Global Landscape of Climate Finance 2021

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CLIMATE
POLICY
INITIATIVE

AUTHORS

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ABOUT CPI

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

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RELATED CPI WORKS

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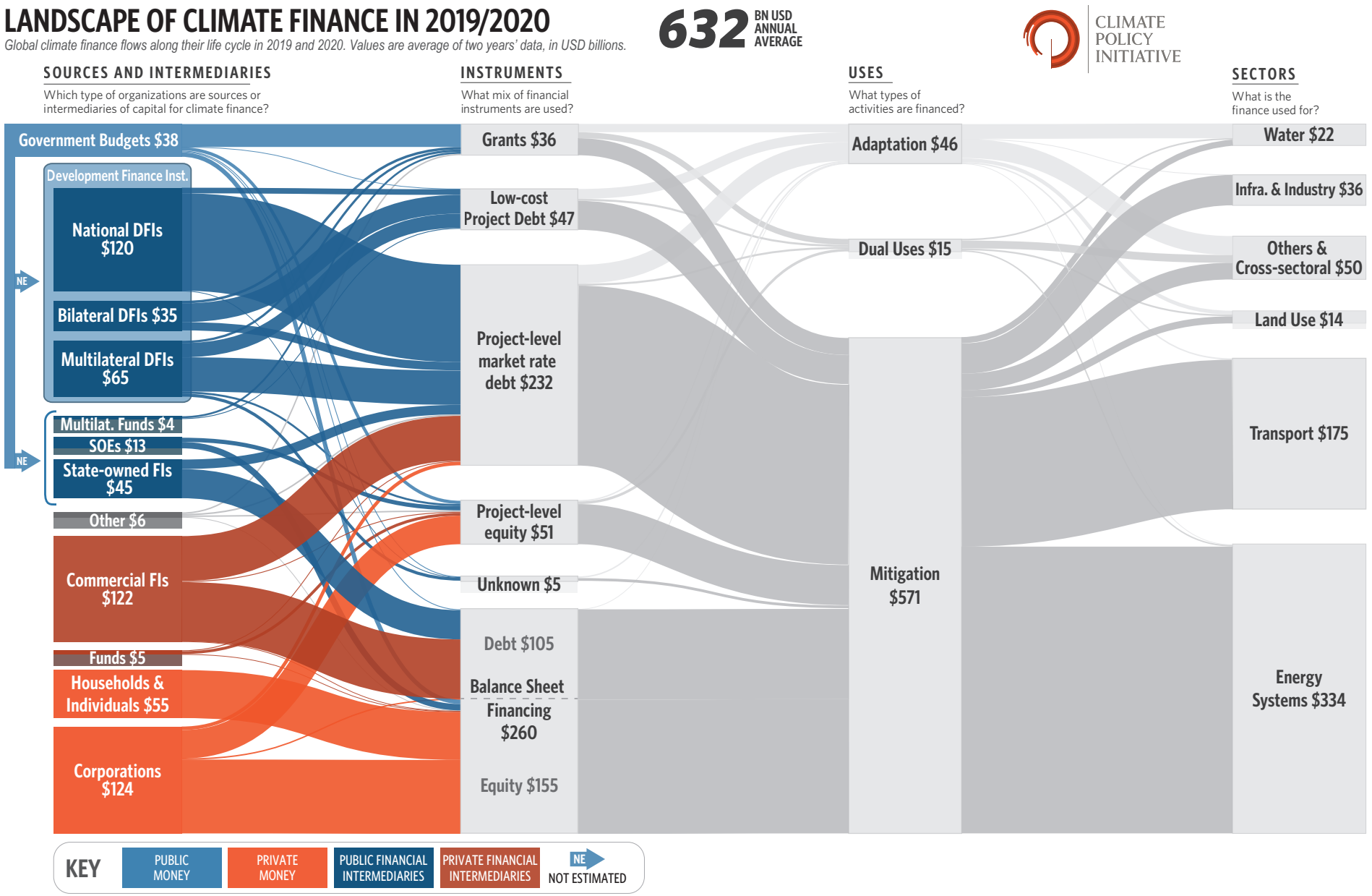
Figure 1: Global climate finance flows in 2019/2020[1]



Source: *Climate Policy Initiative*

1 CPI reports two-year averages (2019 and 2020) to smooth out annual fluctuations in data.

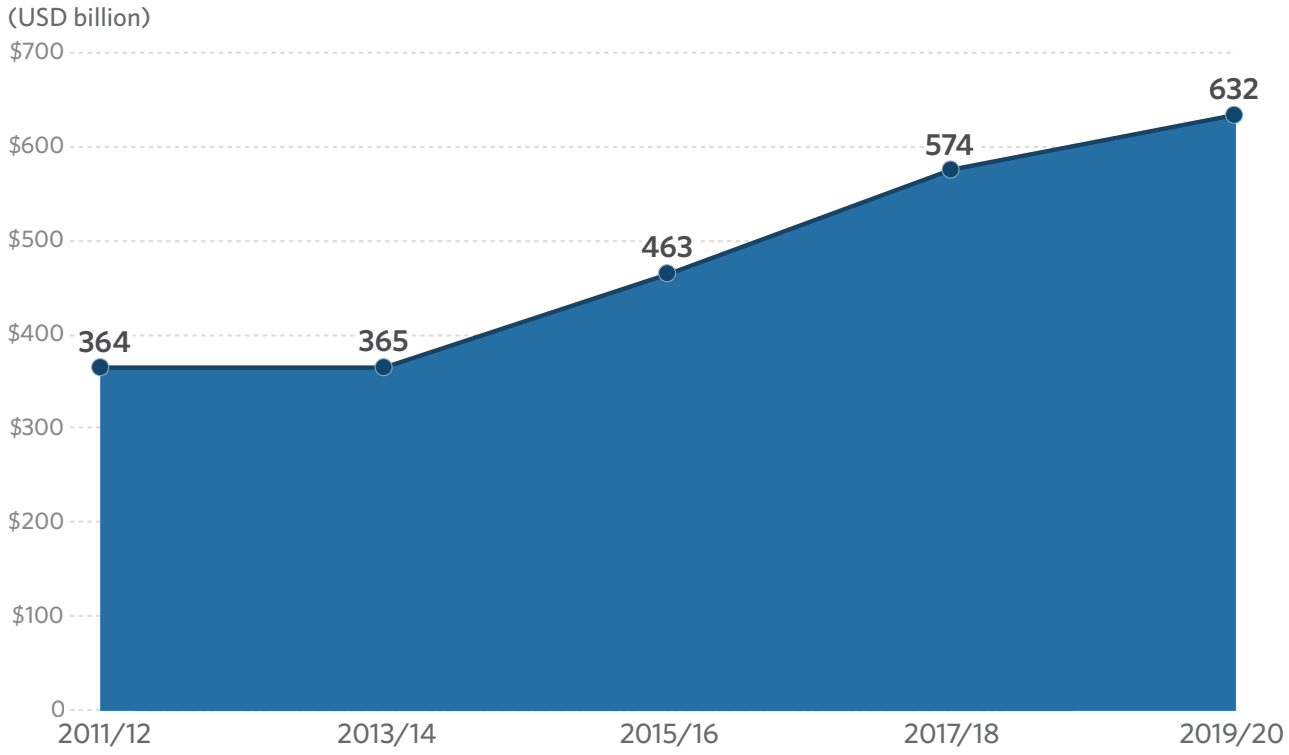
EXECUTIVE SUMMARY

The 2021 edition of the Global Landscape of Climate Finance (the Landscape) provides the most comprehensive overview of global climate-related primary investment (Figure 1).

KEY FINDINGS

- **Total climate finance[2] has steadily increased over the last decade, reaching USD 632 billion in 2019/2020, but flows have slowed in the last few years.** This is a worrying trend given that COVID-19's impact on climate finance is yet to be fully observed. The increase in annual climate finance flows between 2017/2018 and 2019/2020 was only 10% compared to previous periods, when it grew more than 24% (Figure 2).

Figure 2: Global climate finance flows between 2011– 2020, biennial averages



Note: *2020 investment numbers were based on preliminary estimates. CPI will update the estimates once further primary data on 2020 public international climate finance becomes available in 2022.*

- **An increase of at least 590% in annual climate finance is required** to meet internationally agreed climate objectives by 2030 and to avoid the most dangerous impacts of climate change.

2 The terms climate finance and climate investment are used interchangeably

- **Adaptation finance continues to lag.** Finance for adaptation increased by 53% reaching USD 46 billion in 2019/2020 compared to USD 30 billion in 2017/2018. Despite this positive trend, total adaptation finance remains far below the scale necessary to respond to existing and future climate change. UNEP's Adaptation Gap Report (UNEP, 2021) estimates that annual adaptation costs in developing economies will be in the range of USD 155 to USD 330 billion by 2030. The public sector continues to provide almost all adaptation financing, with adaptation increasingly being prioritized in development finance climate portfolios, yet adaptation finance represented just 14% of total public finance. Moreover, data on adaptation finance from the private sector is still largely missing.

SOURCES AND INTERMEDIARIES

- **Public climate finance increased by 7% from 2017/2018, remaining largely stable at 51% (USD 321 billion) of the total.** Development Finance Institutions (DFIs) continued to deliver the majority of public finance, contributing 68% (USD 219 billion). State-owned financial institutions' share increased to 14% in 2019/2020, partly due to improved data on the flows in East Asia & Pacific, as well as an uptake of renewable energy financing in the region. Direct finance flows (domestic and international) from governments increased by 17% in 2019/2020, accounting for 12% of public flows (USD 38 billion) driven by low-carbon transport and delivered primarily through grants.
- **Private climate investments increased by 13% from 2017/2018, to USD 310 billion.** While corporations accounted for the largest share (40%) of private climate finance, commercial financial institutions made the biggest stride in growth, increasing their share from 18% to 39% (USD 122 billion). Household spending is the third largest share of annual private climate finance, driven largely by an annual consumer spending of USD 25 billion on electric vehicles in 2019/2020.

INSTRUMENTS

- **The majority of climate finance — 61% (USD 384 billion) — was raised as debt, of which 12% (USD 47 billion) was low-cost or concessional debt.** Equity investments, the next-largest instrument category after debt, came to 33% of total climate finance, up from 29% during the previous period. Grant finance was USD 36 billion or 6% of total flows (compared to 5% in 2017/2018).

SECTORS

- **Solar PV and onshore wind continued to be the main recipient of renewable energy finance**, attracting over 91% of all mitigation investment. Renewables were primarily financed through private capital, reflecting the sector's growing commercial viability.
- **Low-carbon transport is the fastest-growing sector, with an average increase of 23% compared to 2017/2018.** Investment tracked to private road transport (battery electric vehicles and chargers) accounted for 48% of low-carbon transport finance, building on multiple years of government subsidy policies and falling technology costs.

