CLIMATE POLICY INITIATIVE

Global Landscape of Climate Finance 2025

AUTHORS

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Values are in USD billion

CLIMATE POLICY INITIATIVE

1.9 TRILLION USD IN 2023

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PUBLIC PRIVATE

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

"AFOLU" stands for agriculture, forestry, other land use, and fisheries.

Background

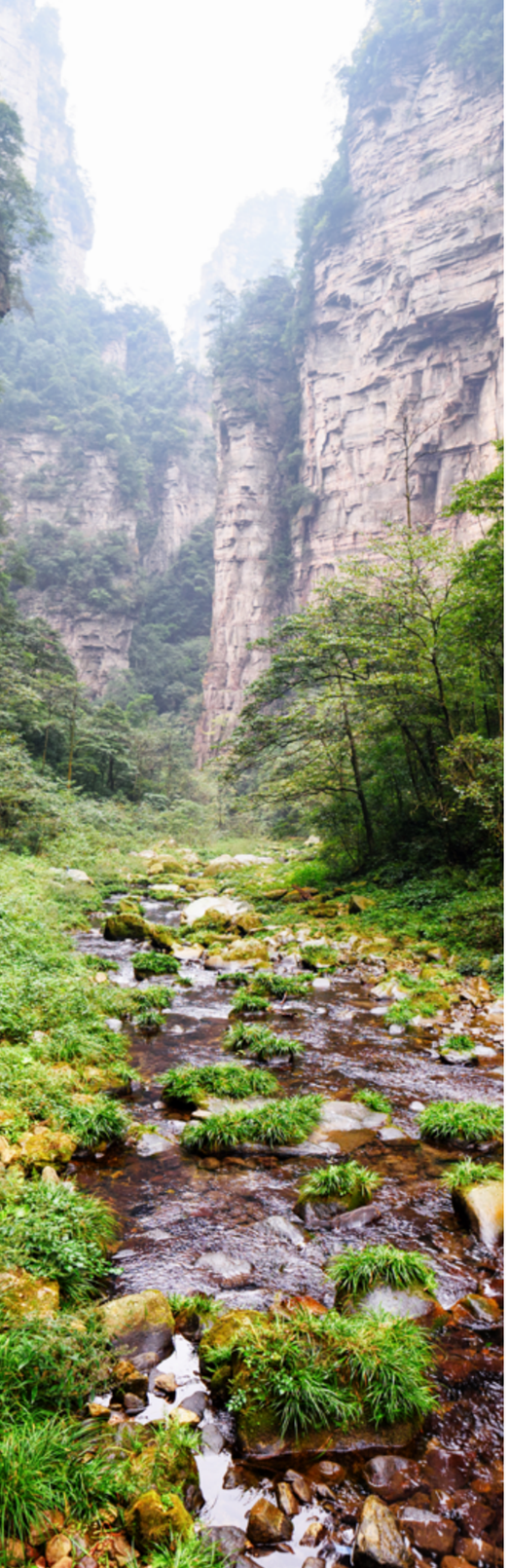
For over a decade, CPI's Global Landscape of Climate Finance (GLCF) reports have provided a comprehensive baseline of where and how climate finance flows globally. Our methodology[1] and data science capabilities ensure consistent, comparable information derived from a vast array of non-standardized data. The GLCF is key to understanding the current state of play, the key market players, climate investment needs, and pinpointing the greatest opportunities to mobilize capital.

Consistent and comparable data and insights on climate finance flows help track progress, build trust and confidence, and raise ambition on climate action. This report synthesizes key findings on uses, sectors, geographies, sources, and instruments between 2018 and 2023, reflecting on trends pre- and post-pandemic, as well as climate finance needs in the coming years by sectors and geographies. It analyzes all primary climate mitigation and adaptation investments mobilized—both internationally and domestically—to assess global progress.

This edition introduces enhanced analysis with improved data on transmission and distribution, and private adaptation finance, among other enhancements. While the data is improving, many unknowns and data gaps in climate finance remain. The following observations present what is tracked at the time of publication. CPI will update its climate finance database later in 2025 by incorporating data released after this publication.

While climate investment has been rising, geopolitical events are challenging its momentum, risking fragmentation and creating impacts for future flows. Climate change will not halt due to shifting political priorities—accelerated climate policies and investments are needed to ensure socioeconomic stability and security. Such action also creates expansive opportunities for economic development, job creation, competitiveness, and long-term prosperity. The alternative—business as usual—will exacerbate economic, social, and environmental damages around the world.

1. The definition and scope of the Global Landscape of Climate Finance will be presented in our forthcoming methodology. More data is available on our interactive data dashboard.



Climate finance acceleration: Insights from 2018-2023

Climate investment drives improved health, economic opportunities, reduced energy costs, and enhanced security and resilience.

1. **Global climate finance hit an all-time high of USD 1.9 trillion in 2023.** Early available data indicates that annual climate flows exceeded USD 2 trillion for the first time in 2024.[2]

2. **Growth in climate finance picked up pace, particularly between 2021 and 2023.** Annual investments increased by an average of 26% between 2021 and 2023, compared to 8% from 2018 to 2020. At the current rate, meeting USD 6 trillion—the most conservative estimate of required climate investment—may be reachable by 2028, especially if redirection of flows from high-emission sectors to climate-aligned activities accelerates.

3. **Climate investment delivers far more than emissions reduction.** The multiple co-benefits include improved health, economic opportunities, reduced energy costs, enhanced security and resilience, and a more sustainable future for all. Inaction, on the other hand, will be costly to the global economy in the long term, with economic losses amounting to 15% of global GDP by 2050 from 2°C of warming and 30% by 2100 from 3°C.

4. **From 2018 to 2023, climate mitigation finance more than doubled from USD 757 billion to USD 1.78 trillion.** This was largely driven by significant private investment in renewable energy in advanced economies and China, alongside growing finance for transport electrification and energy-efficient buildings. Battery storage is also set to rise with clearer regulations and co-location with renewable energy systems. Solar is expected to grow in emerging markets, and onshore wind to expand steadily. Although still receiving a smaller share of climate finance, the agriculture, forestry, and other land use (AFOLU) and waste sectors are growing rapidly with rising public and private investments.

5. **Total tracked adaptation finance reached USD 65 billion in 2023, though ongoing tracking challenges likely lead to an underestimation of flows.** While a dip in tracked flows from certain national development finance institutions (DFIs) led to an overall decline from 2022 to 2023, total adaptation finance from other sources increased during the same period, driven by an uptick in green bonds. Data gaps (particularly for private flows) and broader issues in traditional adaptation finance quantification methodologies mean that adaptation finance tracking can struggle to capture the full growth in this area and likely underestimate total flows.

2. More accurate estimates for 2024 will be available in the next edition of GLCF in 2026 due to time lags in data availability.

Climate finance acceleration: Insights from 2018-2023

EMDEs still need more catalytic capital to further scale climate flows across all regions

6. **Private climate finance contributions crossed USD 1 trillion for the first time in 2023, increasing by more than 50% compared to 2022.** Households were the largest private contributors, investing in electric vehicles, solar water heaters, and renewable-energy-powered HVAC systems. Such action sought to shield against rising energy costs, particularly in Western Europe. Commercial investment increased by 60% in 2023 compared to 2022, most notably in solar PV and onshore wind in the Middle East and Latin America and Caribbean. Public climate finance fell by around 8% between 2022 and 2023, amid constrained domestic budgets post pandemic. Recently announced cuts to official development assistance also raise concern that public finance may decline further in coming years.

7. **Notably, 80% of climate finance was sourced domestically, underlining the importance of national capital pools.** This domestic finance was concentrated in East Asia and the Pacific (primarily China), North America, and Western Europe as well as a handful of emerging markets and developing economies (EMDEs). A stark disparity in investment levels persists within EMDEs, with many least developed countries still heavily reliant on international public climate finance. Access to affordable capital remains a significant barrier to scaling private and domestic climate finance. EMDEs still need more catalytic forms of capital—such as guarantees, grants, and catalytic equity in blended finance models—to further scale climate flows in all regions.

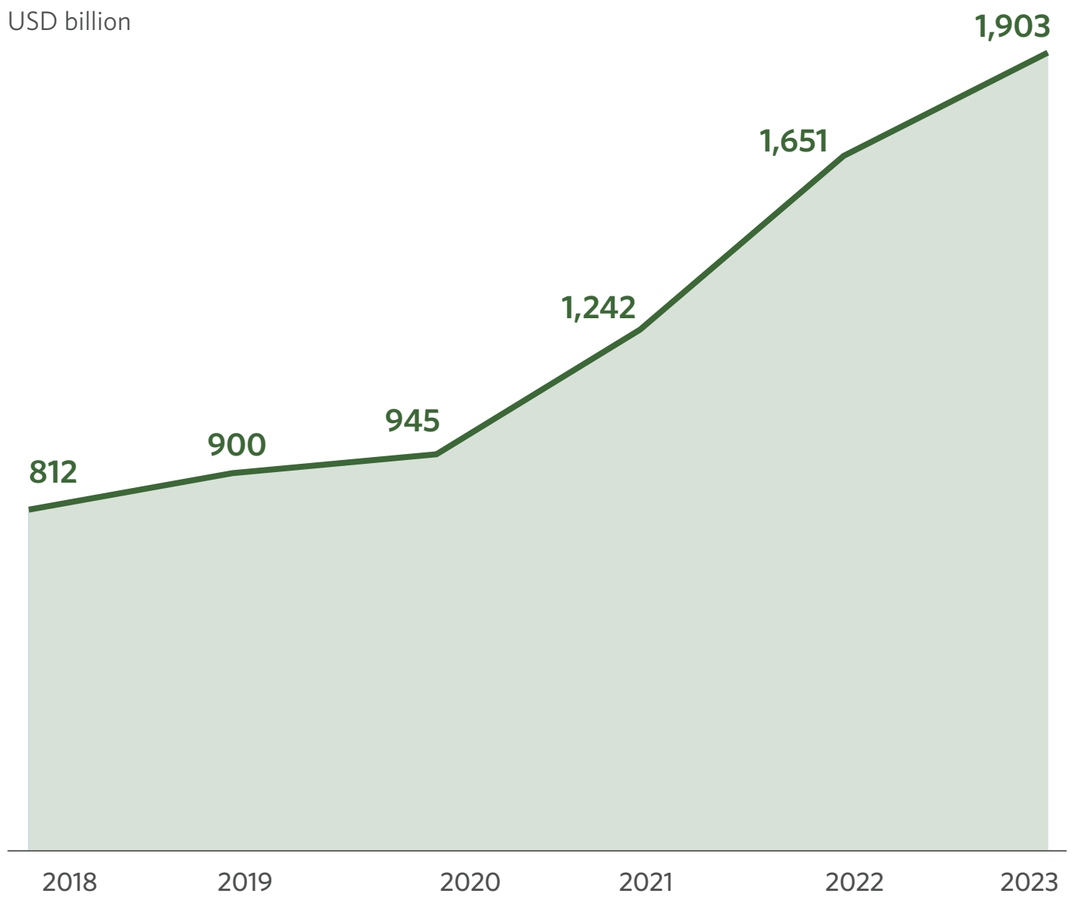
8. **Clean energy is becoming a major driver of GDP in certain economies.** Related technologies made up more than 10% of China's GDP for the first time in 2024 and in Europe they accelerated at twice the rate of overall GDP growth (CER, 2025). Rapidly industrializing economies such as India, Brazil, and Viet Nam are racing to meet surging energy demand with clean and affordable power. Technology cost reductions, national climate strategies, and enabling government policies are paving the way for increased clean investment in EMDEs.

9. **International climate finance to EMDEs reached USD 196 billion in 2023 with 78% from public actors.** Climate-related development finance in EMDEs increased by nearly three times between 2018 and 2023. Cross-border private investment to EMDEs was USD 42 billion in 2023 compared to USD 19 billion in 2018. Regions that received the most international private climate finance include Latin America and the Caribbean, the Middle East and North Africa, and Central Asia and Eastern Europe, driven by clean technology investment.

Trends in global climate finance 2018-2023

Global climate finance has more than doubled in six years

Figure 2: Global climate finance 2018-2023 (USD bn, nominal)



Global climate finance flows reached USD 1.9 trillion in 2023, representing a 15% increase compared to 2022.

Growth was driven primarily by investments in renewable energy and clean transport, as well as continued improvements in climate finance tracking and data coverage (see Annex: Enhancing sources and methods for climate finance tracking).

Over the past six years (2018–2023), climate finance has grown at a compound annual growth rate (CAGR) of 19%, reflecting a strong upward trajectory. While the CAGR was just 8% between 2018 and 2020 amid the economic disruption of the COVID-19 pandemic, this increased to 26% between 2020 to 2023, signalling a robust return to investment growth.

Despite this positive momentum, current investment levels still fall far short of what is needed to meet climate goals (see next page). The post-2020 rebound in climate finance is encouraging, but funding must grow faster and more consistently to meet the investment pathways needed to limit global warming and build climate resilience in time.

The investment gap is closeable, with targeted climate finance roadmaps

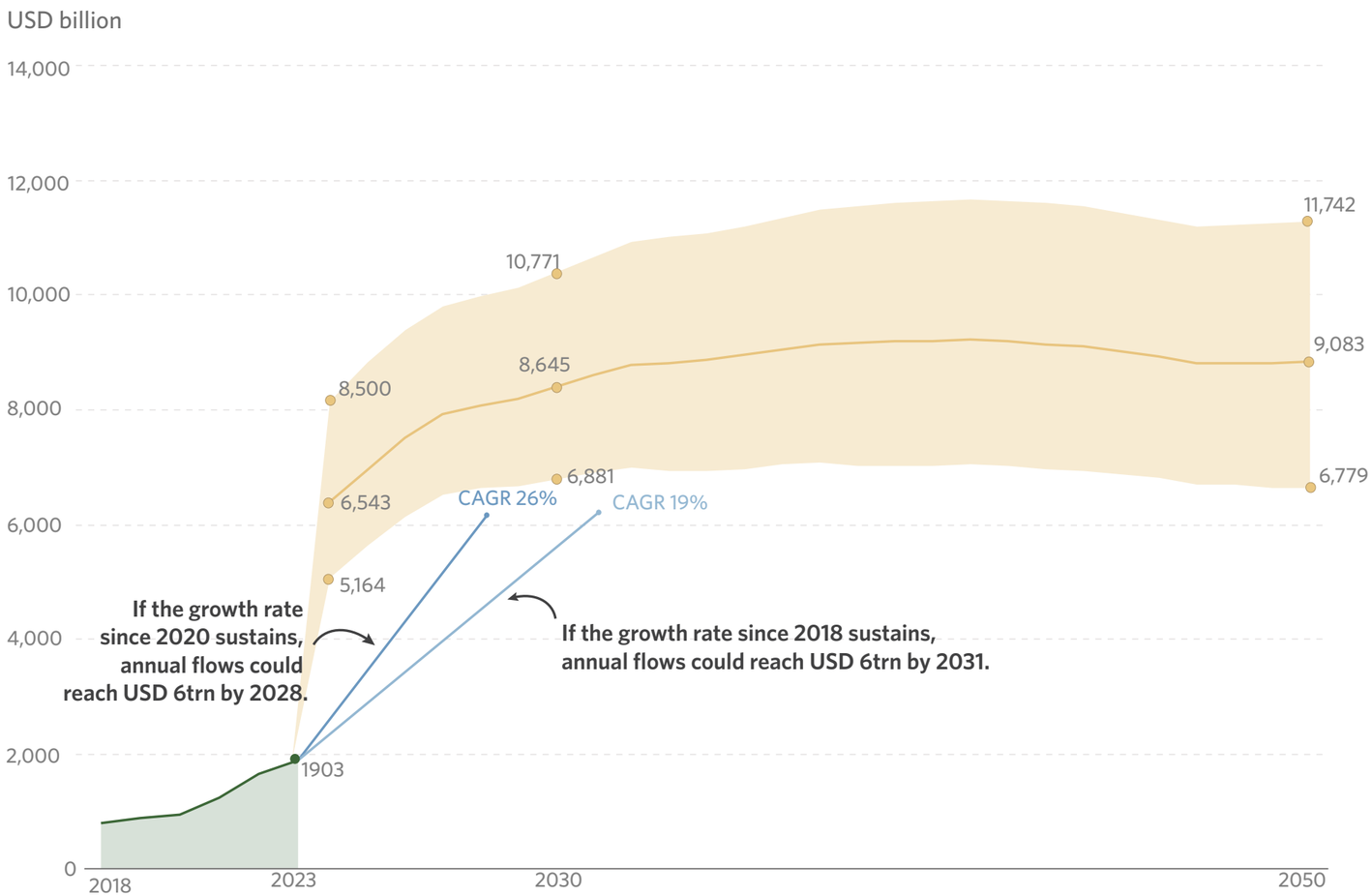
An average of at least USD 6.3 trillion in annual climate finance will be needed from 2024 through to 2030 to avoid the worst impacts of climate change. The gap to the lowest needs scenario—currently USD 4.4 trillion—is narrowing with stronger policy action and increased investment, but not quickly enough.

If climate finance continues to grow at its average pace since 2018 (19% CAGR), flows could reach USD 6 trillion by 2030. If the faster growth rate of the past four years (26% CAGR) is sustained, this could be achieved by 2028. The key challenge is now accelerating investment in regions and sectors where financing is particularly lagging (see Mitigation, Adaptation and Regions sections).

However, both projections lag the timelines used to estimate investment needs for a 1.5 °C pathway. For example, we expect climate finance in 2024 to have surpassed USD 2 trillion (p.13), but to have not yet reached required investment levels. The longer targets are missed, the greater investment requirements will be. At present, at least USD 7.1 trillion in climate finance or average of USD 9.2 trillion will be needed each year from 2031 to 2050.

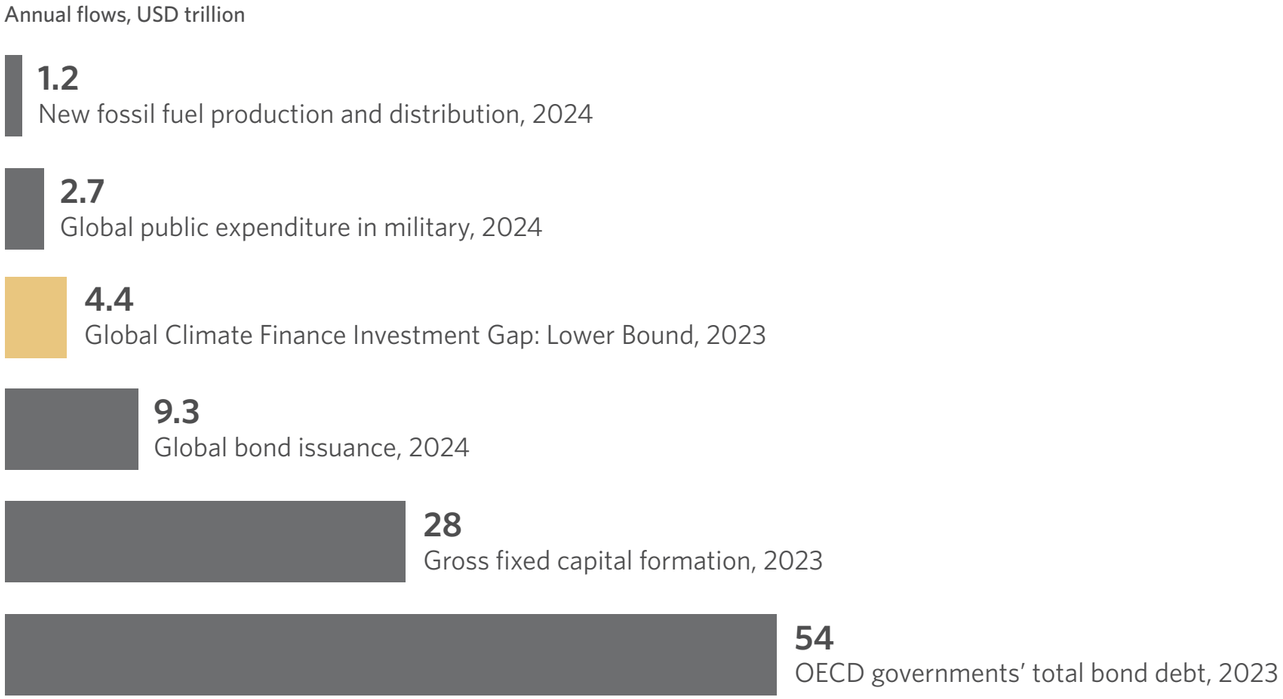
Note: Historical finance flows (2018-2023) are expressed in nominal USD. Climate finance needs for 2024-2050 are expressed in constant 2023 USD. This applies to similar analyses hereafter. CPI's climate finance needs methodologies will be presented in a forthcoming report.

Figure 3: Global tracked climate finance and estimated annual climate investment needs through 2050



The funds exist, but must be aligned with global climate and development goals

Figure 4: Global climate finance in context



Closing the funding gap is more viable than ever before—taking a wider perspective highlights the opportunities.

The annual global climate finance gap between USD 4.4 trillion and USD 8 trillion in 2023 presents a daunting figure at first glance. Yet, when viewed in context, it is evident that the challenge is not a lack of capital, but rather its allocation and careful stewardship.

In 2024, an estimated USD 1.2 trillion was going to new fossil fuel production and distribution (IEA, 2025b), perpetuating the crisis we are trying to solve. At the same time, global public military expenditure reached USD 2.7 trillion (SIPRI, 2025)—equal to more than half the climate finance gap. This reflects heightened geopolitical tensions across the globe. But climate change is also increasingly recognized as one of the most serious threats to national security around the world (Alan Turing Institute, 2020).

Meanwhile, the global bond market continues to expand, with USD 9.3 trillion in new bond issuances in 2024 (S&P Global, 2025), while OECD governments alone held USD 54 trillion in outstanding bond debt in 2023 (OECD, 2024).

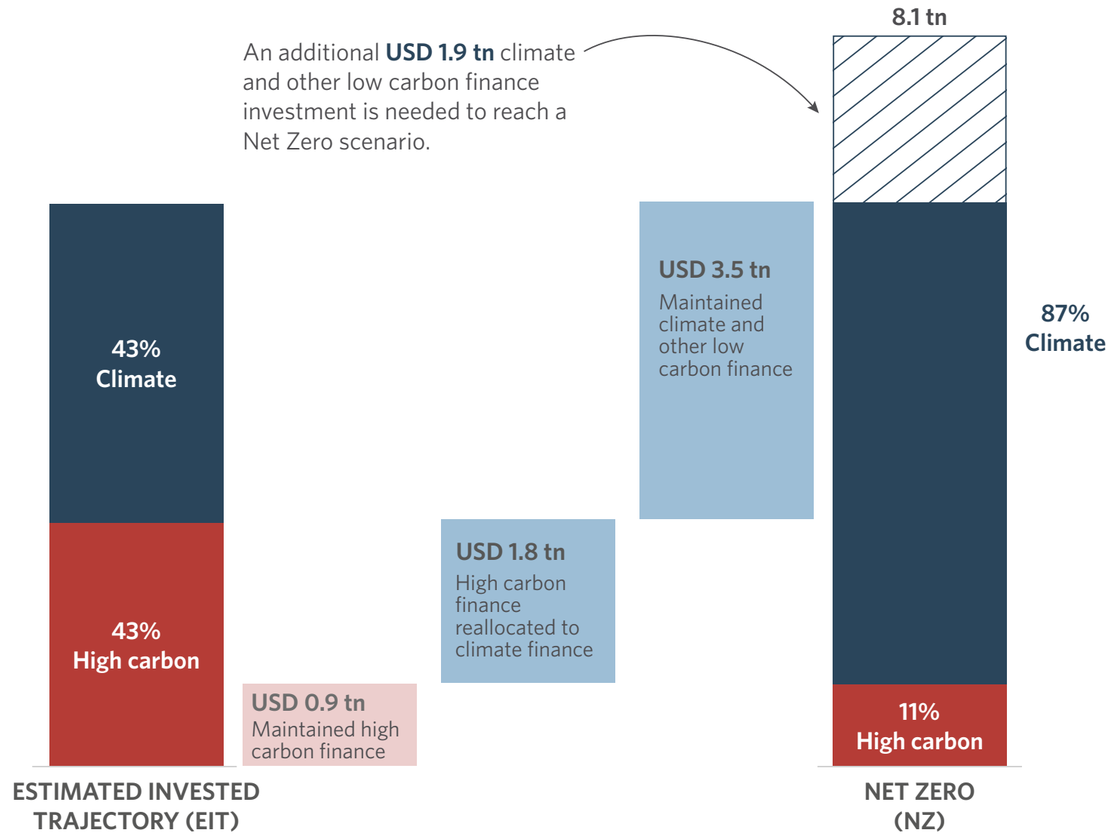
In total, gross fixed capital formation—a measure of investment in infrastructure, equipment, and other long-term assets—reached USD 28 trillion in 2023 (World Bank, 2025a).

Redirecting even a fraction of global capital flows into climate-aligned investment could close the climate finance gap. This is not a challenge of capacity, but of coordination, political will, and financial system design.

Capital must shift more rapidly from high-emission to climate-aligned sectors—not only because actual investment needs will likely exceed current estimates, but also because each year of delay increases future financing requirements and socioeconomic costs. Early action also lowers the risk of carbon lock-in and stranded assets.

Redirecting investment from high-emission activities creates benefits beyond GHG reduction

Figure 5: Required shifts from estimated investment trajectory to a net zero scenario, accounting for average annual needs 2024-2050



Note: The chart presents average annual needs from 2024 to 2050 for key energy-related mitigation activities (i.e., excluding adaptation needs).

One way to assess investment needs is to compare estimated investment trajectory (EIT) and net-zero (NZ) scenarios.

The EIT scenario refers to the investment required under current and expected policies and plans, while the NZ scenario indicates the investment required to reach net zero by 2050.[3] Under the current EIT, significant finance would continue to support high-emission activities. Achieving net zero will require substantial reallocation to low-emissions solutions across all mitigation sectors.

A further USD 1.9 trillion in mitigation investments is needed annually to achieve the NZ scenario—in addition to those reflected in the EIT. For context, this is less than the USD 2.8 trillion in annual revenue from the global entertainment and media sector (PwC, 2024).

