: *In addition to the sectors listed above, the 'Information Communications and Technology' and 'Unknown' sectors made up USD 3.5bn of finance in 2022. The untracked private adaptation values (for consumer and household finance) are estimates from CPI's 'Tracking and Mobilizing Private Sector Climate Adaptation Finance' report.*

To resolve these data gaps, CPI is continuously making methodological improvements to data quality and analysis. For example, in addition to data improvements introduced in the 2023 report, this edition includes more data on the following:

- Industry
- Energy storage
- Private finance with adaptation relevance

These inclusions have enabled us to track additional finance of USD 32 billion for 2021/22. For further information, see Annex 1.

2. CLIMATE FINANCE TRENDS

2.1 OVERALL TRENDS: 2018-2023

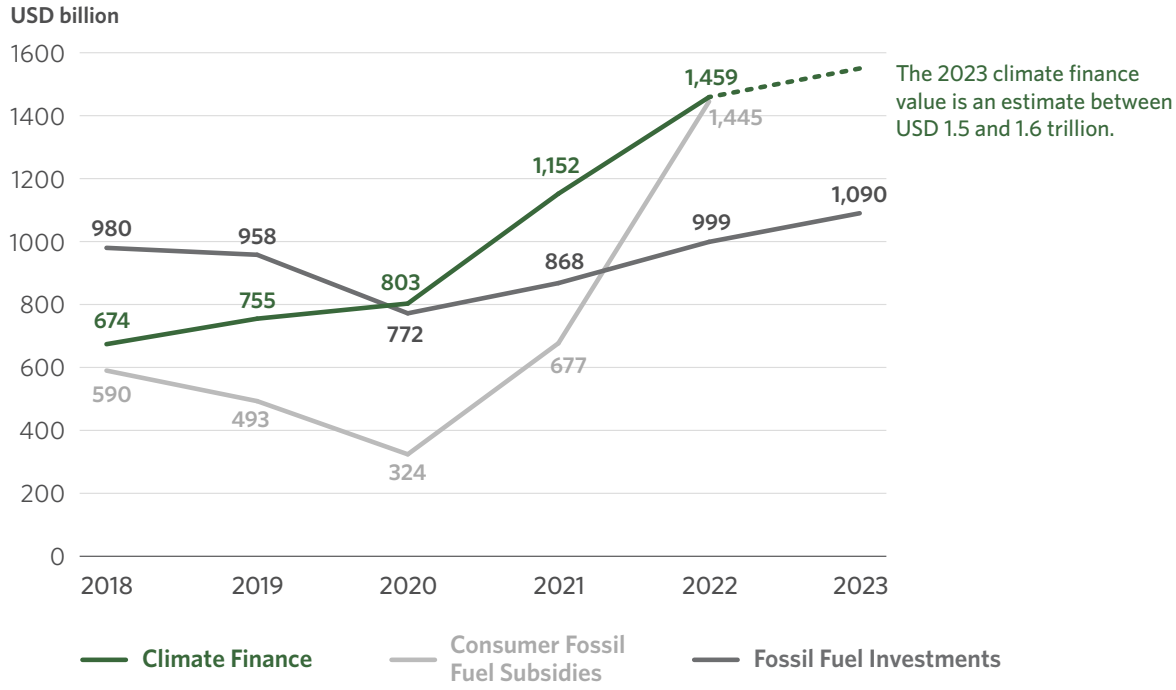
Annual global climate finance more than doubled from USD 674 billion in 2018 to surpass its first trillion in 2021/22. Early estimates indicate that in 2023, it continued to grow, albeit more slowly, to USD 1.5-1.6 trillion.[7] Advanced economies accounted for 45% of climate finance from 2018 to 2022, China for 36%, EMDEs (ex. LDCs and China) for 16%, and LDCs for only 3%.

Climate finance has demonstrated remarkable resilience and growth against a backdrop of global crises, reaching USD 1.46 trillion in 2022. This upward trend has persisted through the COVID-19 pandemic and subsequent economic recovery efforts, as well as elevated inflation rates and conflicts in Ukraine and Gaza. While 2022 saw record-high climate finance, the same year also saw high inflation, which may have raised costs for some climate interventions.[8]

Our initial analysis indicates that climate flows are likely to have surpassed USD 1.5 trillion in 2023,[9] with key increases continuing to be led by renewable energy (RE) and low-carbon transport. Following a record-high year in 2022 driven by post-COVID recovery strategies, there appears to have been further growth in 2023, although this differs across sectors. For example, Bloomberg New Energy Finance (BNEF) estimates that RE investment increased by 8% compared to 2022, reaching USD 622 billion in 2023, and electrified transport spending by 25%, hitting USD 634 billion (BNEF, 2024a). In addition, multilateral development banks (MDBs) increased their climate finance in 2023 by 25%, reaching a record USD 125 billion (EBRD, 2024; EIB, 2024). Fossil fuel investment, in the meantime, has continued to increase annually since 2020, reaching USD 1.1 trillion in 2023 (IEA, 2023c). Consumer fossil fuel subsidies have also seen a dramatic increase since 2020, to a record breaking USD 1.4 trillion in 2022 (IISD and OECD, 2023).

7 This is an estimate based on available information. Final numbers may differ subject to new data.
8 The global average annual inflation in 2022 was approximately 8% (IMF, 2024a).
9 CPI's full analysis and more accurate estimates of on global climate finance in 2023 will be available in 2025.

Figure 2.1: Evolution of climate investment



***Sources**: IEA (2024c), IISD and OECD (2024)*

***Note:** 2023 climate finance value is estimated. See Annex I for more detail on fossil fuel investment figures.*

2.2 TRENDS BY FINANCE USE: 2018-2022

2.2.1 TRENDS IN MITIGATION FINANCE: 2018-2022

Climate mitigation finance reached USD 1.3 trillion in 2022, marking a rapid increase at a compound annual growth rate (CAGR) of 20% from USD 627 billion in 2018. Mitigation projects continued to dominate global climate finance (90%), having risen dramatically between 2018 and 2022. This growth was driven by RE, low-carbon transport, and buildings and infrastructure investment, which together accounted for 94% of total mitigation finance between 2018 and 2022. However, the current level of mitigation finance is not on par with needs, which are estimated at USD 7.2 trillion on average annually over 2024 to 2030.

Private finance accounted for 54% of the total funding for mitigation activities. The share of private finance in those sectors driving the growth in mitigation finance (energy systems, buildings and infrastructure, and transport) has also increased. More than half (57%) of mitigation investments were provided through market-rate loans, followed by equity instruments (32%). Concessional capital, such as low-cost debt and grants, comprised 9% of total mitigation finance. There are indications that the cost of capital for green energy and utility companies is declining compared to that for emission-intensive firms in advanced economies (Gormsen et al., 2024).

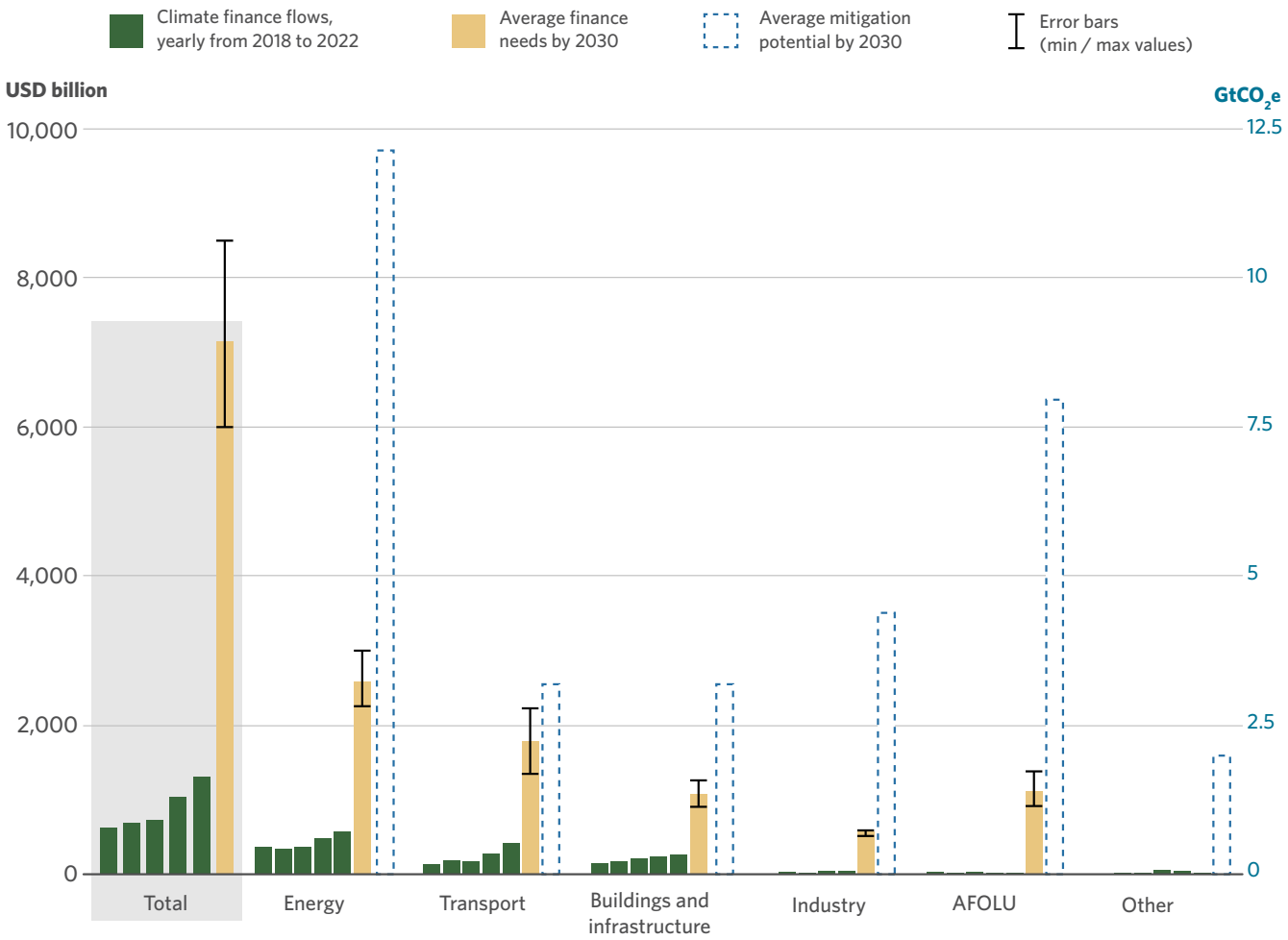
Sharp declines in technology costs over the past decade have spurred finance in clean energy as technologies have become commercially viable. Energy sector investment (excluding power grids) for climate mitigation reached USD 557 billion in 2022, compared to USD 356

billion in 2018. Increased investment in renewables and mass electrification technologies such as heat pumps, electric vehicles, and mass transit systems is likely to continue, leading to exponential growth in these systems (RMI, 2024). Cost reductions were driven by technological developments that have improved the efficiency of materials and manufacturing processes, leading to economies of scale and enabling a continued decline in battery storage costs between 2018 and 2022 (IRENA, 2024d).

Low-carbon transport finance represented 25% of total climate mitigation flows between 2018 and 2022. Such investment went to the development of infrastructure for mass transit and the deployment of zero- and low-emission vehicles. The clean transport sector saw marked growth between 2020 and 2022, with a CAGR of close to 60% compared to just 18% between 2018 and 2020. Buildings and infrastructure also saw strong growth, representing 22% of total climate mitigation flows from 2018 to 2022.

While global investments in RE, transport, and the buildings and infrastructure sector have increased, these flows were concentrated in advanced economies and China. These sectors now need to prosper and scale in other EMDEs (see Section 3).

Figure 2.2: Energy, industry, AFOLU and waste sectors have high mitigation potential but are starkly underfunded



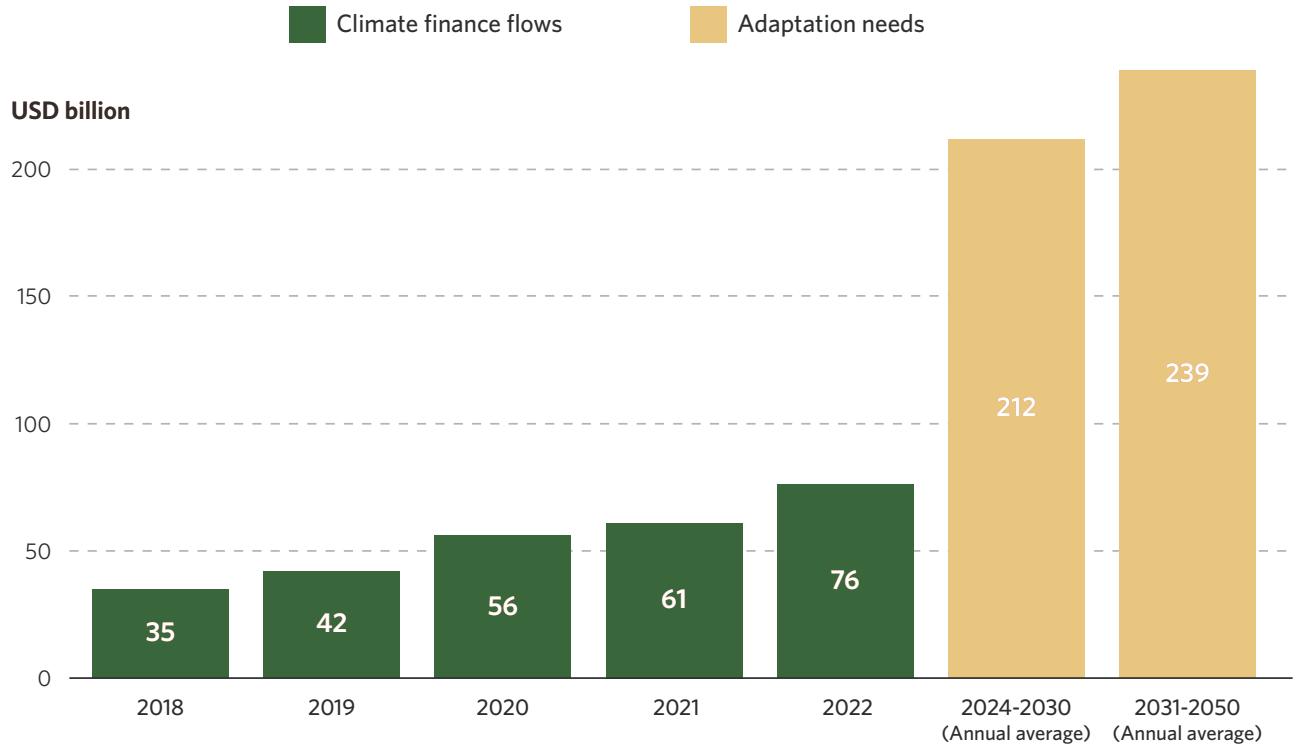
Note: *Historical finance flows (2018-2022) are expressed in nominal USD. Climate finance needs for 2023-2030 are expressed in constant 2022 USD. Average mitigation potential is sourced from UNEP (2024). Emissions Gap Report. This applies to similar analyses hereafter.*

Growth of climate mitigation investment has been slower in other sectors, such as AFOLU, industry, waste and wastewater. Although these areas have large mitigation potential, investment levels between 2018 and 2022 have remained low. Climate finance for AFOLU, for example, must increase 35-fold compared to current tracked flows to reach the levels required for the transition to low-carbon and climate-resilient pathways (CPI, forthcoming). AFOLU and water and wastewater—which can have a high impact in tackling non-CO2-related super pollutants such as methane or nitrous oxide[10]—received 3% of total mitigation finance collectively between 2018-2022. Strong enabling environments, investment in research and development, concessional finance for project preparation, and domestic policy contexts must be improved to facilitate mitigation flows to these sectors.

Industry accounts for almost 30% of global CO2 emissions (WEF, 2023a) but flows to transition this sector to low-carbon technologies only represented 1.4% of total mitigation finance from 2018 to 2022. An OECD report (2024a) found that public bilateral and multilateral assistance targeting industry decarbonization was less than 1% of the total mitigation-related development finance across all sectors in the last two decades.