- **Mitigation investment in hard-to-decarbonize sectors remained low, partly attributed to limited data availability.** Investments in the buildings & infrastructure sector and the industry sector totaled USD 27.7 billion and USD 6.7 billion on average in 2019/2020, respectively. Climate finance in industry is particularly hard to track as its processes are prone to confidentiality restrictions.
- **The largest share of adaptation investment went to 'other & cross-sectoral' activities,** followed by water & wastewater projects. Given the cross-cutting nature of adaptation activities, the majority do not fit neatly into a single sectoral category, hence the predominance of cross-sectoral[3] projects reported in 2019/2020 (USD 22 billion, 47%). Water and wastewater management activities followed at USD 17 billion (37%).

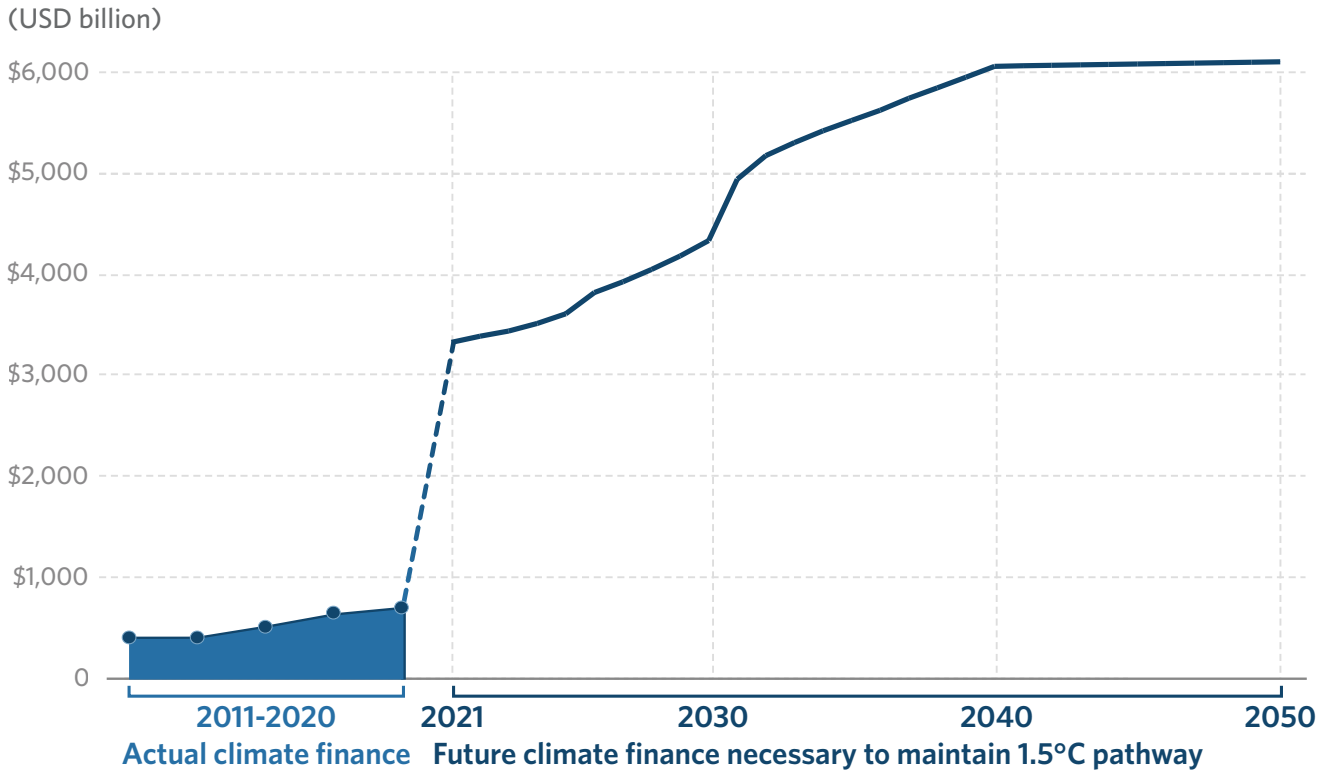
GEOGRAPHIES

- **More than 75% of 2019/2020 tracked climate investments flowed domestically.** Around USD 479 billion of climate investments was raised and spent within the same country, highlighting the continued importance of strengthening national policies, public finance systems, and domestic regulatory frameworks to encourage investments and address risk. International flows registered an increase of USD 13 billion from 2017/2018 to reach USD 153 billion, primarily driven by increased public investments from DFIs.
- **Three-quarters of global climate investments were concentrated in East Asia & Pacific, Western Europe, and North America, while the remaining regions received less than a quarter.** East Asia & Pacific accounted for almost half (USD 292 billion) of 2019/2020 tracked global climate investments, up by USD 43 billion compared to 2017/18. An estimated 81% of the investments in the East Asia & Pacific region were concentrated in China.
- **Climate investment in the economically advanced regions of Western Europe, United States & Canada, and Oceania were primarily funded by private finance**, while other regions sourced their climate investments mostly from public sources.

3 Includes disaster-risk management, and biodiversity, land and marine conservation

CONCLUSIONS AND KEY RECOMMENDATIONS

Figure 3: Global tracked climate finance flows and the average estimated annual climate investment need through 2050



1. **Climate finance flows are nowhere near estimated needs, conservatively estimated at USD 4.5 - 5 trillion annually (Figure 3). To achieve the transition to a sustainable, net zero emissions, and resilient world this decade, climate investment must increase drastically.** High-emissions investments continue to flow in key sectors, curbing the impact of new finance towards climate mitigation and adaptation. Climate investment should count in the trillions, whereas fossil fuel investments, which exceed USD 850 billion[4] annually, should dramatically decrease in this decade. Climate finance commitments also need to translate into action in the real economy, requiring all public and private actors to align their investments with Paris goals and net zero, sustainable pathways.

2. **Filling the investment gap for adaptation is critical to achieving the goals of the Paris Agreement.** Finance to adaptation, from both public and private actors, must be scaled by orders of magnitude to respond to current and oncoming climate risks. Information on investment in adaptation must also improve. The current limitations of adaptation finance tracking, especially of private sector finance, hinders tracking of progress towards a critical aspect of the Glasgow Climate Pact: increasing adaptation support for emerging and developing economies, especially those that are the most vulnerable to the impacts of climate change.

4 Based on average investment numbers on upstream and downstream oil & gas, coal mining and related infrastructure and fossil fuel power generation in 2019/2020 in IEA's World Energy Investment 2021 report

3. **Improved and standardized definitions, methodologies, and data access are key to inform necessary climate investment decisions.** Currently available disclosure initiatives fall short of providing standardized information on climate investments. In addition, to information on investment levels in adaptation, data in agriculture, forestry, other land uses, and fisheries-related (AFOLU), buildings, and industrial sectors are scarce, particularly from the private sector, and lack science-based standards. More data is also required at the country level, including domestic public budget expenditures. This information is essential to measure progress against the need, avoid resource fragmentation and direct finance where it is needed to be most impactful.

4. **We need credible and coordinated monitoring of commitments, with clear transition plans that include interim goals.** Achieving net zero by 2050 will require all public and private actors to align not only investment, but also practices, business models, and portfolios with the goal of limiting global warming to 1.5°C and increasing resilience to a changing climate. To achieve real economy impact, we need better oversight to ensure that commitments are immediate, credible, and verifiable. As concluded in the Framework for Sustainable Finance Integrity (CPI, 2021a), coordination across public and private financial actors is also needed to ensure coherence and impact on resilience, net zero, and sustainability, with support from all sectors and aligned with the science.

5. **Wider and better reporting on the interlinkages between climate finance and other sustainable development goals (SDGs) can help facilitate assessments of progress towards a just and sustainable transition.** Climate finance offers synergies for attaining other SDGs simultaneously, however, currently the data is scarce. More granular reporting can help assess the landscape of synergistic climate finance, directing attention to the distribution of benefits across different beneficiaries (women, youth, rural and indigenous populations) as well as the efficacy of flows.

CONTENTS

INTRODUCTION

While the COVID-19 pandemic was the pressing issue of 2020, it was also one of the three warmest years on record (WMO, 2021). Economic losses from natural disasters in 2020 alone were estimated at USD 268 billion (AON, 2021). The 2021 IPCC report issued a "code red" for the planet, concluding that human caused global warming is "unequivocal" (IPCC, 2021). As the world navigates through the pandemic, finance is key to drive a sustainable, net zero recovery and to achieve the goals established by the Paris Agreement.

Recovery programs and stimulus funds offered an opportunity for governments to steer the direction of economic recovery towards a sustainable and climate-responsive path. However, the integration of climate and green elements in recovery packages fell short of the need (CPI and Vivid Economics, 2021). In addition, there are concerns that recovery efforts have changed investment priorities away from climate action (UNEP, 2021).

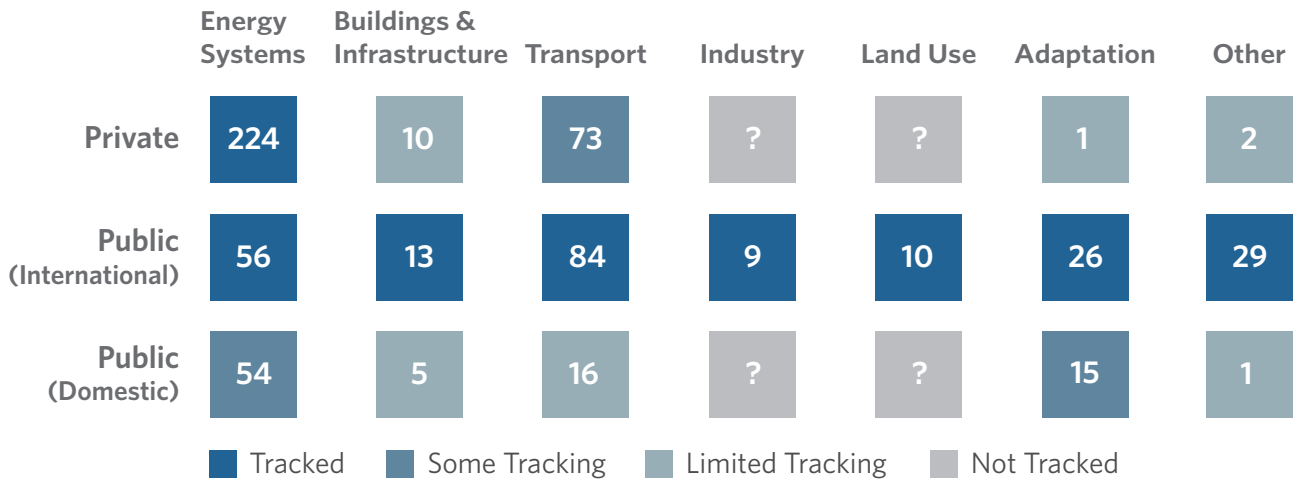
However, there has been progress on a political level. The Glasgow Climate Pact, agreed to at COP26, has underscored the urgency of making financial flows consistent with low greenhouse gases and resilient development. Yet, the implementation of the Paris Agreement still needs to be accelerated to avoid a temperature increase of more than 1.5°C. This requires an understanding of where the world stands in terms of climate finance.

The 2021 Global Landscape of Climate Finance analyzes climate finance flows along their life cycle. First, we examine the sources and intermediaries of finance, followed by the instruments used and the purposes and sectors served. We then present the geographic profile of climate finance flows, before concluding with a discussion of the current outlook for global climate finance and ways to improve tracking practices in the future.