The greatest challenge lies in shifting existing investment flows. High-emissions investments must decrease in conjunction with raising support for climate-aligned activities. Around USD 1.8 trillion invested per year under the EIT on high-emission activities would need to be redirected to climate solutions. This includes more than USD 200 billion otherwise directed to fossil fuels production and distribution.

Climate finance will deliver benefits beyond emission reductions, improving public health, lowering energy costs, enhancing energy security, and enabling more resilient and inclusive economic development (IPCC, 2023). Inaction, on the other hand, will result in significant economic losses—up to 15% of global GDP by 2050 under 2°C warming, and as much as 30% by 2100 under 3°C (CPI, 2024b and 2024c; NGFS, 2024).

[3] See Annex: Climate Finance Needs Methodology on how the estimated investment trajectory is derived.

2024: Early estimates show continued but uneven growth

Preliminary estimates suggest that climate finance flows to key solutions increased by around 8% in 2024[4] with total climate finance surpassing USD 2 trillion for the first time, based on initial assumptions and available information. A more precise analysis will be provided in the 2026 GLCF, when more primary data becomes available.

These estimates indicate a continued upward trend, but at a slower growth rate than the 15% observed from 2022 to 2023. The highest growth is attributable to sustained investment in transport, supported by increased demand for electric vehicles (EVs) and related infrastructure. While EV sales are expected to have stagnated in the EU, the US saw higher but slowing growth. Volume increases were led by China and the fastest growth is reported to have occurred in EMDEs, albeit from a low base, particularly in Brazil, Viet Nam, and Indonesia (IEA, 2025a).

Growth in climate finance is predicted to have persisted, despite conditions that are expected to have impacted momentum:

- **Macroeconomic outlook:** The fallout from high interest rates in 2023 has raised investment costs for capital-intensive solutions, with amplified implications for EMDEs. Combined with lower global growth projections (World Bank, 2025b), this is likely to have constrained government budgets for supportive incentives.
- **Energy market dynamics:** Lower natural gas prices relative to 2022 and 2023 (OIES, 2024) have increased competition for end-use electrification in buildings and industry. For example, heat pump sales—both residential and industrial—in Western Europe, the largest market for this technology, declined in 2024 due to the shifting electricity-gas price ratio (EHPA, 2025).
- **Grid growing pains:** Rapid renewable energy expansion has stressed grids with high penetration levels—high prices for transformers and cables, and long permitting timelines left 1,650 GW of solar and wind capacity awaiting connection globally (IEA, 2025b). A slowdown in total spending on solar PV has also been reported, as prices reached historic lows (Solar Power Europe, 2025), with the production of many key clean energy technologies said to have been in overcapacity (BNEF, 2025b).

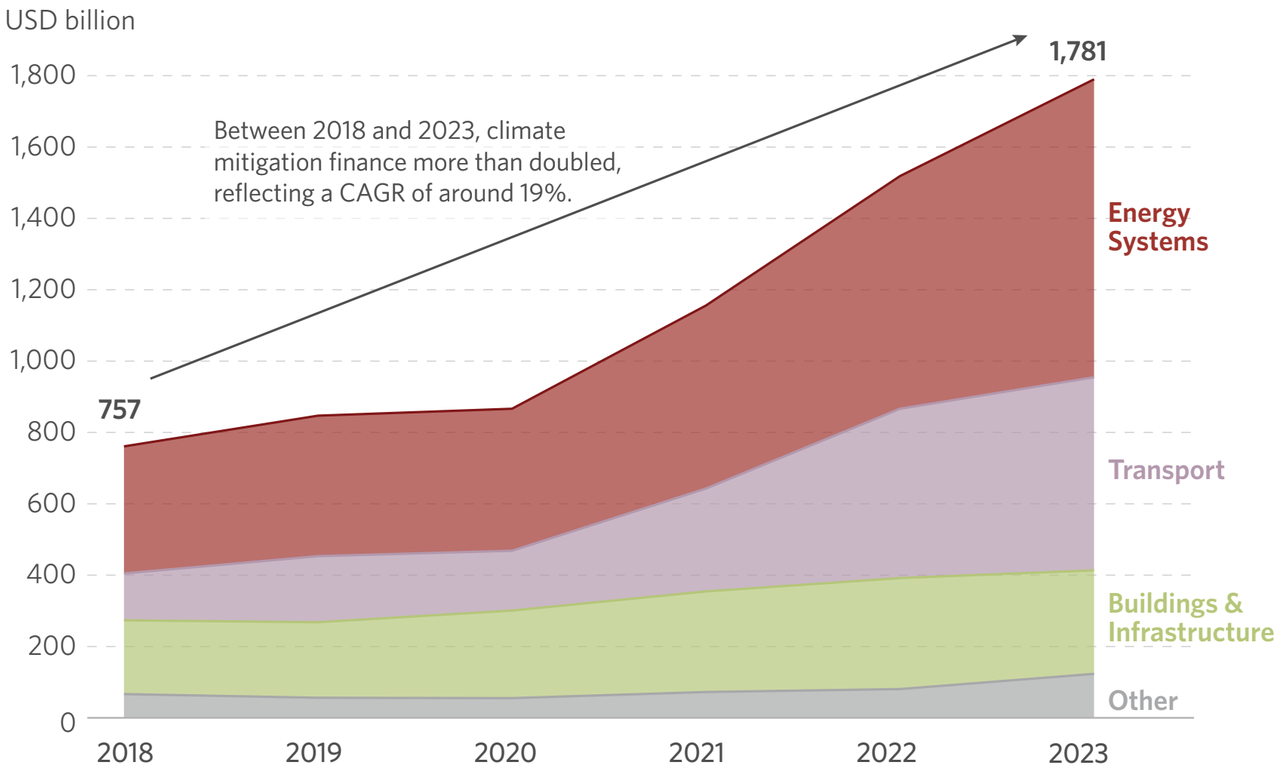
Climate finance has shown resilience, but with further turbulence post-2024, commercially viable solutions and investments unaffected by socioeconomic shifts are essential, underscoring the importance of clear financial incentives and targeted policies.

4. This analysis covers the key sectors of energy systems, buildings and infrastructure, transport, and industry, which represented 76% of 2023 flows. When applied to total climate finance, the growth rate is around 6.5%.

Mitigation finance 2018-2023

Mitigation finance sustained growth, led by the energy sector

Figure 6: Climate mitigation finance by sector



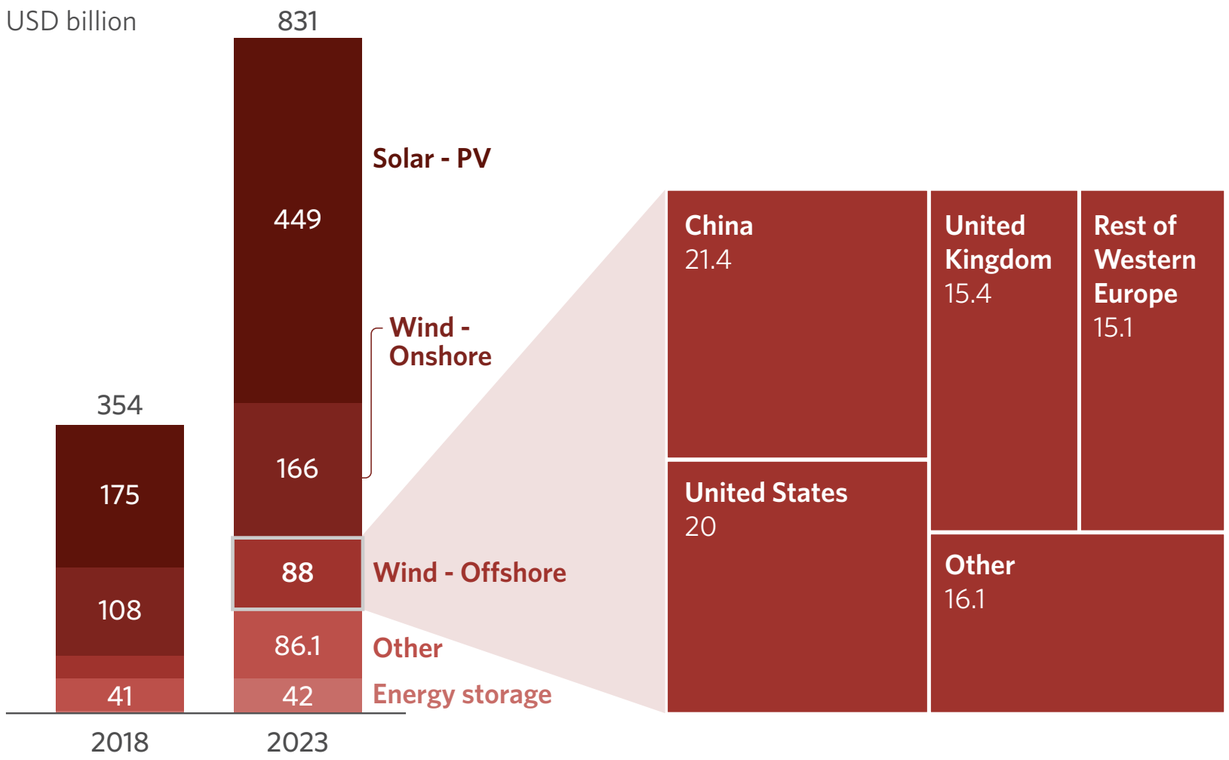
Note: Other sectors include Others & Cross-sectoral, Industry, Waste, AFOLU, Water & Wastewater, Information and Communication Technology, and Unknown sectors.

Over 75% of mitigation finance went to energy and transport.

Between 2018 and 2023, climate mitigation finance more than doubled, increasing from USD 757 billion to USD 1.78 trillion. This reflects a CAGR of around 19%, with growth accelerating between 2020 and 2022. In 2023, over 75% of climate mitigation finance was directed to energy systems and transport, driven by solar PV, wind power, and EVs. In contrast, flows to buildings and infrastructure and industry declined due to persistent investment barriers in energy efficiency, retrofits, and hard-to-abate sectors. Flows to agriculture, forestry and other land use (AFOLU) and fisheries, waste, and cross-sectoral solutions remained small but growing, supported by public finance, reflecting emerging interest in nature-based solutions.

Energy momentum driven by policy and falling technology costs

Figure 7: Mitigation finance for energy systems by solution; Offshore wind by region



ENERGY CONTINUES TO DOMINATE MITIGATION FINANCE, REACHING USD 831 BILLION IN 2023, A 234% INCREASE SINCE 2018.

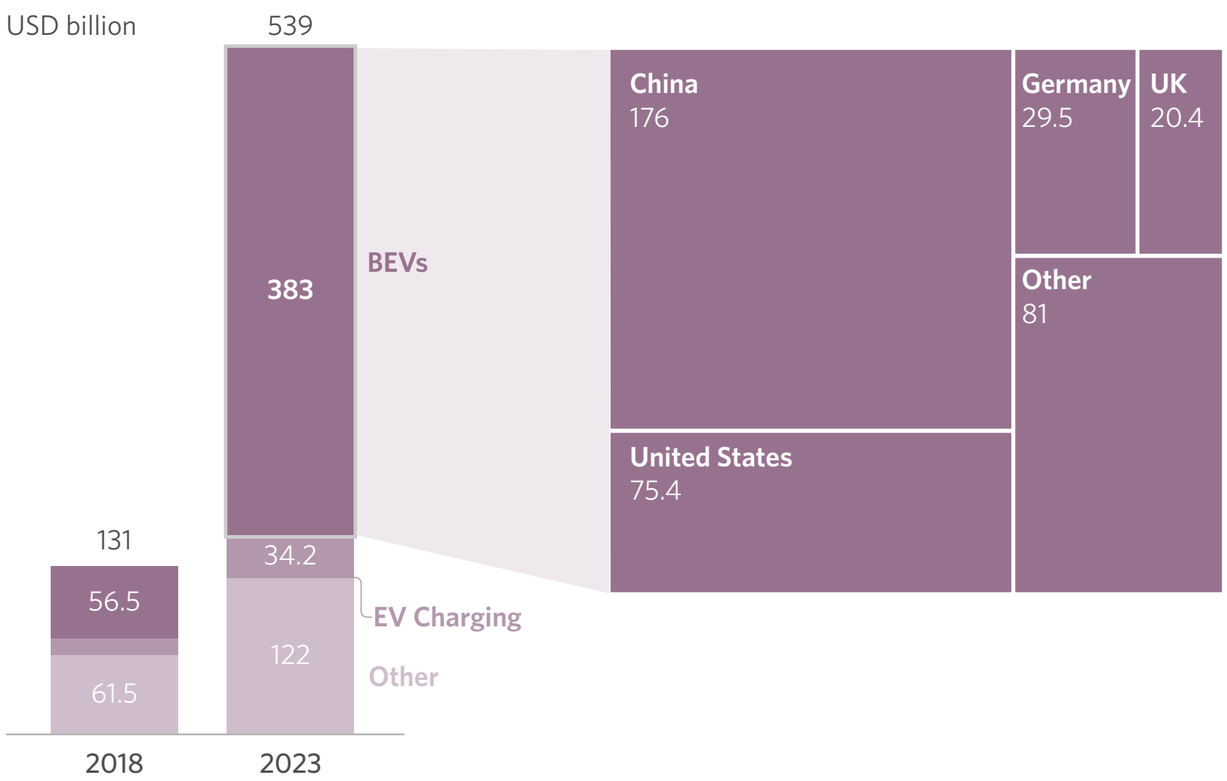
- **Solar PV** led this growth, supported by a near 40% drop in mainstream module costs between 2018 and 2023, enabling widespread small-scale deployment (IRENA, 2024b). For instance, an around 186% increase in Solar PV investment from 2022 to 2023 in sub-Saharan Africa shows potential for small-scale deployment.
- **Offshore wind** finance increased by nearly 60% between 2022 and 2023, despite a decline in investment in China. Growth was primarily driven by large-scale projects in the US and UK. Many of these reached financial close in 2023, supported by enabling policy frameworks such as the US Inflation Reduction Act and the UK's Contract for Difference scheme.
- **Energy storage** gained momentum, with investments growing by 74% between 2022 and 2023, driven by the growing need to support intermittent renewables, particularly in the US and China. This trend highlights the increasing demand for grid integration and enhancements to transmission infrastructure.

2024/25 OUTLOOK

Battery storage is set to rise with clearer regulations and co-location with renewable energy installations. Solar PV is expected to grow in emerging markets and onshore wind to expand steadily, though the latter may decline if large projects do not reach financial close due to geopolitical shifts and competing priorities.

Investment in transport showed consistent growth

Figure 8: Mitigation finance for transport by solution; BEV finance by region



MITIGATION FINANCE FOR TRANSPORT SHOWED CONSISTENT GROWTH, REACHING AROUND USD 539 BILLION IN 2023, A 311% INCREASE FROM 2018.

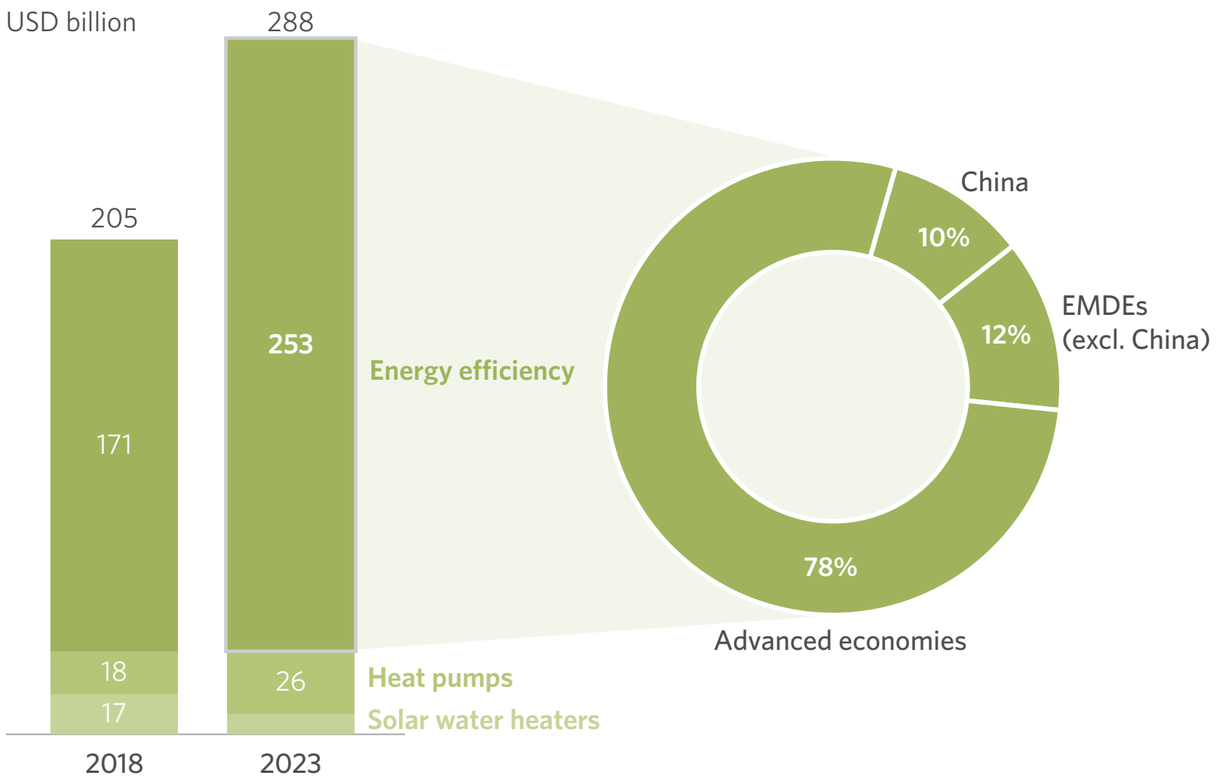
- **Battery electric vehicle (BEV)** growth was focused in China, which saw nearly 60% of global sales in 2023. Viet Nam and Thailand also had strong growth, accounting for around 15% and 10% of new BEV car sales, respectively (IEA, 2024c). Emerging markets are rapidly scaling 2- and 3-wheel EVs, offering affordable, low-carbon mobility.
- **EV charging** investments rose by 40% between 2022 and 2023. Advanced economies and China comprised 96% of this financing, reflecting their infrastructure readiness and policy support.
- **Rail and public transport** investments have facilitated a modal shift, particularly in urban corridors and high-density areas. However, public transport investment remains limited in lower-income regions.

2024/25 OUTLOOK

China, India, and Southeast Asia are expected to continue scaling 2- and 3-wheel EVs, bolstered by domestic manufacturing and public incentives such as India's FAME II (Faster Adoption and Manufacturing of Electric Vehicles) scheme (Ministry of Heavy Industries, 2024).

Buildings and infrastructure sector shows slow growth in EMDEs

Figure 9: Mitigation finance for buildings and infrastructure by solution; Energy efficiency investment by country status



INVESTMENTS IN BUILDINGS AND INFRASTRUCTURE GREW BY 40% BETWEEN 2018 AND 2023.

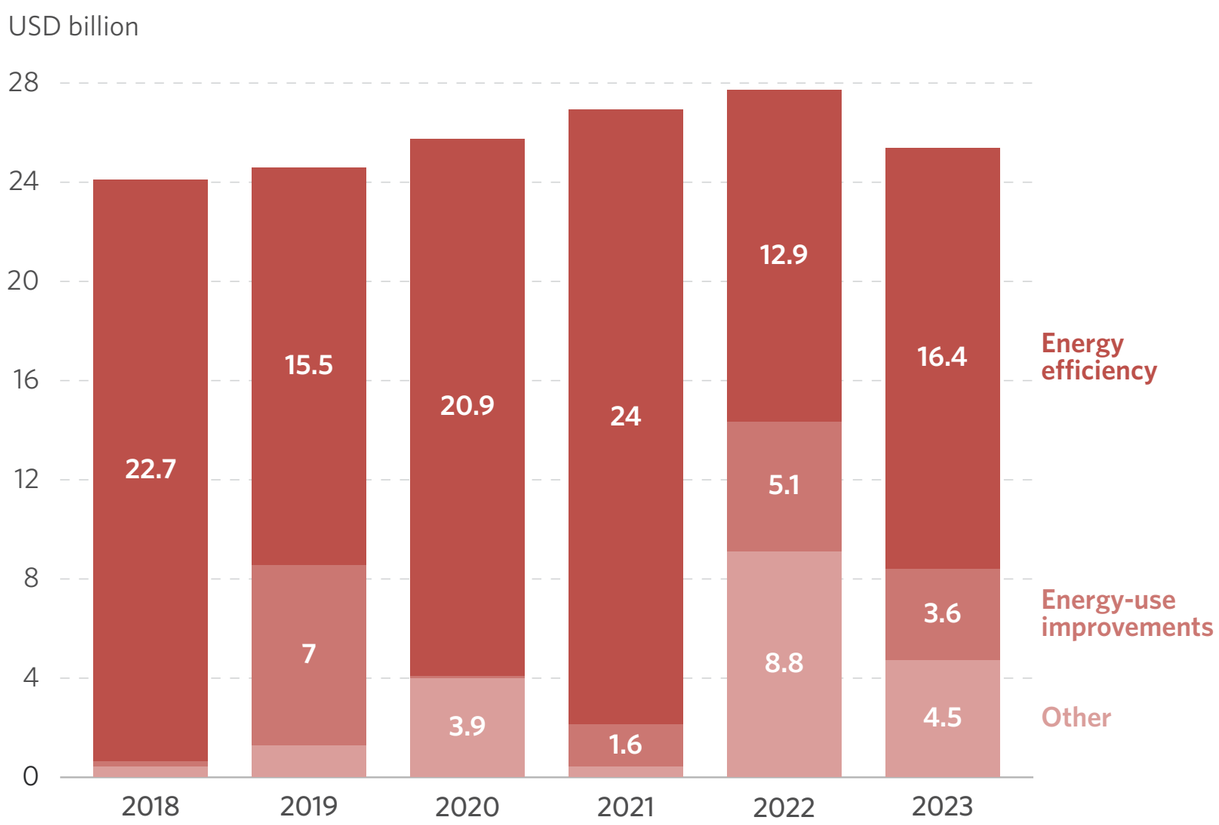
- **Energy efficiency** constituted 88% of investment in the buildings and infrastructure sector. In advanced economies, investment in new construction and retrofitting was primarily driven by high energy prices, policy incentives, and favorable economic returns. Energy efficiency improvements could contribute over 40% of emissions reductions, with new builds being more efficient than traditional construction (IEA, 2024b).
- **Heat pump** sales grew by 30% globally between 2019 and 2022, fueled by focused policy support and rising natural gas prices, particularly in Europe and China (IEA, 2024a). However, in 2023, sales declined due to the withdrawal of incentives in some developed economies.
- **Solar water heater** deployment has stagnated, with growth primarily in EMDEs, where affordability and access priorities shape market trends.

2024/25 OUTLOOK

Investment is expected to stagnate in advanced economies due to higher interest rates and the phase-out of government incentives, while EMDEs face persistent financing barriers to efficient and low-carbon construction (IEA, 2024d).

Flat investment points to need to spur system change for industry

Figure 10: Mitigation finance for industry by solution



INVESTMENT TO MITIGATE INDUSTRY EMISSIONS IS STATIC, BUT SYSTEM CHANGE IS EMERGING.

Annual flows have remained consistent since 2018. However, there is a shift from traditional efficiency measures to broader solutions, including energy-use improvements and alternative technologies such as sustainable production methods for heavy industry.

- **Iron and steel are the sector's top emitters** (IEA, 2020). Electric arc furnace (EAF) adoption has grown by around 11% since 2020, with half of planned capacity based on EAF, increasingly combined with gas-based direct reduced iron.
- **India**, the world's second-largest steel producer (Global Energy Monitor, 2024), remains coal-dependent but has a window to shift to avoid long-term lock-in, with around USD 1 billion in clean industry investment in 2023 (Global Energy Monitor, 2025).
- **Energy efficiency flows plateaued**, with the IEA (2024b) highlighting that related investment fell in 2023 due to high energy prices and supply chain issues.

2024/25 OUTLOOK

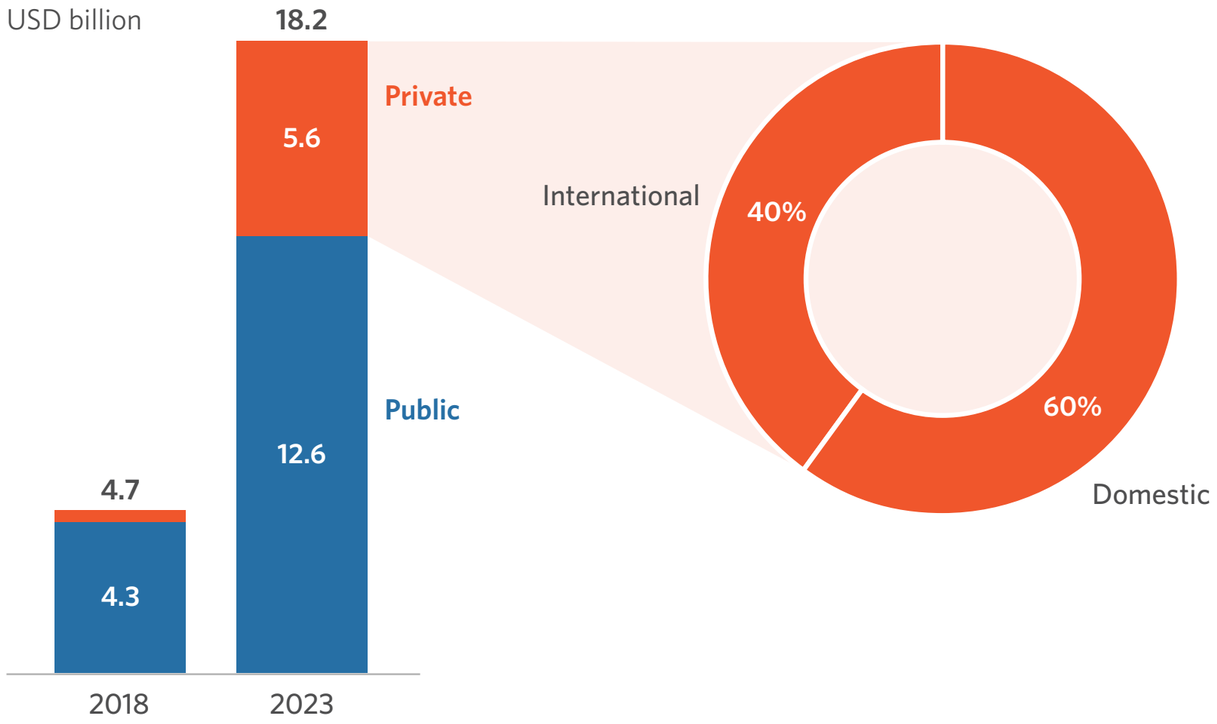
Industry requires coordinated public-private investment to scale low-carbon technologies. Stronger policy frameworks and concessional finance are essential to de-risk the industrial transition. There is also growing focus on the extraction of critical minerals such as copper and the manufacturing of high-voltage cables to expand transmission and distribution infrastructure.