2.2.2 TRENDS IN ADAPTATION FINANCE: 2018-2022

Figure 2.3: Global adaptation finance flows vs. needs



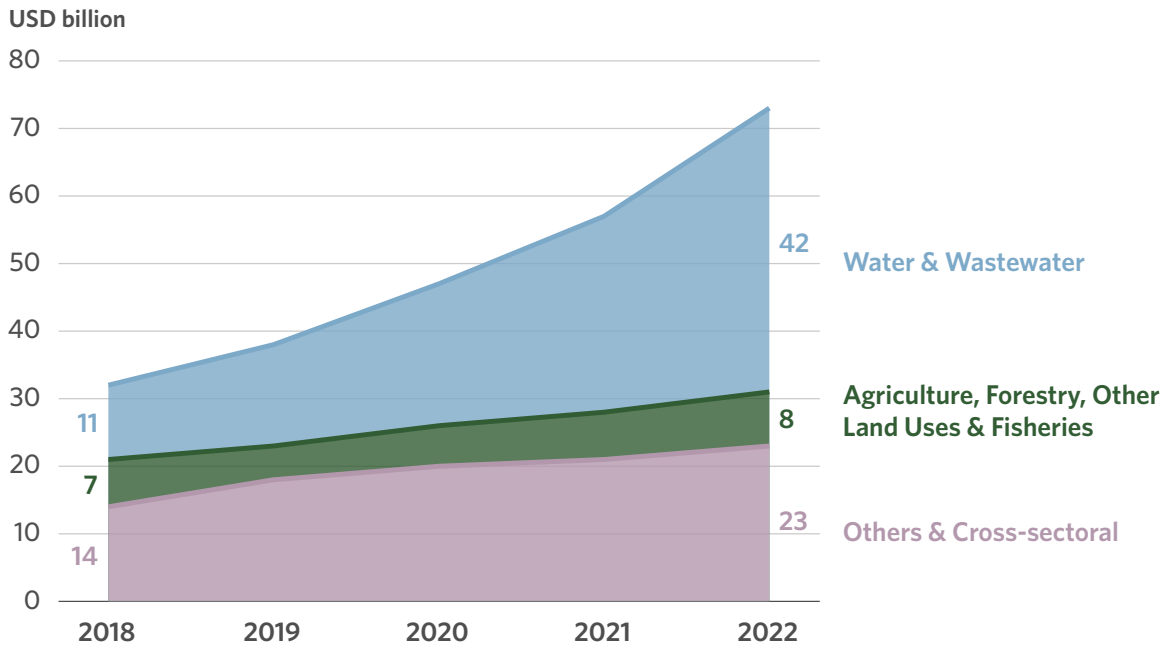
Note: *Measuring the adaptation gap is challenging both conceptually and quantitatively. These figures are likely underestimates as they only account for EMDEs' needs, and many adaptation investment needs cannot be accurately measured. From 2018 to 2022, EMDEs accounted for 92% of adaptation finance.*

10 Super pollutants refer to climate pollutants that have a short life in the atmosphere but have significant global warming potential.

Adaptation finance more than doubled between 2018 and 2022. However, flows continue to fall short of estimated needs. Adaptation finance grew from USD 35 billion in 2018 to USD 76 billion by 2022,[11] with a CAGR of 21%. This compares to a CAGR of 20% for mitigation over the same period. The increase in adaptation finance has been from a low base and adaptation needs remain many times greater than current flows. Indeed, estimated needs for EMDEs alone are USD 212 billion per year from 2024 to 2030, and USD 239 billion every year from 2031 to 2050. Even these figures may be a significant underestimate due to uncertain future climate impacts and the spiraling cost of inaction (CPI, 2024a), meaning that the global adaptation finance gap is likely to be even wider than that shown in Figure 2.3.

Data limitations prevent comprehensive tracking of domestic adaptation finance. There is evidence that domestic governments fund adaptation through public budgets, but the bulk of this cannot yet be tracked due to limited climate budget tagging, globally. Between 2018 and 2022, CPI tracked only USD 4.1 billion in adaptation finance from domestic governments, which is a limited snapshot of a wider pool of funding. The Global Centre on Adaptation has found that domestic budgets are already the largest source of funds for adaptation in many developing countries despite the wider attention given to international flows (GCA, 2019). However, the global track record of Climate Public Expenditure and Institutional Reviews (CPEIRs) is inconsistent, and public financial management systems often do not integrate climate tagging. Fully institutionalizing such tagging is a key step to measure and, in turn, better manage progress on countries' climate targets relative to their climate finance needs.

Figure 2.4: Adaptation finance by key sectors



11 From 2018 to 2022, adaptation finance was distributed among the country-development groupings as follows: Advanced economies (7%); China (35%); EMDEs ex. LDCs and China (37%); LDCs (19%); Transregional (1%).

Between 2018 and 2022, adaptation finance largely went to the water and wastewater sector as well as to other and cross-sectoral uses. Finance to adaptation-related water and wastewater projects grew most dramatically, with a CAGR of 39% from 2018 to 2022, receiving 44% of all adaptation finance between 2018 and 2022. These investments aim to reduce water stress induced by climate change via both water supply and wastewater treatment projects. Other and cross-sectoral projects—including policy support, capacity building, and disaster-risk management—also featured heavily in the adaptation landscape (36%). Despite promising progress in a handful of sectors, finance has plateaued in many others that are adaptation-critical. For example, growth in adaptation finance for AFOLU has flattened across the period despite the sector facing significant climate risks.

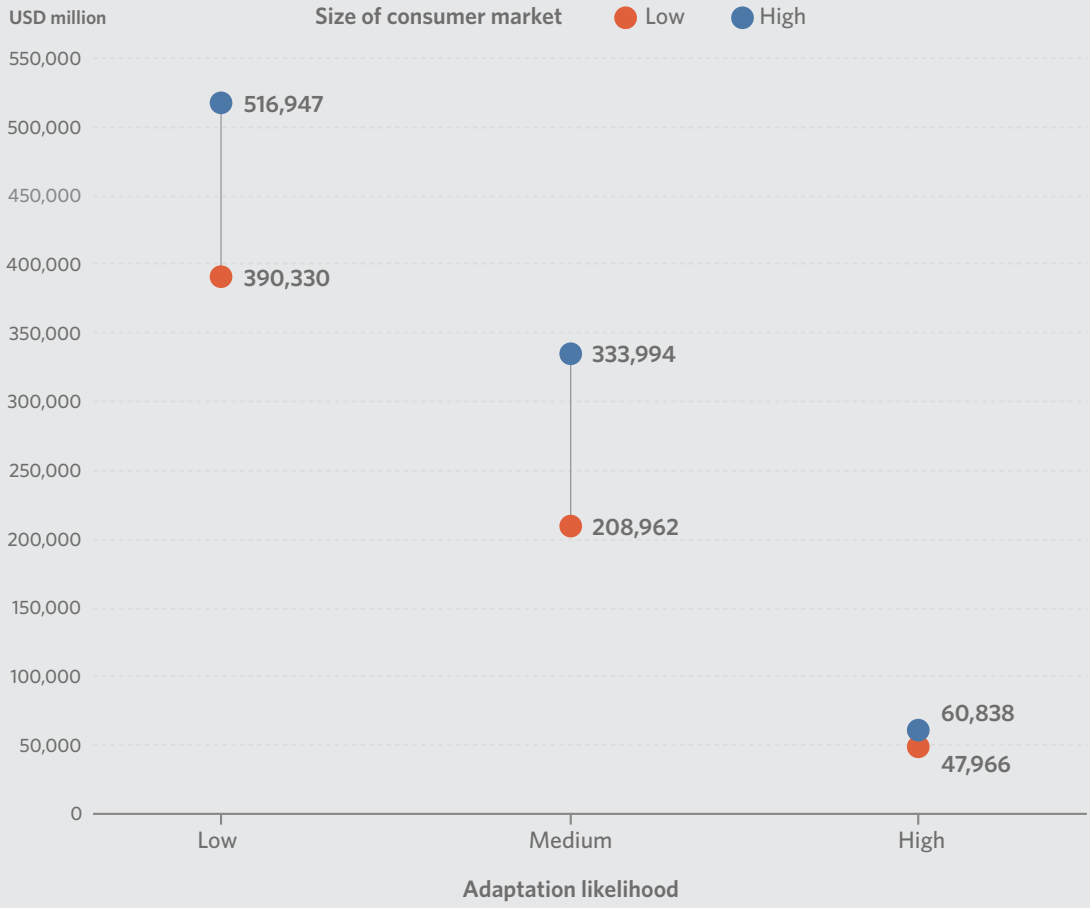
BOX 1: IMPROVING PRIVATE ADAPTATION FINANCE TRACKING

Private actors play an increasingly important role in delivering goods and services for adaptation and resilience, as well as in climate-proofing supply chains. However, limited data on private adaptation finance has, to date, obscured any progress on addressing climate vulnerabilities. To bridge the persistent gap in the collective understanding of private sector financing for adaptation, CPI has established a taxonomy of adaptation activities to track private-sector flows (CPI, 2024c). This taxonomy and associated data processing modestly expanded tracked private adaptation-relevant project-level flows (between 2019 and 2022) from asset managers, commercial FIs and corporations by an annual average of USD 4.7 billion (CPI, 2024c).

Under the revised approach, tracked adaptation finance from the private sector can also be disaggregated by the likelihood of adaptation relevance for the first time. The concept of adaptation likelihood aims to assess how likely an activity financed is to meet a set definition of adaptation independent of any knowledge of local climate hazards (CPI, 2024c). Of the USD 4.7 billion in adaptation-relevant project finance tracked annually, we find that 5% has a high likelihood of being adaptation-relevant, 79% has a medium likelihood, and 16% has a low likelihood. All likelihood levels are tracked as adaptation in this report's analysis because this methodology has only been applied to private adaptation finance to date. Excluding a subset of private adaptation flows based on this taxonomy would, therefore, impose a stringency on that finance that is not applied to the public sector.

Beyond tracking new private sector project finance for adaptation, this research illuminates the role of venture capital (VC) and households/individuals in adaptation flows. These figures are not incorporated in this report's aggregate tracking due to incompleteness of the data, but may be included in future as data quality improves (see Annex 1 for details). From 2019 to 2022, we tracked an annual average of at least USD 6.3 billion in VC funds going to adaptation-related companies, 83% of which were in the AFOLU sector. Assessing 113 household products, annual financing for products with high adaptive likelihood is estimated to have been between USD 48 billion and USD 61 billion (Figure 2.5). Most of this expenditure went to flood management infrastructure, air conditioning systems, and other structures to protect against acute disasters, such as resilient cladding structures that protect against fire (CPI, 2024c).

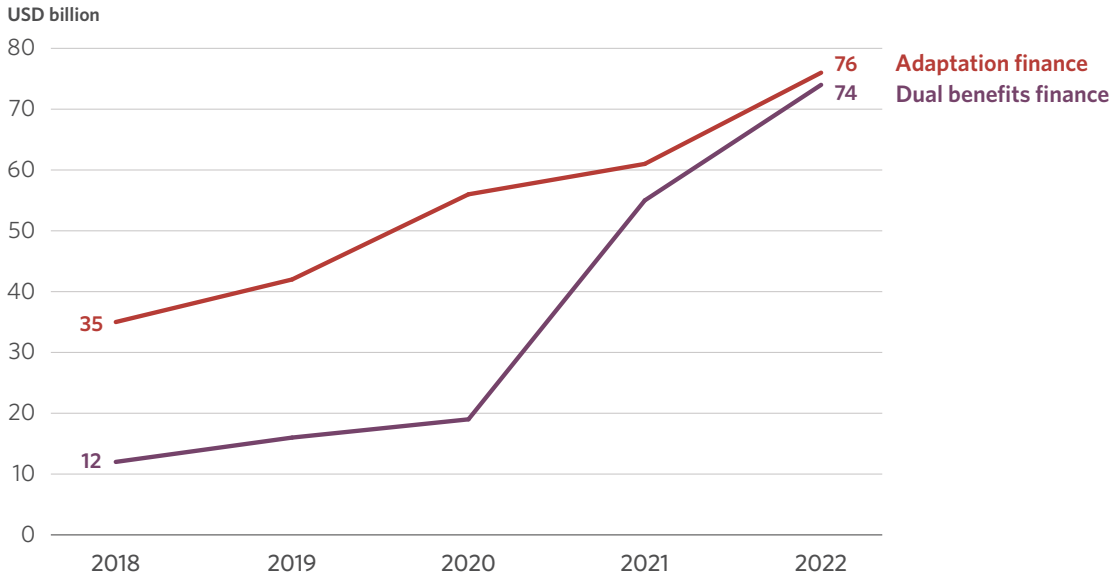
Figure 2.5: Estimated annual finance from households/individuals by adaptation likelihood



Another key development adjacent to adaptation finance is the emergence of the Fund for Responding to Loss and Damage. The Fund is expected to respond to the fallout—both economic and otherwise—associated with chronic or acute climate events among the most vulnerable communities on the frontline of the climate crisis. Key issues to be determined prior to this fund's operationalization in 2025 include ensuring local access to finance, as well as determining viable sources or mechanisms for channeling loss and damage finance. In order to track progress in future Landscape reports, there is a need for consensus regarding finance-eligible activities for responding to loss and damage and clarity on how these may be exclusive from, or overlap with, adaptation activities (CPI, 2023).

2.2.3 TRENDS IN DUAL BENEFITS FINANCE: 2018-2022

Figure 2.6: Dual benefits and adaptation finance



Dual benefits finance—delivering both emission reduction and resilience outcomes—has grown substantially faster than both adaptation and mitigation flows, with a concentration in the AFOLU sector. Between 2018 and 2022, dual benefits finance grew at a CAGR of 59%, compared to 20% for mitigation and 21% for adaptation. These investments came primarily from public actors (86% of the dual benefits total), largely using market-rate debt (41%), grants (23%), and concessional project debt (18%). Dual benefits finance can promote the effective use of scarce climate finance by simultaneously reducing emissions (or increasing carbon sequestration) and building adaptive capacity within a single intervention. Climate-smart agriculture is particularly relevant for delivering dual benefits, such as through solar-powered irrigation to alleviate water stress and sustainable resource management programs with afforestation or reforestation components that reduce wildfire risk. Due to limited information, data, and reporting capacity on dual benefits, current tracking likely only captures a snapshot of the full bucket of such financing.

Nature-based solutions (NBS) represent an emerging area of finance with the potential to provide up to a third of climate mitigation needs by 2030 (UNEP, 2023). NBS can support both mitigation and adaptation while delivering socioeconomic benefits aligned with the Sustainable Development Goals (CPI, 2024d). However, global annual investment in NBS was estimated to be only USD 200 billion in 2022, with over 80% from public sources (UNEP, 2023). To realize the significant potential of NBS, holistic financial and technical support must be offered for early-stage initiatives, as well as at the project and financial instrument level (CPI, 2024d).

3. INSIGHTS ON ECONOMIC GROUPINGS

While no region is on track to meet its low-carbon and climate-resilient investment needs, the challenges vary across economies, requiring different solutions to close the gap. This section outlines key climate finance trends from 2018 to 2022 among two distinct groups of economies: a) emerging markets and developing economies (EMDEs) and b) advanced economies, following classification by the IMF World Economic Outlook (IMF, 2023).

Tracked climate finance for EMDEs is heavily influenced by the dominance of larger countries within this group. China, for example, accounted for 65% of all climate finance for EMDEs between 2018 and 2022, with this figure reaching 72% in 2022 due to the country's higher-than-average growth rate (CAGR of 36%). In contrast, the 45 poorest EMDEs—categorized by the UN as LDCs—received only 5% of EMDE climate finance over the period.[12] In order to understand the nuances and trends of climate finance in these country groupings, we have divided our analysis of EMDEs into "LDCs" and "EMDEs (ex. LDCs)"—that is, EMDEs excluding the LDC group. This reflects both the economic trends and investment patterns of the country groups but also their emissions profiles. EMDEs (ex. LDCs) were responsible for 67% of global CO2 emissions in 2022, while LDCs produced just 1.1% (Global Carbon Budget, 2023). Furthermore, LDCs are also the most climate-vulnerable of the EMDEs, requiring specific adaptation support. We also disaggregate data on Small Island Developing States (SIDS)—which sit across EMDEs and advanced economies—due to their geographical vulnerabilities to climate change impacts. Trends in South-South climate finance are also explored based on available information.