The Landscape includes primary investment into productive assets at the project level to capture new money targeting climate-specific outcomes - excluding secondary transactions that involve money changing hands but no physical impact. This approach seeks to capture a non-double-counted estimate of financial flows. Finance provided through some financial instruments such as guarantees, insurance, government revenue support schemes, and fiscal incentives, or "intermediate output" investments in manufacturing or equipment sales, are not counted due to the potential for double-counting and over-estimating project investment costs.

While this report presents the most comprehensive information available, methodological issues and data limitations persist. Limited data availability prevents a full accounting of domestic government expenditures on climate finance (Box 7), and of private sector investments in energy efficiency, transport, land use, and adaptation.

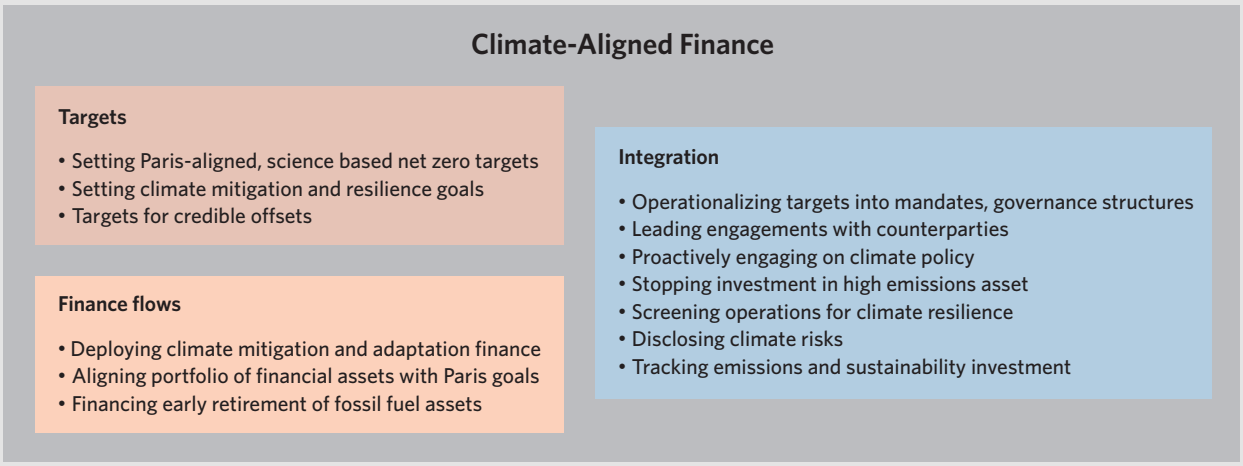
Figure 4: Tracked and untracked climate finance by actors and sectors



Note: *Numbers in the boxes represent currently tracked annual climate finance flows in each sector (2019/2020 annual average in USD billion)*

Box 1: Climate finance vs. Climate-aligned finance

Measuring primary investment in climate mitigation and adaptation is important, but only provides part of the picture. Achieving net zero will require all public and private actors to set ambitious science-based climate mitigation and resilience goals and align their practices, operations, and investment with the Paris agreement. Therefore, it is critical to track both qualitative and quantitative data on capital allocation and real economy investment flows under three dimensions of Paris alignment: targets, integration, and flows. Aligning finance with Paris goals require organizations to set intentions at a strategic level (targets), progressive integration in day-to-day operations and due diligence (integration), and resulting in allocation into investment flows[5].



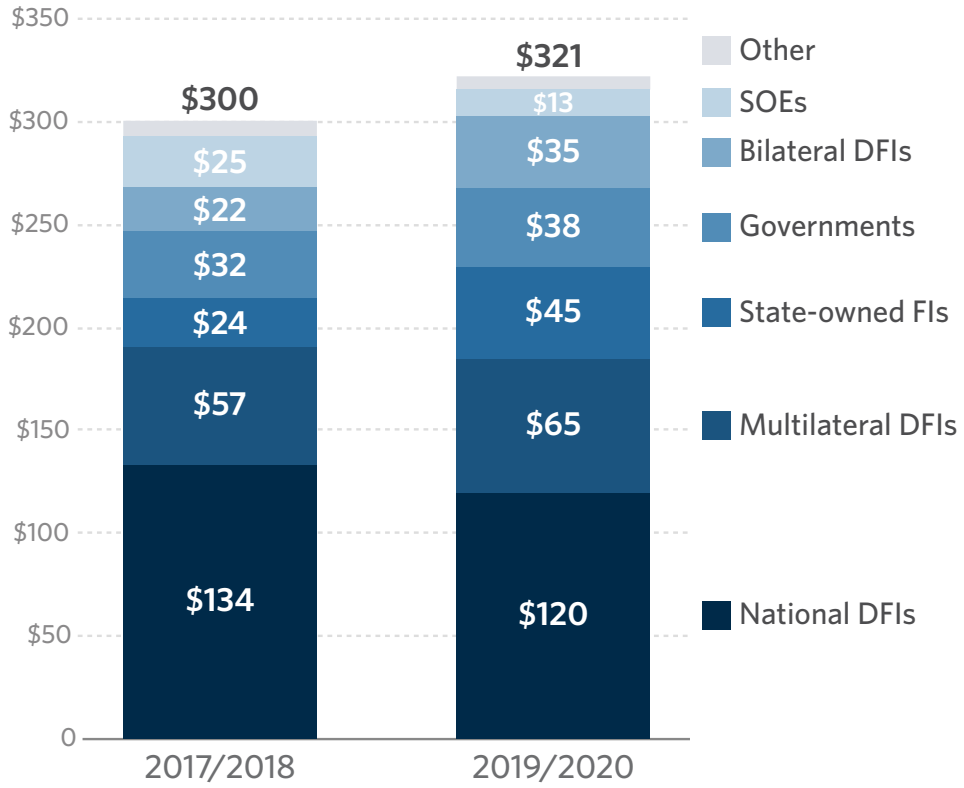
5 Net Zero Finance Tracker. 2021. Tracking the private finance response to climate change in the UK. https://www.climatepolicyinitiative.org/publication/net-zero-finance-tracker/

1. SOURCES AND INTERMEDIARIES

1.1 PUBLIC FINANCE

Public finance actors and intermediaries[6] committed an annual average of USD 321 billion in climate finance in 2019/2020, slightly more than half of total climate finance. This is a 7% increase from 2017/2018.

Figure 5: Climate finance by public sources (USD billion)



Note: *2020 investment numbers were based on preliminary estimates. We will update the estimates once further primary data on the 2020 public international climate finance becomes available in 2022.*

Development Finance Institutions (DFIs) continued to provide the majority of public finance, contributing USD 220 billion annually. **National DFIs are still the largest source of DFI flows**, with the vast majority coming from East Asia & Pacific countries. Compared to 2017/2018 their tracked commitments fell by 10% in 2019/2020, which is partly related to changes in

6 Public finance includes funds provided by governments, their agencies and companies, state-owned entities and financial institutions, climate funds, and development finance institutions (DFIs).

climate finance reporting by national DFIs in Western Europe. However, tracked adaptation flows by national DFIs were up by almost USD 8 billion in 2019/2020.

Climate finance from multilateral DFIs increased by 13% in 2019/2020 and is expected to continue increasing as they raise their ambition. For example, many multilateral DFIs are committing that up to 50% of their financing will be climate-related by 2025, with additional goals specifically for adaptation (MDBs, 2021). International Development Finance Club (IDFC) members also committed to collectively provide a cumulative total of more than USD 1 trillion of domestic and international climate finance by 2025 (IDFC, 2020).

State-Owned Financial Institutions[7] (SOFIs) have increased their role as providers of climate finance, particularly in East Asia & Pacific, while finance flows from State-Owned Entities (SOEs) have decreased. The increasing share of flows from SOFIs is indicative of the growing role debt plays in financing the climate transition (Buckley and Trivedi, 2021). Almost all tracked finance by SOFIs went to energy systems in 2019/2020. As more governments publicly commit to net zero transition, climate investment by SOEs and SOFIs will be a key driver, especially in countries with a high amount of state ownership in power infrastructure (Benoit, 2019).

Tracked climate finance from government budgets and agencies increased 17% to USD 38 billion in 2019/2020. Sixty percent of government climate finance is domestic, the same as in 2017/2018. More precise data on international climate finance from governments will become available in our 2022 update report.

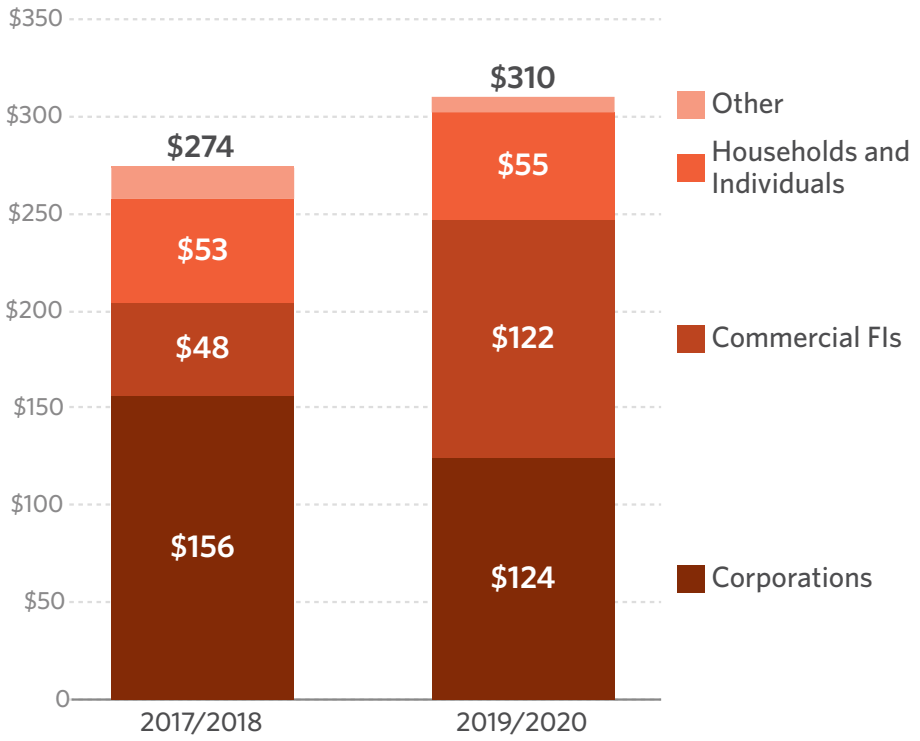
Multilateral Climate Funds (MCFs) increased annual financing to USD 3.5 billion in 2019/2020, up 18% from 2017/2018. The Green Climate Fund (GCF) provided almost half of the total finance from multilateral climate funds in 2019/2020, followed by the Global Environment Facility (GEF) with 27% of the total. Forty percent of total MCF flows went towards AFOLU projects. Forty-seven percent of MCF finance went to projects for adaptation or with dual benefits, a much higher percentage than overall public finance.