INDUSTRY SECTOR COVERAGE

The industry sector—comprising cement, steel, chemicals, and metalwork—is tracked separately from energy, with investment estimated using average technology efficiency in a recent base year. IEA data (2024e) captures spending on industrial energy management systems, while DFI surveys cover energy-use improvements through activities such as advanced manufacturing.

Rapid growth in flows for AFOLU and fisheries built on a low base

Figure 11: Mitigation finance for AFOLU and fisheries by institution type; Private finance by source



AFOLU AND FISHERIES SAW A REMARKABLE INCREASE IN ANNUAL CLIMATE FINANCE BY AROUND 286% FROM USD 4.7 BILLION IN 2018 TO USD 18.2 BILLION IN 2023.

While still a small share of overall flows, growth is accelerating, evidenced by a 52% increase between 2022 and 2023, driven by both public and private actors.

- **Private actors**, especially agrifood corporations, are increasingly investing in mitigation activities such as forest restoration, sustainable agriculture, and land-based carbon credits to reduce supply chain emissions and engage in voluntary carbon markets (CLIC, 2025).
- **Domestic finance** is predominant, particularly in Western Europe, where the majority of AFOLU mitigation finance is mobilized within countries, supported by strong institutional frameworks and public–private coordination.
- **Agrivoltaics**,[4] which combines solar energy generation with agriculture, alongside circular food systems, is an emerging mitigation solution. China has rapidly adopted agrivoltaics to enhance land efficiency, rural revitalization, and renewable energy goals, supported by public grants and integration into national rural development plans. Japan's 2050 strategy (The Government of Japan, 2024) further illustrates this shift to decarbonize its agrifood systems.

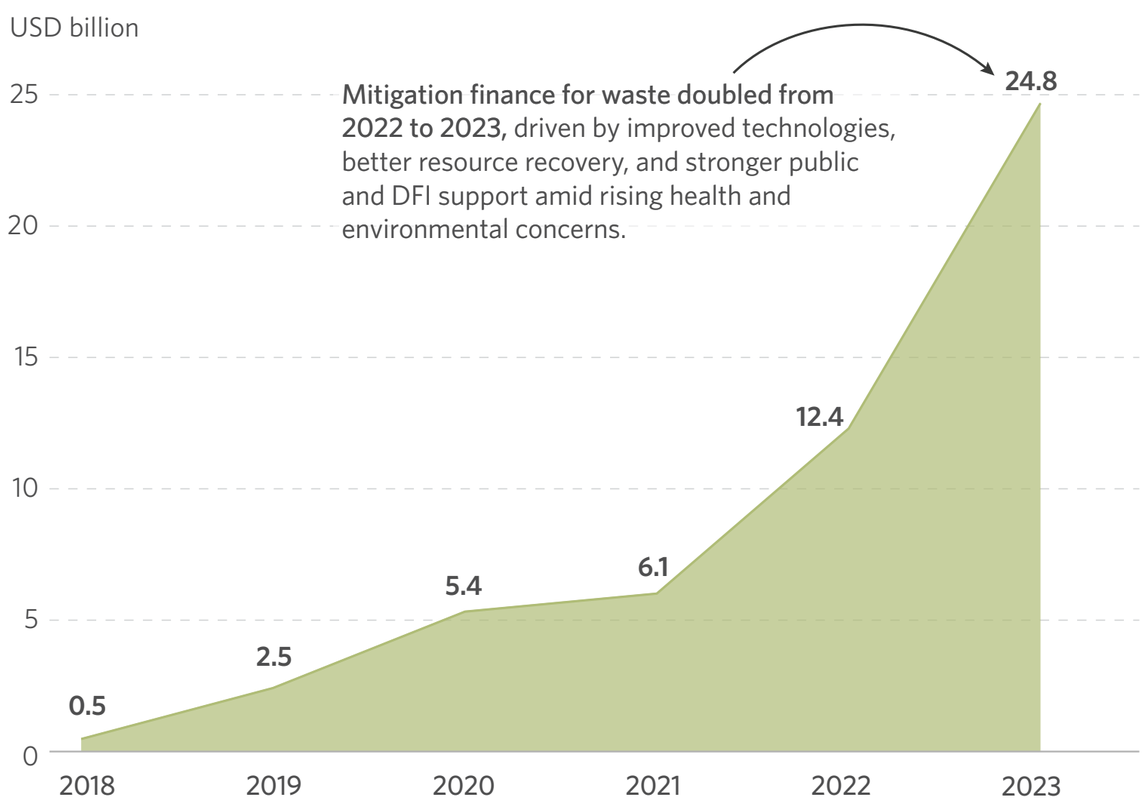
2024/25 OUTLOOK

AFOLU finance is poised for growth, driven by policy support, technology advancements such as agrivoltaics, and improved alignment between early innovation funding and scale-up capital, particularly in advanced economies with global spillover effects.

4. The coverage of AFOLU and fisheries numbers in this report is narrower than those reported in CPI's Landscape of Climate Finance in Agrifood Systems 2025 report which include agrifood-systems-related investment across energy, transport, water and wastewater, solid waste, and industry. These are reported in the respective sectors in GLCF to avoid double counting. For example, investment in agrivoltaics would be captured in the energy sector in this report and not in AFOLU and fisheries.

Promise in waste sector finance for vital methane abatement

Figure 12: Mitigation finance for waste



WASTE MITIGATION FINANCE HAS GROWN RAPIDLY, DOUBLING BETWEEN 2022 AND 2023.

This reflects both improved waste management technologies that reduce costs, better resource recovery, and heightened awareness of health and environmental risks prompting stronger public and DFI support.

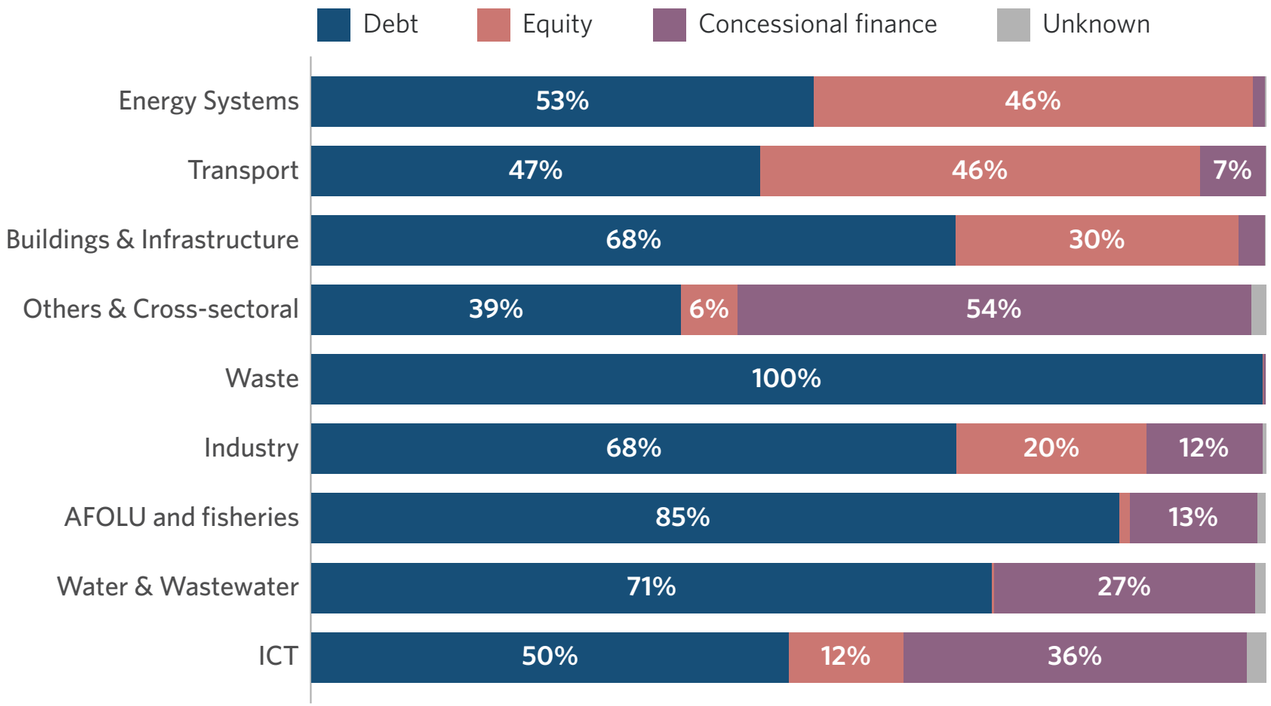
- **Public investment** in the waste sector rose by around 211% between 2022 and 2023, particularly from domestic sources in high-income economies. Examples include the Hong Kong Government International Bonds and Singapore's National Environment Agency. Italy also saw an around 510% increase in investment from approximately USD 300 million in 2022 to USD 1.8 billion in 2023, with around half of this coming from the government.
- **Solid waste flows increased** by 745%, from around USD 350 million to nearly USD 3 billion. For instance, the Agence Française de Développement, KfW Group, and the Asian Development Bank co-financed a USD 500 million project in Indonesia to address plastic marine debris by enhancing waste management, reducing plastic use, and strengthening data and waste tracking systems.
- **International finance** constitutes 46% of total mitigation finance in the waste sector, with 94% of this from private actors. Examples include packaging company DS Smith's shift to corrugated packaging alternatives (DS Smith, 2024) and chemical company Evonik's use of pyrolysis to recycle plastics into raw materials (Evonik, 2025).

2024/25 OUTLOOK

Investment in waste mitigation is expected to maintain its upward trajectory, with continued growth in solid waste solutions and increasing engagement from both public and international private actors, particularly in circular economy innovations.

Debt is the dominant instrument across all mitigation sectors

Figure 13: Share of climate finance instruments by sectors (2023)



DEBT DOMINATES IN SECTORS WITH MATURE MARKETS AND STRONG PRIVATE PARTICIPATION, PARTICULARLY IN THE TOP THREE SECTORS FOR MITIGATION FINANCE.

Market-rate debt plays a leading role in commercially viable mature sectors, enabling them to attract private capital at scale.

- **Energy systems** received USD 831 billion, primarily as debt (53%) and equity (46%).
- **Transport** received USD 539 billion, with almost equal shares of market-rate debt (47%) and equity (46%), and concessional finance (around 7%) in the form of incentives for BEV purchases and charging infrastructure.
- **Buildings and infrastructure** was highly debt-driven (USD 195 billion, or 68% of its total), with equity covering 30%, and only 3% from concessional sources, reflecting strong dependence on commercial finance.

In contrast, waste, water, and AFOLU and fisheries struggle to attract private capital, as mitigation investments are less commercially viable and involve long return periods or complex land-use dynamics—resulting in greater reliance on public and concessional finance.

- **Waste** was 99% funded by bonds under project-level debt, with negligible equity or concessional flows.
- **Water and wastewater** received 72% of finance as debt, 28% as concessional finance, and no significant equity, reflecting stronger public involvement and service delivery mandates.
- **AFOLU and fisheries** showed a similar pattern, with 86% debt and 14% concessional finance.

Cross-sectoral activities and ICT had a more diverse mix, with concessional finance making up over 50% of tracked flows, suggesting a stronger role for grants, technical assistance, and public innovation funding.

Needs significantly outstrip flows, but achieving them is increasingly feasible

Energy systems need a 2.5-fold increase in mitigation finance to align with average 2024 to 2030 needs. This sector has the highest emissions reduction potential, requiring investment in renewables, grid modernization, and storage solutions.

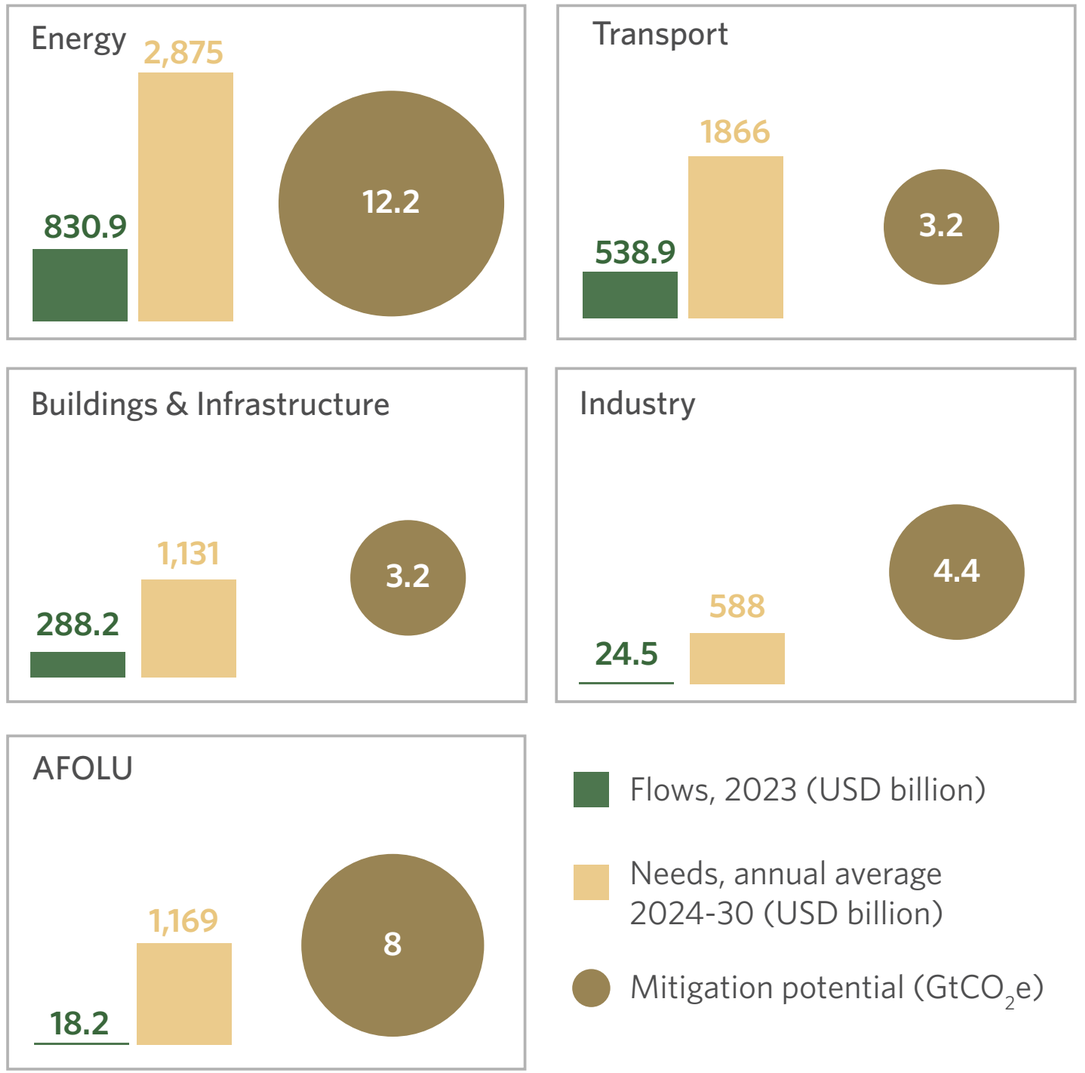
Transport also requires an almost 2.5-fold increase in mitigation finance, alongside a significant shift away from high-carbon investments. With a mitigation potential of 3.2 $GtCO_2e$, priorities include electric mobility, public transport expansion, and freight decarbonization.

Buildings and infrastructure mitigation finance must rise nearly 4-fold. This is sector is generally climate-aligned, but further investment can realize its 3.2 $GtCO_2e$ mitigation potential. Focus areas include efficiency upgrades, sustainable construction, and low-carbon heating and cooling.

For **industry**, a nearly 24-fold mitigation finance increase, along with reallocation from high-carbon activities, is needed to tap the sector's 4.4 $GtCO_2e$ abatement potential. Key areas include clean hydrogen, low-emission manufacturing of cement, steel, and ammonia, and carbon capture, and storage.

AFOLU holds great untapped emissions reduction opportunities—mitigation flows should increase 64-fold from USD 18 billion to USD 1,170 billion annually through 2030 to realize this potential. There is also a need to improve definitional boundaries and enhance tracking of finance flows to this sector.

Figure 14: Global mitigation finance flows vs. needs by sector



Note: Finance flows (2023) are expressed in nominal USD. Climate finance annual average needs for 2024-2030 are expressed in constant 2023 USD. Needs data for other mitigation sectors are not available. Mitigation potential data is obtained from the UNEP Emissions Gap Report (2024).

Key sectors to accelerate mitigation action

Investing in targeted solutions across high-emitting sectors can seize opportunities for rapid emissions reductions:

AFOLU

- Methane and nitrous oxide emissions can be reduced through improved livestock practices, manure management, and optimized fertilizer use.
- Reforestation, peatland restoration, and soil carbon sequestration offer scalable mitigation opportunities with co-benefits for biodiversity and water quality.

BUILDINGS AND INFRASTRUCTURE

- Energy efficiency, electrification, and resilient design can significantly cut emissions from buildings. Greater investment is required in low-carbon construction materials, green buildings, and sustainable urban planning.

CLEAN ENERGY

- Clean energy now plays a key role in economic productivity, driven by falling costs for solar, wind, and batteries. Proven technologies are ready for scale-up, especially in new infrastructure and transport systems, where they offer high-impact, cost-effective mitigation.
- Investment and policy must now focus on power transmission, distribution, and storage to fully capitalize on intermittent renewable generation.

HARD-TO-ABATE SECTORS

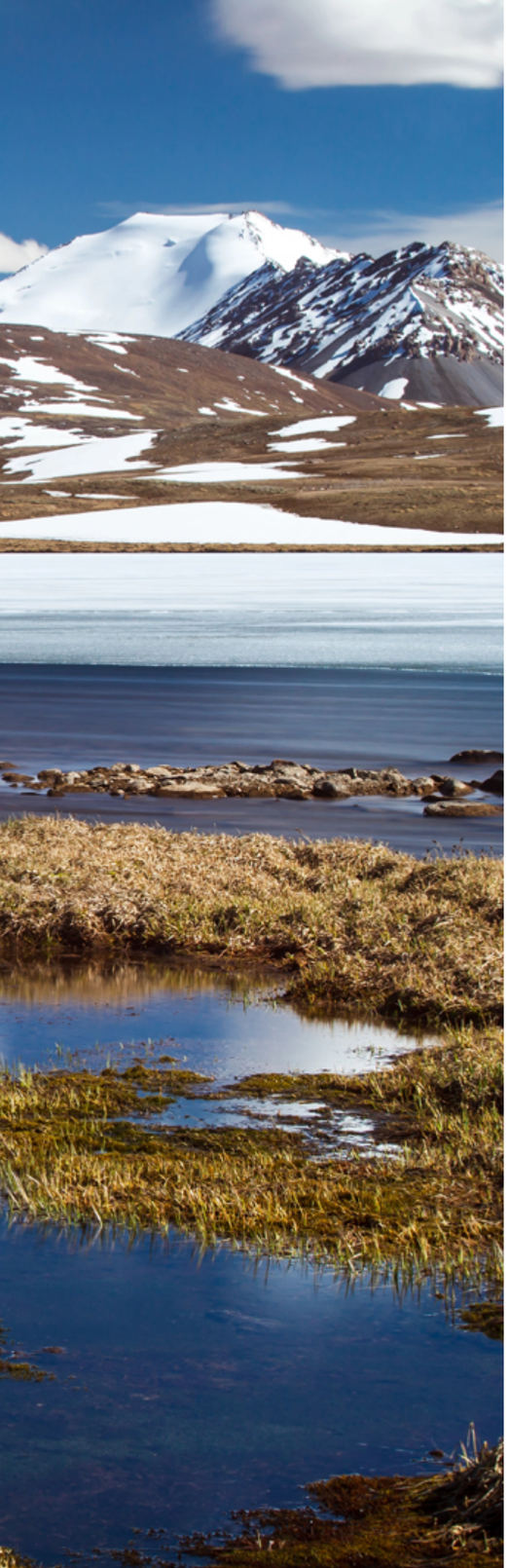
- Scaling organic waste diversion, landfill methane capture, and waste-to-energy systems can cut emissions and improve air quality.
- Circular economy measures (e.g., recycling and reusing materials) can reduce upstream emissions and generate green jobs.

TRANSPORT

- EVs and other low-carbon transport modes are becoming more viable, but deployment remains uneven due to financing and infrastructure gaps. Prioritizing clean, resilient transport systems is essential to meet rising demand while supporting energy security and air quality.

OTHER SECTORS

- Methane leaks from oil and gas operations can be addressed through technologies for detection, repair, and flaring control.
- Improving and scaling carbon capture, and storage is critical for emissions from cement, steel, and chemicals.
- Sustainable fuels and zero-emission technologies are needed for aviation and shipping, along with greater investment in R&D and infrastructure.



Key insights on mitigation finance

PRIVATE SECTOR DOMINATES

- **Private finance** accounted for two-thirds of total global mitigation investment in 2023. Transport finance is dominated by private actors (around 71% in 2023), driven by the consumer EV market.
- **Public finance** plays an enabling role in sectors with lower commercial returns or early-stage development, such as AFOLU and buildings and infrastructure, where strong policy frameworks and concessional capital are essential.

PROVEN MITIGATION POTENTIAL

- Mitigation finance is increasingly technology-led, with high capital flows toward end-use solutions (e.g., BEVs, HVAC). In China, private finance reached USD 374 billion, which is 58% of their total mitigation finance and grew by 325% since 2018, helping drive a system-level shift. For the first time, China's year-on-year CO2 emissions decreased despite rising electricity demand, driven by the rapid deployment of clean energy (Myllyvirta., 2025).

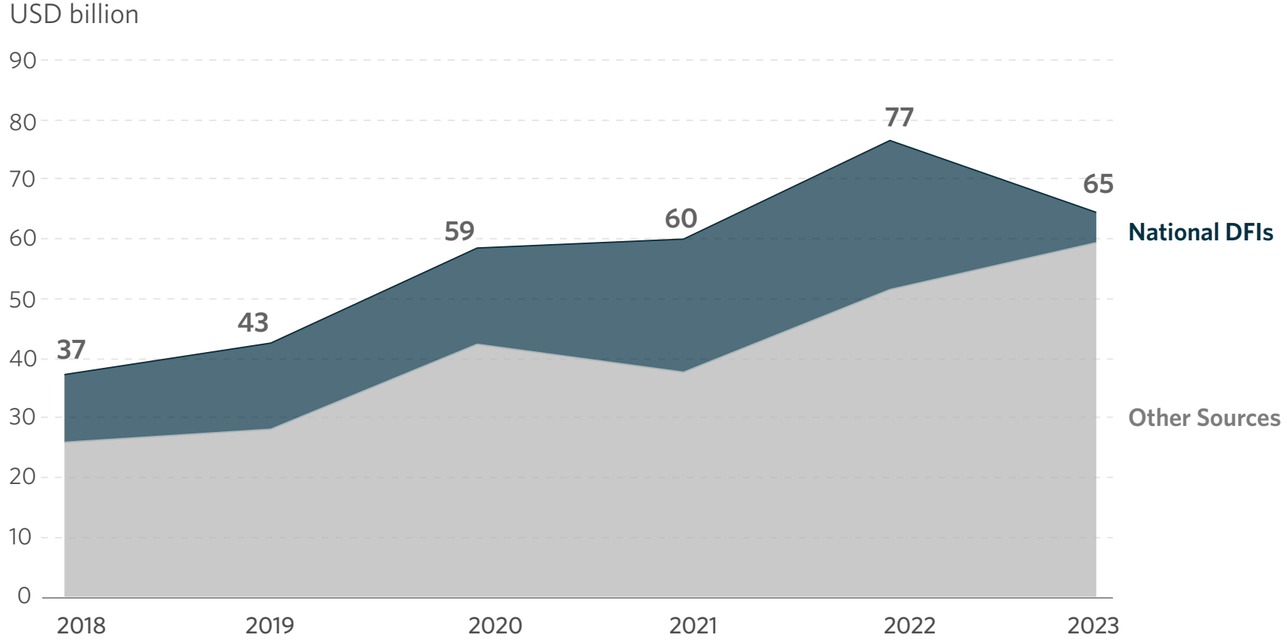
GROWING SUBSECTORS

- Energy systems finance is increasing for transmission and distribution (T&D), particularly when linked to renewable energy integration. To reflect this, we are refining our methodology to include such T&D flows in climate finance in future GLCF editions recognizing the complexity of allocating the share of this that supports green energy systems transition (see Data Annex 1).
- Tracked public transport, rail, and planning is limited, perhaps due to limited funding which would imply a gap in system-wide, low-carbon mobility investment. To address this, we are expanding our coverage of urban rail and metro (see Data Annex 2).

Adaptation finance 2018-2023

Most adaptation sources held steady or increased, but large providers have had outsized impacts

Figure 15: Adaptation finance from national DFIs and other sources



Adaptation finance from green bonds rose significantly to USD 18 billion in 2023.

While adaptation finance rose from most public and private actors from 2022 to 2023, an around USD 20 billion decrease from the China Development Bank—a previously prolific adaptation funder—brought down overall flows. This could be attributed to methodological updates, as well as currency depreciation, which lowered the USD value of local currency investments.[5] The sensitivity of adaptation finance tracking to fluctuations in large providers' financing, methodological changes, and wider data challenges is explored in p. 29.

This drop has been partly offset by a significant step up in adaptation finance from green bond issuances, which rose by USD 7.9 billion to reach USD 18 billion in 2023. Over three-quarters of this growth came from government issuances. With growth in the quality and quantity of resilience taxonomies, adaptation and resilience are expected to appear more frequently in Use of Proceeds criteria for green bonds (CBI, 2024), indicating potential growth in this area in the future.