Table 3.1: Overview of select climate and socioeconomic indicators of country groups as of 2022

Grouping	Share of the global total			Electricity			Climate vulnerability
	Climate Finance**	Population	CO2 emissions***	GDP	Share of renewables (generation capacity)	Population with access	Number of countries within the 25 most vulnerable (ND-GAIN)
EMDEs	**59%**	**87%**	**68%**	**42%**	**39%**	**90%**	**25**
EMDEs (ex. LDCs and China)	14%	55%	36%	23%	33%	95%	5
China	42%	18%	31%	18%	45%	100%	0
LDCs	2.7%	14%	1.1%	1.4%	49%	57%	20
SIDS*	**0.5%**	**0.8%**	**0.4%**	**0.4%**	**19%**	**75%**	**9**
Advanced Economies	**40%**	**13%**	**29%**	**58%**	**42%**	**100%**	**0**
US & Canada	10%	4.7%	15%	28%	34%	100%	0
W. Europe	25%	5.6%	7.0%	20%	58%	100%	0
Others	5.2%	3.2%	7.0%	10%	31%	100%	0

Source: *(World Bank, 2024a; IMF, 2024b; Global Carbon Budget, 2023; World Bank, 2024b ND-GAIN, 2024)*

** Data for SIDS is also included in our analysis of climate finance for advanced economies and EMDEs.*

*** Climate finance percentages do not sum to 100% due to transregional flows, which were around USD 3.2 billion in 2022.*

**** CO2 emissions percentages do not sum to 100% due to transregional emissions including international aviation and maritime transport.*

12 Economic classifications are based on the IMF World Economic Outlook Database, see IMF 2023a. The list of least developed countries align with those designated as such by the UN. See: https://unctad.org/topic/least-developed-countries/list

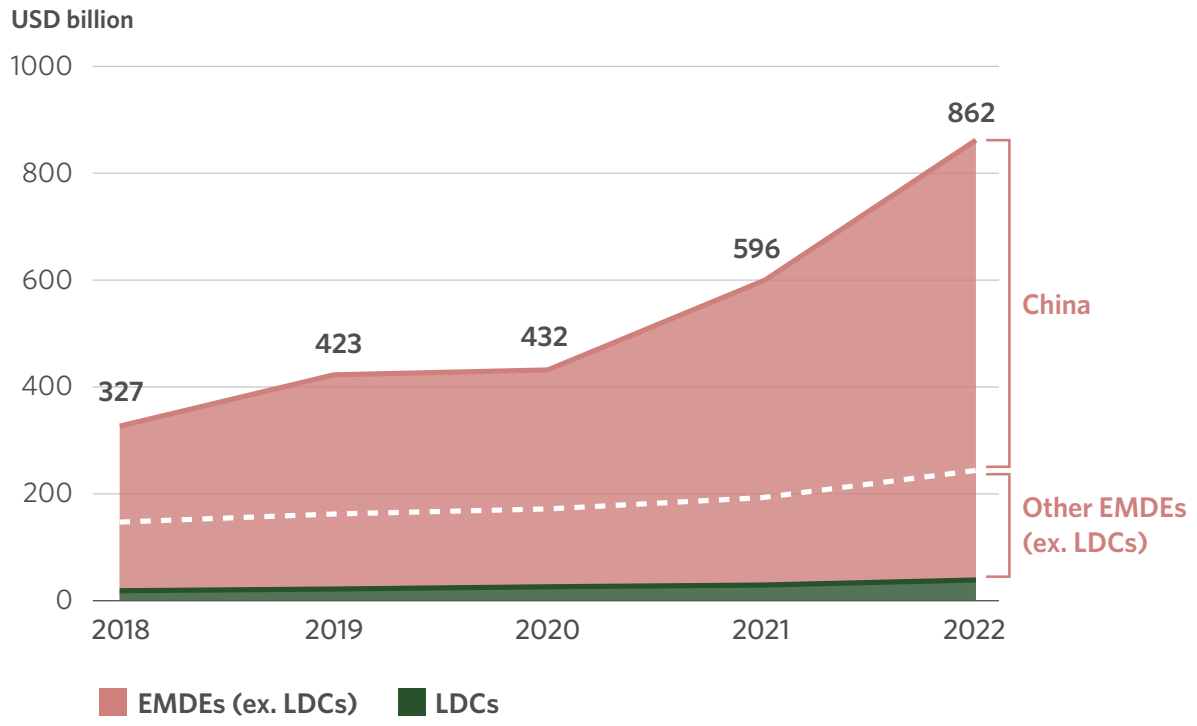
3.1 EMERGING MARKETS AND DEVELOPING ECONOMIES

As of October 2024, 163 countries are classified as EMDEs (IMF, 2023). This highly diverse group ranges from larger emerging economies that contribute significantly to global GDP growth to smaller and poorer LDCs. Many EMDEs have recently experienced rapid economic growth, leading to both significant improvements in living standards and increased emissions. The emissions of EMDEs are expected to double from 2021 levels by 2050 unless their energy requirements can be met through renewable sources (Bhattacharya et al., 2022).

EMDEs face the challenge of driving economic development while decoupling growth from emissions, all with considerably fewer financial resources than advanced economies. Amid the constraints of scarce public resources, high costs of capital, debt insecurity, and increasing damages related to extreme weather events, finance for climate action remains elusive yet essential to achieving both sustainable development and climate goals.

Between 2018 and 2022, climate finance to EMDEs increased from USD 327 billion to USD 862 billion, at a CAGR of 27%. This growth was highly variable across years, growing only 2% between 2019 and 2020, and by 45% between 2021 and 2022. Excluding China, total climate finance in EMDEs has grown from USD 147 billion to USD 244 billion. Despite these advancements, volumes of climate finance are still well below the needs of EMDEs (ex. China), which are estimated at over USD 2 trillion per year (IHLEG, 2022).

Figure 3.1: Climate finance trends to EMDEs



3.2 EMDES (EX. LDCS)

3.2.1 REGIONAL OVERVIEW: 2018-2022

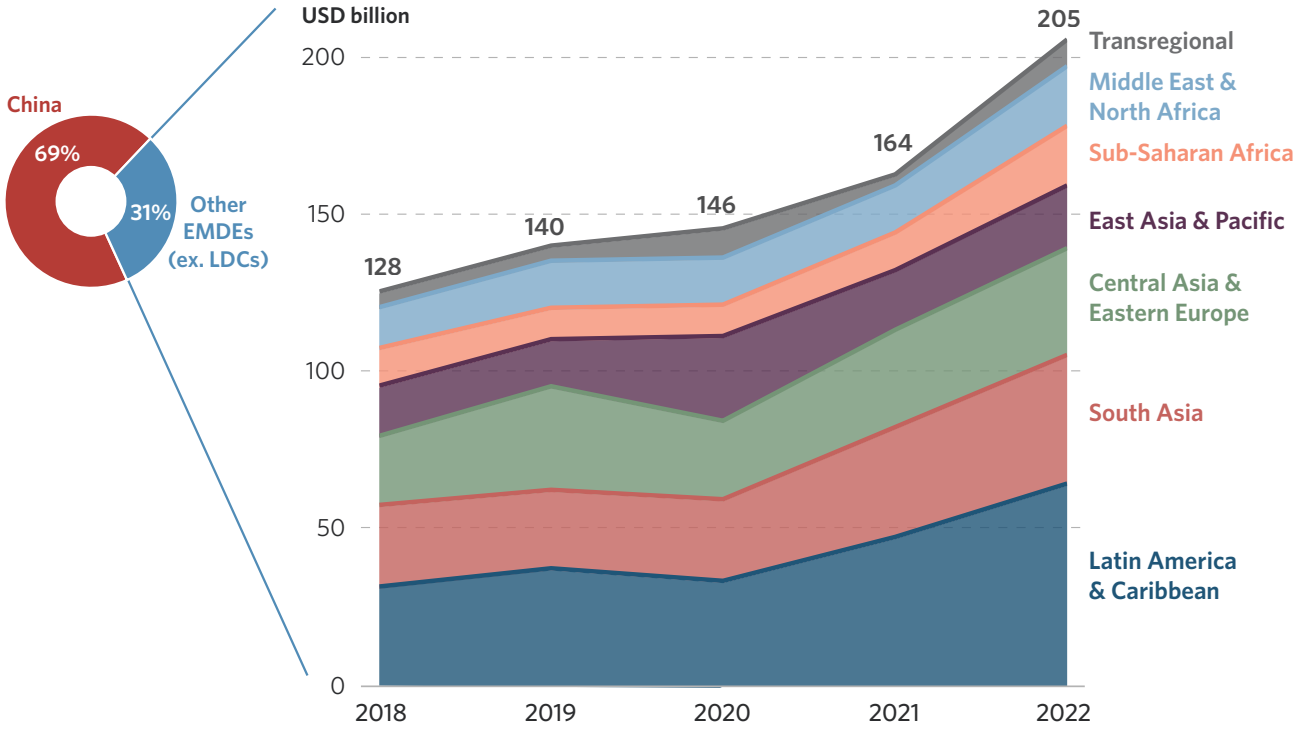
Climate finance to EMDEs (ex. LDCs) increased from USD 308 billion in 2018 to USD 823 billion in 2022, reflecting a CAGR of 28%. China alone accounted for 69% of all climate finance to EMDEs (ex. LDCs) during this period, with a CAGR of 36% sharply contrasting with the 12% CAGR of the rest of the EMDEs (ex. LDCs). This dominance of China can be attributed to the country's leadership in clean technology manufacturing, driven by long-term industrial policies, government support, integrated supply chains, and economies of scale (Bian et al., 2024). Over the period, China's share of global climate finance rose from 27% in 2018 to 42% in 2022. Excluding China, climate finance in the rest of the EMDEs (ex. LDCs) grew more modestly, from USD 128 billion to USD 205 billion. This growth rate of 12% is significantly lower than that of LDCs (20%) (see Figure 2.1).

Climate finance growth slowed in many of the EMDEs (ex. LDCs) between 2018-2020 amid worsened borrowing conditions, pandemic-constrained public budgets, and interruptions to operations and projects (IMF, 2022a). EMDEs (ex. LDCs) in sub-Saharan Africa and LAC were hit particularly hard, with their climate finance in 2020 falling below 2018 levels. In India, climate finance in 2020 was 9% down on 2018 levels. China saw climate finance grow between 2018 and 2019, but in 2020 experienced a slight decline compared to 2019. Despite this dip, China's growth from 2018 to 2019 helped East Asia and the Pacific stand out as the only region to experience significant growth during this period, from USD 194 billion in 2018 to USD 287 billion in 2020. Another driver of this growth was Vietnam, which saw a solar boom in 2020 (see Annex 2: Country spotlights).

Between 2020 and 2022, a more favorable economic climate and strong performances in a handful of countries led to a significant increase in climate finance to EMDEs (ex. LDCs), with a CAGR of 42%. China was the main driver, with a 54% growth rate that was largely fueled by increased investment in energy systems and the transport sector. Without China, the growth rate was 19%—considerably lower but still an improvement on pre-pandemic levels. Over this period, climate finance to EMDEs (ex. LDCs) in sub-Saharan Africa increases from USD 10 billion to USD 19 billion. For example, solar investments in South Africa grew from USD 0.3 billion to USD 2 billion due to new public procurement programs and private off-taker agreements, along with the removal of the licensing threshold for new generation capacity and changes to electricity sector regulation (PCC and CPI, 2023). In South Asia, climate finance grew from USD 26 billion to USD 41 billion. In Pakistan, climate finance doubled between 2020 and 2022, driven by generous solar energy 'buy back' policies in 2022 (IEEFA, 2024). This increased Pakistan's climate finance to 31% of the region's total in 2022, second only to India (68%).

There are also large year-on-year fluctuations among countries and regions. This regional and country variation highlights the dominance of country-specific risks in determining climate finance allocation, responsible for 60% to 90% of investment flow determinants in EMDEs (IEA and IFC, 2023).

Figure 3.2. Climate finance growth in EMDEs (ex. LDCs and China)



3.2.2 MITIGATION FLOWS: 2018-2022

Mitigation finance dominated climate finance to EMDEs (ex. LDCs) (89%), with the bulk going to energy systems (55%). As a result, growth in electricity generation capacity from renewable sources outpaced fossil fuels across EMDEs (ex. LDCs). In China, the share of installed electricity capacity from renewable sources increased impressively from 24% in 2010 to 45% in 2022 (IRENA, 2024a). In EMDEs (ex. LDCs and China), this increase was more modest, rising from 26% in 2010 to 33% in 2022 (IRENA, 2024a). One of the EMDEs with the largest share of renewables was Brazil, where 84% of electricity capacity came from renewable sources in 2022 (IRENA, 2024b) (see Annex 2: Country spotlights). Increases in private funding to energy systems contributed to the private sector supplying over 50% of mitigation finance over 2018-2022 in EMDEs (ex. LDCs) in several regions, including LAC, South Asia, Central Asia and Eastern Europe, and MENA.

Transport was the second-largest mitigation sector, receiving 31% of mitigation funding. Outside of China, clean transport finance largely came from public sources (85%), which peaked at 96% in 2020. Significant public-sector-driven infrastructure investments include the USD 0.7 billion committed to the Cameroon-Chad transport corridor and the USD 1.7 billion package for Egypt's Alexandria-Abu Qir metro line, both of which started in 2022 (World Bank, 2024; EBRD, 2022). Most transport funding to EMDEs (ex. LDCs and China) originated from international public sources, with multilateral development finance institutes (DFIs) contributing 42% and bilateral DFIs providing 28% of total transport finance in 2022. In contrast, China's transport sector received only 45% of its funding from the public sector in 2022, largely due to the

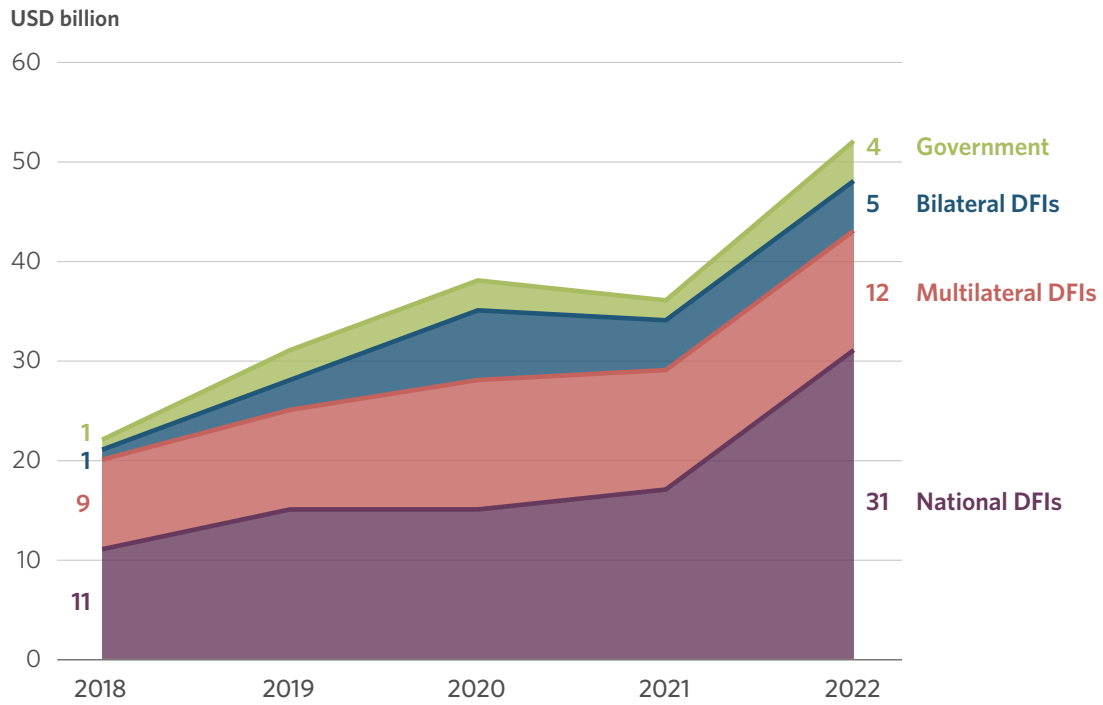
dominance of BEV finance, which accounted for 63% of China's transport funding that year. 88% of China's BEV funding came from private sources, primarily households/individuals.