7 In 2020 we changed our methodology to categorize state-owned entities (SOE) and state-owned financial institutions (FI) from private actors to public actors.

1.2 PRIVATE FINANCE

Private actors[8] provided 49% of total climate finance, an average of USD 310 billion per year during 2019/2020. This was a 13% increase from the USD 274 billion in 2017/2018.

Figure 6: Climate finance by private sources (USD billion)



Corporations account for the largest source of private finance representing 40% of private flows in 2019/2020. However, the amount and share of private investment provided by corporates has declined due to a drop in debt balance sheet financing for energy systems by corporations. Greater access to debt financing from banks is allowing corporations to reduce the amounts financed through balance sheets. Corporates allocated 75% of finance into renewable energy projects, while low-carbon transport represented 20% in 2019/2020.

Commercial Finance Institutions made the biggest stride in growth, increasing their share of private climate finance from 18% in 2017/2018 to 39% in 2019/2020. Energy systems received 82% of banks' climate finance in 2019/2020. Bank lending trends are starting to move into clean energy assets (Buckley & Trivedi, 2021), however major banks' average annual lending for fossil fuel expansion continues to be very high. The world's 60 largest commercial and investment banks have collectively put USD 3.8 trillion into fossil fuels from 2016 to 2020 (Rainforest Action Network et al., 2021).

8 We consider five categories of private actors: non-financial corporations, commercial financial institutions (banks), households, institutional investors (including asset managers, insurance companies, and pension funds), and a mixture of private equity, venture capital, and infrastructure funds.

Spending from households increased to USD 55 billion in 2019/2020, up from USD 53 billion in 2017/2018. Households' annual spending on battery electric vehicles (BEVs) was USD 25 billion in 2019/2020, down USD 5 billion from 2017/2018. This decrease is due to an improved assumption and data points on BEV purchases by corporates.[9] The deployment of small-scale solar panels reached USD 25 billion, which is led by the United States and China. Solar water heaters account for the remaining climate finance spent by households.

In 2019/2020, direct climate finance from institutional investors and funds was USD 3.2 billion and USD 5.3 billion, respectively, mostly in renewable energy generation. Institutional investors tend to refinance or acquire renewable energy projects, which are excluded in the Landscape to avoid double counting. However, despite their large share of assets under management, institutional investors' share of total private climate finance remains marginal, at 1%, due to several barriers such as low risk appetite, a need for larger project size, and lack of policy incentives. Blended finance has a significant potential in overcoming these barriers and catalyzing investment at scale.

9 Please refer to the methodology document for further details.

Box 2: Blended finance for climate change (by Convergence[10])

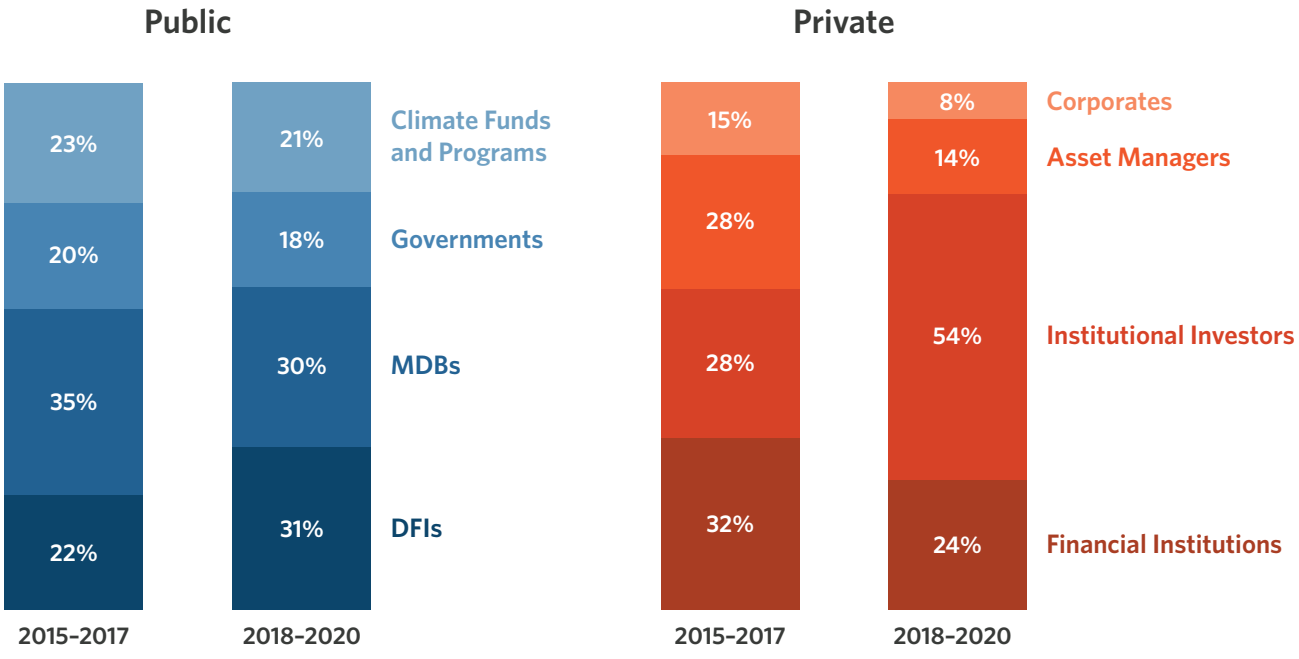
Blended finance is the use of concessional (priced below market-rate) capital, provided by public or philanthropic investors, to crowd-in private sector investments towards sustainable development. Since the launch of the UN Sustainable Development Goals (SDGs) in 2015, climate finance has consistently represented a prominent segment of the blended finance market; between 2015-2020, nearly half (47%) of closed blended transactions targeted climate-related outcomes (159 deals out of 336 total deals).

Approximately USD 39.1 billion of blended finance from 2015-2020 was directed towards climate-focused investment opportunities. The bulk of these transactions (84%) address climate change mitigation – this includes transactions with a hybrid mitigation-adaptation or dual benefits mandate. Meanwhile, 31% of deals had a focus on climate adaptation over that same timespan.

Multilateral DFIs were the most common source of public blended climate finance from 2015-2017 (35% of all public blended climate finance commitments), while national/bilateral DFIs became more active in blended climate finance between 2018-2020 (31% of commitments). Conventional debt remains the most frequently used investment instrument (40% in 2018-2020), however Convergence (2021) sees a growing inclination among public institutions to invest through equity (28% in 2018-2020, up from 24% in 2015-2017).

There has been a steady increase in private sector blended finance activity in recent years, which accounted for 47% of total commitments between 2018 and 2020, compared to 33% between 2015 and 2017. This suggests the market for climate finance is maturing for certain sectors, e.g. renewables, while it still does not invest in adaptation. Since 2018 institutional investors account for 54% of private sector blended finance commitments. As with public investors, the private sector is increasingly investing via equity instruments (54% in 2018-2020 vs. 40% in 2015-2017).

Figure 7: Public and private actor shares of blended climate finance



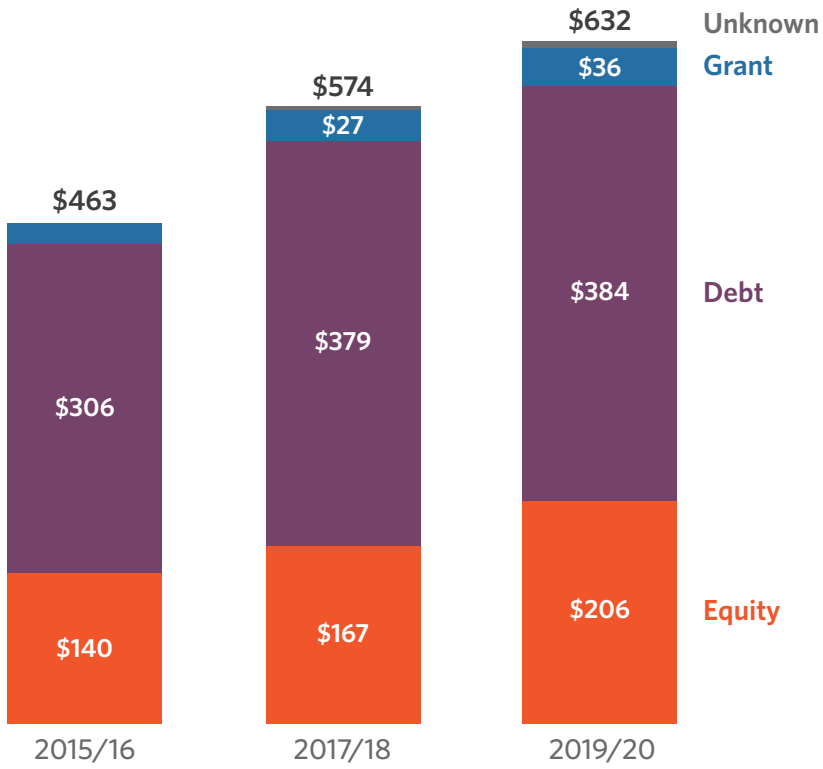
Source: *Convergence Blended Finance*

10 Convergence Blended Finance https://www.convergence.finance/

2. INSTRUMENTS[11]

Market rate debt, through project or corporate finance, was the largest financial instrument used to channel climate finance in 2019/2020, at USD 337 billion per year and accounting for 53% of the total. Equity investments and grants accounted for 33% and 6% of total climate finance, respectively.

Figure 8: Climate finance by instrument (USD billion)



2.1 DEBT

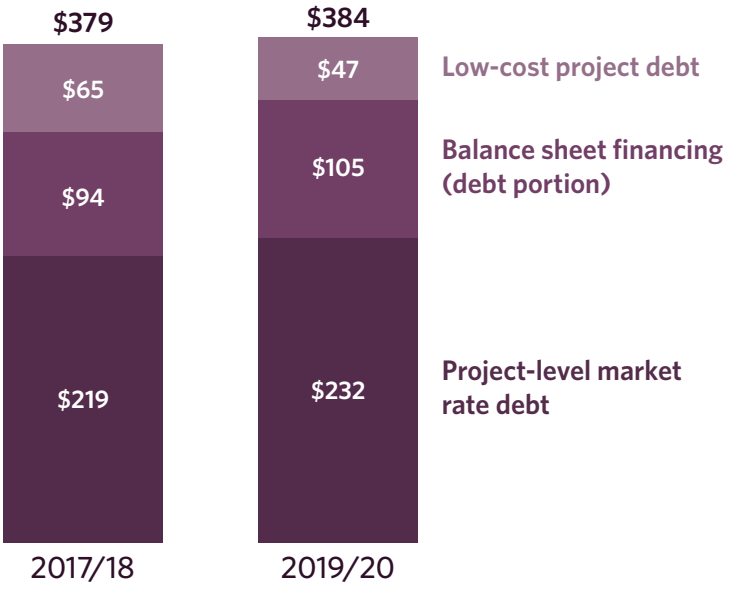
The majority of climate finance was raised as debt, accounting for USD 384 billion in 2019/2020 or 61% of total climate finance. Of the total debt finance, USD 337 billion was provided at market rate, representing 53% of total tracked climate finance. Renewable energy systems received 57% of market-rate debt flows both in 2017/2018 and 2019/2020.