There is a potential shift from adaptation finance to dual-objective finance (see p. 31), but it is too early to assess the strength of the trend. For example, while fewer Asian Development Bank projects exclusively focused on adaptation in 2023, approximately three-quarters of their financing included both adaptation and mitigation elements.

5. Changes in DFI adaptation finance are further explored in IDFC Green Finance Mapping (IDFC & CPI, 2024) report.

Delaying climate action drives up adaptation costs

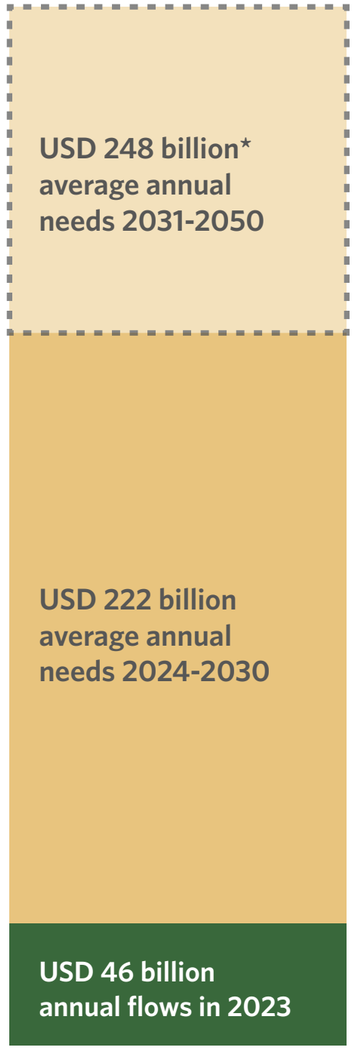
Climate change is happening here and now.

Recent research suggests that up to a third of global GDP could be at risk if significant and rapid action is not taken to keep warming in check (BCG & University of Cambridge, 2025).

Mitigation and adaptation solutions go hand in hand. While adaptation and resilience action is required under all scenarios, delays in mitigation finance today add to future adaptation bills and will result in spiraling economic and non-economic loss and damage. CPI estimates the annual investment required for adaptation in EMDEs at USD 222 billion by 2030 and more thereafter, but as mitigation finance growth lags what is needed, future adaptation needs are likely to be much higher.

At the same time, adaptation action now can save costs, lives, and ecosystems, with immediate results. Crop failures, rising food prices, and trade disruptions will become more common unless climate adaptation strategies are widely implemented alongside mitigation activities, especially as total greenhouse gas emissions in the atmosphere now will yield decades of warming regardless of future mitigation.

Figure 16: 2023 adaptation flows vs. needs for EMDEs



*High uncertainty driven by progress on mitigation goals

Note: These figures are in 2023 USD and therefore differ from the adaptation needs estimates on the CPI website, which are in 2022 prices. Data gaps mean that the USD 46 billion estimate of 2023 adaptation finance flows is likely an underestimate; these gaps are explored in detail on p. 62.

Adaptation finance is expanding and diversifying, though tracking challenges remain

Data gaps are likely to lead to underestimates of adaptation finance.

While adaptation finance tracking has seen progress, gaps remain, and current figures are sensitive to the methodological changes mentioned above. These gaps—along with challenges associated with capturing adaptation investment (see box)—(a) are likely to lead to underestimates of total global adaptation finance; and (b) demand nuanced presentation when making direct comparisons to total global mitigation finance.

Markets for adaptation solutions, including climate intelligence solutions, climate-resilient building materials, and grey or green engineering solutions for flood defense, are experiencing real-time growth and attracting private sector interest (BCG and Temasek, 2025).

However, data gaps for private adaptation finance can pose challenges for capturing this growth. CPI's improved private adaptation finance tracking (see Annex p. 59) has enhanced insights on financing for adaptation through government bonds, public-private partnerships, and household and consumer finance, with the latter analyzed separately (see Data Annex 3).

CHALLENGES FOR TRACKING ADAPTATION FINANCE

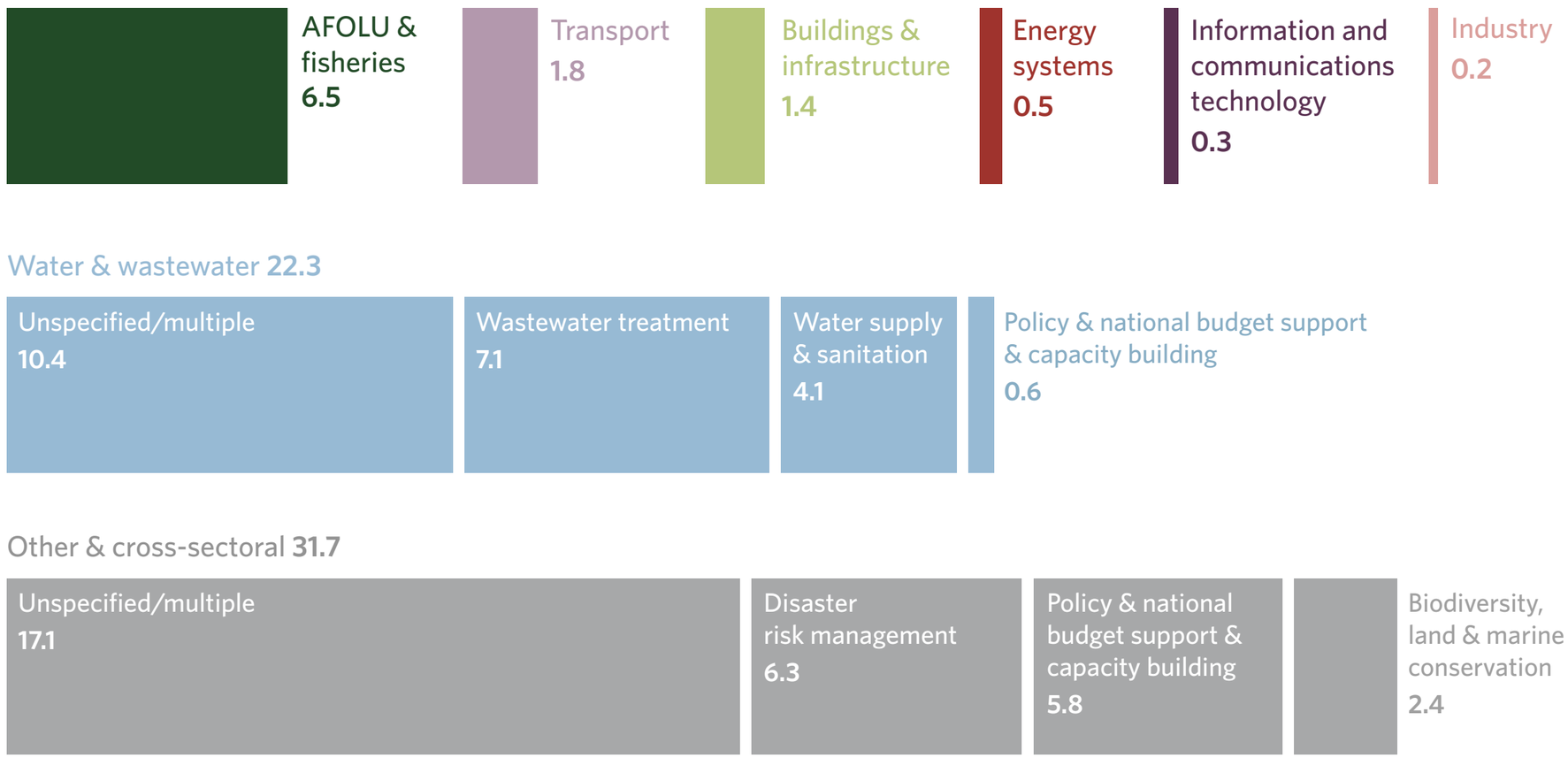
The central challenge in tracking adaptation finance is the varying definitions and boundaries that determine what is tracked and reported. The OECD-Rio Markers (OECD, 2016) and the MDB-IDFC Common Principles for Tracking Adaptation Finance (MDBs, 2015) are examples of complex methodologies that guide the adaptation finance estimates captured for international public finance providers.

Moreover, adaptation finance is often quantified differently from mitigation finance. Public actors (which contributed 90% of tracked adaptation flows in 2023) usually isolate the costs of adaptation-relevant components or subcomponents of investments when quantifying flows (the so-called incremental or proportional approach). This method is reasonably applied to cases where adaptation measures are 'added on' to adapt an investment (e.g., an infrastructure asset) to address climate impacts. However, this contrasts with the approach for mitigation flows, where the entire investment cost is typically tagged, meaning that tracked adaptation finance represents, by comparison, a narrower measurement approach.

The classification and tracking of private adaptation finance continue to evolve. Identifying private adaptation investments partly relies on private providers designating their own investments as adaptation finance, which can easily be misclassified as general risk mitigation, weather-proofing, or asset maintenance. Our estimates of private adaptation finance are therefore conservative and do not capture the full range of adaptation investments in the global landscape.

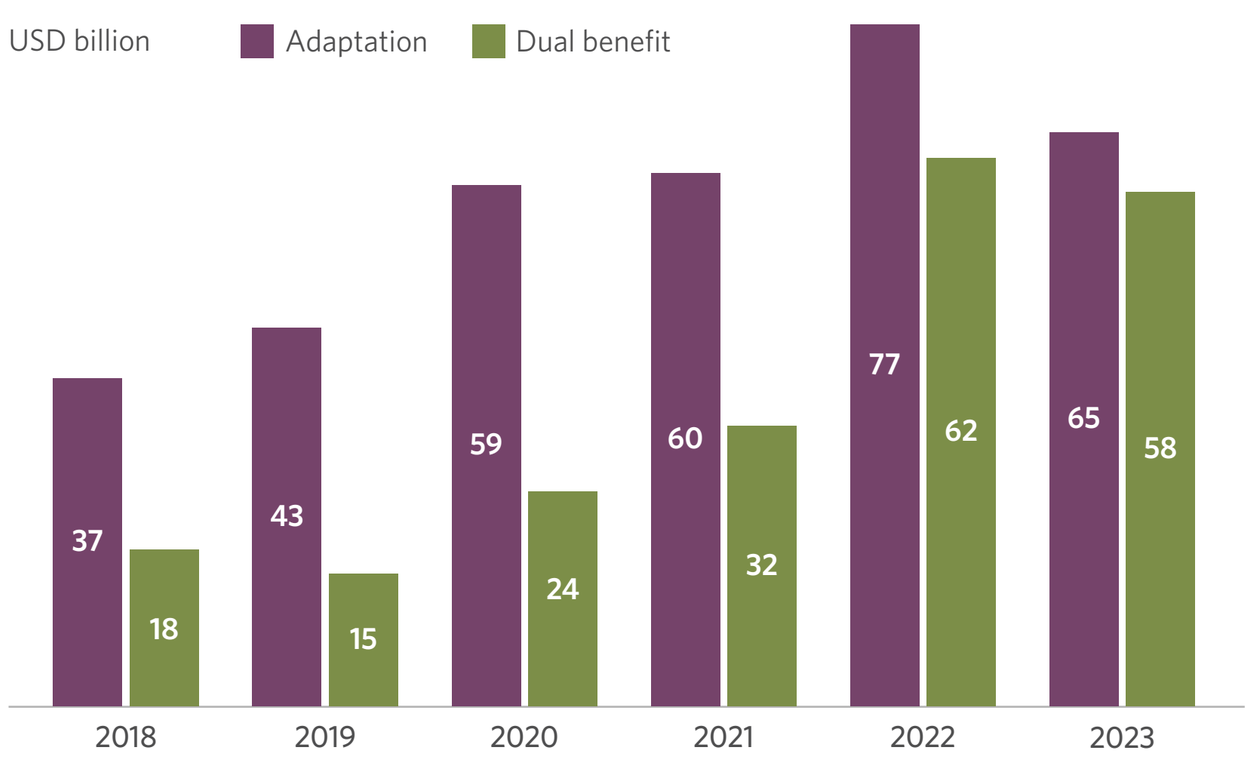
The sectoral split remained steady with notable flows to water and wastewater, AFOLU, and disaster risk management

Figure 17: Adaptation finance by sector in 2023, USD bn



Dual-benefit finance nearly matches adaptation flows, with various advantages for sustainable development

Figure 18: Adaptation vs. dual-benefit finance



AFOLU, water and wastewater, and cross-sectoral uses account for 74% of dual-benefit finance.

Dual-benefit finance—pursuing both adaptation and mitigation objectives—reached USD 58 billion in 2023[6], tripling from USD 18 billion in 2018. Certain public funders are increasingly designing their climate interventions to pursue synergies between both mitigation and adaptation action (IDFC & CPI, 2024).

From 2018 to 2023, such finance consistently targeted AFOLU, water and wastewater, and cross-sectoral uses, with these three sectors accounting for 74% of all dual-benefit finance over the period. In the AFOLU and fisheries sector in particular, climate interventions often yield multiple benefits for climate, people, and nature: mitigating emissions, enhancing resilience, improving food security, and preserving biodiversity (CLIC, 2025).

Investments in energy systems, transport, and waste accounted for 14% of total dual-benefit finance over the period, with all three sectors witnessing notable growth in recent years. This reflects a shift toward climate-proofed, low-emission infrastructure investment.

6. Reflecting genuine trend increases by some reporting DFIs, as well as the inclusion of novel data (LGX) with more granularity for categorising multiple objectives (waste) projects

There is significant adaptation potential across sectors

WATER

- Water and wastewater utilities can invest in stormwater infrastructure, flood control, storage, and water networks.
- Expanding the provision of water and sanitation services across advanced markets (e.g., desalination) and emerging economies (e.g., piped networks).
- Further investment in desalination, wastewater reuse, and other water augmentation R&D to lower costs, improve energy efficiency, and scalability.

BUILDINGS AND INFRASTRUCTURE

- There is a need to retrofit existing infrastructure and buildings to improve resilience, integrating new technologies and approaches to reduce exposure to climate risks, including flood-proofing, storm shutters, and improved heating, ventilation, and air conditioning (HVAC)
- Adaptation and resilience considerations should be integrated into all new infrastructure projects; for example, raising the elevation of roads constructed in flood-prone areas.
- Cooling: There is an opportunity to expand access to cooling, particularly in emerging markets and lower-income areas in advanced economies. This can be achieved through the development of lower-cost, energy-efficient cooling and HVAC technologies to meet rising demand and related energy needs. This can be paired with other innovations such as cool roofs and cooling vests.

AGRICULTURE

- Improved irrigation technologies use less water and energy resources, while improving resilience to changing precipitation patterns.
- Wider adoption of regenerative agriculture practices, including agroforestry, cover crops, organic fertilizers, and no-tilling, by both industrial and small-scale farmers.
- Technological advancements in vertical farming and hydroponics to reduce costs, enabling lower-value crops to be grown in these systems.
- Development of climate-adapted (e.g., drought and pest resistant) crop and livestock varieties.

NATURE-BASED SOLUTIONS

- Ecosystem-based adaptation and services—investing in adaptive, nature-based solutions such as mangrove restoration and coral reef protection can enhance the resilience of ecosystems.

ENERGY SYSTEMS

- Mini-grids, battery storage, and other off-grid energy systems can enhance the resilience of communities during extreme weather events, thereby reducing their reliance on the main grid.
- Actions such as burying power lines can reduce the exposure of energy systems to climate hazards.

Adaptation finance holds opportunities for different private actors

CORPORATIONS

- Invest on-balance-sheet to enhance the resilience of their assets, operations, and supply chains.
- Produce adaptation-related products and services, driven by consumer demand.

INSURERS

- Support resilience both before and after climate events, not only through payouts for damages, but also innovative tools like anticipatory and parametric insurance, risk-adjusted premiums, and 'build back better' incentives.
- Operate as institutional investors, seeking opportunities to invest in long-term adaptation-related assets such as resilience bonds.

COMMERCIALS FINANCIAL INSTITUTIONS

- Lend to businesses and consumers responding to climate hazards, including household loans, mortgages, and co-financing adaptation projects.
- Provide credit lines and other innovative products for adaptation and resilience solutions.

CONSUMERS AND HOUSEHOLDS

- Invest in enhancing their own resilience and that of their properties by purchasing products that facilitate adaptation, such as flood-resilient building materials.

ASSET MANAGERS

- Allocate and oversee large pools of capital and can influence investee companies, including on topics of adaptation and resilience.
- Can invest directly in adaptation and resilience through PE and debt, including resilience bonds and large infrastructure projects.

VENTURE CAPITAL

- Invest in early-stage and high-risk investments in firms offering adaptation solutions. Help to nurture innovative adaptation solutions to reach commercial scale.

PRIVATE EQUITY

- Deliver or incentivize adaptation and resilience through influencing investments, including leveraged buyouts and smaller, earlier-stage private companies. PE often has a slightly longer time horizon, making it more suitable for investments in adaptation and resilience.

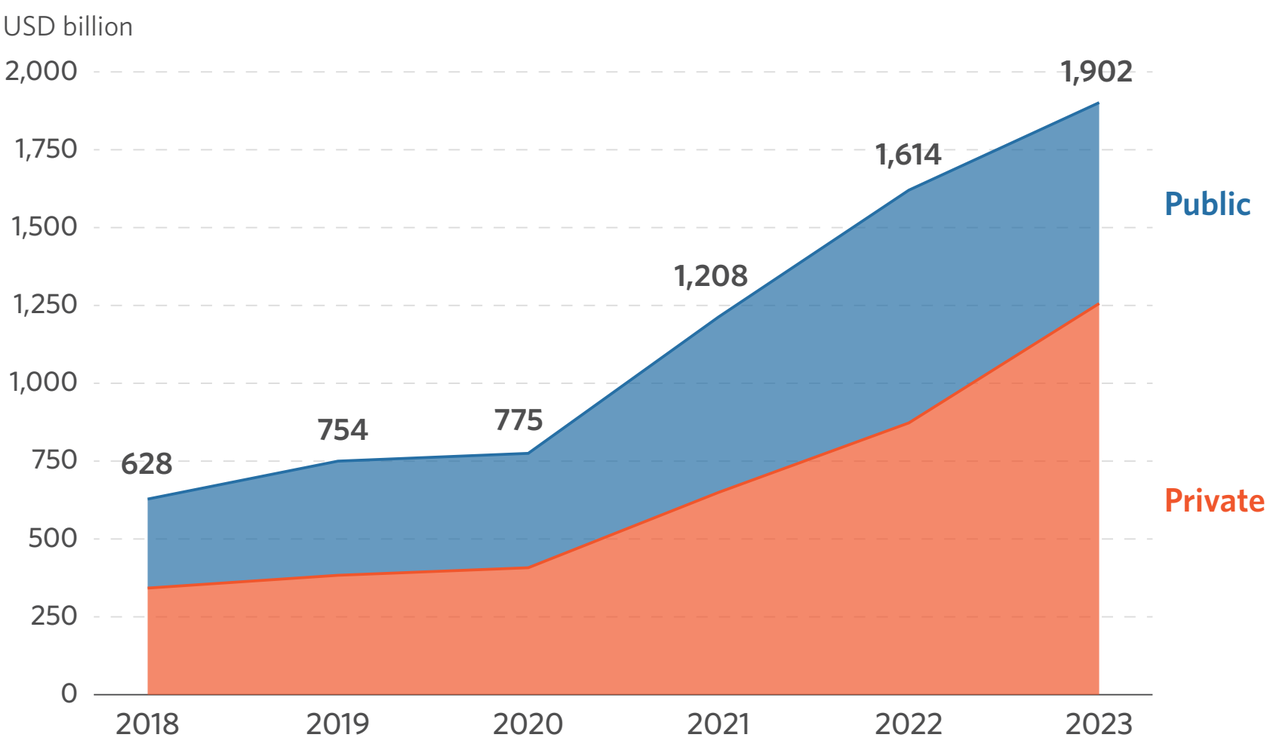
PENSION FUNDS

- Have large pools of capital well-suited to long-term and big-ticket projects, such as resilient infrastructure development and resilience bonds.
- Can assume limited risk, due to their fiduciary duty.

Sources of finance

Private finance crossed USD 1 trillion in 2023, outpacing public finance growth

Figure 19: Climate finance public-private split



From 2018 to 2023, the private and public sectors contributed approximately USD 6.9 trillion in climate finance.

The CAGR for the private sector from 2018 to 2023 was approximately 30%, greatly outstripping 18% for the public sector.

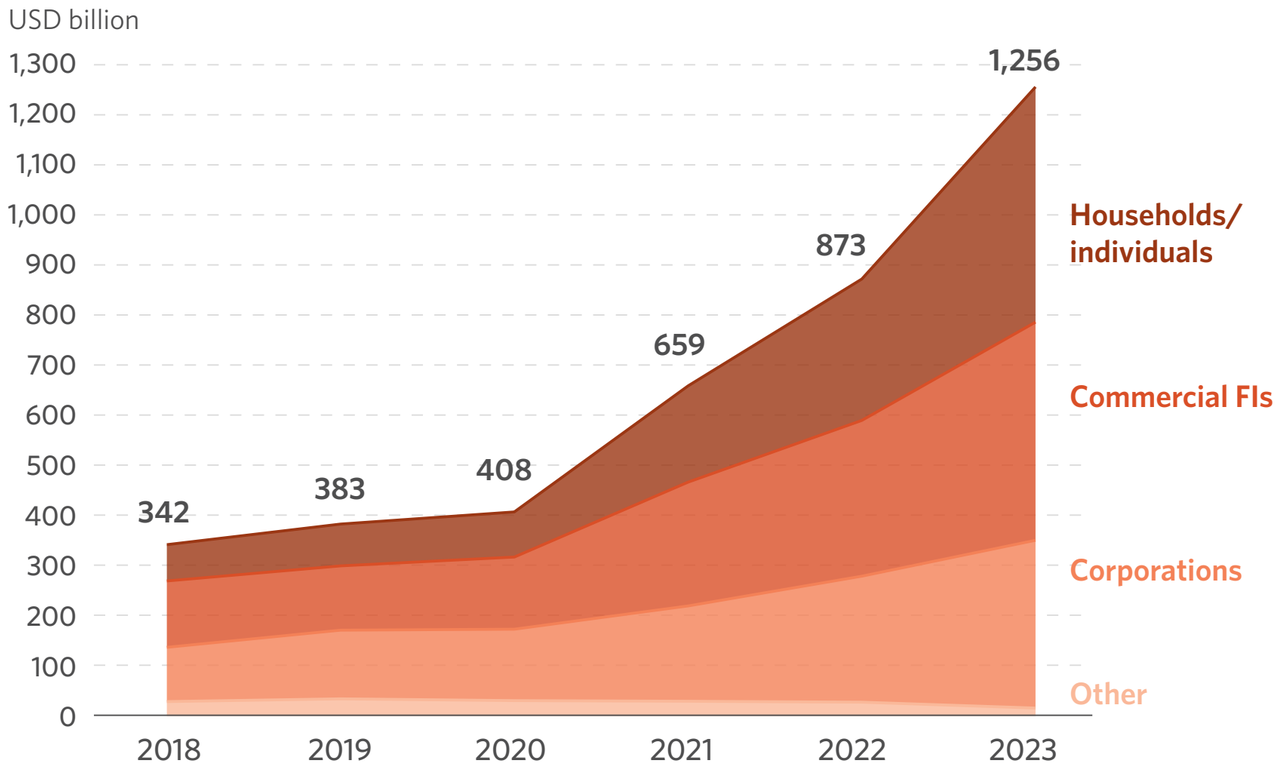
Between 2022 and 2023, private finance increased by approximately 44%.

Against a backdrop of easing supply chain pressures and falling prices (IEA, 2024d), a group of 43 actors each contributed over USD 1 billion in private finance and USD 86 billion cumulatively in 2023, compared to USD 30 billion in 2022:

- There is an even split across commercial financial institutions (FIs) and corporations.
- There is an even spread of these actors across North America, East Asia, and Europe.

Private finance remained concentrated among households, corporations, and commercial FIs

Figure 20: Climate finance by private sector actors



Note: Other private actors include funds, institutional investors, philanthropies and unknown actors.

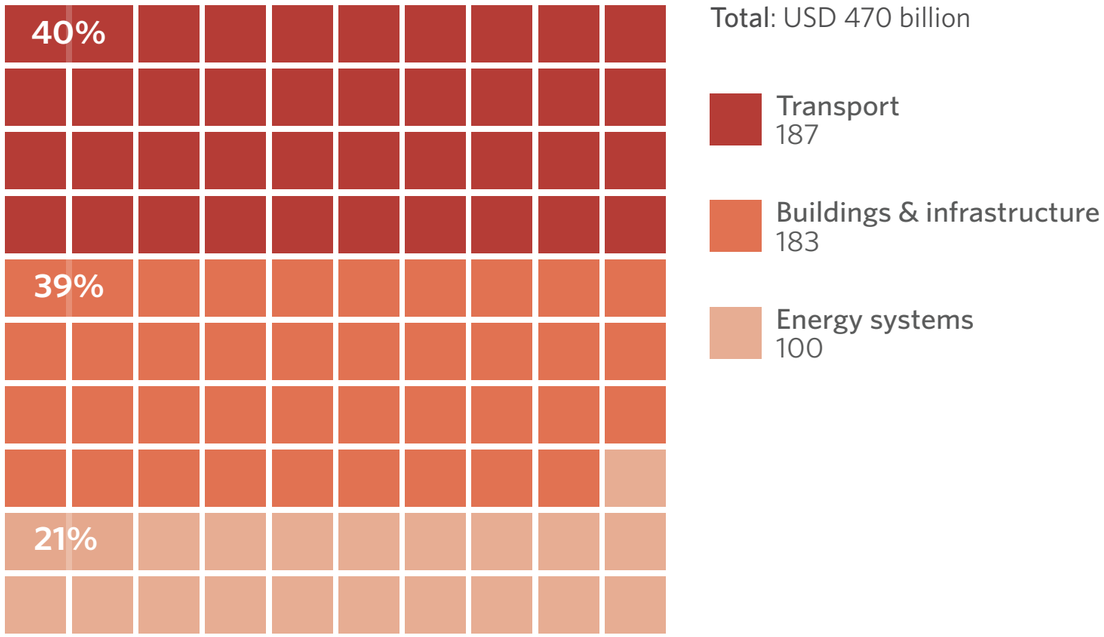
Households and individuals drove approximately 50% of the USD 380 billion increase in private finance, with a 66% increase in their contributions between 2022 and 2023 (see next page for further analysis).