The buildings and infrastructure sector accounted for 7% of total mitigation finance and, unlike the transport sector, was increasingly dominated by private investment. Between 2018 and 2022, 54% of the sector's financing (excluding in China) came from private sources. Funding for projects financed solely by the private sector had grown to 43% of the sector's funding by 2022, while funding for fully public projects fell from 98% of the sectors total finance in 2018 to 35% in 2022, signaling the sector's growing maturity. This rise in private investment can be attributed to several factors: commercial FIs providing more market-rate debt to projects, corporations increasing both project-level equity and market-rate debt, and households/individuals using equity-based balance sheet financing. Countries such as Poland, Turkey, and India saw the largest increases in private financing in this sector.

3.2.3 ADAPTATION FLOWS: 2018-2022

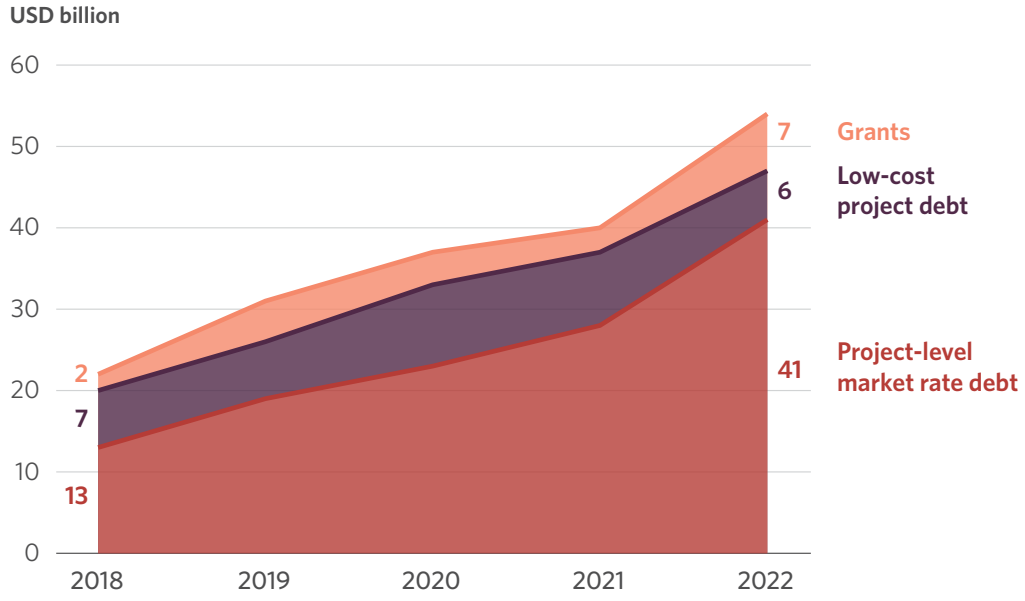
Between 2018-2022, USD 196 billion of climate finance went to EMDEs (ex. LDCs) adaptation efforts, with the largest sectors being water and wastewater management (51%), cross-sectoral projects (33%), and AFOLU (9%). When excluding China, adaptation finance grew at a faster rate than for mitigation (CAGR of 23% vs. 8%), driven by investment in disaster response and policy support. China also saw large and growing domestic investments in adaptation finance between 2018 and 2022, though this growth was slower than the country's mitigation finance. EMDEs (ex. LDCs) accounted for 73% of total global adaptation flows tracked between 2018 and 2022, with roughly half of this finance going to China and the remainder split between the other EMDEs (ex. LDCs).

Figure 3.3: EMDEs' (ex. LDCs) adaptation finance by key sources



Over 90% of adaptation finance in EMDEs (ex. LDCs) was provided by public actors; in China, these were domestic sources (national DFIs), while in EMDEs (ex. LDCs and China), these were international public actors (multilateral DFIs provided 58%, bilateral DFIs 23%, governments 14%). While international adaptation finance in EMDEs (ex. LDCs) dropped temporarily between 2020 and 2021—likely due to shifting funding priorities during the pandemic—governments and multilateral DFIs' adaptation investments have since recovered. Nonetheless, a recent stocktake of public FIs' adaptation finance found that their commitments are generally insufficient, opaque, and lack clear delivery timelines, with a need for more actionable and binding commitments (GCA & CPI, 2023). As the main objective of adaptation objectives—building resilience to climate shocks—often aligns with, or is inextricably linked to, broader development objectives (OECD, 2023), there is scope to better integrate both into DFIs' projects and programs.

Figure 3.4: EMDEs' (ex. LDCs) adaptation finance by key instruments



It is also concerning to note the high percentage of adaptation finance in EMDEs (ex. LDCs) channeled as debt between 2018-2022 (84%). Excluding China, where project-level debt accounted for 97% of all adaptation finance, 55% of adaptation finance to EMDEs (ex. LDCs) was lent on concessional (low-cost) terms. The debt-dominated adaptation landscape is a challenge for EMDEs (ex. LDCs) that are already exhibiting debt distress (World Bank, 2024c), raising concerns for sustainability over the long term. Adaptation grants—which grew at a CAGR of 36% for EMDEs (ex. LDCs)—are also a vital means of catalyzing investments in resilience since some adaptation benefits are not easily monetizable, creating challenges for capital recycling (CPI, 2022). Many adaptation technologies are relatively nascent and would benefit from risk-tolerant capital to scale. Multilateral and bilateral DFIs and governments should explore more innovative financing instruments and structures that can alleviate, or at least not worsen, debt distress while building resilience and adaptive capacity in vulnerable EMDEs. For example, in the appropriate circumstances and subject to high-level buy-in, debt-for-climate swaps offer an opportunity for creating climate action by freeing up financial resources through debt forgiveness. Relatedly, the IMF's Resilience and Sustainability Facility provides

affordable longer-term finance for building resilience to external shocks and supporting relevant government policy reforms (WEF, 2023b).

3.2.4 DUAL BENEFITS FLOWS: 2018-2022

Dual benefits finance, which aims to reduce emissions while building adaptive capacity, received 3% of EMDE (ex. LDCs) finance but grew fastest, with a 52% CAGR, largely driven by multilateral DFIs. A notable example of multiple objective climate finance in 2022 was the Shuaibah 3 IWP project in Saudi Arabia, which converted a thermal desalination plant to a RE-powered facility predominantly funded by domestic and international commercial FIs (PFI, 2022).

BOX 2: FOSSIL FUEL SUBSIDIES IN EMDES (EX. LDCS)

In response to fuel price spikes in 2021, many governments resorted to subsidizing fossil fuels to maintain affordable energy for their citizens. **Consequently, consumer fossil fuel subsidies in EMDEs (ex. LDCs) skyrocketed by fivefold between 2020 and 2022 to over USD 1.1 trillion (IISD and OECD, 2023).** In some countries, this increase was even more extreme. In Nigeria, for example, the costs of gasoline subsidies were ten times higher than initially budgeted and accounted for 23% of the total government expenditure in 2022 (ODI, 2022).

While many EMDEs (ex. LDCs) responded to this financial strain by increasing efforts to diversify away from fossil fuels—demonstrated by the increasing composition of renewables in the energy mix—immediate pressures also led governments to double down on fossil fuels to stabilize energy supplies. In Indonesia, for example, fossil fuel investments averaged an estimated USD 3.7 billion to USD 6.5 billion annually,[13] primarily funded by cross-border private investments (CPI, 2024e). In contrast, the country's average annual investment in RE was only USD 2.2 billion, despite around USD 9.1 billion being needed per year to meet investment targets (CPI, 2024e).

3.2.5 DOMESTIC AND INTERNATIONAL FLOWS: 2018-2022

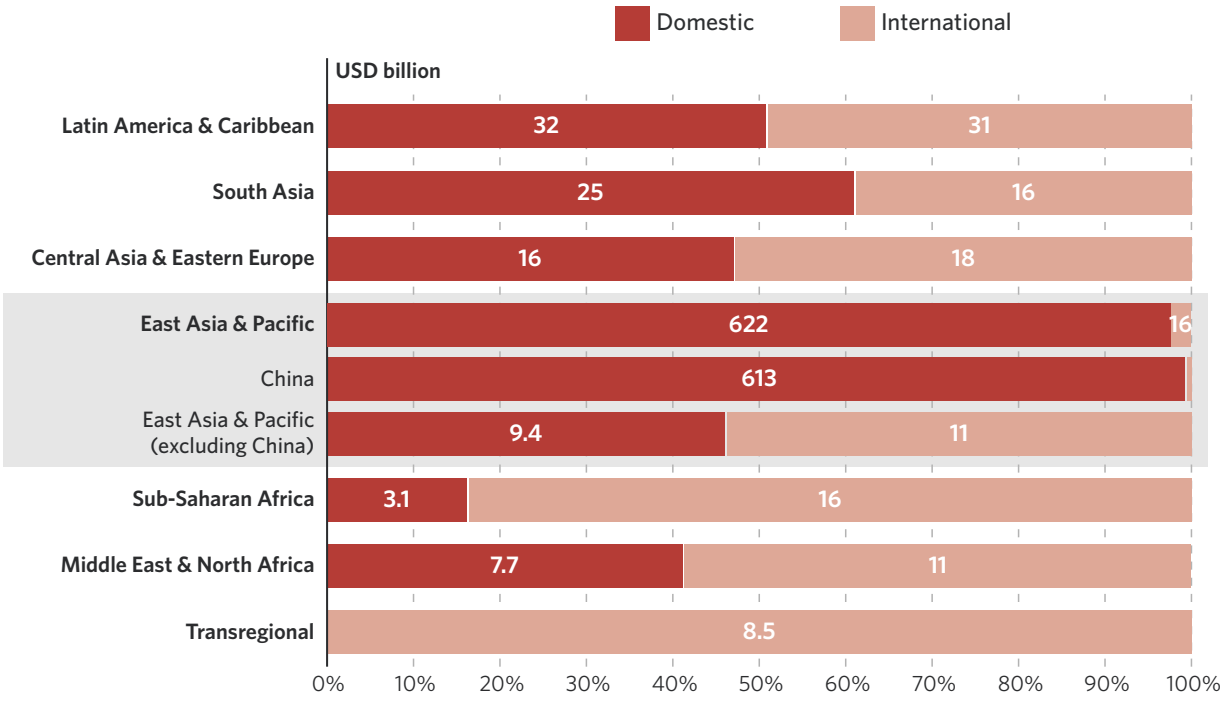
Aside from China, where 98% of climate finance flows domestically, many EMDEs (ex. LDCs) struggle to mobilize domestic climate finance due to constrained financial resources. However, **a number of these countries made significant progress in overcoming this challenge between 2018 to 2022.** In LAC, domestic finance increased from USD 13 billion in 2018 to USD 32 billion in 2022, accounting for 51% of climate finance in the region that year. Brazil led the region, with domestic finance almost tripling between 2018 and 2022 due to a surge in solar investment (see Annex 2: Country spotlights). South Asia's domestic climate finance followed the same trend, increasing from USD 12 billion in 2018 to USD 25 billion in 2022, so that by 2022 it accounted for 60% of all climate finance to the region. EMDEs (ex. LDCs) in East Asia and Pacific (excluding China) saw domestic climate finance grow from USD 6 billion in 2018, to USD 9 billion in 2022

13 CPI tracked USD 3.7 billion in fossil fuels, but assumes an additional USD 2.8 billion in unreported investments in captive coal plants.

(47% of the total in 2022), with the Philippines and Indonesia leading the increase. Sub-Saharan Africa had the lowest share of domestic climate finance at 16% in 2022.

The domestic private sector—especially corporations and household—have been increasingly financing wind and solar through debt and equity instruments, as countries set up investment incentives for these projects to solve for their high initial capital costs and the costs of renewable technology continues to decrease (see Annex 2: Country spotlights). In many countries, this has positively impacted the risk profile of RE projects. In India, for example, over 90% of solar projects achieved investment-grade ratings by 2020, a significant improvement from 2012, when all solar projects were rated as non-investment-grade (CEEW and CEF, 2021). By building strong domestic networks, EMDEs (ex. LDCs) are nurturing local sustainable industries and creating new spaces for small and medium businesses to participate in the green economy. The Independent High-Level Expert Group on Climate Finance report (2022) suggests that around half of climate finance required by emerging markets could be sourced locally, by strengthening public financial policies, institutions and domestic capital markets. Domestic finance is also beneficial as it is provided in local currency. Servicing debt in foreign currencies can be challenging due to high exposure to exchange rate fluctuations, making local currency financing a more stable option.

Figure 3.5: Domestic and international climate finance in EMDEs (ex. LDCs) by regions in 2022



International actors are continuing to provide more stable support to EMDEs (ex. LDCs) in which domestic finance remains limited and private finance is risk sensitive. About 84% of climate finance in EMDEs (ex. LDCs) in sub-Saharan Africa came from international sources in 2022, up from 54% in 2018. In 2022 alone, multilateral DFIs provided 26% of all climate finance to the region and bilateral DFIs provided 22%. In the MENA region, multilateral and bilateral DFIs consistently supplied over 50% of climate finance to the EMDEs (ex. LDCs) classified by the World Bank as middle and low-income (World Bank, 2024d). Many EMDEs (ex. LDCs) saw

dramatic year-on-year changes to their overall private finance, driven by private actors. These fluctuations reflect how sensitive climate finance in EMDEs (ex. LDCs) is to geopolitical risks, shifting investor priorities, and global interest rates, especially as the recent higher interest rates in advanced economies have diverted capital from EMDEs as investors increasingly favor the more familiar advanced economies to meet their return targets (NGFS, 2023).

Despite the positive trend in international support, concessional finance to EMDEs (ex. LDCs) dropped as a share of total international public climate finance from 57% in 2018 to 47% in 2022. While EMDEs (ex. LDCs) do not face as severe debt concerns as many LDCs, those with the weakest credit ratings are also vulnerable to debt traps (World Bank, 2024c). This can lead to the deprioritization of climate action due to a lack of resources. It is crucial for international public actors to increase their share of concessional finance to prevent accentuating these problems.

3.2.6 PUBLIC AND PRIVATE FLOWS: 2018-2022

Between 2018 and 2022, public finance consistently accounted for around 60% of climate finance directed to EMDEs (ex. LDCs), skewed to sectors with minimal profitability for the private sector. For example, 82% of AFOLU support came from the public sector in 2022. Although finance for fully private-funded AFOLU projects rose from 1% in 2018 to 7% in 2022, this was primarily driven by philanthropic giving by foundations and does not necessarily indicate a maturing market. The public-private mix also increased from less than 0.5% of the sector funding in 2018 to 12% in 2022, with 85% of this in China. As discussed in Section 3.2.2, transport is also dominated by public funding outside of China. The challenge of attracting private finance to these sectors is compounded by the fact that investors in EMDEs often face up to double the cost of capital compared to advanced economies, largely due to trade barriers and import dependencies (IPI, 2024).

However, encouraging signs of increased private sector confidence are emerging in areas that have historically been dominated by public finance. From 2018 to 2022, private finance to EMDEs (ex. LDCs and China), rose from 43% to 47% of total finance. While the energy systems sector accounted for 97% of fully private-funded projects in 2018, this share dropped to 82% by 2022, reflecting the commercialization of other sectors. The water and wastewater sector in EMDEs (ex. LDCs and China), for example, saw projects fully financed by the private sector increasing from 4% of the sector financing in 2018 to 36% in 2022. A further 7% came from the public-private mix in 2022. Brazil largely drove the increases in private investment in water and wastewater (see Annex 2: Country spotlights). Buildings and infrastructure also saw increasing private sector funding (as discussed in Section 3.2.2).

While private sector funding in China more than tripled from 2018 to 2022, it grew at a slower rate than public funding. In contrast to the other EMDEs (ex. LDCs), a large portion of China's private funding went to transport, increasing from 33% in 2018 to 58% in 2022.

3.2.7 CONCLUSION

While EMDEs (ex. LDCs) have made progress in mobilizing climate finance, their needs remain significantly unmet. Persistent challenges, such as limited fiscal space, high capital costs, private investor perceptions of mismatched risk and return profiles, and foreign exchange risk, hinder efforts to secure the finance required for the energy transition and to build climate resilience in

these countries. EMDEs in general have also not benefited from growing ESG investment flows to the same extent as advanced economies. This is primarily because EMDE firms typically have lower ESG scores, and ESG-focused funds allocate significantly fewer resources to EMDE assets, often comprising only 6% of their portfolios (IMF, 2022b). More innovative mechanisms are needed, including having risk-tolerant investors such as DFIs and philanthropies take first-loss positions. Almost half of the EMDEs (ex. LDCs) successfully reduced their total emissions in the most recent Nationally Determined Contribution (NDC) iteration (Climate Watch, 2021), sustaining and accelerating this progress in future updates—such as the 2025 NDC cycle—will depend heavily on addressing persistent finance challenges.