Out of the total market-rate debt, USD 232 billion annually in 2019/2020 was provided at the project level, while debt issued directly through balance sheets averaged USD 105 billion. Project-level debt was mostly directed to low-transport and renewable energy

11 The Landscape categorizes transactions by the instrument used to structure the provision of finance by one actor to another or to specific climate projects. It includes both debt and equity instruments, both of which are differentiated between arrangements at the project level (i.e. relying on the project's cash flow for repayment) and on balance sheets (i.e. funded by the assets of the recipient institution or entity). Grants, which do not usually require repayment, are the final category.

systems projects (41% and 38% of all project level market-rate debt, respectively). Public institutions provided 75% of project-level market-rate debt in 2019/2020, primarily multilateral and national DFIs. Commercial financial institutions and SOFIs were responsible for raising 65% and 32% of balance sheet debt, respectively, for direct expenditure in renewable energy projects. This represents a change in the type of institutions responsible for the majority of debt balance sheet financing, as in 2017/2018 corporates (77%) and SOEs (14%) used this type of instrument the most.

Figure 9: Debt by type (USD billion)

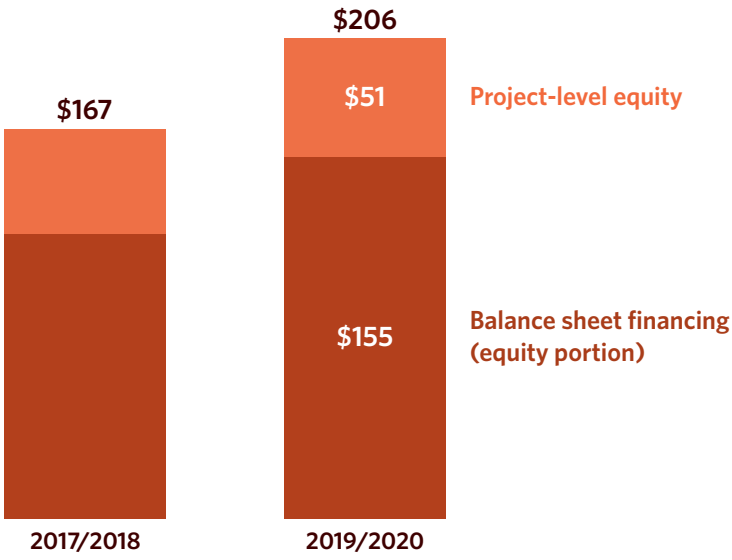


Climate finance provided in the form of low-cost project-level debt reached USD 47 billion annually in 2019/2020, 94% of which came from DFIs. This represents a decrease from the USD 65 billion from the 2017/2018 annual average, partially reversing an increase of USD 19 billion in 2015/2016.

2.2 EQUITY

Equity investments increased its share of total climate finance flows, at 33% in 2019/2020 compared to 29% in 2017/2018. While equity continues to flow mainly to renewable energy systems, the increase of equity finance was led by the transport and buildings & infrastructure sectors, each having USD 28 billion equity flows increases when compared to 2017/2018. Like debt, equity investments can be at the project level or can be placed directly on investors' balance sheets.

Figure 10: Equity by type (USD billion)



In 2019/2020, balance sheet equity investments by private firms and public entities represented 48% of total equity finance, accounting for USD 100 billion in annual flows. Including household and individuals' investment, which the Landscape also classifies as

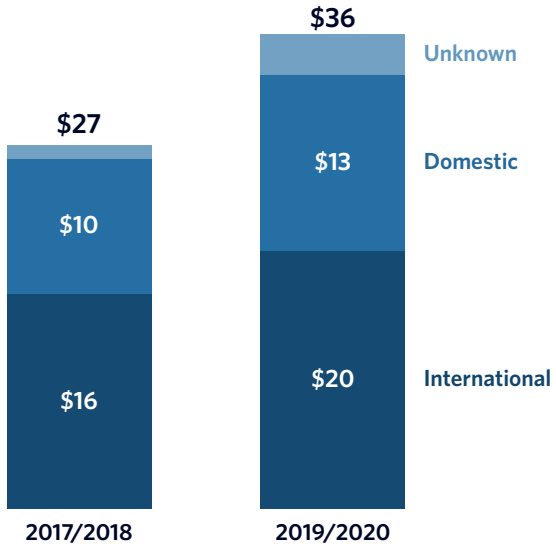
balance sheet equity, this figure increased to USD 155 billion, or 75% of total equity finance. Sixty percent went to energy systems, 31% to low-carbon transport, and 9% to buildings and infrastructure.

Annual financing through project-level equity, accounting for the remaining 25% of total equity, increased by USD 6 billion to USD 51 billion in 2019/2020. Seventy-seven percent went to energy systems, while 13% went to transport.

2.3 GRANTS

The total amount of grants increased, as public actors seek to build strong enabling environments and undertake projects across a range of sectors. Annual grant finance averaged USD 36 billion (6% of total flows) in 2019/2020 compared to USD 27 billion (5%) in 2017/2018. Fifty-five percent of tracked grants in 2019/2020 were made internationally, out of which Sub-Saharan Africa received the largest part (28%). For domestic grants, the largest sector share (37%) went into electrical vehicles. Increased grant finance reflects the ongoing need for public flows to reach more challenging sectors and geographies. For instance, 22% of international grants were in the AFOLU sector, of which 82% went towards adaptation or projects with dual benefits (adaptation and mitigation objectives).

Figure 11: Grants by provider type (USD billion)

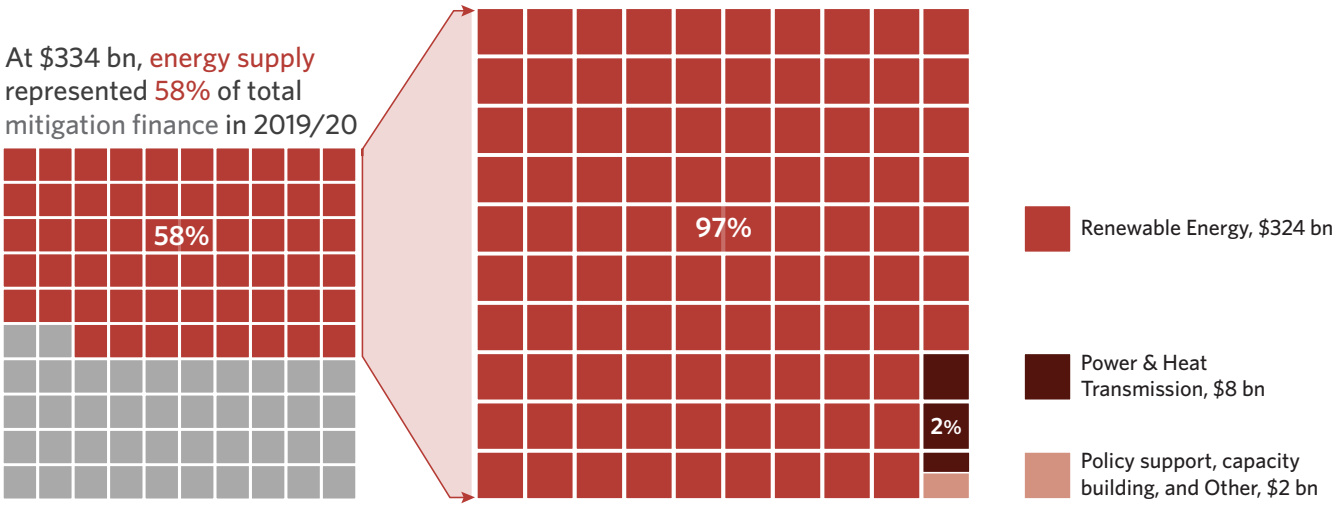


3. MITIGATION SECTORS

3.1 ENERGY SUPPLY[12]

Investments in energy supply reached an average USD 334 billion per year in 2019/2020, representing 58% of total mitigation finance and 53% of total climate finance[13].

Figure 12: Energy supply investments by sector and as a share of mitigation finance (2019/2020)



RENEWABLE ENERGY

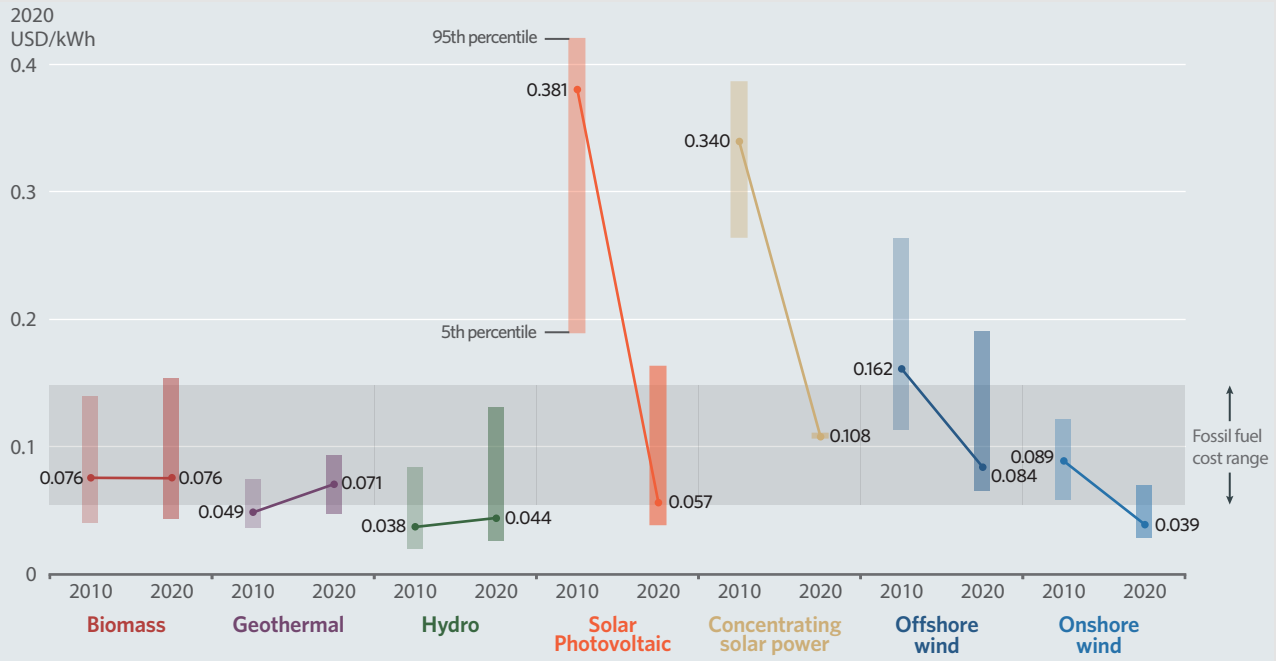
Despite the impact of the COVID-19 pandemic on the global economy, average annual renewable energy investments remained stable in 2019/2020 compared to 2017/2018. Notably, due to dramatic cost reductions in solar and wind technologies (Box 3), the same level of investment in 2019/2020 translated into greater capacity additions than it did in 2017/2018. Despite annual fluctuations in renewable energy finance commitments, annual capacity additions have consistently reached record-high levels, including in 2020 when 260 GW of renewables were added globally, 43% higher than in 2019 (182 GW) and 51% higher than the average in 2017/2018 (173 GW) (IRENA, 2021a).