Commercial FIs' climate finance for energy systems almost doubled to over USD 250 billion, representing 45% of total private finance in this sector. Across advanced economies and EMDEs in Latin America and the Caribbean and Middle East, commercial FIs' increased investments have largely been in wind infrastructure and solar PV, as prices of components continue to fall. While commercial FIs have increased commitments and action on net-zero in recent years, they continue to make similar investment in fossil fuels (CPI, 2025b). It will be important to monitor whether net-zero finance coalitions' recent slowdown in commitments impacts future real economy capital flows.

Corporations driving increased private sector contributions remain concentrated within the energy sector (e.g., CGN Wind, RWE AG), but in 2023 were joined by several transport-focused corporations who each contributed over USD 1 billion of private finance, with several of these based in East Asia.

Small-scale solar drove increased climate finance from households

Figure 21: Climate finance from households/individuals in 2023, by sector

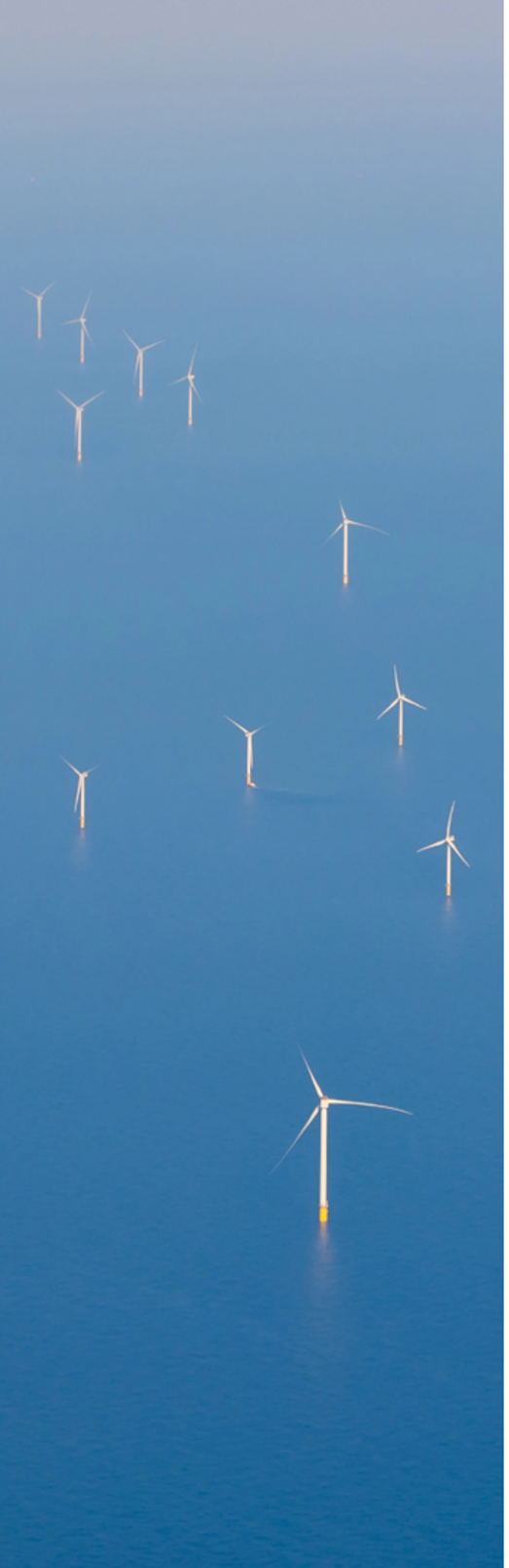


Transport investment in BEVs reached USD 180 billion in 2023 for households as governments continued to back low emissions zones in cities. In EMDEs (excluding China and LDCs), household investment in BEVs more than doubled between 2022 and 2023 from USD 2 billion to USD 4.7 billion. Although a small share of the total, this contrasts with non-EMDEs, where households saw an overall decline in BEV investment between 2022 and 2023.

Energy systems investment in small-scale solar PV units accounted for approximately 21% of all households' contributions in 2023, with investment almost doubling between 2021 and 2023 to reach USD 100 billion. Amid falling solar panel costs, this solution is seeing the largest growth in investment for households.

Buildings and infrastructure investments have driven the growth in households' share of total energy investments to 18% (IEA, 2024d), with investments in energy efficiency retrofits, water heaters, and renewable energy-powered HVAC systems sought to shield against rising energy costs, particularly across Europe (Masterson, 2023).

Adaptation solutions such as cooling roofs, rain gardens, flood prevention landscaping, and heat stress monitors are gaining traction for households and are expected to increase (See Data Annex 3).



Recent energy projects show the power of public finance and South-South cooperation

1.5GW BALTICA II, POLAND

Baltica II is set to become the largest offshore wind farm in the Baltic Sea and the EU upon its completion in 2027.

The 1.5GW installation, located around 40 km off the Polish coast, has the potential to power approximately 2.5 million homes and contribute to Poland achieving its ambitious national energy targets, which include increasing offshore wind capacity to 5.9 GW by 2030 (Ørsted, 2025).

The European Investment Bank (EIB)—one of the project's largest financiers—has provided a EUR 400 million loan, which includes funds from InvestEU and REPowerEU.

REPowerEU was established in response to the Russia-Ukraine conflict, and its funding of this project represents a significant step toward ending Poland's historical reliance on Russian energy resources, which contributed significantly to the country having highest carbon intensity for electricity production in the EU in 2021 (Conte, 2023).

The project will enhance Poland's energy security, demonstrating the continued role of public finance in enabling energy companies in the transition to a net-zero economy.

BAGHDAD WTE PLANT, IRAQ

Shanghai SUS Environment Co.'s development of Iraq's first waste-to-energy (WTE) plant, which began construction in March 2025, demonstrates a recent example of South-South cooperation.

Situated in Baghdad's Nahrawan District, the project is expected to create around 500 local jobs, and its annual 780 million kWh output to meet the energy needs of 10 million people (energynews, 2025), close to 20% of Iraq's population.

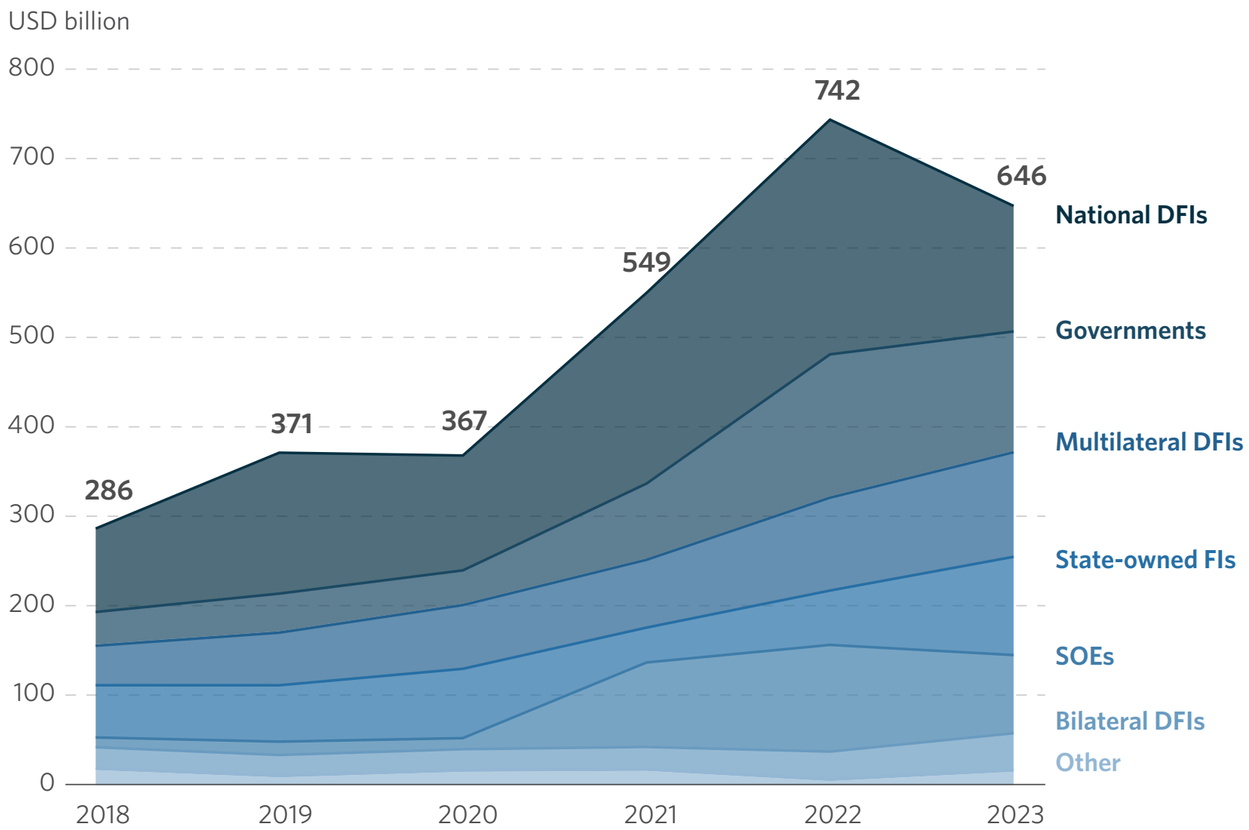
The next few years will be key for Iraq's energy security—despite its abundant oil and gas reserves and strong solar PV potential, the country's energy demand continues to outstrip its generating capacity, particularly during summer.

This has led the government to adopt incentives for new projects, such as tax exemptions for large-scale solar and wind projects, with the aim of increasing foreign private investment.

Along with these policy reforms, Iraq's Council of Ministers earlier this year approved the formation of a private limited company focused on energy sector investments with initial capital of USD 190 billion (Lee, 2025).

Contributions grew from most public sources, yet their total finance fell between 2022 and 2023

Figure 22: Climate finance by public sector actors



Note: Other public actors include export credit agencies, institutional investors, multilateral climate funds, public funds, philanthropies and unknown actors.

Across all public sector actors, key solutions such as concentrated solar power, EV charging, and small hydropower all saw substantial investment increases between 2022 and 2023.

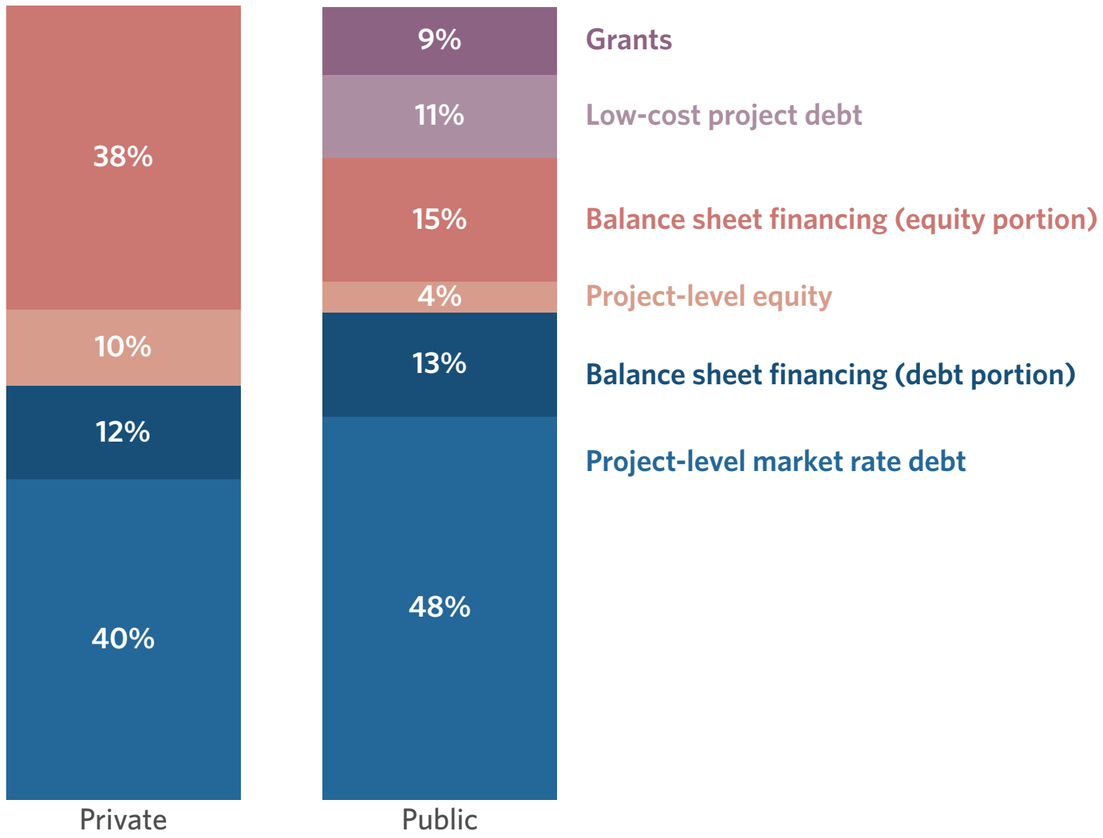
National DFIs: While partly offset by increases from bilateral and multilateral DFIs, the 14% decrease in public climate finance was largely driven by national DFIs, which saw their contributions drop by around 47% between 2022 and 2023.

While this is significant, as national DFIs were the largest contributors of public climate finance in all years between 2018 and 2022, it is important to note that methodological changes also contributed to this decrease.

State-owned FIs: Of the USD 265 billion contributed to energy systems in 2023, state-owned FIs contributed approximately one-third with USD 89 billion. This represents an increase of 50% between 2022 and 2023, which was largely driven by investments in solar PV. In addition, state-owned FIs in EMDEs (excluding China and LDCs) almost matched the investments of those in advanced economies (approximately USD 14 billion).

Debt and equity made up ~80% of both private and public finance

Figure 23: Climate finance instruments by sector in 2023



Note: Unknown private and public instruments accounted for less than 1% of the total.

With low-cost project debt and grants classed as concessional finance, other debt and equity instruments made up at least 80% of climate finance for both the private and public sectors, in line with previous years.

PRIVATE SECTOR

- The split between debt and equity finance was almost even, with a very small share of concessional finance of approximately 0.2%.
- While debt instruments remained more prevalent, innovations such as carbon credit-backed loans and climate resilience bonds are being piloted in developing regions.

PUBLIC SECTOR

- The split is much more mixed for the public sector, where debt finance made up the largest portion at 61% and equity made up around 19%.
- Concessional finance is much more prominent in the public sector, equating to approximately 20% of the total.

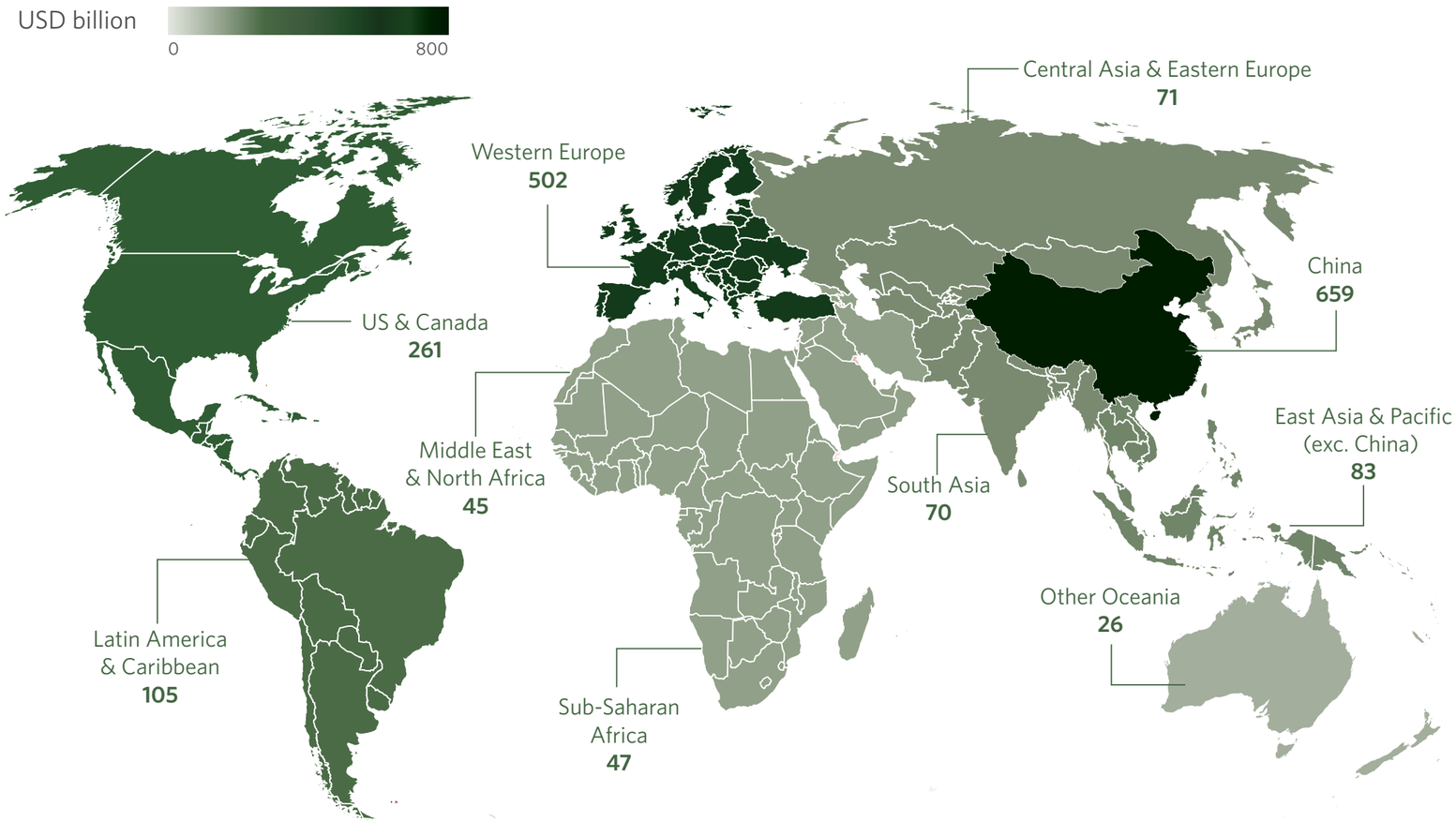
CONCESSIONAL FINANCE

- Excluding cross-sectoral finance across both public and private actors, the transport sector received the largest amount of concessional finance (USD 40 billion).

Regions of destination

Climate finance is increasingly concentrated in three regions

Figure 24: Total climate finance flows by region, 2023



Note: Transregional and unknown flows totaled USD 35bn in 2023

79% of global climate finance was mobilized in three regions.

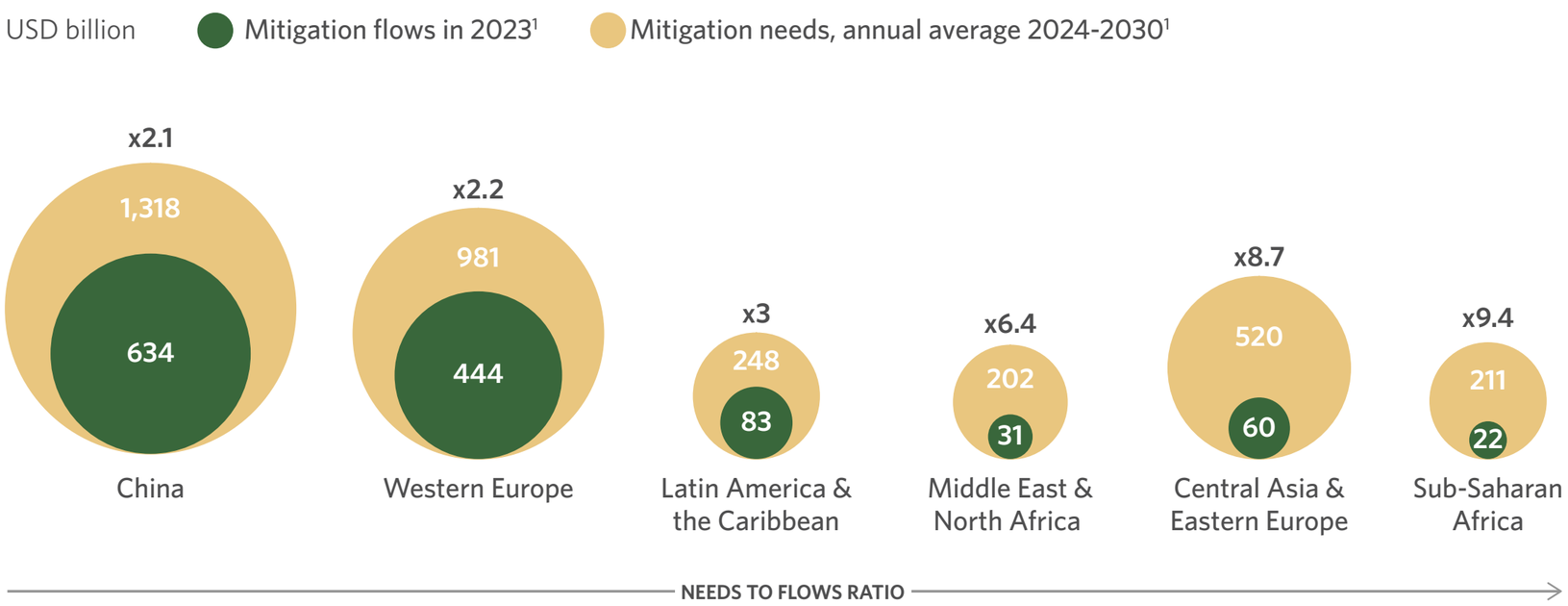
From 2018 to 2023, 79% of global climate finance was mobilized in three regions—East Asia and the Pacific, Western Europe, and the US and Canada. This is an increase from the 75% concentration observed between 2011 and 2020 (CPI, 2022), highlighting a widening disparity between high- and low-flow regions. Although needs are lower in the latter, the scale-up required is significantly greater.

The most climate finance was mobilized in East Asia and the Pacific (39% of global flows). China dominated financing in the region—for every dollar mobilized in China, just 13 cents were mobilized in the rest of East Asia and the Pacific.

Germany, the US, Brazil, and India continue to be the leading countries for finance mobilization in their respective regions.

Comparing mitigation needs to flows highlights regional disparities

Figure 25: Climate mitigation finance flows vs. needs by region



[1]Mitigation needs and flows are for energy, buildings and infrastructure, industry and transport only. Multiple regions are not displayed in the chart (East Asia and Pacific, Other Oceania, South Asia, the US and Canada) due to inconsistencies between investment needs and investment flows regional breakdowns. Investment needs values are based on the aggregation of external sources' estimates which differ in their regional breakdowns, here, only the comparable regions are shown.

The largest mitigation needs-to-flows ratios are observed in areas with higher shares of EMDEs and higher vulnerability:

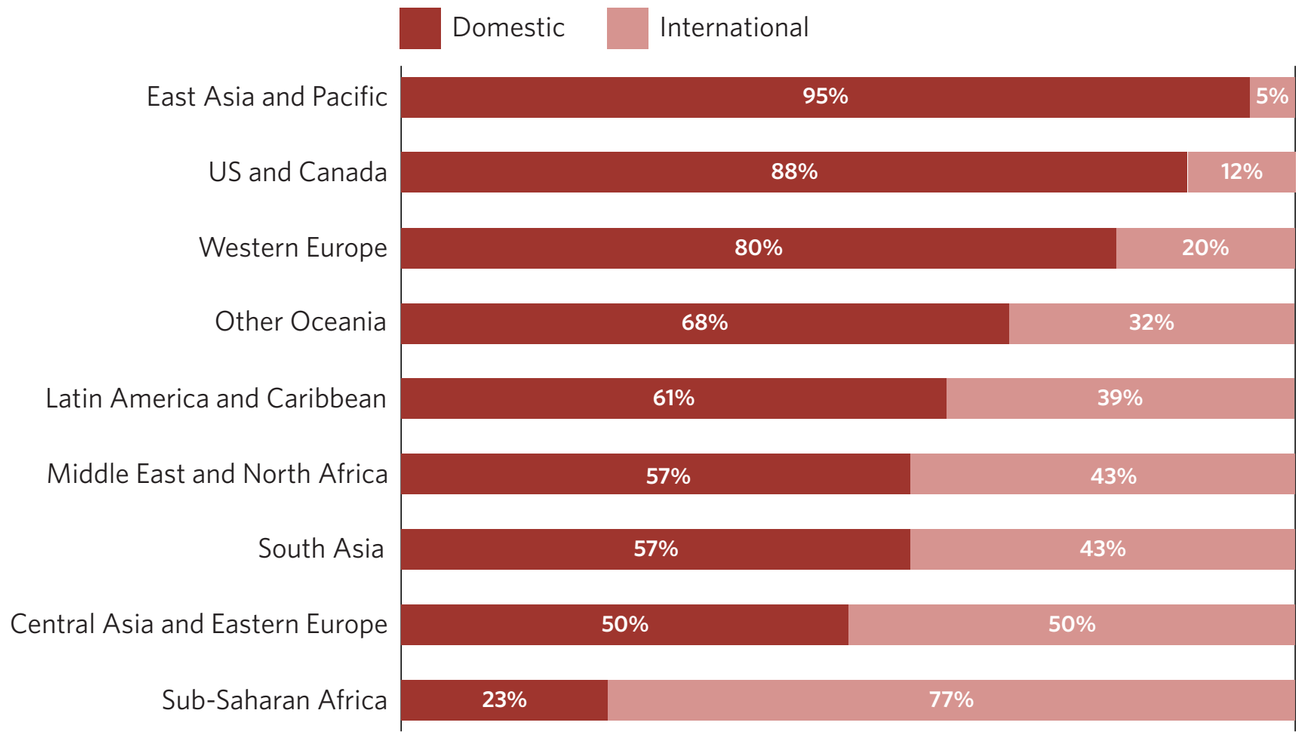
- Climate finance in Sub-Saharan Africa and Central Asia & Eastern Europe must increase 9.4 and 8.7 times, respectively.

- The inclusion of adaptation needs would amplify this effect—especially in sub-Saharan Africa, one of the most vulnerable regions to the impacts of climate change.