3.3 LEAST DEVELOPED COUNTRIES

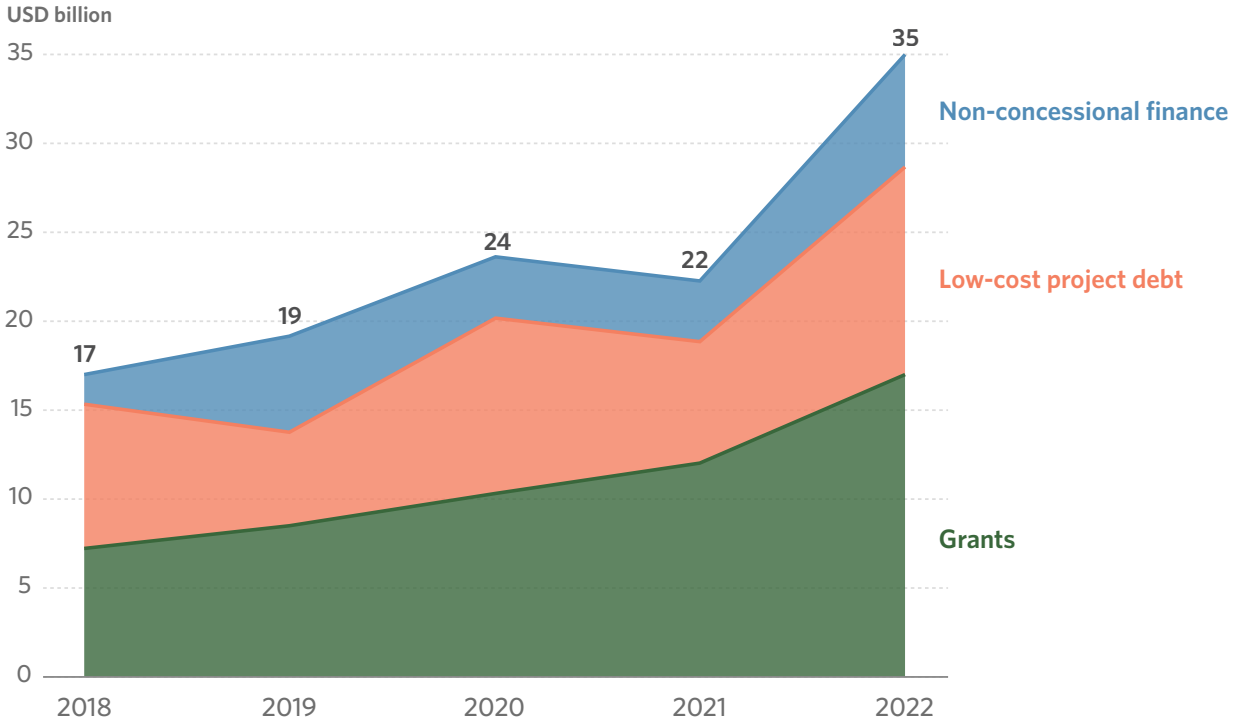
The 45 countries classified as LDCs are acutely vulnerable to climate change due to both geography and the lack of necessary infrastructure. They also face structural barriers, including high debt burdens and stretched public budgets, which impede them from accessing finance to build resilience and ensure sustainable economic development, and contribute to less capacity to adapt to climate change. Across LDCs, only 57% of the population had access to electricity coverage in 2022, making the need for renewable solutions particularly urgent (World Bank, 2024b).

3.3.1 REGIONAL OVERVIEW: 2018-2022

Total climate finance to LDCs reached USD 39 billion in 2022. This marks a significant increase from 2018 levels, where climate finance totaled just USD 19 billion—more than doubling over the five years. This could, in part, be attributed to the push by public actors in developed economies to reach the goal of USD 100 billion for climate action in developing economies, which was finally achieved in 2022, two years later than planned (OECD, 2024b).

While consistently supplying most of the climate finance to LDCs (providing over 89% in both 2018 and 2022), international public financiers have changed their methods of funding delivery over the period. Concessional finance in the form of grants increased from 42% to 49% of total international public finance to LDCs between 2018 and 2022. Although this shift is positive, particularly given the protracted debt crisis in many LDCs, it largely resulted from a decline in low-cost project debt, which fell from 48% to 33% of the total. There was also an increase in non-concessional finance, rising from 10% to 18%, raising concerns about the exacerbation of LDC debt vulnerabilities.

Figure 3.6: Total international public finance to LDCs

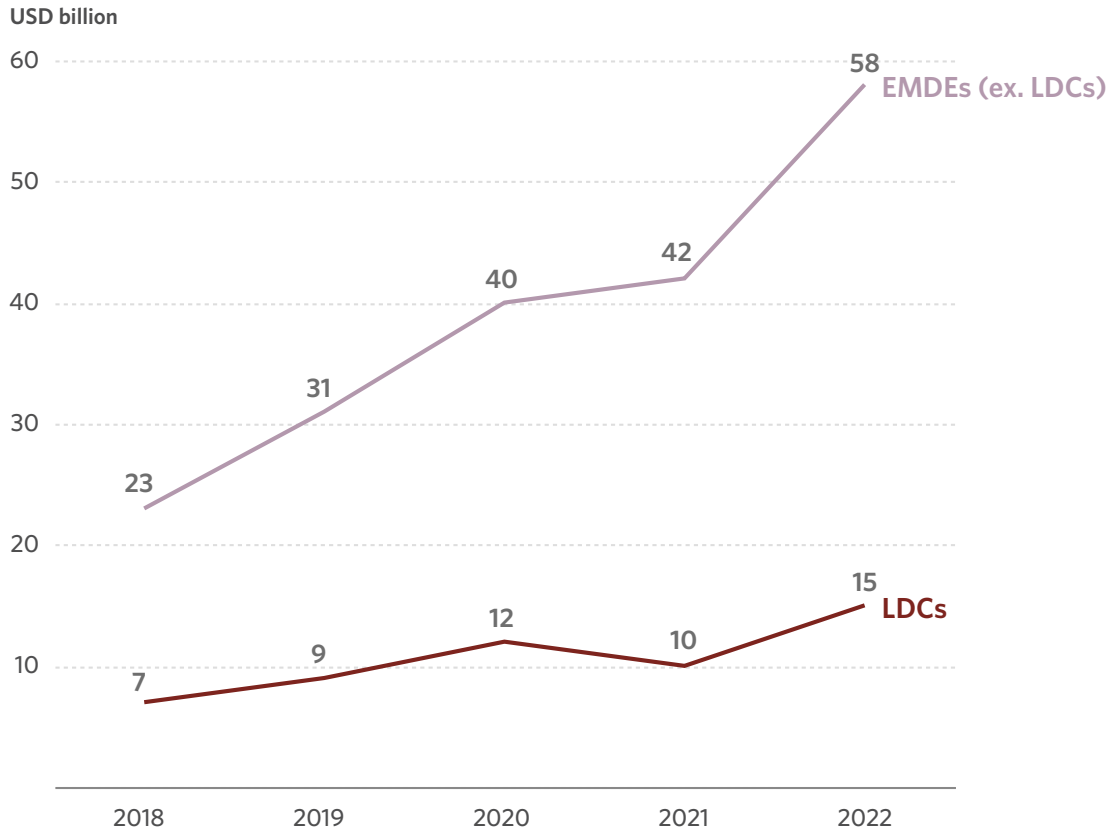


The shift in financing modes was primarily driven by multilateral DFIs, which accounted for 39% of all climate finance to LDCs between 2018 and 2022. These institutions significantly increased their use of grants, from 10% in 2018 to 34% in 2022, while drastically reducing their use of low-cost project debt from 80% to 38%. Non-concessional finance increased from 10% to 27% of their funding to LDCs.

While in absolute amounts, adaptation finance represented the largest share of finance by multilateral DFI to LDCs between 2018 and 2022 at 48%, their funding for dual benefits grew respectively at a 160% CAGR, indicating another shift in the strategy of multilateral DFIs to direct finance toward reducing emissions while simultaneously building adaptive capacity. A sharp increase in adaptation financing by multilateral DFIs in 2020, up 43% from 2019 figures for LDCs, was likely a response to the COVID-19 pandemic, with much of this increase directed to disaster risk management.

There is room to further increase climate finance from international governments and climate funds. Climate finance from multilateral climate funds has decreased as a share of total finance during this period, from 4% for LDCs in 2018 to just 1% in 2022.

Figure 3.7: Adaptation finance in LDCs vs. EMDEs (ex. LDCs)



3.3.2 ADAPTATION, MITIGATION, AND DUAL BENEFITS FLOWS: 2018-2022

Adaptation finance for LDCs more than doubled from USD 7 billion in 2018 to USD 15 billion in 2022, reflecting growing recognition of their urgent need to build climate resilience. Nearly half (47%) of this funding went to cross-sectoral purposes, with significant portions also directed to AFOLU (26%) and water and wastewater (14%). Finance for policy and national budget support and capacity building, straddling both adaptation and mitigation, received USD 20 billion, or 15% of LDCs' total climate finance over the period. This highlights the critical need for LDCs to develop robust governance frameworks and improve governance—factors that are essential for sustainable development and reducing vulnerability to climate impacts.

Adaptation finance also grew faster than mitigation finance, with a CAGR of 21% compared to 10%. Though mitigation activities, largely in energy and transport, still accounted for a higher share of total LDC climate finance (42% vs. 39%), adaptation is gaining momentum. Dual benefits finance also made up 19% of climate finance and saw the fastest growth with a CAGR of 35%, reflecting a shift toward integrated solutions.

3.3.3 PUBLIC AND PRIVATE FLOWS: 2018-2022

Private finance accounted for less than 10% of finance to LDCs for all but one of the years between 2018 and 2022. While barriers to private climate finance in LDCs remain, there are signs of increasing private flows. Institutional investment has risen from USD 57 million in 2018 to USD 880 million in 2022—representing a CAGR of 98%.

Djibouti stands out as an example of how LDCs can attract private finance. Between 2019 and 2020, private finance surged from 1% to 42% of the country's total climate flows, primarily driven by a USD 63 million investment in a 60 MW onshore wind project—Djibouti's first major international energy investment (AFC, 2023). This project is a relevant example for other LDCs in Africa, which represent the majority of LDCs globally and possess vast untapped solar potential. Djibouti's success could serve as a model for how other African LDCs might overcome risk and capacity barriers to unlock significant private investment (IEA, 2022a).

3.3.4 CONCLUSION

While there are positive signs in LDCs, climate finance remains insufficient to address the urgent vulnerabilities these nations face. Adaptation climate finance to LDCs in 2022 constituted less than 1% of global climate finance flows in that year, despite their high exposure to climate impacts intensifying their urgent need for financial assistance for climate-resilient development (IMF, 2022c). With COP29 set to outline expectations for the volume of climate finance flowing from developed countries to developing countries as part of the NCQG, it is imperative that this is set with an understanding of the acute needs of LDCs (WRI, 2024a). This support is essential for building resilience and safeguarding their communities from climate impacts.

Efforts must also be made by international actors to break the downward spiral between conflict and climate change. Countries including Myanmar, Burkina Faso, Niger, and Sudan all saw significant declines in grants and low-cost project debt from international actors after the onset of domestic conflicts, likely due to a shift in funding priorities toward humanitarian needs, and difficulties in delivering finance to conflict-afflicted areas due to the reduction in the local infrastructure and ecosystem of delivery partners (CPI, 2024f; World Bank, 2024e). These locations are often the most vulnerable to climate impacts and the interplay between conflict and climate change further destabilizing fragile regions. It is crucial to ensure the continued provision of concessional climate finance during conflicts to break this downward cycle to support both climate resilience and peacebuilding in tandem.

BOX 3: SIGNIFICANT CLIMATE FINANCE IS CRITICAL FOR SIDS' SURVIVAL

Despite accounting for less than 1% of the global population, SIDS are recognized as a distinct group because of the disproportionate climate risks that they face including extreme weather events and rising sea levels. Many SIDS face the threat of permanent obliteration due to rising sea levels, marking one of the starkest global threats posed by climate change. **Despite the urgent need for adaptation finance in SIDS, the USD 1.5 billion they received for adaptation in 2022 accounted for less than 2% of the total global adaptation finance that year.** Total climate flows to SIDS reached USD 7 billion in 2022, up from just USD 3 billion in 2018. This represents a 26% CAGR, though 54% of the total finance to SIDS between 2018 and 2022 went to mitigation and only 26% to adaptation (with the remaining going to dual benefits finance).

SIDS need USD 12 billion annually to adapt to climate change, which would amount to just 4% of all global official development assistance (ODA) (UNCTAD, 2024b). SIDS' adaptation finance needs are not large in the global context and can be met with

improved international political will and coordination. Barriers to SIDS receiving the required climate flows include a lack of targeting of the most climate-vulnerable countries according to ND-GAIN country vulnerability scores[14] and the fact that 11 SIDS are ODA-ineligible, preventing them from accessing vital international finance (ODI, 2024). Due to these factors, SIDS—with the support of the UN—are calling to replace the ODA eligibility criteria with a multidimensional vulnerability index (IISD, 2024).

By 2022, private finance comprised 43% of climate finance for SIDS, though virtually all of this funding went to high- and upper-middle-income SIDS and 99% of it went to mitigation efforts. In particular, the Dominican Republic experienced a surge in 2021 and 2022 that led it to account for 59% of the total climate finance going to SIDS in 2022 supported by incentives for solar energy, including exemptions on import duties and taxes, as well as favorable financing rates (IEA, 2021a).

Increased private climate finance to low-income SIDS is hindered by the risks posed to investors. Private actors are reluctant to invest due to the high risks and low potential returns given SIDS' vulnerability to extreme climatic events. Such challenges notwithstanding, SIDS are working to attract income private investment. For example, Dominica committed money from its citizenship-by-investment program towards climate finance. Cape Verde has partnered with the World Bank to attract both private and public financing for its RE sector by building stakeholder capacity and supporting the restructuring and privatization of the electric utility company ELECTRA (World Bank, 2021).

Given the challenges in attracting private investment and the effects of debt burdens on public budgets, the critical role of international concessional finance is clear. Like LDCs, high debt and stretched budgets also limit their access to climate finance. Between 2016 and 2020, SIDS paid nearly 18 times more for debt service than they received in climate finance (Eurodad, 2022). While between 2018 and 2022, 61% of the climate finance to SIDS came from international public actors, concessional finance for adaptation is still needed, as is the exploration of new financing instruments or structures such as debt-for-climate swaps, which several SIDS—e.g., Cabo Verde (2023) and Belize (2021)—have now used (OECD, 2024c).

3.4 SOUTH-SOUTH FLOWS

Flows between countries in the Global South[15] reached USD 23 billion, or around 1.6% of global climate finance in 2022. This is over five times larger than the 2018 figure of USD 4.1 billion. The growth of South-South finance during this time is a significant positive development. Countries in the Global South often face similar climate risks and challenges, creating a unique opportunity for them to collaborate and support each other by sharing insights and resources. Only 19% of South-South finance between 2018 and 2022 was concessional (grants and low-cost project

14 ND-Gain Scores are calculated through assessing a country's vulnerability and readiness to respond to climate change. Vulnerability includes: food, water, health, ecosystem service, human habitat, and infrastructure. Readiness includes: economic readiness, governance readiness and social readiness.

15 For the purposes of this analysis, South-South climate finance is considered international finance committed to and by G77 countries (including China) for climate change mitigation and adaptation projects. This includes these countries' weighted contributions to multilateral financial institutions' climate projects, for example, the World Bank.