12 Energy supply investments include investments in renewable fuel production (i.e., biofuels and biogas), renewable power, and heat generation assets, transmission and distribution networks, as well as support to policy and national budget and capacity building.
13 The larger volume of renewable energy investment compared to other climate sectors is, at least partially, explained by better data coverage and availability for this sector as in section 1.3 Data Gaps. As a result, renewables represent a larger proportion of overall tracked climate finance than they would if more comprehensive data were available in other sectors.

Box 3: Renewable energy cost reductions - more with less

The levelized cost of electricity (LCOE) of solar and wind technologies have consistently declined over time due to competition, innovation, and upscaling of production. Between 2010 and 2020, the global weighted-average LCOE for utility-scale solar PV and CSP dropped by 85% and 68%, respectively (IRENA, 2021b), while those of onshore and offshore wind projects fell by 56% and 48%, respectively (Figure 13). This downward trend continued in 2020, when the LCOE of newly commissioned onshore wind projects declined by 13%, compared to 2019, followed by offshore wind (down 9%), and utility-scale solar PV (down by 7%).

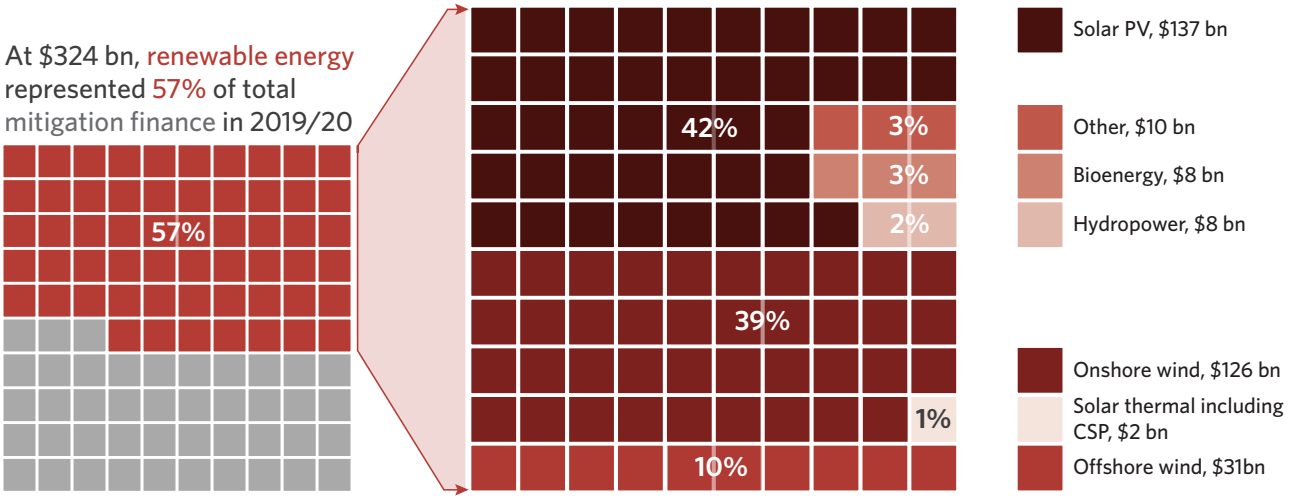
Figure 13: Global LCOEs from newly commissioned, utility-scale renewable power generation technologies (2010-2020)



Source: IRENA 2021b.

In terms of technologies, solar PV and wind (both onshore and offshore) attracted 91% of renewable energy investments in 2019/2020 (Figure 14). Other technologies, such as bioenergy, hydropower, solar thermal (including CSP), and geothermal accounted for much smaller shares, between 0.3 - 3%.

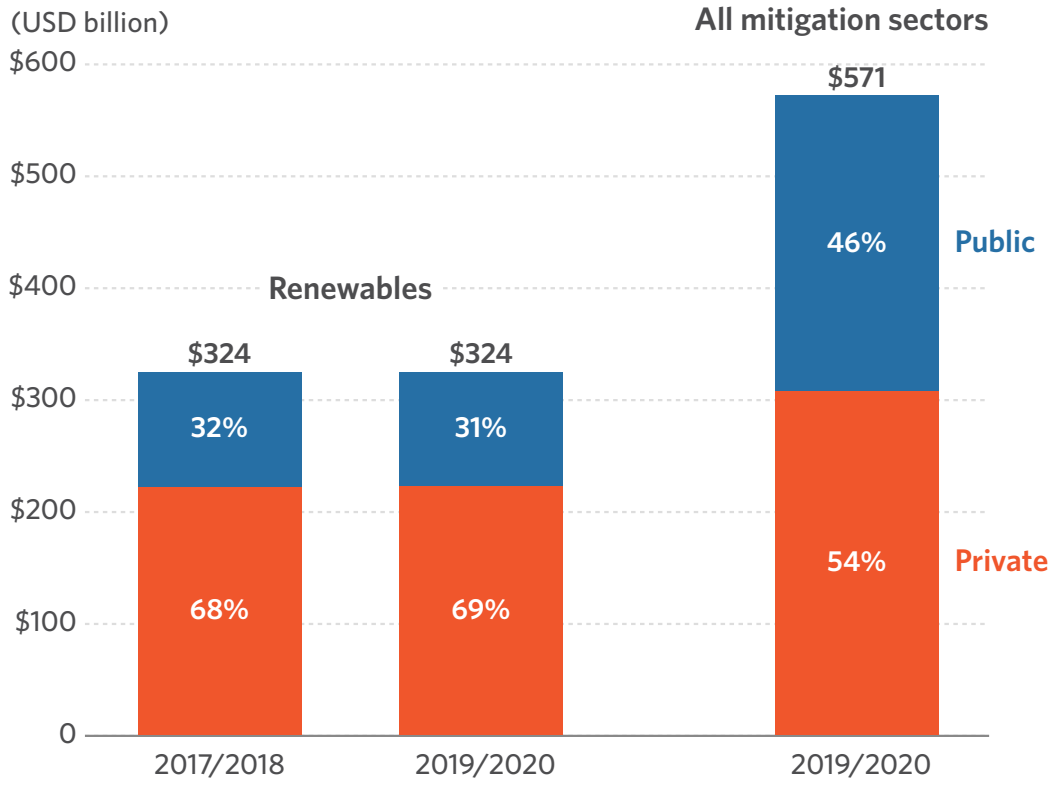
Figure 14: Renewable energy investments by sector as a share of mitigation finance (2019/2020)



Geographic concentration has been a feature of renewable energy investments for some time now. In line with overall mitigation finance flows, in 2019/2020 the majority of renewable energy investments were made in the East Asia & Pacific region, mainly China and Japan, followed by Western Europe, and the United States & Canada. Since 2013, these three regions have consistently attracted 65-75% of global investments, while developing and emerging economies continue to remain underrepresented (IRENA and CPI, 2020).

Compared to other mitigation sectors, renewables attract higher shares of private finance. Renewables are primarily financed through private capital, which reached USD 222 billion In 2019/2020, with an additional USD 101 billion coming from public sources (Figure 15). These shares remained stable compared to 2017/2018, when private finance was 68% of the total. The need for lower public finance owes to the commercial viability and higher competitiveness of some renewable energy technologies, which makes them particularly attractive for private investors, irrespective of public support.

Figure 15: Investment by public/private source: renewables vs. mitigation



Among private investors, commercial financial institutions provided most of the capital for renewables in 2019/2020 (USD 104 billion per year), followed by corporations and then households. Public finance for renewables came in mainly via SOFIs, which provided USD 45 billion per year, doubling their share in total public finance compared to 2017/2018. National DFIs (were the second-largest source of public investment in 2019/2020 (USD 28 billion per year), though their average annual commitments were down by 22% compared to 2017/2018.

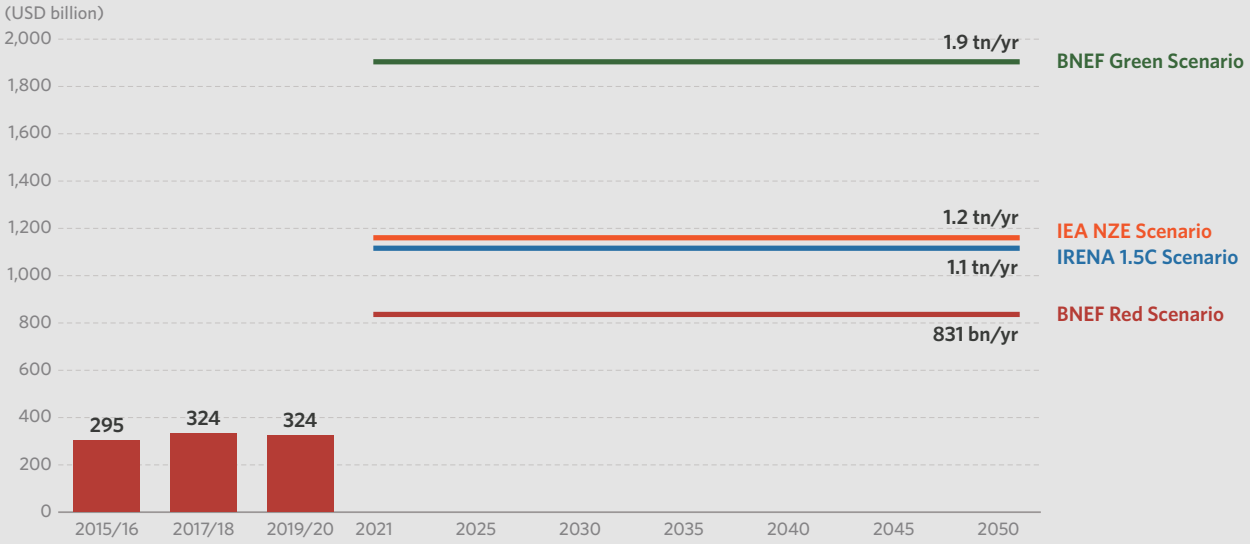
TRANSMISSION AND DISTRIBUTION

Global tracked investments in transmission and distribution (T&D) reached USD 8 billion per year in 2019/2020, mostly from the public sector. This USD 3 billion increase from 2017/2018 is an encouraging trend. As the share of variable renewable energy (VRE) in power systems increases, power system flexibility components (such as smart grids, storage technologies, demand side management, and sector-coupling, among others) will be critical to advance VRE integration in the grid (IRENA, 2019). SOEs and national DFIs provided nearly half of the annual investments, followed by multilateral DFIs.

Box 4: Phasing out investment in fossil fuels

While renewable energy investments have increased over time, the current level of investment needs to at least triple to put the world on a 1.5°C trajectory by 2050).