China and Western Europe have the largest mitigation needs in absolute terms, but are mobilizing significant levels of climate finance, requiring relatively lower scaling of investment. Despite this, flows in both regions must at least double in the short to medium term to avoid the worst impacts of climate change.

Domestic investment dominated regions with highest flows

Figure 26: Total climate finance domestic-international split by region, 2023



Note: Transregional flows were also present, with a domestic-international split of 15% - 85% in 2023.

IN THE TOP THREE REGIONS FOR CLIMATE FINANCE MOBILIZED, 89% WAS DOMESTICALLY SOURCED IN 2023, HIGHLIGHTING STRONG INTERNAL CAPACITY.

In other regions, which contain more EMDEs, the domestic share falls to 53% - international flows are more heavily relied upon.

Sub-Saharan Africa remained an outlier in 2023, with just 23% domestically sourced climate finance and higher reliance on public international finance.

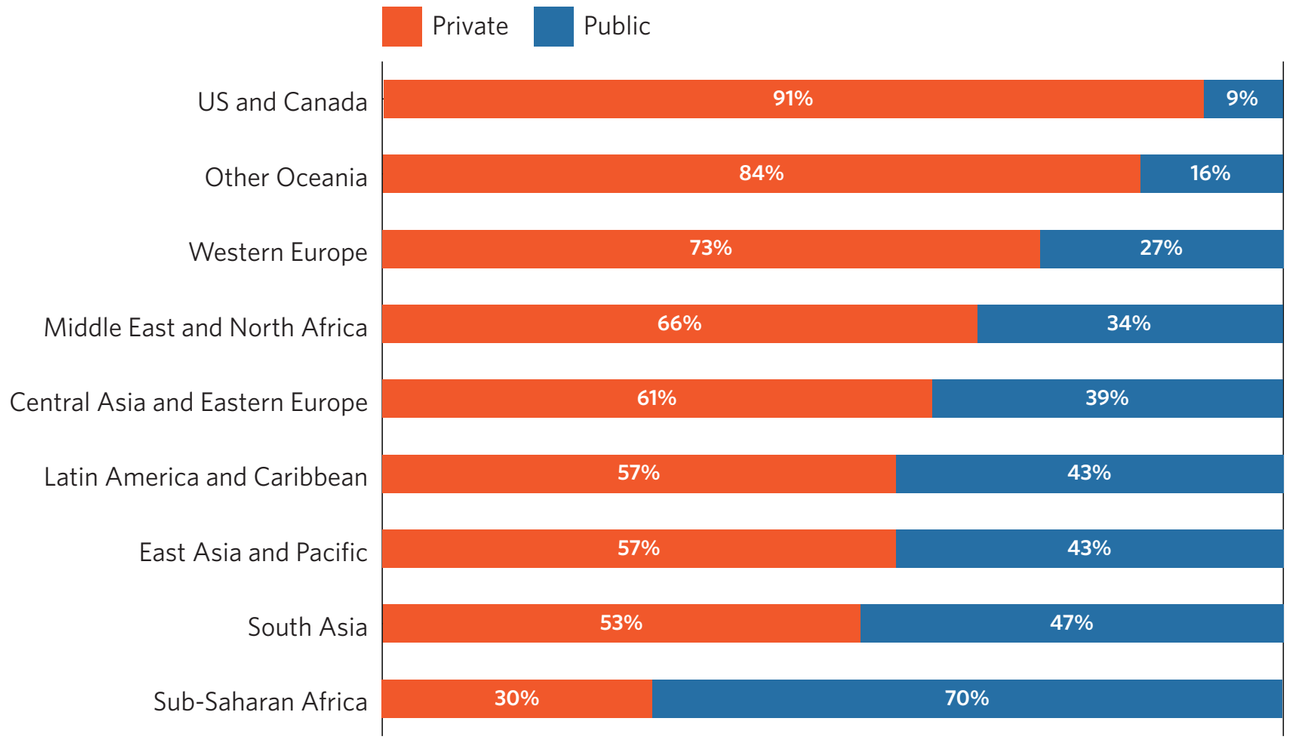
Scaling up investment in regions with low domestic flows requires utilizing climate finance to:

- Strengthen institutional capacity and policies.
- Bolster domestic markets for more commercialized technologies (e.g., energy system solutions).
- Ensure international concessional support remains targeted for less-developed sectors (see p.46) and underfinanced adaptation needs.

Limited reporting on domestic finance, particularly in EMDEs, also hinders tracking.

Private investment lagged in regions with low domestic flows

Figure 27: Total climate finance public-private split by region, 2023



Note: Unknown and transregional regions have private-public splits of 90%-10% and 25%-75%, respectively. USD 1.2 billion of flows from unknown sources (public or private) are excluded from the figure.

The US and Canada had the highest share of private climate finance.

The Middle East and North Africa saw an increased private share, up from 48% in 2018.

In regions with high private finance, most funding was domestic, due to mature markets, capacity, and enabling environments. Those with a higher concentration of EMDEs received less private finance, more of which is international.

Mobilizing institutional private finance is vital in these regions, as:

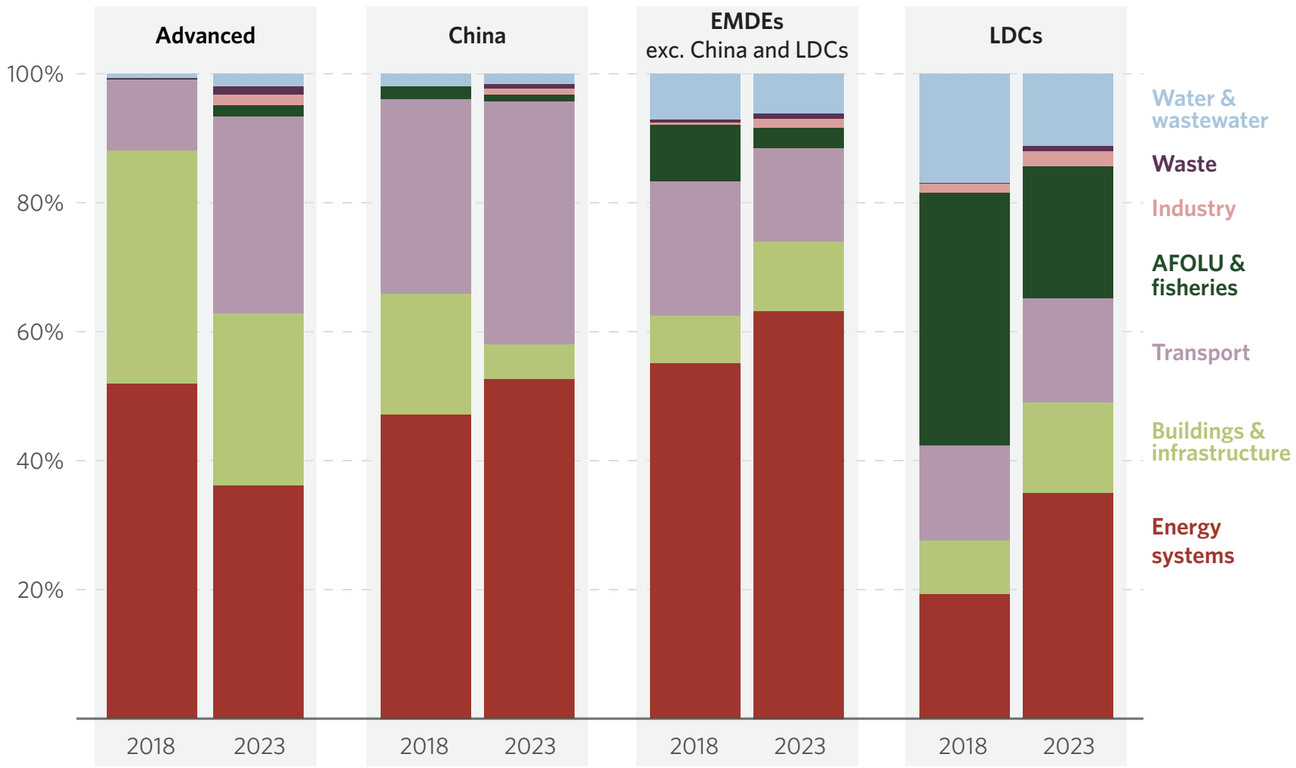
- Bridging large mitigation needs gaps is essential to avoid worsening the disproportionate costs of inaction (World Bank, 2024b) and to drive economic growth through climate solutions.
- Adaptation needs are greatest in these regions. Unlocking private finance presents a huge opportunity to rapidly mobilize the capital required to meet global adaptation investment needs.

With public budgets increasingly constrained, these funds can be utilized strategically to support and de-risk markets for more commercialized technologies, creating the conditions needed to attract higher levels of private investment. This can also serve to free up public finance for emerging solutions and sectors.

Lower access to affordable capital and perceived risk remain key barriers to scaling private finance in LDCs (Ameli et al., 2021; CCFLA, 2023; The Lab, 2024).

Flows are broadly concentrated in three sectors—more targeted finance is required elsewhere

Figure 28: Total climate finance flows by sector and country status



Note: Transregional and unknown regions are not shown in this figure, nor are flows to information and communication technology (ICT) and others and cross sectoral sectors.

Energy systems, buildings and infrastructure, and transport have historically received the bulk of climate finance, except in LDCs.

In China and advanced economies, a higher share of transport investment compared to 2018 reflected rapid adoption of BEVs and charging infrastructure. Buildings and infrastructure lost share relative to 2018.

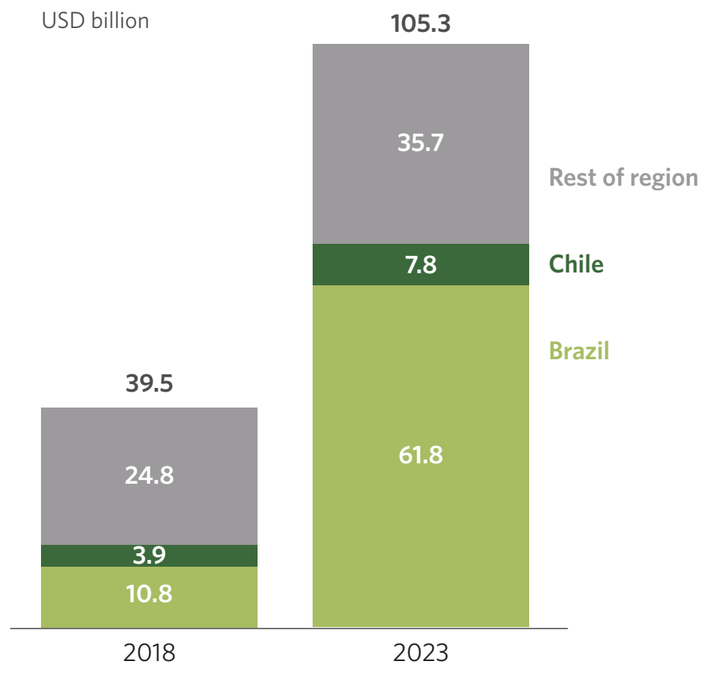
LDCs had higher shares in AFOLU, waste, and water and wastewater, reflecting greater adaptation needs. However, investment in these sectors waned as a share of total flows, in favor of more market-ready solutions in the dominant three sectors.

There remains a clear need for innovative solutions and targeted concessional finance to scale up investment in AFOLU, waste, water and wastewater (see p. 49 case study).

Across all economies, investment in industry remained small but increased in share over the period, as countries begin to target hard-to-abate emissions.

Renewables investment in Latin America and the Caribbean dampens coal outlook

Figure 29: Climate finance flows, Latin America and the Caribbean



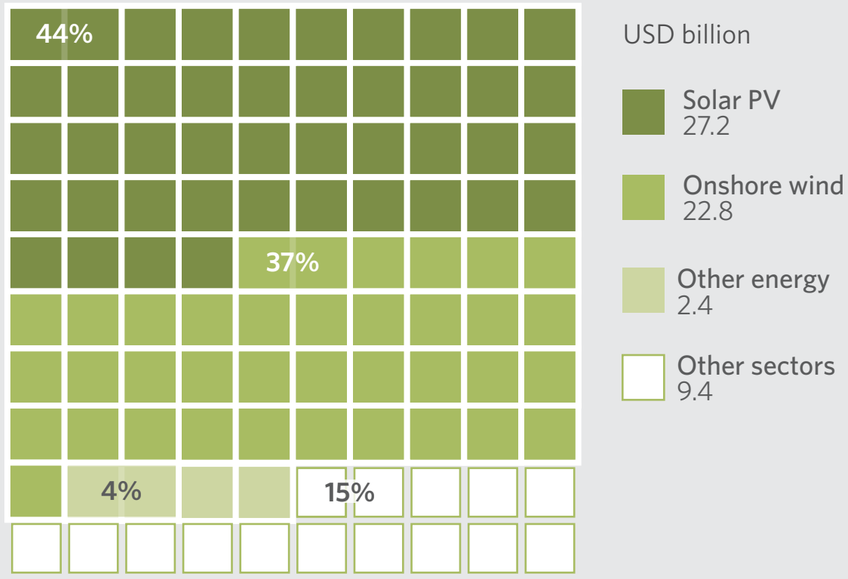
Flows rose by around 170% across the region between 2018 and 2023, with a 475% increase in Brazil.

Over two-thirds of regional climate finance went to energy systems, driving the decline and phase-out of new coal power plant plans in Latin America—no new projects are in the pipeline as of 2025 (Shearer, 2025).

In 2023, nearly USD 800 million in private finance was mobilized for mitigation and dual-benefit AFOLU projects in Uruguay through bond issuance. Despite this, only USD 3 billion went to AFOLU in the region (3% of total flows).

Case study: Rapid renewables expansion in Brazil

Figure 30: Total climate finance in Brazil, 2023

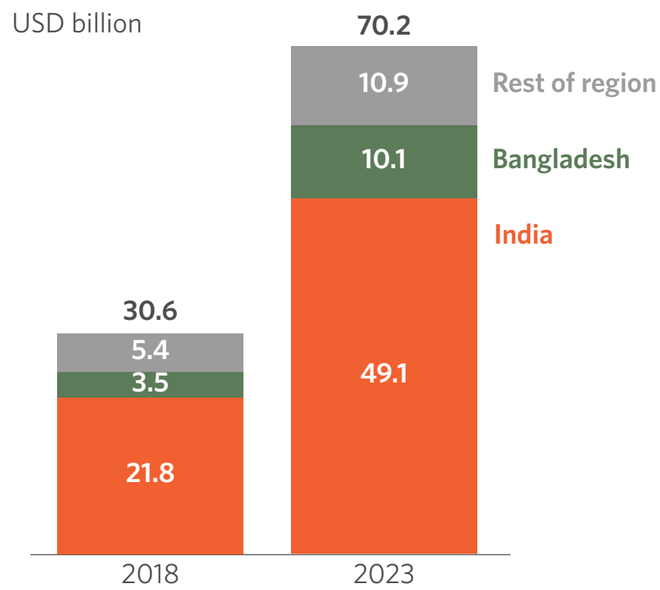


Energy systems investment dominated Brazil's flows, particularly in solar PV and onshore wind.

Targeted policies—including tax incentives, financing programs, favorable net metering for solar PV, and auction-based renewable energy programs (EIA, 2023)—have created stable markets for renewables, where solar PV and onshore wind projects were 76% privately funded in 2023, with 96% of investment from domestic sources.

Bangladesh observes high growth, with a strong adaptation focus

Figure 31: Total climate finance flows, South Asia



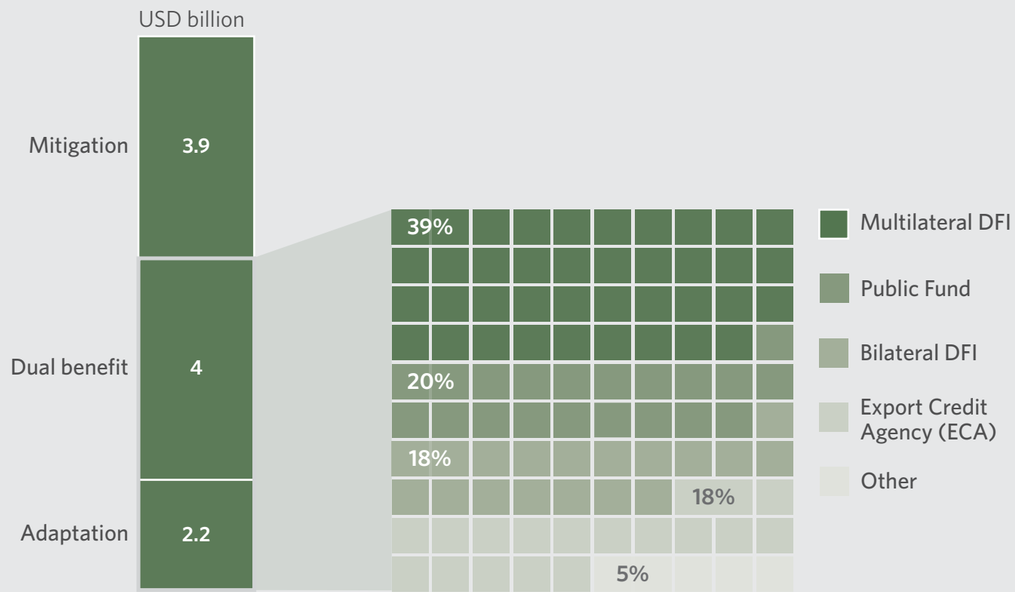
Climate finance to South Asia rose by around 130% between 2018 and 2023.

Bangladesh increased its flows by around 190%, with over 60% of finance in 2023 focused on either adaptation or dual-benefit solutions.

India remained a regional climate finance anchor.

Case study: Public investment in adaptation in Bangladesh

Figure 32: Total climate finance in Bangladesh, 2023



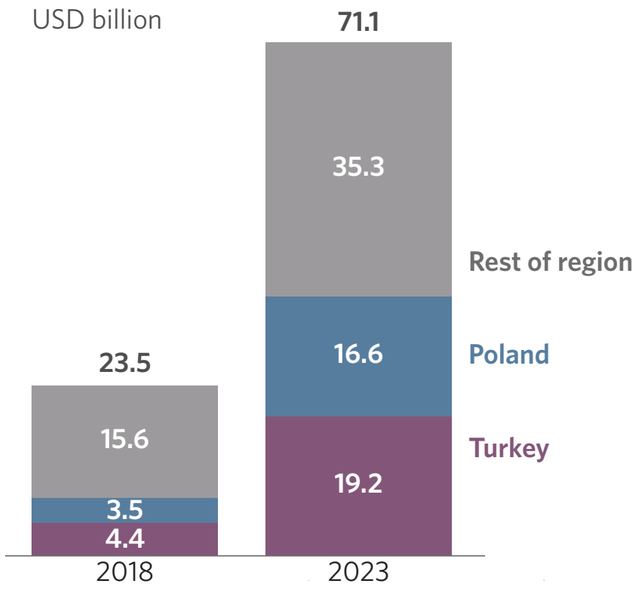
Bangladesh's adaptation and dual-benefit finance came nearly entirely from public sources.

DFIs made up the bulk of funding (57%), providing investment into resilient transport infrastructure and capacity building. Public funds and export credit agencies also supplied significant financing.

As key mitigation technology markets become mature, public financing can strategically target under-financed adaptation needs and support the commercialisation of solutions.

Central Asian and Eastern European flows grow from a low base

Figure 33: Total climate finance flows, Central Asia and Eastern Europe

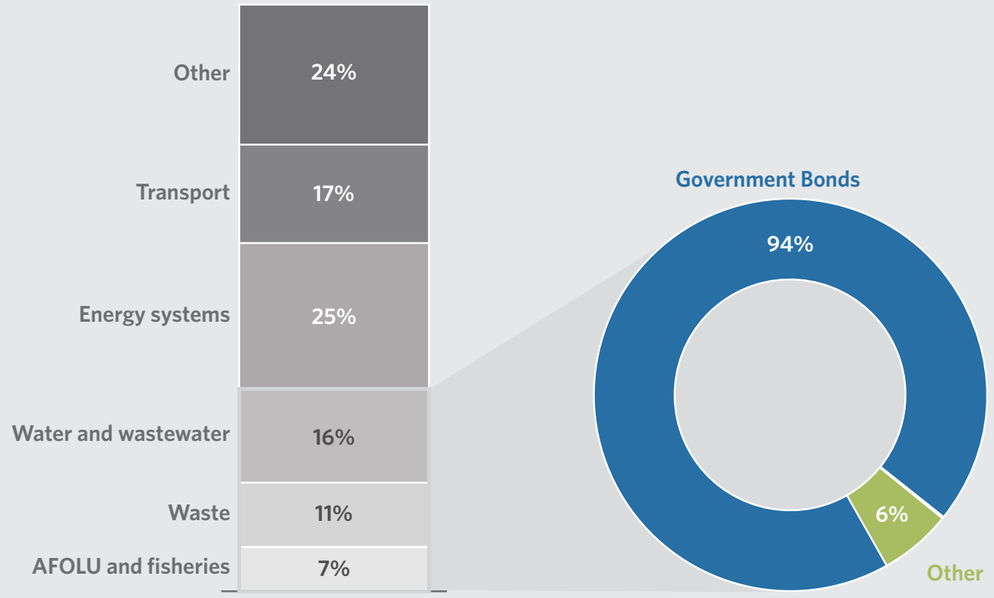


Central Asia and Eastern Europe have experienced a rise of around 200% in climate finance received from 2018 to 2023.

In Poland, flows increased by around 380% over the period, while Turkey, the regional leader, saw climate finance increase by around 340%, driven by onshore wind and solar PV expansion.

Case study: Public finance for emerging sectors in Serbia

Figure 34: Total climate finance flows in Serbia, 2023



Climate finance in AFOLU, waste, and water and wastewater in Serbia amounted to 34% of flows in 2023, significantly higher than the 10% average for EMDEs (exc. China). This was overwhelmingly driven by government bonds.[7]

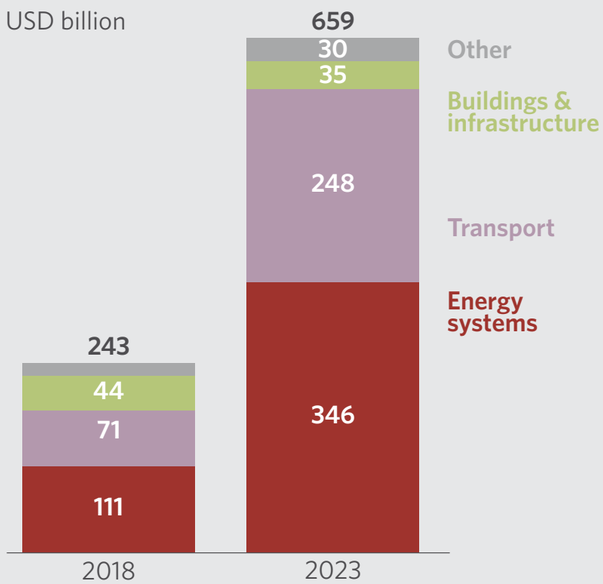
Flows to these sectors were 31% adaptation-focused and 29% dual-benefit-focused.

With increasing finance to the dominant three sectors (Figure 28), public support can be used to target emerging sectors and support their development.

[7] For more information on Serbia's sovereign green bonds, see Government of the Republic of Serbia (2024).

China's dramatic scaling of domestic climate investment

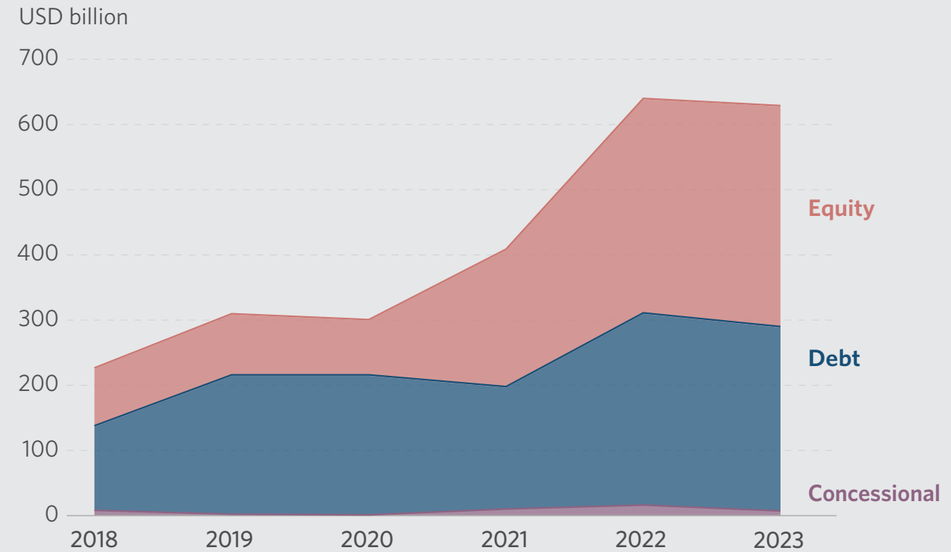
Figure 35: Climate finance flows by sector, China



Between 2018 and 2023, China saw an around 170% increase in mobilized climate finance, with the vast majority domestically funded.

The energy and transport sectors attracted the most finance, with BEVs and solar PV accounting for 59% of flows in 2023. Key policy drivers include subsidized feed-in tariffs for wind and solar and purchase tax exemptions for EVs (IEA, 2024c).

Figure 36: Share of instruments in transport, energy and buildings, China



This rapid scale-up in climate solutions was often underpinned by a phased policy approach—first targeting domestic technological capabilities—reinforcing with subsidies to stimulate market demand, then gradually phasing them out as technologies mature and costs fall (Bai, Wang, and Chen, 2024).

The shift from subsidies to a market-driven approach for renewables has been prioritized in official government policy notices (NDRC and NEA, 2025).

The growing role of equity financing reflects this market maturity, with flows rising between 2022 and 2023, even as debt and concessional finance declined. Notably, Chinese state-owned enterprises are using equity instruments to expand grid infrastructure to support and integrate the deployment of large-scale renewables (Fitch Ratings, 2025).