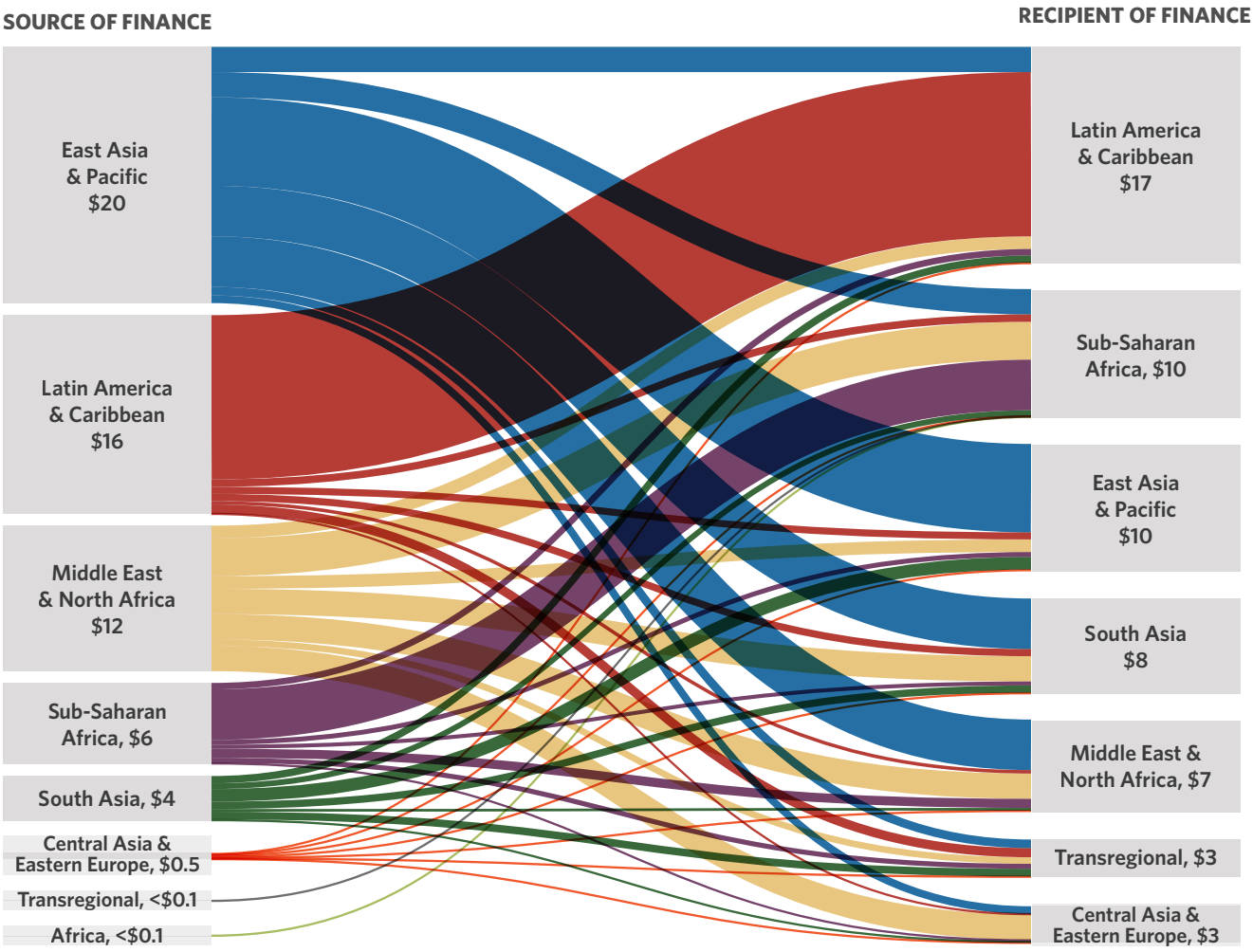
debt). 85% of the South-South finance in 2022 came via international DFIs, and around 50% of this came from MDBs within the Global South.

The largest regional source in South-South climate finance between 2018 and 2022 was East Asia and the Pacific, contributing USD 21 billion, or 36% of total South-South climate finance during this time. LAC followed closely, experiencing remarkable growth during the period from USD 116 million in 2018 to USD 7.8 billion in 2022, a CAGR of 186%. In total, the LAC region accounted for 34% of South-South climate finance that year. Notably, 82% of these flows remained within the LAC region. Such support between neighboring countries is a positive trend, as these countries often have similar geographic features and economic structures, making knowledge exchange particularly relevant.

China has played a significant role, contributing 50% of South-South flows in 2018. Although this share dropped to 11% in 2022, this reflects an increase in flows from other sources rather than a reduction in China's contribution. Over the past 20 years, China has made considerable efforts to increase South-South cooperation, including by establishing the South-South Climate Cooperation Fund in 2015 to provide direct climate-related assistance to other countries (WRI, 2024b). Another area of focus has been on developing RE and low-carbon infrastructure via the Belt and Road Initiative. An estimated 65% of China's South-South climate contributions were delivered through project-level market-rate debt, with project-level equity making up the second largest share at 19%. These flows can increase investor confidence in areas such as infrastructure investment (WRI, 2024b). Other major contributing countries include Saudi Arabia (USD 4 billion from 2018 to 2022), India (USD 3 billion), and Brazil (USD 3 billion).

It is important to note the limitations of South-South climate data. There is no obligation for these countries to publish official data, and there is no platform that aggregates any data that is collected. Improving reporting and data quality is key to developing an understanding of how South-South climate finance can develop, and via which avenues.

Figure 3.8: Total South-South climate finance, 2018-2022 in USD bn



3.5 ADVANCED ECONOMIES

As of October 2024, 37 countries were classified as advanced economies (IMF, 2023). This group is increasingly meeting new energy demands with renewables and replacing legacy fossil fuel infrastructure. Emissions of advanced economies are projected to remain stable through 2050 (Bhattacharya et al., 2022), while they need to continue deep decarbonization efforts to achieve net zero by 2050. High income levels in these countries provide them with the ability to better cope with climate impacts (Sarkodie et al., 2022). Their commitment to climate action and support for the transition efforts of less wealthy nations is important for achieving the long-term global temperature goals and fostering sustainable development (UNFCCC, 2015).

Advanced economies have seen substantial growth in climate finance, from USD 342 billion in 2018 to USD 589 billion in 2022, a 15% CAGR (see Figure 3.9). Several factors contributed to this sustained growth, including government stimulus packages in response to COVID-19, availability of commercial opportunities in key sectors, including clean energy, as well as significant domestic public policy support in key sectors such as transport and buildings.

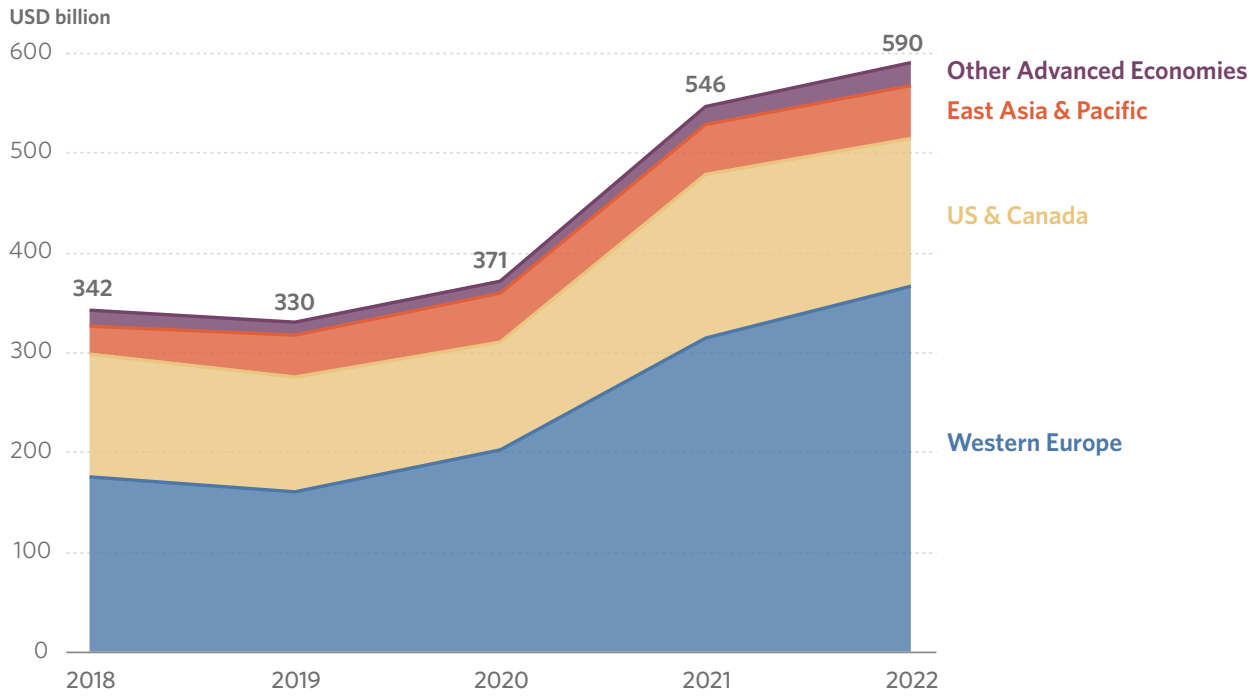
Despite the substantial increase in climate finance from 2018 to 2022, advanced economies' share of global climate finance decreased (from 51% in 2018 to 40% in 2022), predominantly due to the fast growth of China's share over the same period.

3.5.1 REGIONAL OVERVIEW: 2018-2022

Advanced economies in Western Europe have made impressive strides, while the US and Canada experienced comparatively low growth rates during the period. Climate finance in Western Europe experienced a 20% CAGR to reach USD 366 billion in 2022. This growth was faster than advanced economies in other regions, meaning that their share of advanced economies' climate finance grew from 51% in 2018 to 62% in 2022. In comparison, climate finance in the US and Canada grew on average by only 5% annually, from USD 123 billion in 2018 to USD 148 billion in 2022, with a peak in 2021 at USD 164 billion. One potential reason for slower growth in this region is the rise of the "anti-ESG" movement (Financial Times, 2023). Global skepticism about the performance and greenwashing claims of environmental, social, and governance (ESG) funds has grown most significantly among US investors, who have pulled significant investments from such funds (Financial Times, 2024). Nonetheless, domestic policy initiatives such as the Inflation Reduction Act in the US are expected to provide a much-needed boost in domestic climate finance in the coming years.

Advanced economies in East Asia and the Pacific grew almost as fast as those in Western Europe, with a CAGR of 17%. However, the region's climate finance started from a smaller base of USD 28 billion in 2018, reaching USD 53 billion by 2022. Japan remained the largest regional player and experienced considerable climate finance growth (almost tripling in the five-year period), followed by the Republic of Korea (61% CAGR), and Singapore (68% CAGR).

Figure 3.9: Climate finance in advanced economies by region



Note: *Other advanced economies include: Middle East and North Africa, Central Asia and Eastern Europe, Latin America & Caribbean, Other Oceania, transregional and more.*

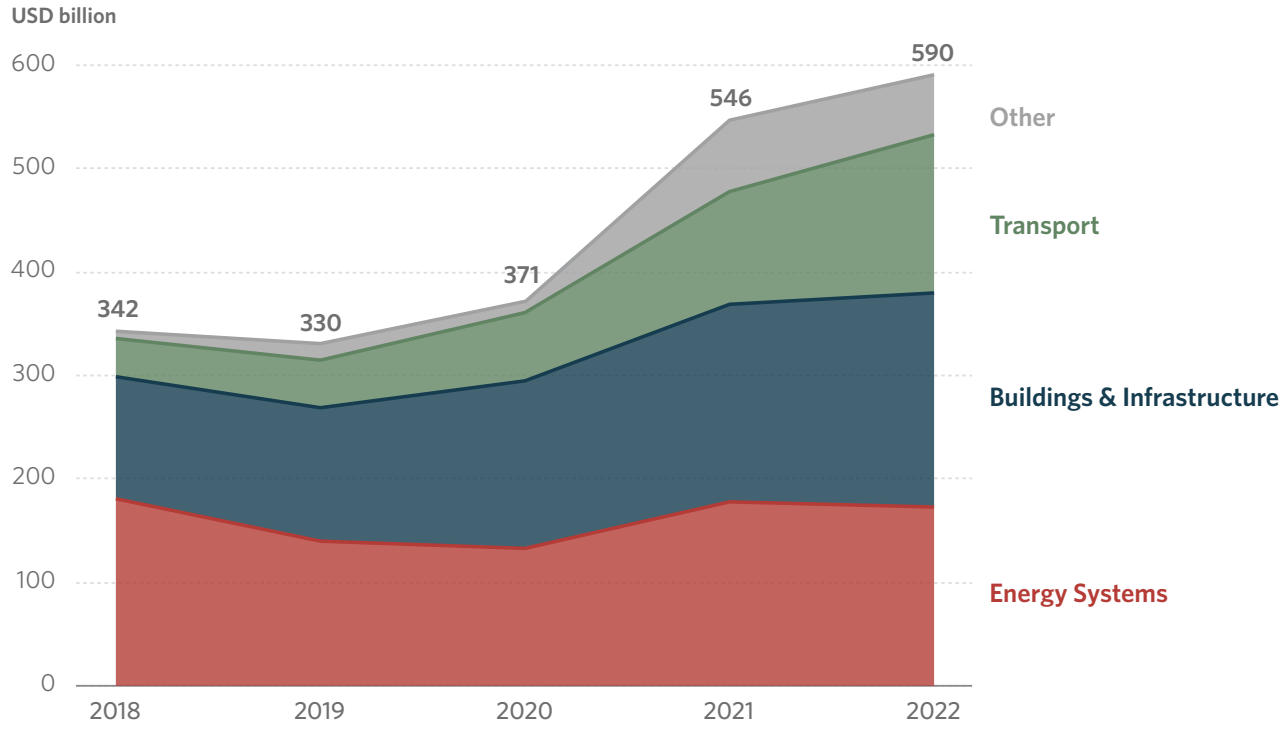
Climate finance in advanced economies has been driven by a surge in investments in buildings and infrastructure and transport sectors, as well as sustained investments in energy systems. Between 2018 and 2022, annual climate finance to the transport sector increased from USD 37 billion to USD 153 billion: a fourfold increase. While the transport sector accounted for 11% of climate finance in advanced economies in 2018, by 2022, it had risen to 26%, just behind energy systems (29%) and buildings and infrastructure (35%). This is almost entirely due to the rapid increase in BEV uptake, which accounted for 92% of all transport funding to advanced economies in 2022.

Energy efficiency in buildings and infrastructure also witnessed a substantial increase in the same period. The sector's growth from USD 118 billion in 2018 to USD 207 billion in 2022 led it to overtake energy systems as the sector receiving the most finance in 2022.

Following a decrease from USD 180 billion in 2018 to USD 132 billion in 2020, investments in energy systems returned to previous levels in 2022, reaching USD 171 billion. This bounce back was led by large efforts from the public and private sectors to scale the use of RE (led by solar PV and onshore wind), while attempting to decrease the reliance on fossil fuels. Installed renewable electricity capacity grew at a CAGR of 7.2% from 2010 to 2022, while non-renewable sources fell at a CAGR of –0.5%. As a result, renewable sources accounted for 42% of installed electricity capacity in advanced economies in 2022, up from 22% in 2010 (IRENA, 2024a).

Overall, mitigation finance in advanced economies increased by 14% CAGR from 2018 to 2022, reaching USD 561 billion.

Figure 3.10: Climate finance in advanced economies by sectors



Note: *Other sectors include AFOLU, waste, industry and other cross-sectoral finance flows.*

While investments in clean energy systems are helping advanced economies to transition away from fossil fuels, this progress can be undermined by new fossil fuel-based energy production. Following the fuel crises and extremely volatile prices for fossil fuels in 2022 (IEA, 2023a), many governments felt pressured to expand fossil fuel energy generation capacity and offer consumer subsidies. Advanced economies increased their investments in fossil fuels by 28% between 2020 and 2022 (IEA, 2024c) and tripled their fossil fuel subsidies for consumers (IISD and OECD, 2023). This alarming trend requires intensified efforts to prevent a reversal of the energy transition's positive momentum.