Figure 16: Annual renewable energy investments (2015-2020) vs average investment needs through 2050



Source: *IRENA 2021b.*

Higher renewable energy investments need to be urgently coupled with lower investments in fossil fuel. In 2020, 58% of utility-scale electricity generated globally still came from fossil fuels (IEA, 2021). This needs to dramatically change if the world is to achieve the international objectives agreed under the Paris Agreement and reiterated in Glasgow at COP26. Over the past decade, renewable energy assets and portfolios have shown better financial performances than fossil fuels and, more recently, have demonstrated stronger resilience during the COVID-19 pandemic (Imperial College Business School and IEA, 2021; IRENA, 2021c).

Moving forward, fossil fuel projects will become riskier, and more difficult to finance as governments and financial institutions (public and private) commit to phasing out fossil fuel investments.

Green recovery plans and net zero strategies approved by governments, particularly in developed economies, suggest that future policies and measures will favor clean energy over fossil fuels, further increasing the risk and costs of investments in conventional assets. This might include, for example, lower or no subsidies for fossil fuels and/or clean energy mandates or quotas. For example, at COP26, 39 countries and financial institutions pledged to end international public finance for fossil fuels by 2022[14].

14 Available at: https://ukcop26.org/statement-on-international-public-support-for-the-clean-energy-transition/

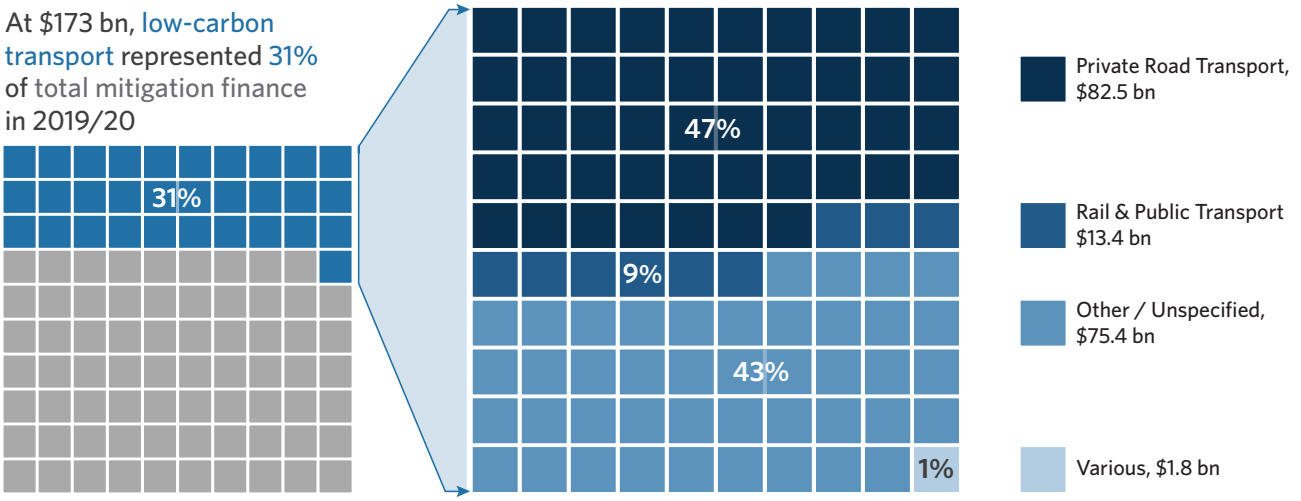
3.2 HIGH ENERGY DEMAND SECTORS

Together, the transport, buildings, and industry sectors have been driving global energy demand for years. Decarbonization therefore relies on their transformation. Despite deep and complex transition issues for these sectors, their GHG emissions mitigation strategies share three pillars: energy sobriety, energy efficiency, and low-carbon energy sources.

3.2.1 TRANSPORT

Low-carbon transport[15] finance reached an all-time high of USD 173 billion per year, accounting for 31% of all mitigation climate finance. The transport sector, the second largest after energy systems, was the fastest-growing sector reporting an average increase of 23% compared to 2017/2018. While a large share of the flows (43%) is difficult to categorize further due to reporting limitations, some sub-sectors stand out.

Figure 17: Investments in low-carbon transport as a share of total mitigation finance (left) and by sub-sector (right)



Investment tracked to private road transport—BEVs and EV chargers—accounted for 48% of low-carbon transport finance. In 2020, global BEV sales growth accelerated +31% y-o-y, driven by surging sales in Europe (+108%), in spite of the pandemic and an overall global vehicle market drop of 16% compared to 2019 (IEA, 2021b). This market expansion resulted in a record high USD 78 billion of investments in BEVs in 2019/2020, 28% above 2017/2018 levels. In recent years, falling battery costs and subsidy policies have been making BEVs cheaper over time, contributing to their popularity. Although investments in BEVs are growing fast, they still represented only a fraction (4%) of the USD 2 trillion global LDV (light-duty vehicle) market (AutoMobilSport, 2019 & 2020). According to a selection of scenarios aligned with the Paris Agreement, annual spending in BEVs and EV chargers should sit between USD 543 billion and USD 765 billion through 2030 (BNEF, 2021; IRENA, 2021a; IEA, 2021a), whereas current investment is USD 82.5 billion.

15 Tracked mitigation solutions in the transport sector include electrification, modal shifts, and energy efficiency. They range across all transportation modes: road, rail, waterway, and aviation. Data quality and coverage varies from one mitigation solution to the other.

With expiring subsidy policies, private actors play an increasing role in BEV finance. Government incentives covered 24% of BEV price in 2019, which decreased to only 10% in 2020. In 2019/2020, household down payments accounted for 32% of BEV expenditures, while investment for corporation fleet additions reached 26%. The remaining 27% of private financing were auto loans from commercial banks.[16]

Investment in EV chargers remained steady between 2019 and 2020 at around USD 4.3 billion per annum. Investment was led by government and corporate spending on public chargers (84%) and was concentrated in East Asia & Pacific (61%). However, charging infrastructure is lagging given the current electric vehicle deployment rates[17].

Investment levels in the low-carbon rail & public transport sub-sector remains insufficient, especially when compared to road transport. In 2019/2020, USD 13.4 billion was invested annually in low-carbon rail & public transport[18]. Finance tracked primarily came from public investors (69%), with bilateral DFIs leading the way (25%). Governments and multilateral DFIs followed at around 19% each. Estimating the need remains a challenge as several reports provide accounts for total rail project financing while we only track projects with clear mitigation objectives. In its 'High Rail Scenario,' the IEA (2019) estimates that the average annual investment need through 2050 is USD 770 billion, while annual investment in rail transport infrastructure in 35 major countries averaged USD 187 billion between 2015 and 2017 (OECD, 2021(1)).

3.2.2 BUILDING AND INFRASTRUCTURE

Tracked finance in low-carbon buildings & infrastructure[19] totaled USD 27.7 billion in 2019/2020. Limited data availability – especially in the private sector – means the tracked finance in building and infrastructure represents only a partial view of mitigation investment. However, some sub-sectors and solutions offer better data quality and coverage. Investment in distributed solar thermal water heaters reached USD 14 billion in 2019/2020 and were concentrated in East Asia & Pacific (65%), and Western Europe (12%). DFI finance for energy efficiency in buildings averaged USD 13 billion in 2019/2020, with an almost even distribution between bilateral and multilateral DFIs. These figures cover investment in both new green buildings and energy efficiency retrofits.[20]

In scenarios aligned with Paris goals, annual investment in buildings' energy efficiency and electrification, district heat, and renewable direct use need to reach between USD 480 billion and USD 1.1 trillion over the 2021-2050 period (IEA, 2021a; IRENA, 2021a). Even when using top-down estimates of current investment levels in these activities (USD 182 billion per year in 2019/2020; IEA, 2021c; IRENA, 2021a), these need figures would still represent a great and rapid increase.

16 These are estimates calculated using our updated methodology to break down BEV expenditures, using IEA aggregated data.
17 In the EU, most countries failed to meet their publicly accessible charger to EV ratio targets in 2020 (IEA, 2021b; EU, 2014).
18 Mitigation solutions in this sub-sector include the deployment of efficient fleets (new or retrofits) and rail infrastructure with demonstrated mitigation potentials
19 Mitigation finance in the building sector combines solutions that improve energy performance of buildings and certain renewable technologies with direct onsite production and use.
20 Together with this report, CPI publishes a methodological brief to improve the tracking of energy efficiency investment in buildings, using new data from certified green buildings. Available at: https://www.climatepolicyinitiative.org/publication/incremental-investments-in-energy-efficiency-in-green-buildings/

3.2.3 INDUSTRY

Tracking mitigation finance in the industry sector comes with a series of challenges, ranging from data availability to methodological issues on what activities and solutions should be accounted for. In 2019/2020 tracked mitigation investments flowing to the industrial sector remained low, averaging USD 7 billion per year. All tracked mitigation investments came from public entities, mostly from bilateral and multilateral DFIs (96% of the total flows) and mainly from Western Europe DFIs. The IEA, however, estimates that industry investment in energy efficiency alone reached USD 45 billion in 2019 (2020 (3)). The disparity with CPI levels of tracked finance could come from confidentiality restrictions that many industrial processes are prone to, making project-level tracking approaches less representative of current investment levels than the IEA's top-down estimates.

In many low-carbon scenarios, emissions cuts in the industry sector rely on the emergence and mainstreaming of carbon capture technologies (CCUS). Excluding CCUS innovations, decarbonizing industry to levels compatible with the Paris Agreement would require average annual investment between USD 280 billion and USD 448 billion through 2050(IEA, 2021a; IRENA, 2021a).

Box 5: Land use and other mitigation finance

Mitigation finance in AFOLU reached USD 8.1 billion on average in 2019/2020. Tracking these financial flows is difficult as data reporting from private actors is scarce (close to all tracked finance came from public sources, 84% from multilateral and national DFIs alone) and many reported investments lack transparency on the uses of finance (43% are defined as general mitigation in AFOLU). However, workable data shows at least USD 3.4 billion helped finance forestry projects, and at least USD 2.3 billion went to agriculture, more than half of which was clearly directed towards sustainable crops, agro-forestry, and livestock production.

However, with COP26's Global Methane Pledge (2021) and countless net zero commitments announced this year (CPI, 2021d), mitigation finance in the AFOLU sector has a much greater role to play than what current finance levels suggest. Indeed, agriculture alone accounts for 40% of global methane emissions (Climate & Clean Air Coalition, 2021), and multiplying net zero pledges call for an increased use of carbon offsets such as natural carbon sinks.