Instruments

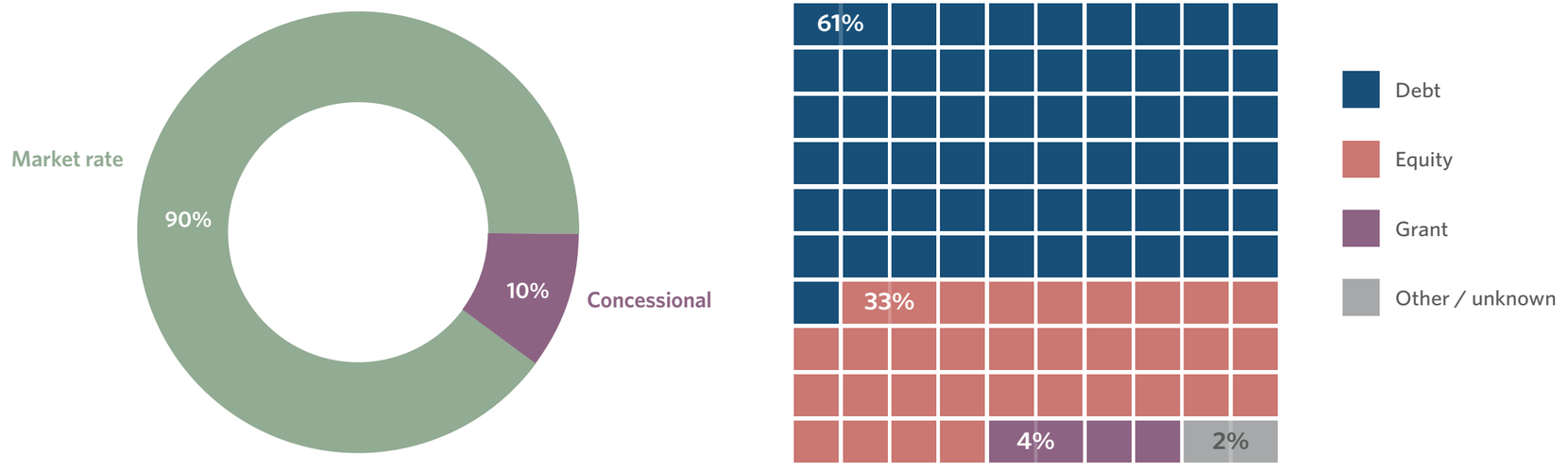
Concessional funds represented 10% of total tracked finance

Globally, over 90% of climate finance was provided in the form of debt or equity expecting market-rate returns on investment. These were mainly driven by corporates, national DFIs, and households investing in renewable energy and transport in Western Europe, North America, and East Asia and the Pacific.

Concessional finance remains a vital lever to derisk climate investments and mobilize private capital. In 2023, the share of concessional finance such as grants or low-cost debt via government programs, philanthropies and development finance decreased to only 7% of total climate finance, compared to 10% in 2021 and 12% in 2022.

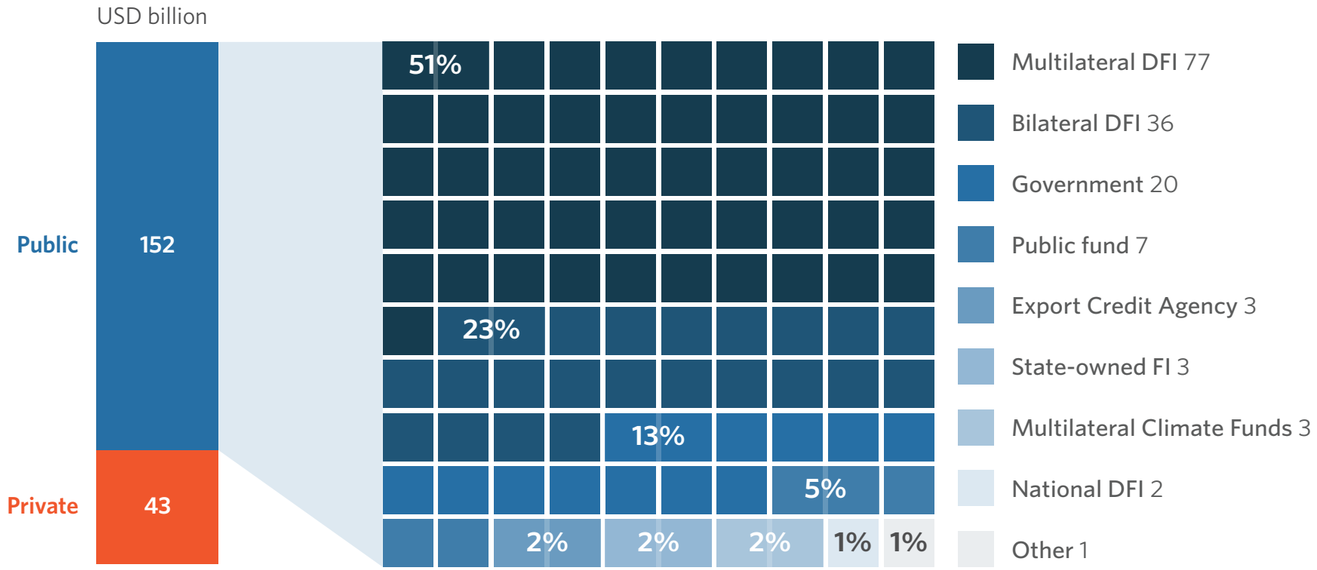
Domestic and international grant financing reached about USD 56 billion in 2023, about 3% of total climate finance. Grants increased every year from 2018 to 2022, before dropping in 2023. This is partly due to temporary increases in grant financing to support energy efficiency and renewables for pandemic recovery as well as energy price shocks.

Figure 37: Climate finance by instrument 2018-2023



International flows doubled in EMDEs, with majority coming from public sources

Figure 38: International climate finance to EMDEs by source, 2018-2023



Cross-border or international climate finance to EMDEs doubled between 2018 and 2023, reaching USD 196 billion in 2023.

Public sources represented about 78% of international climate finance flows to EMDEs or USD152 billion in 2023 with the remaining coming from private sector.

The largest sources of international climate related public finance include multilateral and bilateral DFIs each providing USD 77 billion and USD 36 billion respectively.

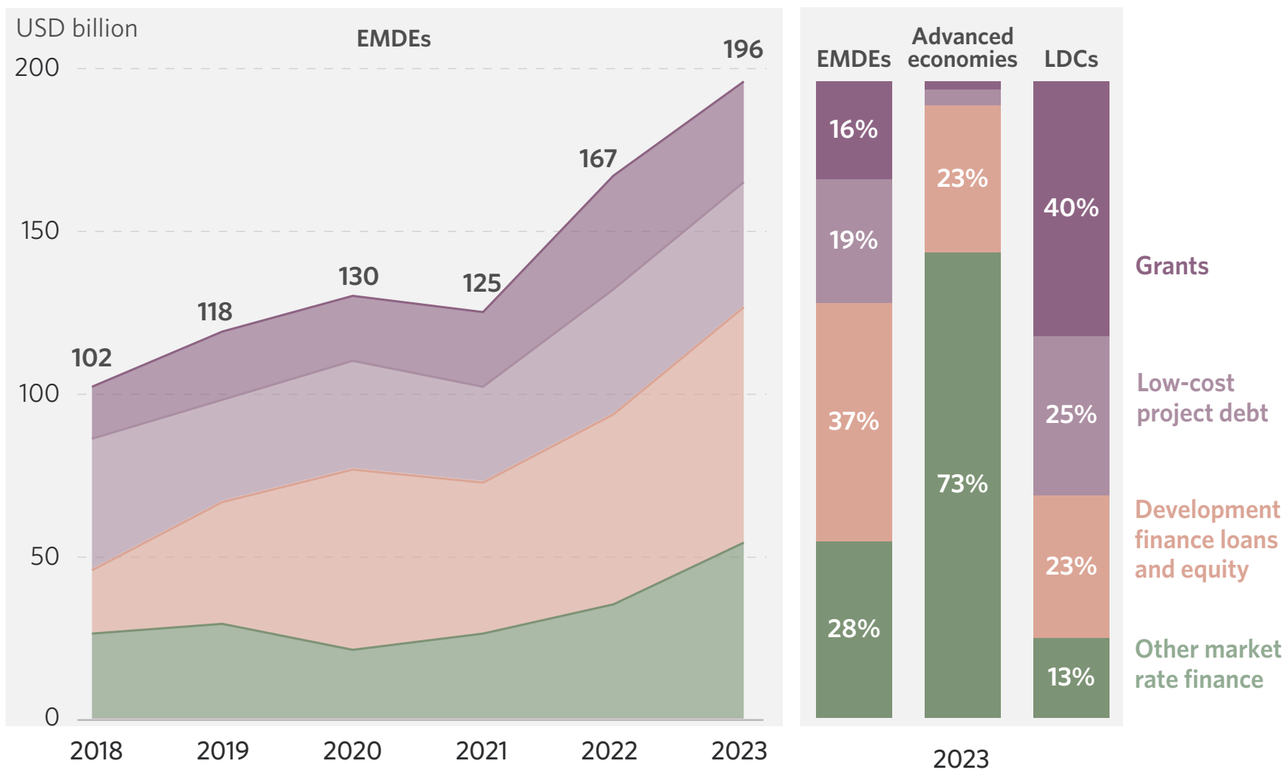
Total tracked cross-border private finance to EMDEs were USD 42 billion in 2023 and mostly came from commercial financial institutions and corporations (USD 36 billion).

Regions that received most international private climate finance include Latin America and Caribbean, Middle East and North Africa and Central Asia and Eastern Europe driven by clean technology investment.

For example, NEOM, the world's largest green hydrogen utility scale, commercially-based hydrogen facility project in Saudi Arabia costing total of USD 8.4bn, was supported by more than 20 local, regional and international investors (NGHC, 2025).

Development finance almost tripled between 2018 and 2023, but more catalytic capital is needed in EMDEs

Figure 39: International climate finance in EMDEs, and by country status in 2023



Market-rate finance and development finance in the form of loans and equity represented 65% of financing instruments to EMDEs. Increases in market-rate finance can also indicate increased commercial and private sector opportunities in the EMDEs where economic growth is the fastest. Climate-related development finance in EMDEs has increased nearly three times between 2018 and 2023.

Concessional finance, such as low-cost project debt and grants, formed 74% of international finance flows to LDCs, whereas in the rest of developing countries it was 33% between 2018 and 2023. EMDEs still need more catalytic forms of capital, such as guarantees, grants, and catalytic equity in blended finance models, to demonstrate and accelerate new solutions and derisk structures into commercial viability and scale and mobilize domestic capital. Some of the widely discussed solutions to scale up climate finance are presented next.

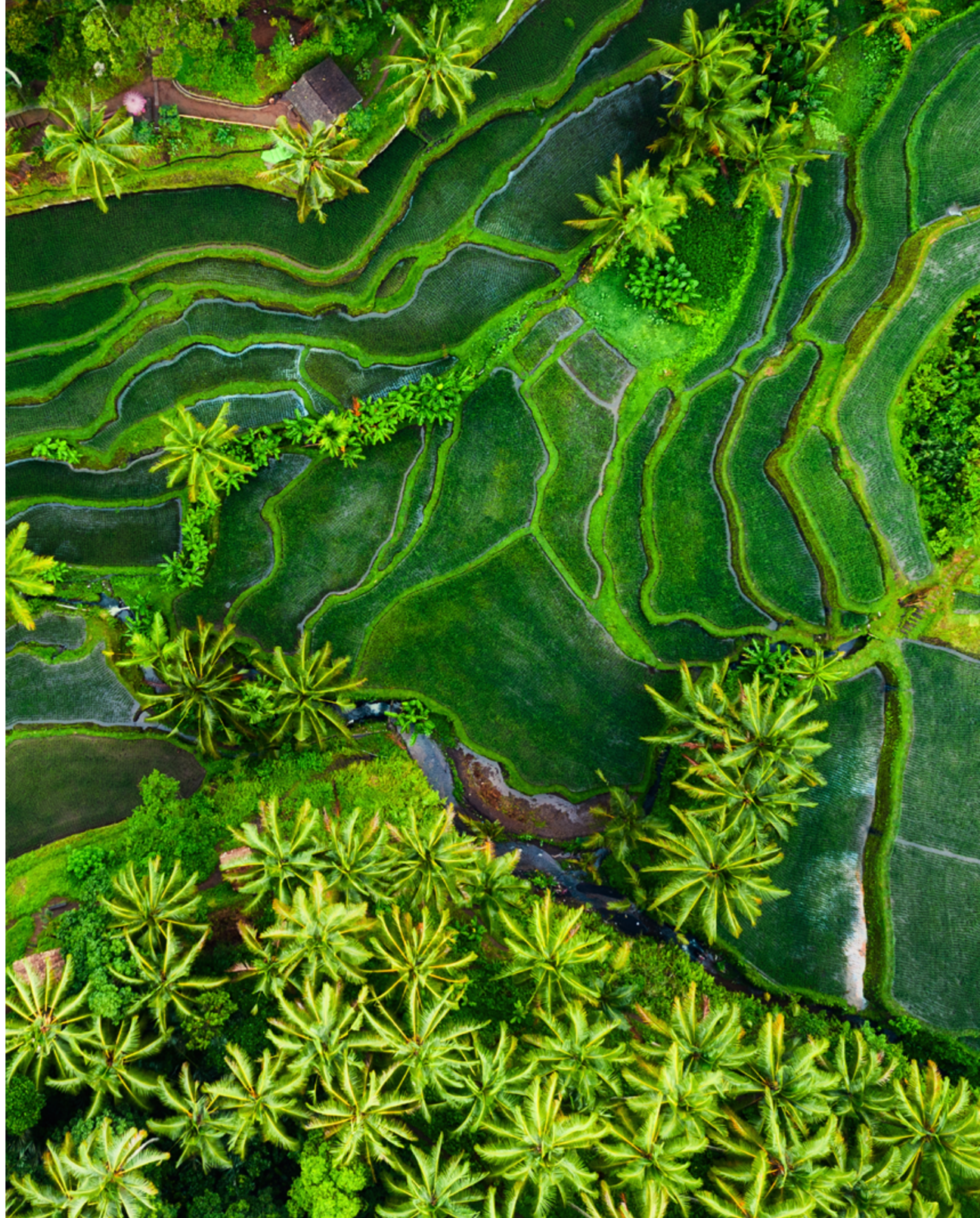
Scaling up climate finance in EMDEs

A range of financial and policy instruments can help unlock climate investment in EMDEs by enhancing project viability, addressing systemic barriers, and attracting diverse sources of capital:

1. **Pipeline of bankable projects to create markets:** A lack of bankable climate projects and viable markets is cited as a key barrier to mobilizing climate finance. Market creation activities—such as project preparation facilities and developer platforms—support the creation of investment-ready opportunities by working with local projects and stakeholders to share technical expertise, design financing mechanisms, and conduct environmental and social assessments and feasibility studies. More comprehensively, investments can transform markets through activities that enhance competition, provide demonstration effects, build skills and capacity, and improve the enabling environment for climate solutions (BII, 2025).

2. **Scaling catalytic patient capital instruments:** Long-term, risk-tolerant financing mechanisms are crucial in enabling capital inflow for hard-to-invest technologies and geographies with a high cost of capital. For example, concessional equity instruments can support projects' early development phases and derisk finance for commercial actors. This equity is essential in later stages of fundraising, including for raising debt, without which many viable projects cannot achieve financial close. Other examples of catalytic patient capital include non-dilutive capital (provision of capital without equity dilution) to help companies reach commercial stage, result-based incentives that tie payments to specific climate-related outcomes, and long-term debt instruments to provide stable and predictable financing for the duration of the project.

3. **Use of guarantees and risk mitigation instruments:** Guarantees and other risk mitigation instruments, such as insurance, cover risks that financiers are unwilling to take on. Credit, political, and revenue risks can all be effectively addressed by risk mitigation instruments. For example, guarantees can effectively de-risk investments that rely on revenues from (sub-)national governments or need to demonstrate revenue-generating capacity—such as nature-based solutions.



Scaling up climate finance in EMDEs

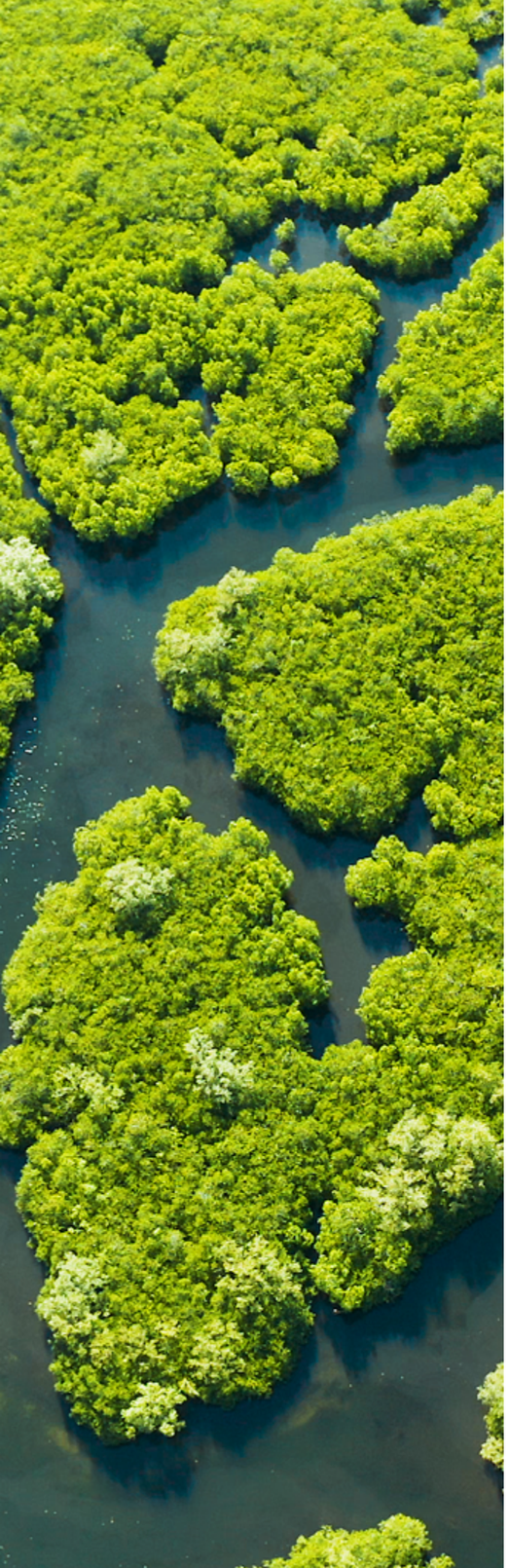
4. **Expanding local currency solutions:** Currency risks remain a major barrier to scaling climate finance in developing countries due to currency mismatch, where revenue streams of foreign investments are exposed to foreign exchange risks. Several innovative financial mechanisms and initiatives, such as local currency guarantee mechanisms, local currency green bonds, and local currency lending through national development banks backed by international concessional finance are being piloted in development economies. These allow climate-related investments to be structured, financed, and repaid in the local currency of the recipient country.

5. **Country platforms:** Country platforms are nationally led investment frameworks designed in coordination with sub-national governments and local stakeholders. Such platforms help to advance recipient nations' priority areas emerging from Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) through coordination and support from international and local actors to scale up investment. Strong high-level ownership, aligned with the country's overall development goals, is an important prerequisite for effective country platforms. Clear climate investment roadmaps that map investment needs to the capital stack can further support the implementation of country platforms.

6. **Carbon markets:** Emerging economies such as Brazil, India, and Türkiye are progressing toward carbon pricing implementation, with carbon pricing expanding to new sectors including shipping and aviation (World Bank, 2024a). In Africa, the AFDB is launching a carbon markets support facility to help develop high-integrity carbon markets through technical support to governments in developing policies and regulations and helping boost the supply and demand for credits (AFDB, 2025). The operationalization of Article 6 of the Paris Agreement in 2025 is paving the way for a more concrete structure for collaboration among state actors. In addition to further enhancing the credibility of voluntary carbon markets, further efforts are needed to reduce monitoring, reporting, and verification as well as transaction costs to help expand voluntary carbon markets in other high-impact sectors such as agrifood systems (CLIC, 2025).

Conclusion

Key priorities in the lead-up to COP30



Conclusion

Geopolitical shifts, trade tensions, and economic instability are testing international climate action in 2025. While these dynamics put pressure on public budgets, climate investment remains crucial to achieving long-term sustainability and well-being for global populations. The benefits of scaling up climate investments far outweigh the costs: cleaner air, resilience to a changing climate and rising energy prices, food security, and clean technology innovation present opportunities for prosperity and economic growth for all.

Climate investment has continued to grow and diversify despite headwinds ranging from the pandemic to high inflation and energy security concerns. While renewable energy solutions are most commercialized in advanced economies, targeted domestic policies are fostering investment opportunities in developing economies, particularly in Latin America and the Caribbean, the Middle East, and South and Southeast Asia. Private finance now constitutes over half of global mitigation investment, showing encouraging signs of technology maturity. Adaptation finance has a growing evidence and knowledge base and is expected to feature more prominently across sectors in public budget expenditures and private investment decisions.

2025 is proving to be a year of climate finance innovation, especially from public development banks, the private sector, and EMDEs. Sophisticated and innovative financial instruments are being piloted by both public and private actors to help mitigate the risks associated with climate solutions in emerging economies. Sustaining and scaling these solutions will be crucial to filling investment gaps. Public and private entities must collaborate ever more closely, targeting limited public resources to attract private investment.

The Baku to Belém Roadmap can guide global climate finance efforts toward accountability and ambition. COP29 in Baku in 2024 established a shared vision for climate finance to flow to developing countries and meet global climate finance goals. Tracking finance flows against needs creates an evidence base to inform progress and enhance accountability to achieve the New Collective Quantitative Goal (NCQG). CPI's climate finance reporting will remain critical for understanding the sources, instruments, uses, and needs of climate finance ahead of COP30 in Belém, Brazil, and beyond.

Priorities on the road to Belém

As we move toward COP30 in Belém in November 2025, four priorities can support effective implementation of the NCQG:

1. **Ensuring the quality—not just quantity—of climate finance can create transformational impact.** A better understanding of climate finance quality can ensure that limited resources are used optimally to catalyze sustained, transformational change rather than one-off, incremental improvements. Establishing a shared understanding and common language concerning various concepts relevant to climate finance quality is a necessary starting point. Developing common principles or frameworks for assessing long-term systemic change would enable providers to align their efforts and communicate results more effectively.

2. **Standardizing processes across finance providers can spur access and improve coordination.** International providers should work to harmonize processes—including requirements for due diligence, applications, and reporting—across similarly structured projects and activities to expedite access to climate finance. For example, a uniform accreditation process could enhance the interoperability of taxonomies. Coordinating efforts among actors can help avoid duplication or misalignment of financing across providers, realizing synergies and multipliers.

3. **Country-specific investment roadmaps can help align financial actors with national climate goals.** NDCs present an opportunity to chart ambitious climate action that aligns with national development priorities. To enhance the implementability of NDCs, deeper discussions are needed on which financial actors and types of finance are best suited to close the investment gap as outlined in NDCs, as well as to identify and prioritize interventions to mobilize climate finance at scale. Such climate finance roadmaps can assist public and private capital allocators in understanding their potential roles in different regions and sectors, navigating their various investment challenges, coordinating actions, and ultimately directing capital more effectively to collectively achieve a net-zero pathway (CPI 2024a).

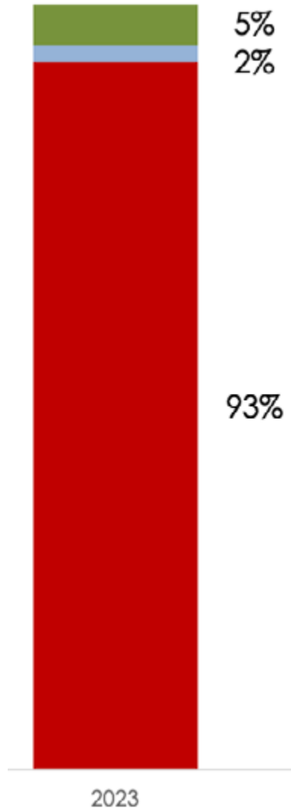
4. **Tracking progress transparently is vital to ensure accountability on the implementation of the NCQG.** Robust mechanisms are needed to monitor progress against implementation. Enhanced and transparent information from climate finance providers will be essential. More granular data on climate finance flows can enable decision-useful insights on collective progress toward the goal. This includes comprehensive, independent tracking of financial institutions' efforts on investing in the low-carbon transition in the real economy. As the climate finance landscape evolves, ensuring transparency on progress and assessing the strength of climate commitments, transition plans, and implementation actions is increasingly important.

Annexes

Enhancing sources and methods for climate finance tracking

The following data sources and methodologies have been updated in this year's GLCF tracking.

Figure A.1: Impact of data and methodological updates (2023)



New data sources: Wider market coverage than previous GLCF iterations.

Methodological improvements: Changed data sources and improved data gap filling estimations, providing wider market coverage than previous iteration and/or providing more granular information.

Comparable flows: Following the process used in previous GLCF iterations.