3.5.2 DOMESTIC AND INTERNATIONAL FLOWS: 2018-2022

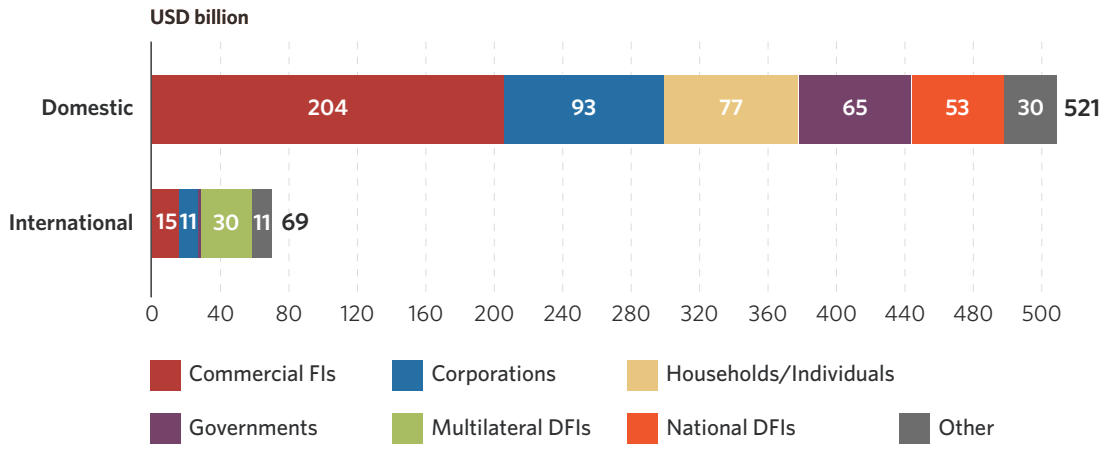
Domestic climate finance in advanced economies grew from USD 294 billion in 2018 to USD 521 billion in 2022 and represents 88% of total climate finance in these countries.

Several countries raised over 90% of their climate finance domestically over the period, including the US, Germany, the Republic of Korea, Japan, and Norway. In 2022, over 70% of domestic climate finance providers across advanced economies came from the private sector, with commercial FIs, corporations, and households/individuals providing the majority across all regions.

Commercial FIs and corporations have invested in the rapidly growing domestic clean energy, energy efficiency, and BEV subsectors via debt instruments (project-level market-rate debt and balance sheet financing) as part of the broader shift towards sustainable investing that has emerged through developments in green capital markets (CPI, 2021a). As a result, the share of commercial FI funding reached 39% of domestic climate finance (USD 204 billion) whereas corporations provided 18% or USD 92 billion in 2022. Green taxonomies and guidelines for climate benchmarks (such as the EU Paris Aligned Benchmark) as well as innovative bonds instruments, including sustainability-linked bonds and green bonds, have gained traction, offering commercial FIs viable pathways to finance climate projects.

Domestic government finance was more prominent in Western Europe (USD 49 billion), followed by the US and Canada (USD 10 billion) and East Asia and Pacific (USD 5 billion) in 2022.

Figure 3.11: Domestic and international climate finance in advanced economies by source in 2022



Note: *Other sources includes institutional investors, state-owned FIs, public funds, and more.*

Only 13% of advanced economies' climate finance came from international sources, although the international players leading the funding varied by region. In the US and Canada, international commercial FIs provided the most international finance in 2022 (USD 8 billion, or 64% of international flows in the region). These actors largely sought opportunities in the region's Solar PV sector, which accounted for 98% of their investments in the US and Canada. In Western Europe, 60% (or USD 29 billion) of international funding in 2022 came from multilateral DFIs, primarily the European Investment Bank (EIB). These investments are aligned with the EIB's Energy Lending Policy, which in 2019 made the institution the first international FI to end financing for fossil fuel projects from the end of 2021 and focus support on projects that are fully aligned with the Paris Agreement (EIB, 2023).

In East Asia and the Pacific, 40% (USD 1 billion) of international finance came from commercial FIs, and a third (USD 0.8 billion) came from state-owned enterprises.

3.5.3 PUBLIC AND PRIVATE FLOWS: 2018-2022

The energy systems sector shows solid signs of maturity, with 82% of funding (USD 141 billion) going to projects fully financed by the private sector in 2022. The RE sector is becoming increasingly competitive in advanced economies and attracting private finance. For such economies, most energy system private finance has historically come through commercial FIs and corporations, each investing over 41% of private finance to this sector between 2018 and 2022.

Households/individuals and commercial FIs are the key actors behind increased private climate finance flows to the transport sector, primarily through purchases of BEVs. In Western Europe, commercial FIs (43%) and households/individuals (40%) contributed the bulk of BEV finance in 2022. The US and Canada primarily mobilized BEV flows through commercial FIs (54%) in 2022, with households/individuals also contributing 38%. Advanced economies in Western Europe accounted for 29% of global BEV finance in 2022, while the US and Canada totaled 16%, behind China, which now accounts for half of all flows to BEVs globally. The increased uptake in BEVs follows decades of strong domestic policies, including support for low-carbon technologies, tightening technical specifications, investments in networks of electric vehicle chargers, and the designation of low- and zero-emissions zones to reduce air pollution and reduce congestion.

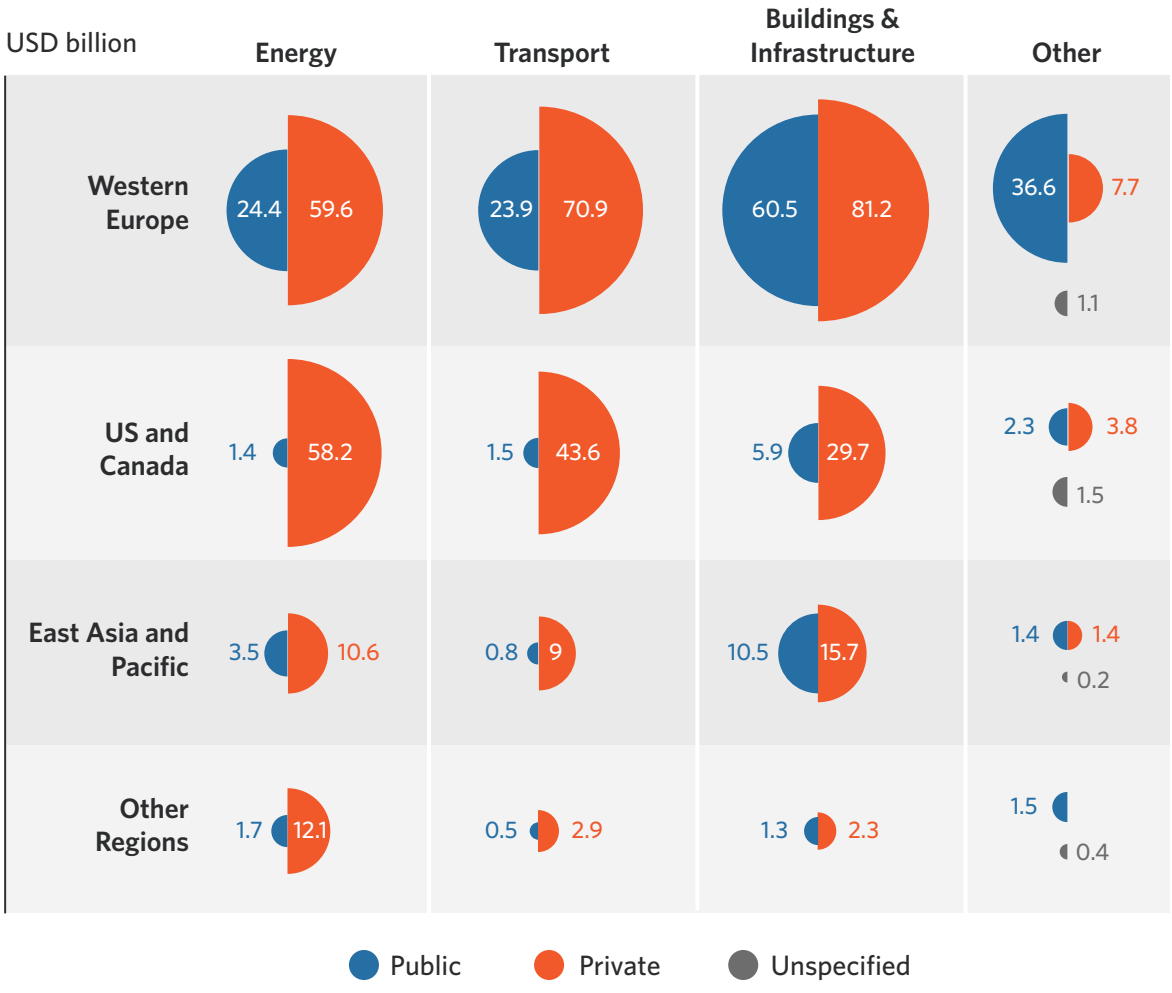
In the US, the push for increased EV adoption began at the state level, such as with California's executive order mandating all new car and light truck sales to be zero-emission vehicles by 2035, and Low Carbon Fuel Standard supporting EV adoption, particularly for heavy-duty vehicles (IEA, 2021b). The Inflation Reduction Act of 2022 is expected to further accelerate vehicle electrification through national tax credits (Electrification Coalition, 2024; White House, 2022). In the EU, policies such as the EU Sustainable and Smart Mobility Strategy, the Action Plan, and the Next Generation EU Recovery Plan also played a significant role in advancing vehicle electrification (IEA, 2021b).

Following a drop from USD 41 billion in 2018 to just USD 11 billion in 2020, public funding for energy systems rebounded to USD 31 billion in 2022. Since the start of the Russia-Ukraine conflict, governments have increasingly focused on energy affordability with key packages including the US Inflation Reduction Act, which alone is expected to direct USD 370 billion toward clean energy investment, and the EU's REPowerEU plan to facilitate the transition to clean

energy (IEA, 2022b). Most of this public funding in 2022 came from national DFIs (36%), led by Germany's KfW Group, and multilateral DFIs (36%), led by the EIB.

The surge in buildings and infrastructure investment is largely due to a large increase in investments in Western Europe, increasing almost twofold from USD 74 billion in 2018 to USD 142 billion in 2022 (68% of the advanced economies investments to the sector), mostly funded through a public/private mix (60%). This is in part attributable to various EU legislation to improve the energy efficiency of buildings as part of the European Green Deal, including the EU Renovation Wave strategy in 2020 which aimed to at least double the annual energy efficiency renovation rate of buildings by 2030 (EC, 2024a). Commercial FIs have played a major role in this transition, funding 45% of Western Europe's buildings and infrastructure tracked climate finance in 2022. This finance has come almost entirely as project-level, market-rate debt. National DFIs were the second-largest contributor, with Germany's KfW Group accounting for almost all of the increase from USD 10 billion in 2019 to USD 35 billion in 2022 (24% of sector total in Western Europe).

Figure 3.12: Public and private climate finance in advanced economies by regions and sectors, 2022



Note: *Other sectors include: AFOLU, industry, waste, cross-sectoral, and more.*

3.5.4 CONCLUSION

Despite the progress, climate finance challenges remain for advanced economies, particularly around setting clear investment roadmaps for critical industries and supply chains and advancing climate adaptation. For example, the majority of announced manufacturing projects across key clean energy technologies in advanced economies do not have committed investments (IEA, 2023b). While close to 40% of announced battery factories are under construction in the US and Canada, this figure is only 2% for electrolyzers—a technology used in the production of low-emission hydrogen (IEA, 2023b). In Europe, the corresponding percentages are approximately 10% for battery factories and 15% for electrolyzers (IEA, 2023b).

Many advanced economies still need to make significant progress on climate adaptation, particularly in coastal, rural, and agricultural regions where the frequency and severity of climate-related natural disasters continue to rise. Because climate change disproportionately affects the poorer population segments, increased adverse climate events can further exacerbate inequalities within countries.

To reach domestic net-zero goals, emissions through international supply chains also need to be tackled. Finally, to limit global warming to 1.5°C, it is crucial that advanced economies lead the way with stricter regulations and mandates on emissions-intensive technologies and practices (BNEF, 2024b).

4. CONCLUSION AND RECOMMENDATIONS

There are promising developments in climate finance across the world, but still not at the speed and scale required to close the USD 5.93 trillion annual global climate investment gap. Economic growth, domestic resource mobilization, and capital market development have been essential drivers of countries' ability to scale financial resources for climate action. While increasing climate investment is necessary, fossil fuel use needs to peak as soon as possible, thereafter declining rapidly with no new fossil fuel extraction projects from now (IEA, 2021d). An important part of closing the climate investment gap involves redirecting financing from emission-intensive assets and activities to low-carbon, climate-resilient development. Failing that, the cost of tackling adverse climate change impacts will constantly deplete public budgets all over the world. Delaying action will result in higher costs and increased financing needs in the future, therefore, increasing the scale and improving the quality of climate finance is urgently needed.

Several large-scale processes need to occur simultaneously in the next five years to accelerate the scale, speed, and quality of climate finance amid constrained budgets and conflicting political and financial priorities. The work program for the NCQG is expected to conclude at COP29, outlining new targets and responsibilities for various actors. This presents a unique opportunity to enhance ambition and increase international cooperation for a more coherent and transformative climate finance architecture, supported by other high-level processes in the G20, initiatives concerning international financial architecture reform, as well as the COP28 Global Climate Finance Framework. Key strategies to enhance the scale and effectiveness of global climate finance are set out below.

1) INNOVATION AND REPLICATION

Scaling finance through a fit-for-purpose global climate financial architecture, using both established and innovative approaches to support climate, nature, and development goals. To this end, the following action areas are key:

- **Concessional finance.** While public finance through fiscal transfers is the main source of concessional capital, other sources—including philanthropic funds—can expand the volume of concessional capital for climate action. Given its scarcity, concessional finance needs to be spent wisely and must be deployed where it will have the most impact. For example, a higher percentage of concessional resources may need to flow to adaptation and resilience due to such projects' limited ability to leverage commercial flows.
- **Capital adequacy frameworks.** The G20's call for reform of MDB capital adequacy frameworks could add up to USD 357 billion to MDB lending capacity within a decade (CGD, 2024). Implementing the capital adequacy frameworks reforms is a major opportunity to scale global climate finance, given the climate mandates and contributions of MDBs.
- **Risk mitigation vehicles.** Delivered cost of capital remains high in EMDEs, creating a barrier to action. Risk mitigation vehicles—whether addressing currency, political, or project-related risks, among others—can be used to catalyze additional investment from otherwise

risk-averse (private) actors. Public actors, including the entire ecosystem of DFIs, can play a crucial role in creating vehicles or facilities to derisk finance at scale, for example, by increasing the provision of guarantees over direct and incremental project-by-project lending.[16] There is also scope to aggregate existing approaches that investors are already familiar with and have confidence in.

- **Project preparation facilities.** Project preparation facilities and developer platforms are an essential feature of the climate finance landscape, fostering the creation of bankable and investment-ready projects in EMDEs. More capacity and support for these are needed. Where project preparation support already exists, there is a need to build visibility and engage directly with investors to bring viable projects to market. There is often a need for intermediaries or brokers to matchmake between project preparation facilities and investors to facilitate the implementation of climate projects on the ground.
- **Private finance mobilization.** While project preparation support and the expansion of enhanced risk mitigation instruments will both help to unlock private finance, the discourse must move beyond ambiguous invocations of "private sector mobilization" toward a more actionable approach with clearly defined responsibilities. There is a need for comprehensive risk analysis, including risk-adjusted returns, driven by more robust and more easily accessible information on challenges, opportunities, scenarios, and strategies. Furthermore, investment products to attract institutional capital should be made "big and boring"—that is, familiar to investors and replicable—instead of chasing innovations for novelty's sake (CPI, 2024b). Solutions need to drill down on aggregating, de-risking, and securitizing.
- **Carbon pricing.** Existing voluntary and compliance carbon markets have already demonstrated their potential to source additional revenue for climate action. While integrity remains an issue to resolve for voluntary carbon markets, countries should use them to create light-touch domestic compliance markets that can generate revenue, establish a (increasing) carbon price, and help address some of the trade-related issues triggered by the emergence of carbon border-adjustment mechanisms (CBAMs) globally.
- **Fiscal space and debt architecture.** The conversation regarding debt architecture reform is intended to make sovereign balance sheets more resilient and robust to achieve climate goals. For example, climate-resilient debt clauses are ex-ante agreements to postpone debt repayments in the event of climate disasters, creating fiscal space for emergency response and resilient reconstruction. Other tried-and-tested options include debt-for-climate swaps, recovery (or transition) bonds, and results-based financing, which may be used to accelerate funding without exacerbating debt burdens (CPI, 2021b).

2) TARGETING AND ALLOCATION

Stepping up support for LDCs, SIDS, and low-income communities on the front lines of the climate crisis, as well as allocating finance to high-impact, hard-to-abate sectors or themes. Limited climate finance resources need to be strategically targeted, and allocated, to where they are needed most, both geographically and sectorally. To this end, the following action areas are key:

16 Collaborative platforms such as the Finance in Common Lab are encouraging innovation among public development banks, with a dedicated working group on advancing knowledge and best practices on currency risk.