Energy systems

Renewable energy generation
BNEF methodological update

Hydrogen
BNEF Clean Hydrogen Production Assets

Energy storage
BNEF Energy Storage

Transmission and distribution*
BNEF New Energy Outlook Grids Data Viewer, IRENA, desk research

Water and wastewater

Adaptation projects
World Bank PPI

Desalination projects
Global Water Intelligence

Industry

Energy efficiency
IEA, BNEF Energy Transition Investment, improved pro-rating

Transport

BEV 4-wheelers
BNEF EV Sales, IEA, desk research

EV charging
BNEF Electric Vehicle Charging Infrastructure Outlook

BEV 2/3-wheelers
BNEF sales, IEA price points, desk research

Metro rail*
UITP, Transit Cost Project, desk research

Buildings and infrastructure

Energy efficiency and solar water heaters
IEA, BNEF Energy Transition Investment, improved pro-rating

Heat pumps
IEA, BNEF Energy Transition Investment, improved pro-rating

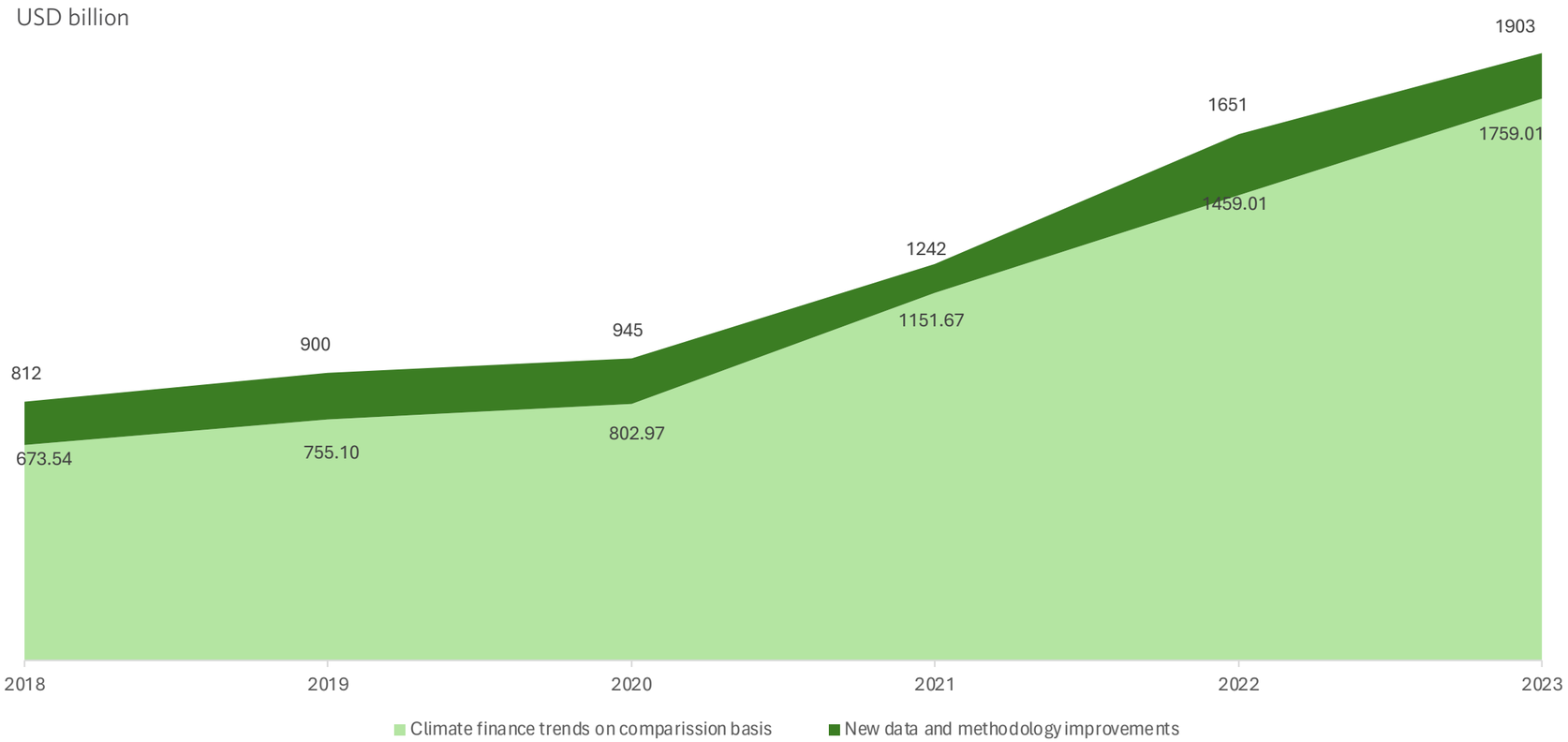
Cross-sectoral

Green bond allocation
Luxembourg Green Exchange

**New data sources and methodology on classification of climate-relevant investments in transmission and distribution and metro rail: This data is not included in the core flows and data presented in this report but is explored further in Data Annexes 1 and 2.*

New data sources and methods have been applied retroactively for consistency and comparability

Figure A.2: Retroactive impact of data and methodological updates



Note: New data sources and methodological improvements led to an average 12% increase in reported climate finance flows for each year.

CPI data coverage

Table A.1: CPI data coverage vs. the IEA (USD billion, 2023)

Boundaries/Sectors	CPI	IEA	Notes
Renewable power	787	735	CPI numbers represent financial commitments and deals for renewable energy projects, whereas the IEA tracks capital expenditure.
Nuclear and other clean power	Not in scope	67	CPI currently excludes nuclear investment. See exclusion criteria in the Methodology Document.
Energy storage	42	40	
Low emission fuels	Tracked under renewable power	20	For the IEA, this total consists of bioenergy, low emission hydrogen-based fuels, carbon capture, utilization and storage on fossil fuels and direct air capture. Exclusion criteria apply to those included in CPI's renewable power category.
Electricity grids	1	375	Many taxonomies consider investments in energy transmission and distribution networks to be climate finance if they enable greater integration of renewable energy. However, in practice, it is often challenging to determine whether a specific grid investment directly supports renewable energy integration. As a result, CPI's current tracking only covers projects that connect exclusively to renewable energy power.
Electricity grids – New grids and asset replacement	86		See Data Annex 1 for details.
Energy efficiency – buildings and industry	312	397	The IEA tracks investment in energy efficiency, electrification, and renewable energy for end uses in buildings, transport, and industry. Renewables are tracked under CPI's renewable power category.
Transport	539	229	The IEA tracks the incremental cost of efficient vehicles. CPI counts the full cost of low-carbon transport: EVs, rail and public transport, waterways, and transport-oriented urban development and infrastructure.
Transport - metro	132		See Data Annex 2 for details.
Other Energy, Industry and Buildings & Infrastructure mitigation	1	Not in scope	For example, policy and national budget support and capacity building for mitigation.
Fossil fuels	Not in scope	1087	
Adaptation finance	65	Not in scope	
Adaptation finance - households	65-87		See Data Annex 3 for details.
Dual benefits finance	58	Not in scope	
AFOLU mitigation	18	Not in scope	
Waste and wastewater Mitigation	34	Not in scope	
Other cross-sectoral mitigation	46	Not in scope	
Total tracked by CPI and IEA	1,903	2,970	CPI tracks financial commitments. The IEA tracks capital expenditures.
Total ex. fossil fuel	**1,903**	**1,883**	
Total including new CPI estimations	**2,186-2,208**		

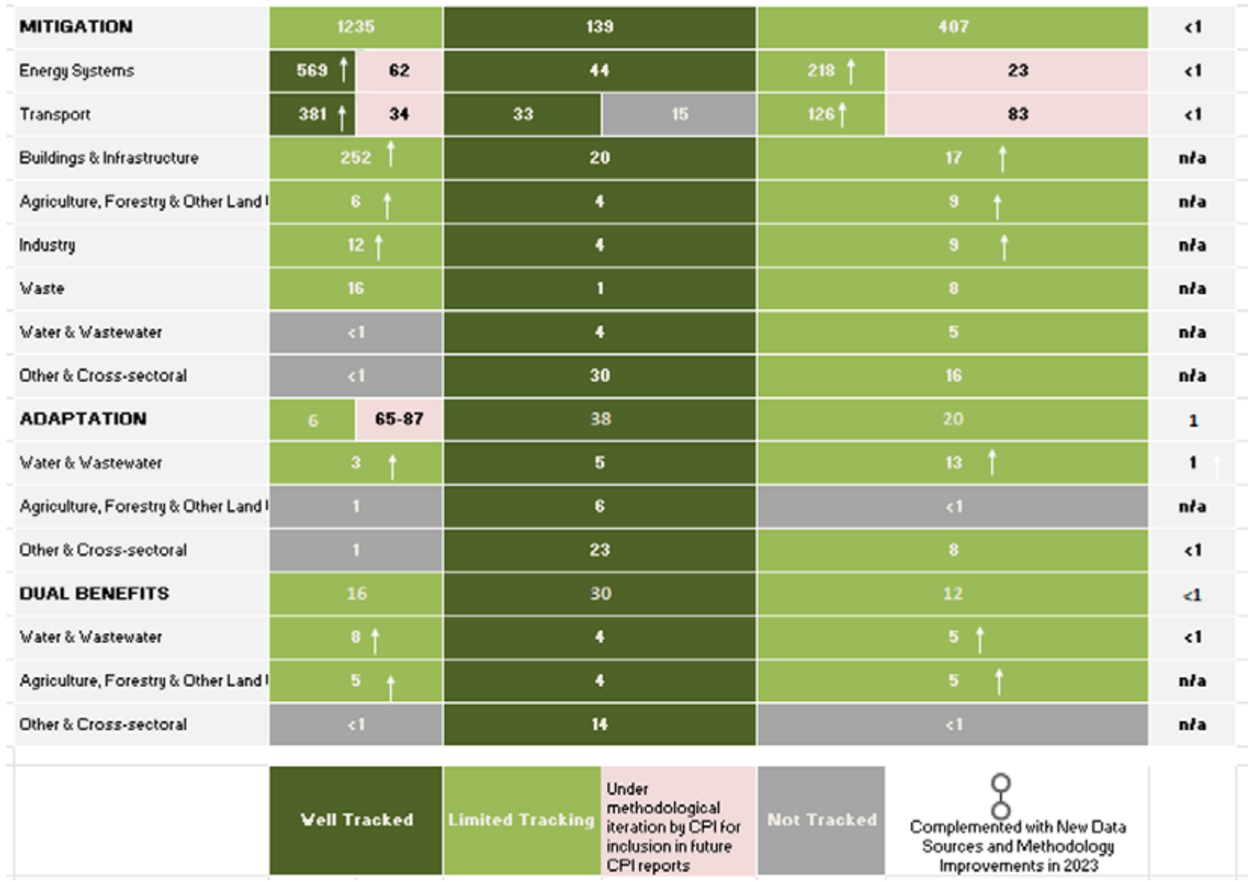
Key

- Covered and tracked by CPI and the IEA
- Under methodological iteration by CPI for inclusion in future CPI reports
- Not in scope

Note: In addition to the sectors listed above, the information and communications technology sector made up USD 0.9 billion of climate mitigation finance in 2023.
IEA data is calculated from information provided in the IEA's World Energy Investment 2024 report to compare with 2023 values.

Despite improvements, data gaps persist

Figure A.3: Data coverage in the GLCF (USD bn, 2023)



Note: In addition to the sectors listed above, the information and communications technology sector made up USD 0.9 billion of climate mitigation finance in 2023.

The GLCF 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.

Data availability continues to prevent a full account of domestic governments' climate finance and South-South flows, as well as of private investment in sectors beyond energy. These gaps can be reduced through improved reporting and tracking by domestic and private climate finance actors, spurred by regulations for mandatory and standardized disclosure.

To resolve these data gaps, CPI is continuously making methodological improvements to enhance its data quality and analysis, as seen in page 61.

Additional finance has been tracked through new and updated methodologies, as shown in the following Data Annex slides. These figures are not incorporated in this report's aggregate tracking due to the incompleteness of data but may be included in the future as data quality improves.

Climate finance needs methodology

Climate finance needs refer to the estimated funding required across sectors to limit global temperature rises to 1.5°C by the end of this century. Given the wide range of estimates produced by various institutions, CPI's Top-down Needs approach compiles and standardizes existing figures to provide a comprehensive and neutral overview of current climate finance needs. For a detailed explanation of the methodology, see our latest Top-Down Climate Finance Needs methodology document (CPI, 2025a).

Comparison of Estimated Investment Trajectory (EIT) and Net-zero (NZ) scenarios (page 12 explanation)

CPI has historically assessed the climate finance gap by comparing top-down estimates of climate finance needs for a net-zero (NZ) pathway with current climate finance flows. This gap illustrates the scale of investment required to align with a 1.5°C trajectory.

While the NZ-aligned finance gap is substantial, there is an opportunity to redirecting a portion the significant investment projected to continue flowing to high-carbon energy solutions through 2050 to climate-aligned activities. This can help meet climate investment needs without relying solely on new capital mobilization. Closing the climate finance gap therefore involves a two-pronged approach: (1) reallocating projected high-carbon investments to green solutions, and (2) mobilizing additional finance to meet the remaining need.

To assess the reallocation potential, CPI first estimates the investment levels to support the expected mitigation strategies —referred to as the Estimated Investment Trajectory (EIT). This analysis applies the top-down methodology used for estimating climate finance needs, by compiling and standardizing estimates from literature1 across four key sectors: energy, transport, buildings and infrastructure, and industry. The estimates come from multiple scenarios, including one that assesses the investment needs required to meet all commitments on time and fully.

The EIT scenario resulting from that compilation therefore differs from assessed future investment based on current trends and is closer, on average, to the levels of investments mobilized for a mitigation trajectory that would still fall short from the Net-Zero target. Once estimates are available, CPI compares for each sector the projected levels of high-carbon and climate-aligned finance under both EIT and NZ scenarios.

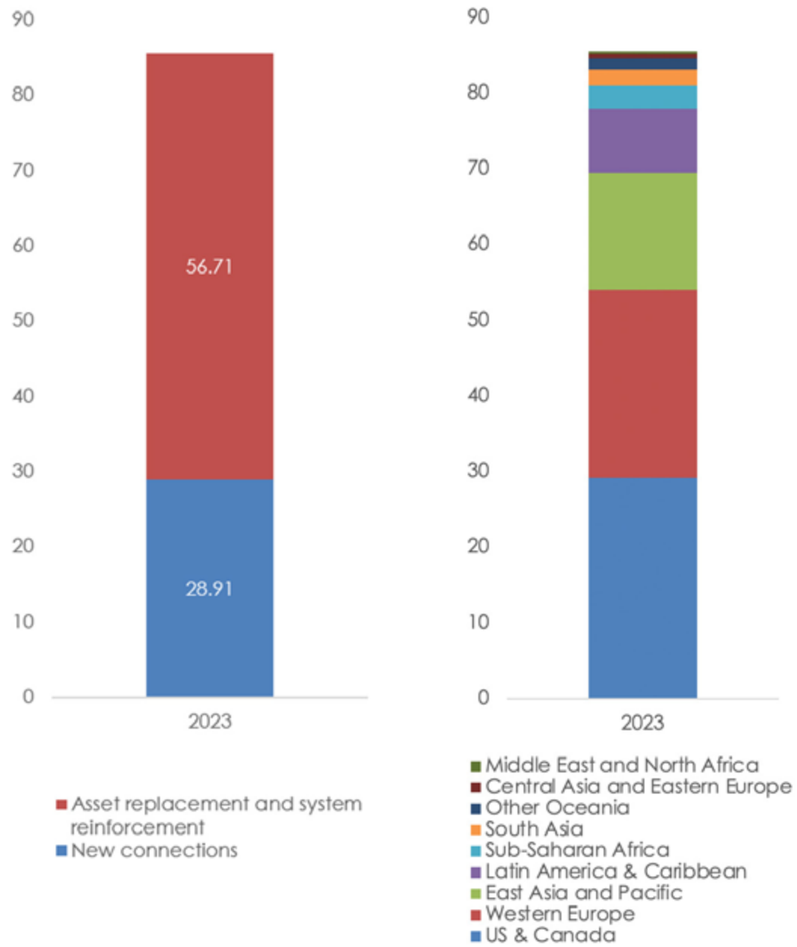
This comparison allows CPI to determine: (i) the amount of high-carbon finance under the EIT that exceeds the level required under an NZ scenario and could therefore be reallocated to climate-aligned investments, and (ii) the additional climate finance still required after such reallocation. These sectoral estimates are then aggregated to derive the total scale of reallocation and the remaining gap presented in the topline figures (see page 12).

Two caveats apply to this analysis: First, the level of climate finance assumed under the EIT differs from current observed trends, based on the expectation that currently committed additional policy and financial efforts will materialize to achieve even this lower mitigation trajectory. Second, despite these expected improvements in future climate investments, every year that passes before the gap is closed will contribute to the cumulative shortfall in climate investments,

Note: Since not all sources presenting net-zero scenarios also produced future estimated investments, CPI calculated the ratio of NZ to EIT from institutions that provided both scenarios at the solution level, and applied it to the NZ trajectories of institutions with only NZ data.

Data Annex 1: Transmission and distribution

Figure A.4: T&D estimates breakdown (USD bn, 2023)



GLCF reports have only included transmission and distribution (T&D) investments explicitly tagged for renewable energy distribution to avoid tracking investments supporting fossil-powered generation. This approach restricts coverage to projects that connect exclusively to renewable energy power plants. To assess T&D climate alignment, CPI has developed a new methodology to estimate the share of T&D finance attributable to clean energy using country-level data on installed capacity (BNEF, 2025a) and electricity generation over a rolling five-year period (IRENA, 2024a).

New connections: If >67% of new capacity added in a market is from renewable energy, that share of T&D investment is considered climate-relevant. For example, if the UK added 97% renewable energy capacity on average in the last five years, then 97% of its investments in new connections for T&D would be considered.
Asset replacement/system reinforcement: If the renewable energy installed capacity share is ≥30% (global average in 2023), that share is considered to be climate-aligned. In lower-share renewable markets, CPI applies the same share only if the market meets a minimum renewable CAGR threshold, following Climate Compatible Growth guidance.

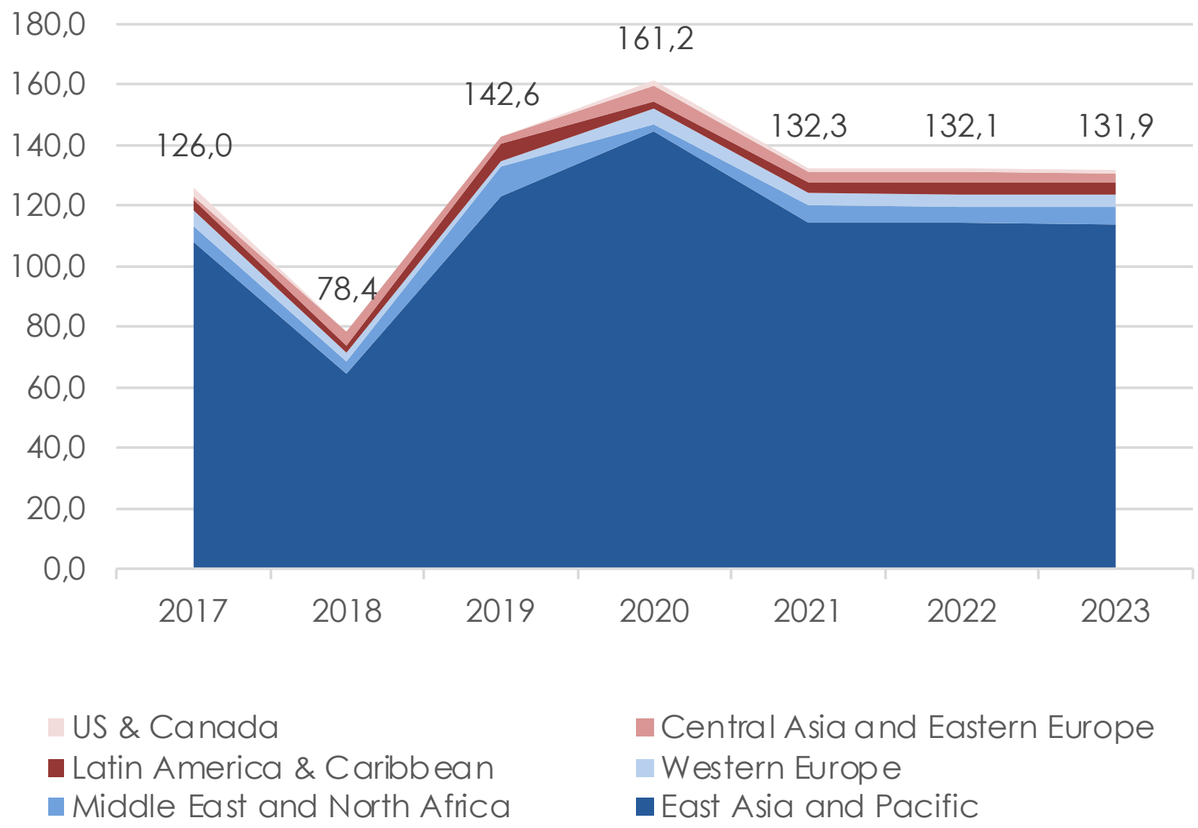
In 2023, this methodology identified a total of USD 85.61 billion in climate-relevant T&D investment. Around 66% of these investments were for system reinforcement and asset replacement. The major markets were:

- **US:** USD 7 billion in new connections; USD 14 billion in asset replacement and system reinforcement.
- **Canada:** USD 6 billion in asset replacement and system reinforcement.
- **Germany:** USD 1.4 billion in new connections; USD 4.4 billion in asset replacement and system reinforcement.
- **UK:** USD 1 billion in new connections; USD 3 billion in asset replacement and system reinforcement.
- **China:** USD 11 billion in new connections.
- **Brazil** and **Viet Nam** with USD 4.84 billion and USD 1.4 billion, respectively, in asset replacement and system reinforcement.

Disclaimer: This methodology is still under development. Presented data is not included in the GLCF main tracking figures and should be considered provisional. Feedback for improvement is encouraged and appreciated. See Section 3.3.3 of the Methodology document for details.

Data Annex 2: Metro rail

Figure A.5: Metro estimates historical regional breakdown (USD bn)



CPI IS EXPLORING THE ADDITION OF CLIMATE-RELATED METRO FINANCE DUE TO THIS TRANSPORTATION MODE'S CRUCIAL ROLE IN ADDRESSING CLIMATE CHANGE BY PROVIDING A LOW-CARBON ALTERNATIVE TO PRIVATE CAR USE, REDUCING TRAFFIC CONGESTION, AND PROMOTING SUSTAINABLE URBAN MOBILITY.

The estimates shown in Figure A.5 combine average cost of track and rolling stock data from Transit Cost Project (Levy et al. 2025) with length of track and number of carriages data from the International Association of Public Transport (UITP, 2022) to estimate the total cost of metro expansions by region and year.

Estimates indicate metro expenditure of USD 131.9 billion in 2023, the majority of which (86%) has been in East Asia and the Pacific from 2017 to 2023.

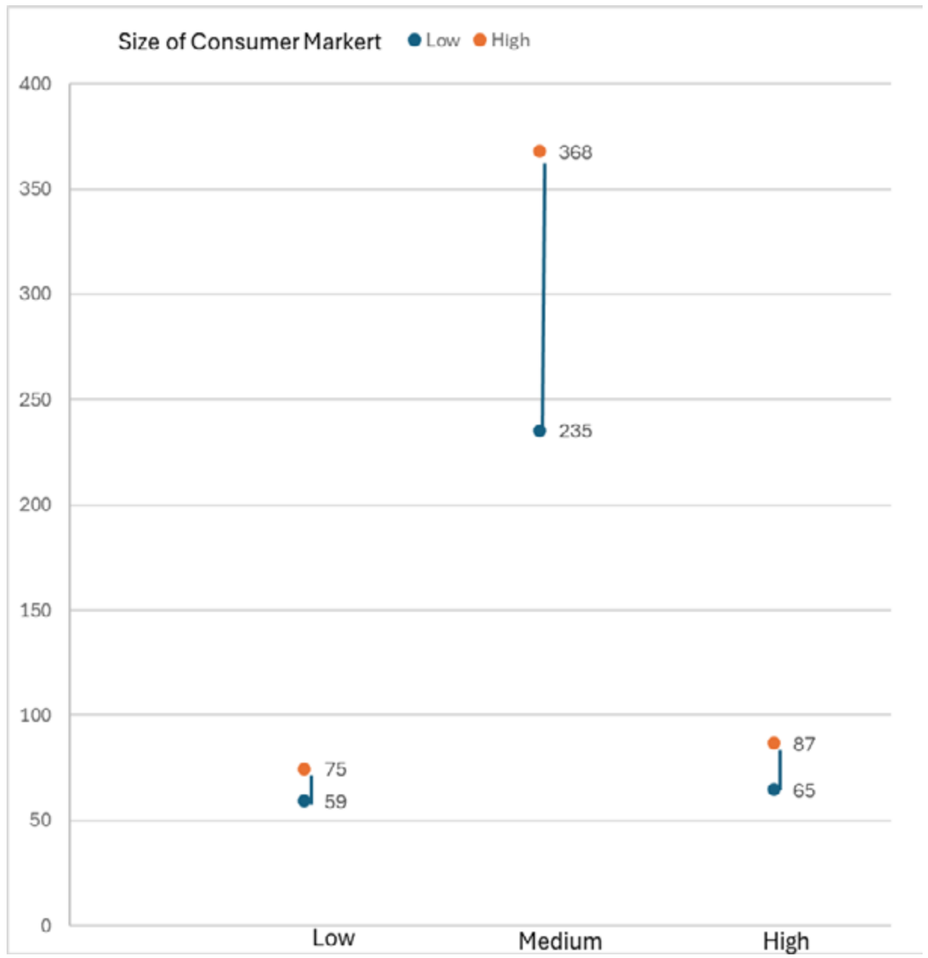
Additional research is being conducted into:

- Introducing country-level data.
- Updating figures to use the latest UITP data.
- Including emission reduction attribution ratios (ERORs), which will help quantify the modal shifts to metro transport, the resulting emission differentials from metro construction, and therefore the share of total costs that can be counted as climate finance.

Disclaimer: *This methodology is still under development. Presented data is not included in the GLCF main tracking figures and should be considered provisional. Feedback for improvement is encouraged and appreciated. See Section 3.3.3 of the Methodology document for details.*

Data Annex 3: Household-level adaptation finance

Figure A.6: Estimated annual finance from households/individuals by adaptation likelihood (USD bn)



Assessing 112 household products, annual financing for products with high adaptive likelihood is estimated to have been between USD 65 billion and USD 87 billion based on sources published between 2021 and 2025. This represents a 39% increase from the last GLCF report, driven by an improvement in estimation methodology.

This difference can be largely explained by the inclusion of wildfire protection and improvements in the estimation of frost clothes. Some growth is offset by a decrease in the spending estimate for flood-resistant building materials due to methodology improvements.

Estimates for household and consumer adaptation finance were first carried out to demonstrate potential approach in a study on tracking and mobilizing private sector climate adaptation finance (CPI, 2024d).

More methodological work is needed to expand data coverage and refine adaptation likelihood assessments. As the data improves, CPI intends to capture further private adaptation finance consistent with the GLCF principles and methodology.

Disclaimer: This methodology is still under development. Presented data is not included in the GLCF main tracking figures and should be considered provisional. Feedback for improvement is encouraged and appreciated. See Section 3.4 of the Methodology document for details.

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