- **Outcomes and effectiveness.** It is important to ensure high-impact investments that effectively deliver mitigation and/or adaptation outcomes while generating other co-benefits for people and nature - such as air quality improvements, reduced gender inequality, and better water management. There is scope for more targeted, strategic interventions that harness synergies between the climate agenda and various other Sustainable Development Goals. At the same time, more reporting on the outcomes and impact of climate finance is also required to track progress regarding what works and what may be scaled accordingly.
- **Access criteria and requirements.** In addition to increasing the volume of finance, providers should consider simplified and harmonized approval processes to ease access. This can help ensure that countries with low institutional capacity paired with high vulnerability are not left behind. Moreover, many of the world's most climate-vulnerable populations live in areas affected by conflict. These countries have fewer resources to cope with climate hazards, as well as less absorptive capacity for receiving much-needed climate finance. International finance providers may learn from actors in the humanitarian sector on how to deliver finance in fragile and conflict-affected settings.
- **Deep decarbonization and systemic resilience.** More investment needs to go to solutions that support innovation and ecosystem-building for overlooked, high-impact, and hard-to-abate sectors and themes. Significant strides have been made in decarbonizing energy systems, as well as in deep decarbonization of industry, waste, and AFOLU, and in reducing short-lived climate pollutants. However, these areas all still need significant support. At the same time, there is a need to mainstream climate risk assessments across investment appraisal processes and into financial decision-making to ensure that all new and future investments—particularly for infrastructure—are designed with climate resilience in mind and avoid maladaptation to the extent that is possible.
- **Just transition.** Providing safety nets for workers and communities adversely affected by the energy transition in EMDEs is essential to avoid reversing their development gains. A range of different sources—including development finance, carbon markets, and levies—can be combined to deliver a just transition, enabling the early and equitable retirement of fossil fuels parallel to deep decarbonization and RE expansion.

3) DOMESTIC POLICIES AND OWNERSHIP

Building the policy and enabling environment to mobilize domestic resources, bolstering domestic markets, and fostering country ownership of internationally funded climate action. To this end, the following action areas are key:

- **Whole-of-economy approaches.** EMDEs in particular need to focus on decoupling growth from fossil fuel-based systems and shifting to low-carbon development, creating value and jobs across high-impact sectors. Across all regions, there is a need for workforce skills development and regulatory certainty, providing a signaling function to incentivize private investment. In all contexts, well-integrated planning that mainstreams climate considerations across existing political, economic, and social priorities is essential, ensuring a whole-of-economy approach rather than siloed action. Especially in EMDEs where capital markets are largely still developing, there is a need for policies and incentives that can bolster domestic markets and enable domestic resource mobilization. This will require support to build

regulatory capacity, as well as developing a pipeline of bankable projects that are de-risked as needed using concessional finance.

- **Redirecting fossil fuel expenditures.** It is essential to transition away from the root cause of the climate crisis—fossil fuels. Subsidies and loans for harmful fossil fuels can be redirected to provide long-term support for climate action, while also increasing local climate and health benefits by reducing air pollutants. Finance that would otherwise go to emission-intensive and maladaptive infrastructure could be redirected to support low-carbon and climate-resilient development. Early decarbonization of fossil fuel assets can significantly accelerate countries' progress on their net-zero targets. Such action must be approached in a way that continues to provide safety nets for the people most impacted by the low-carbon transition, as they often tend to be the most economically vulnerable.
- **Climate action plans.** Designing ambitious and investable climate action plans—including NDCs, NAPs, and LTSs—that are underpinned by a pipeline of bankable projects is a key step toward implementation on the ground. Such plans also send a strong signal to investors regarding needs, priorities, and possible mitigation or adaptation solutions. Updates to NDCs are due in February 2025, offering an opportunity to raise ambition and to communicate a pathway for long-term decarbonization and climate resilience. The heightened ambitions of such plans also need to be grounded in realistic targets and supported by actionable and granular investment roadmaps in order to avoid implementation gaps.
- **Country sector platforms.** Country sector platforms are an emerging priority for channeling international climate and development finance to recipient countries. Such platforms are a means of centralizing and better integrating climate-aligned investment for sustainable development while fostering the country ownership that is essential for inducing long-term change. While these may be structured around specific sectoral transformations or thematic objectives (including the Sustainable Development Goals), a programmatic approach can be more effective than the historical tendency for project-by-project, incremental investment. In collaboration with international finance providers, domestic governments can seek to establish the necessary institutional infrastructure that may evolve toward a fully formed country platform. As appropriate, regional sector-level platforms should also be considered with a view to scaling mobilization.

4) CROSS-CUTTING AND MULTI-STAKEHOLDER ACTION

Providing data and mandating disclosures to build trust and communicate progress toward time-bound targets, with more alignment across the fragmented climate finance landscape. Certain action areas cut across several topics along with the full range of stakeholders active in the global landscape:

- **Taxonomies, data, and disclosures.** Advancing efforts to harmonize and align global and domestic standards for sustainability reporting is crucial to aid interoperability between standards and to remove roadblocks to cross-border sustainable investment. The International Sustainability Standards Board's recent issuance of a Sustainability Disclosure Standard is a step in the right direction, but more must be done to enable a critical mass of countries to begin reporting on sustainable investment. Mandatory and standardized reporting will be essential to adequately measure and manage progress on climate targets,

and will require regulatory enforcement. At the same time, there is a need for more harmonized approaches to, and more reporting on, impact metrics and KPIs.

- **Capacity building and technical assistance.** Across actors, there is a need to build capacity and step up the provision of technical assistance so that climate action can be mainstreamed across sectors and geographies. This may cover a range of contexts, including policy support, accessing finance (building up an ecosystem of skilled local intermediaries), upstream project preparation support, and capacity building among domestic actors (including government ministries, regulators, capital markets, and FIs). Sufficient and sustained technical assistance will enable various stakeholders to pursue the various opportunities for low-emissions, climate-resilient growth.
- **Coordination and accountability.** Given the fragmented climate finance landscape, made up of various providers and intermediaries, there is a need to push for more coordination as well as clear responsibilities and accountability (based on comparative advantages). In relation to this, CPI has launched the Climate Finance Reform Compass, the first comprehensive effort to collect and systematically track progress across the international financial ecosystem. The Compass is an action-oriented tool to identify key reforms that need to be taken to meet the global climate challenge, aligned with the Global Climate Finance Framework launched at COP28. Notably, there is a need for enhanced interoperability among different climate finance providers to make efficient and effective use of limited resources.

ANNEX I: METHODOLOGICAL NOTES

UNDERSTANDING CPI DATA COVERAGE VS OTHER DATA SOURCES

CPI's coverage of climate finance differs from that of other sources (e.g. IEA) in terms of its boundary and tracking methodology. Key differences in boundaries and sectoral coverage are summarized in Table A.1 below.

Table A.1: Coverage of CPI numbers and other sources, 2022 (USD bn)

Boundaries/Sectors	CPI	IEA	Notes
Renewable power	553	608	CPI number's represent financial commitments and deals into RE projects, whereas IEA tracks capital expenditure.
Nuclear	Not in scope	Tracked as part of renewable power	CPI currently excludes Nuclear investment in its numbers as there is no clear consensus on whether nuclear energy should be regarded as climate finance.
Other supply	5	76.6	
Electricity grid	13	332	Many green taxonomies deem energy transmission and distribution networks as eligible for climate finance as long as they contribute to an increasing integration of renewable energies. However, it is often difficult to qualify whether the investment was providing RE integration or not.
Transport	403	Tracked as Energy Efficiency	CPI counts full cost of low-carbon transport. IEA tracks incremental cost of efficient vehicle.
Energy efficiency	279	391	CPI's energy efficiency cover buildings and industry sectors only whereas IEA's numbers include the two sectors as well as transport.
Other end use incl. renewables	Not disaggregated	209	CPI's end use clean energy finance can can appear, for example, in dual benefits, waste and other sectoral mitigation finance.
Fossil fuels	Not in scope	1,003	
Adaptation finance	76	Not in scope	
Dual benefits finance	74	Not in scope	
AFOLU mitigation	6	Not in scope	
Waste and wastewater mitigation	31	Not in scope	
Other cross-sectoral mitigation	17	Not in scope	
Total	**1,459**	**2,619**	**CPI tracks financial commitments. IEA tracks capital expenditures.**
Total ex. fossil fuel	**1,459**	**1,617**	

Covered	Partially covered	Not in scope

**In addition to the sectors listed above, the 'Information Communications and Technology' and 'Unknown' sectors made up USD 3.5bn of climate finance in 2022. IEA data sourced from IEA WEO 2023 report to compare with 2022 prices.*

Most notably, data on electricity grid infrastructure and nuclear energy are not covered in the Landscape as covered in data sources. Once more taxonomies converge towards a common approach in tracking these technologies, CPI may start including them in the Landscape in the future.

NOTES ON ELECTRICITY CAPACITY, FOSSIL FUEL INVESTMENT AND FOSSIL FUEL SUBSIDIES DATA

Installed Electricity Capacity (IRENA, 2024a): The power capacity represents the maximum net generating capacity of power plants and other installations used to produce electricity. For most countries and technologies, the data reflects the capacity installed and connected at the end of the calendar year.

Fossil Fuel Investment (IEA, 2024c): Investment is measured as the ongoing capital spending on assets. Fossil fuel and power sector investments are those that raise or replace energy supply. For the power sector, investment is spread out evenly from the year in which a new plant, or upgrade of an existing one, takes a final investment decision. For further information, refer to IEA (2024c). In figure 2.1 only, fossil fuel investments data was converted into current prices using IMF WEO data to ensure comparability with nominal climate finance values. US deflators were used to covert global figures due to the lack of country level investment data.

Fossil Fuel Subsidies (OECD and IISD, 2023): Dataset incorporates estimates of fossil-fuel subsidies and other support measures using the OECD's inventory of Support Measures for Fossil Fuels database, the IEA's energy subsidy database, and the IMF's Fossil Fuel Subsidies database. The IEA and IMF sources capture differences between end-use consumer prices and reference prices. OECD complements this dataset with direct budgetary transfers and tax expenditures. OECD and IISD (2023) dataset attempts to capture explicit subsidies only.

NOTES ON DATA IMPROVEMENTS

New data on energy storage, industry and hydrogen were added through project level and aggregate data from BNEF and the IEA. Where possible, the new data were retrospectively applied to historical data to ensure year-to-year comparison. Private adaptation finance data improvements were conducted through a dedicated CPI study (2024c) on "Tracking and mobilizing private sector climate adaptation finance". While the study uncovered further private adaptation finance (estimated to be at least USD 48 - 61 billion in consumers and households spending), more methodological work is needed to expand the data across all geographies. As the data improves, CPI intends to capture further private adaptation finance consistent with the Landscape methodologies.

ANNEX II: COUNTRY SPOTLIGHTS

NIGERIA

Nigeria has launched several initiatives to boost climate finance, with a focus on infrastructure and local capacity building. InfraCredit, a guarantee facility created by the Nigerian Sovereign Investment Authority and GuarantCo in 2017, provides local currency guarantees to improve the creditworthiness of infrastructure projects. By 2022, InfraCredit had facilitated over USD 201 million in local currency financing for infrastructure projects (CPI, 2024g).

To address the high costs of RE technologies caused by import dependency, Nigeria has prioritized the development of upstream manufacturing facilities to boost self-reliant energy production. Notable projects include a 100MW solar PV assembly factory in Lagos, funded by Shell (AEP, 2023), and a lithium processing unit in Nasarawa to supply raw materials essential for solar energy production and storage (AFDB, 2024).

Nigeria is also exploring opportunities to localize other green value chains to reduce import dependence. This includes the electric two- and three-wheeler market, where Nigeria, as Africa's largest importer of motorcycles, has the potential to develop a regional market for green jobs in transportation and manufacturing (AFDB, 2023). Net-zero buildings also present a promising opportunity, especially given Nigeria's rapid urbanization and housing shortages (CCFLA, 2023).

VIETNAM

Vietnam had short-term success in generating substantial domestic private funding attributable to a solar boom more than tripling the country's climate finance from 2018 to 2020 (ASEAN, 2021). Over 80% of climate finance in 2020 came through domestic private resources, primarily comprising funding from corporations (60% of Vietnam's climate finance), commercial FIs (13%), and households/individuals (7%). Most of this domestic finance came through equity investments (63% through balance sheet financing [as equity] and 12% through project-level equity), with a further 21% through balance sheet financing via debt. The government created an attractive market through a well-crafted policy mix, including generous feed-in tariffs, tax exemptions for RE producers, and import tariff exemptions on RE equipment (Ember, 2022). Consequently, almost all climate finance in 2020 (95%) went to power and heat generation, with solar PV alone receiving 72% of all climate finance that year. Despite these successes, challenges such as grid infrastructure inadequacies (significant grid failures due to overloading) have led to a pause in new solar capacity deployments in 2022 (Climate Action Tracker, 2023), which was seen with 2022 climate finance less than one-third the size of 2020.

Vietnam has also launched a Just Energy Transition Partnership (JETP), collaborating with countries in the Global North to promote country ownership. The initiative aims to mobilize an initial USD 15.5 billion dollars to support Vietnam's green energy transition, specifically focusing on phasing out coal and scaling up renewables by 2030 through an ambitious reform agenda (BMZ, 2022).

THE PHILIPPINES

The Philippines has introduced a range of policies to attract private funding for green energy, while relying on international public funding for larger, less profitable projects. Transport is a major focus for the Philippines, but a lack of domestic public resources and challenges of raising profits from public goods creates almost full reliance on international public funds from bilateral DFIs, multilateral DFIs, and governments to finance the sector's low-carbon transition. The Philippines also has large ambitions to add over 18.6 gigawatts (GW) of additional power capacity for solar energy and 0.77 GW of additional wind power capacity by 2030 (IRENA, 2022). To attract investments, the Renewable Energy Act of 2008 offers project developers various incentives, including income tax holidays, duty-free importation of RE machinery, corporation tax of 10% on net taxable income, and 0% VAT on the sale of RE (Philippines Department of Energy, 2024). More recently, the government increased the Renewable Portfolio Standards—the minimum annual increase in the share of renewable-based electricity required from suppliers—from 1% as of 2020 to 2.52% starting in 2023 (IRENA, 2022). These policies drew in stable energy systems finance of USD 0.5 billion on average over 2018 to 2019. After a dip in 2020, recent policies have incentivized a dramatic spike to USD 1.1 billion in 2021, with 93% of the energy system finance going to projects financed solely by the private sector. To ensure a constant flow of resources, the government is removing restrictions, allowing 100% foreign-owned entities to produce RE in the country, as of 2022 (UNCTAD, 2022).

BRAZIL

Brazil has enacted several policy changes that have significantly boosted investment in its RE sector. In 2012, the country introduced net metering policies, allowing RE producers to sell excess electricity back to the grid for credits (IEA, 2021). Initially aimed at small generators, the policy was expanded in 2015 to include larger capacities (EIA, 2019). Import taxes on RE technologies were also waived. These measures drove growth in solar PV and onshore wind, with solar investments rising from USD 2.7 billion in 2019 to USD 9.4 billion in 2022, and onshore wind increasing from USD 3.8 billion to USD 4.3 billion over the same period. In 2022, 80% of solar PV financing was done by pure private financing, with a further 16% by public-private partnerships. The wind power sector was slightly less mature, with 67% of pure private financing, and 8% provided as a private-public mix.

These efforts have paid off, with RE in 2023 now accounting for 86% of Brazil's electricity capacity, well above the global average of 25% (IRENA, 2024b; ITA, 2023). In 2023, Brazil reduced many of these supports for domestic renewable production with early indications suggesting that this is not likely to reduce growth (IEA, 2024d).

Brazil's water and wastewater sector has also seen major investment growth, rising from USD 0.3 billion in 2018 (4% of climate finance) to USD 4.2 billion in 2022 (16%). This was largely due to an increase in private finance, which surged from USD 0.03 billion (11% of sector finance) in 2018 to USD 3.8 billion (92%) by 2022, following a 2020 decision to open the sector to private investment (Financial Times, 2020).

For the next three years, Brazil has assumed a central role in shaping global climate action. The country has a unique opportunity to leverage its leadership within international forums through its 2024 G20 and 2025 BRICS and COP30 presidencies (CPI, 2024h). As part of this effort, the

country is currently developing its own Sustainable Taxonomy to harmonize the classification of economic activities according to environmental and social objectives. It is expected to be officially released in 2025, with the potential to contribute substantially to channel financial flows towards low-carbon activities (CPI, 2024i).

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