4. ADAPTATION

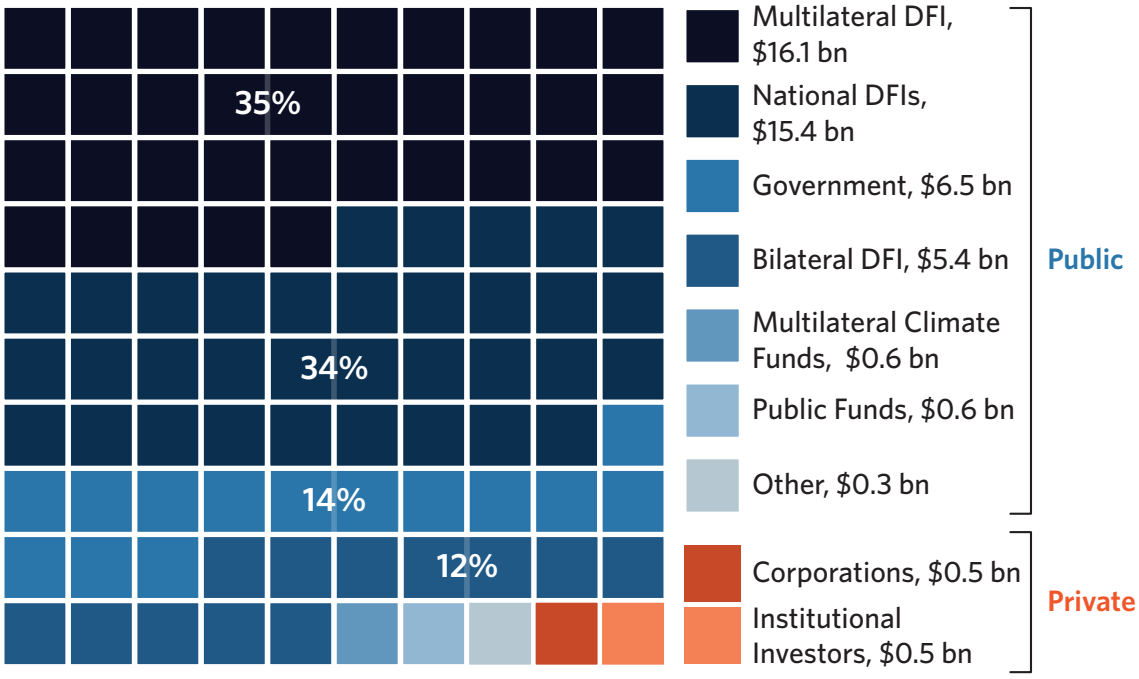
Adaptation finance gained momentum in 2019/2020, increasing 53% to an annual average of USD 46 billion from USD 30 billion in 2017/2018; however, adaptation still accounts for just 7% of total climate finance based on available data.[21]

Adaptation finance increased across public actors but remains well short of estimated costs for 2020-2030. This increase reflects a broader positive trend where public actors are recognizing the importance of climate-resilient development and building the capacity to respond to the physical risks of climate change. Despite the increase in adaptation finance, total volumes continue to fall far short of the estimated annual USD 180 billion that could generate USD 7.1 trillion in total net benefits over the 10 years from 2020-2030 (GCA, 2021).[22] The UNEP Adaptation Gap Report (UNEP, 2021) also estimates that overall annual adaptation costs in developing economies alone could reach between USD 155 to USD 330 billion by 2030 and USD 310 to USD 555 billion by 2050.[23] The 2021 Adaptation Gap Report notes that the actual costs are likely towards the upper end of these ranges, estimated in 2016, particularly if Paris goals are not met.[24]

Almost all adaptation finance tracked in the Landscape was funded by public actors. Adaptation finance accounted for 14% of total public finance flows, a slight increase from 12% in 2017/2018. Multilateral DFIs accounted for the largest share of adaptation finance (USD 16.1 billion) closely followed by National DFIs (15.4 billion). Commitments from all DFIs together accounted for 80% of total adaptation financing (USD 36.8 billion), with adaptation increasingly being prioritised in development finance climate portfolios.

21 Conclusions regarding the level of private adaptation finance are likely to be less robust than those pertaining to public sector commitments, given conceptual and methodological difficulties involved with tracking private sector adaptation investment.
22 Globally, in five key areas: early warning systems; climate-resilient infrastructure; improved dryland agriculture crop production; global mangrove protection; and resilient water resources.
23 Adaptation costs are generally used as the basis for discussions regarding investment needs (see Parry et al., 2009)
24 The UNEP Adaptation Gap Report (UNEP, 2021) also notes that a more detailed and systemic stocktake of the costs of adaptation and finance needs would be a significant analytical value-add.

Figure 18: Sources of adaptation finance

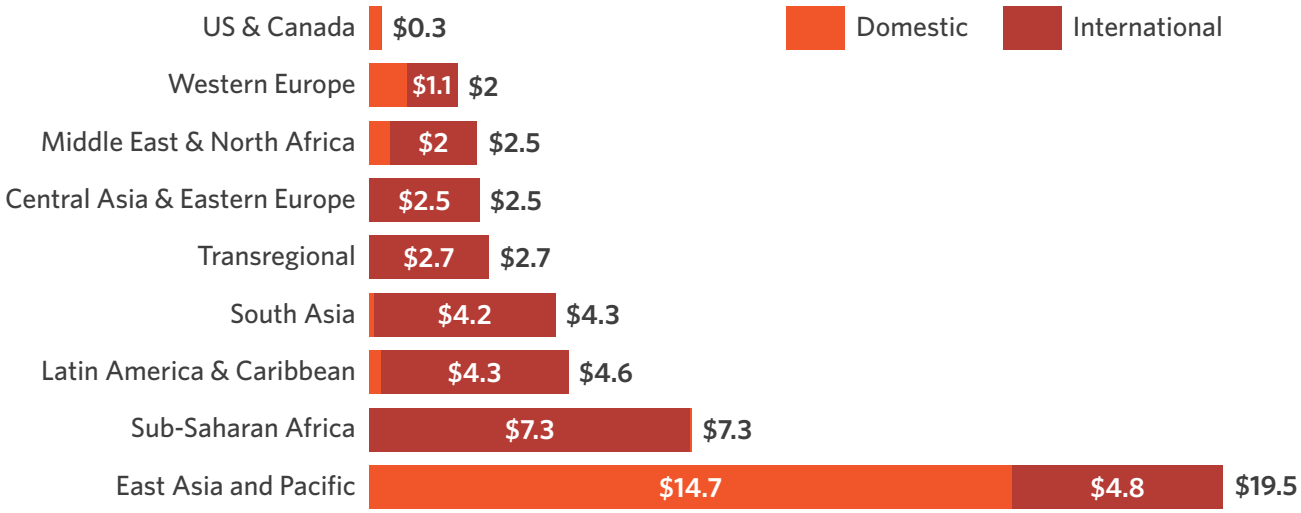


The minimal amount of tracked private adaptation finance is due to a confluence of challenges: there are both barriers to mobilizing private sector investment in adaptation and limitations on tracking the private sector adaptation investment that does occur. Barriers to private sector investment in adaptation include concerns from private sector actors about the bankability of adaptation activities and limited internal capacity to identify and develop adaptation project pipeline. Alongside investment barriers, tracking the adaptation finance that is flowing is difficult due to challenges associated with context dependency, confidentiality restrictions, uncertain causality, and a lack of agreed-upon impact metrics (Richmond & Hallmeyer, 2019). Despite the low level of tracked private adaptation finance, the WBG (2021) concludes that it is "mission possible" to unlock private sector investment in adaptation and resilience, provided a complementary set of policies and incentives are in place. Private sector participation is essential in order to close the adaptation gap.

4.1 VULNERABILTY AND ADAPTATION FINANCE

The largest recipient of international adaptation finance is Sub-Saharan Africa, which received the greatest share (25%) of international adaptation flows in 2019/2020. Recognizing that vulnerability indices differ, according to ND-GAIN (2021) the most vulnerable countries to the impact of climate change are in Sub-Saharan Africa. While the positive correlation between vulnerability and international adaptation investment is encouraging, investment levels still fall magnitudes short of the region's needs. It is estimated that the adaptation financing gap in Sub-Saharan Africa is USD 12.4-13.1 billion (CIF, 2016), almost double the tracked investments.

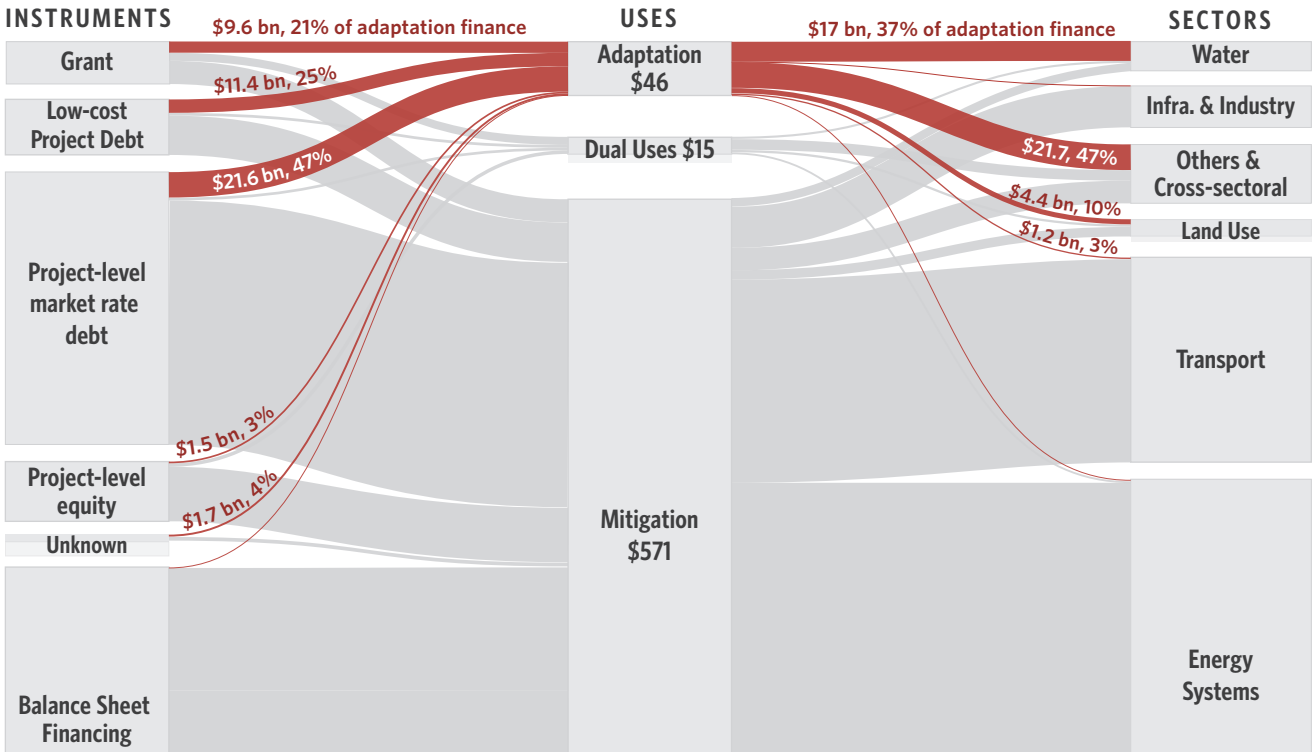
Figure 19: Adaptation finance by region (USD billion)



4.2 SECTORS AND INSTRUMENTS

The largest share of adaptation investment went to 'other & cross-sectoral' activities, followed by water & wastewater projects. Given the cross-cutting nature of adaptation activities, the majority do not fit neatly into a single sectoral category, hence the predominance of cross-sectoral[25] projects reported in 2019/2020 (USD 22 billion, 47%). Water and wastewater management activities followed at USD 17 billion (37%).

Figure 20: Adaptation finance by source and instrument



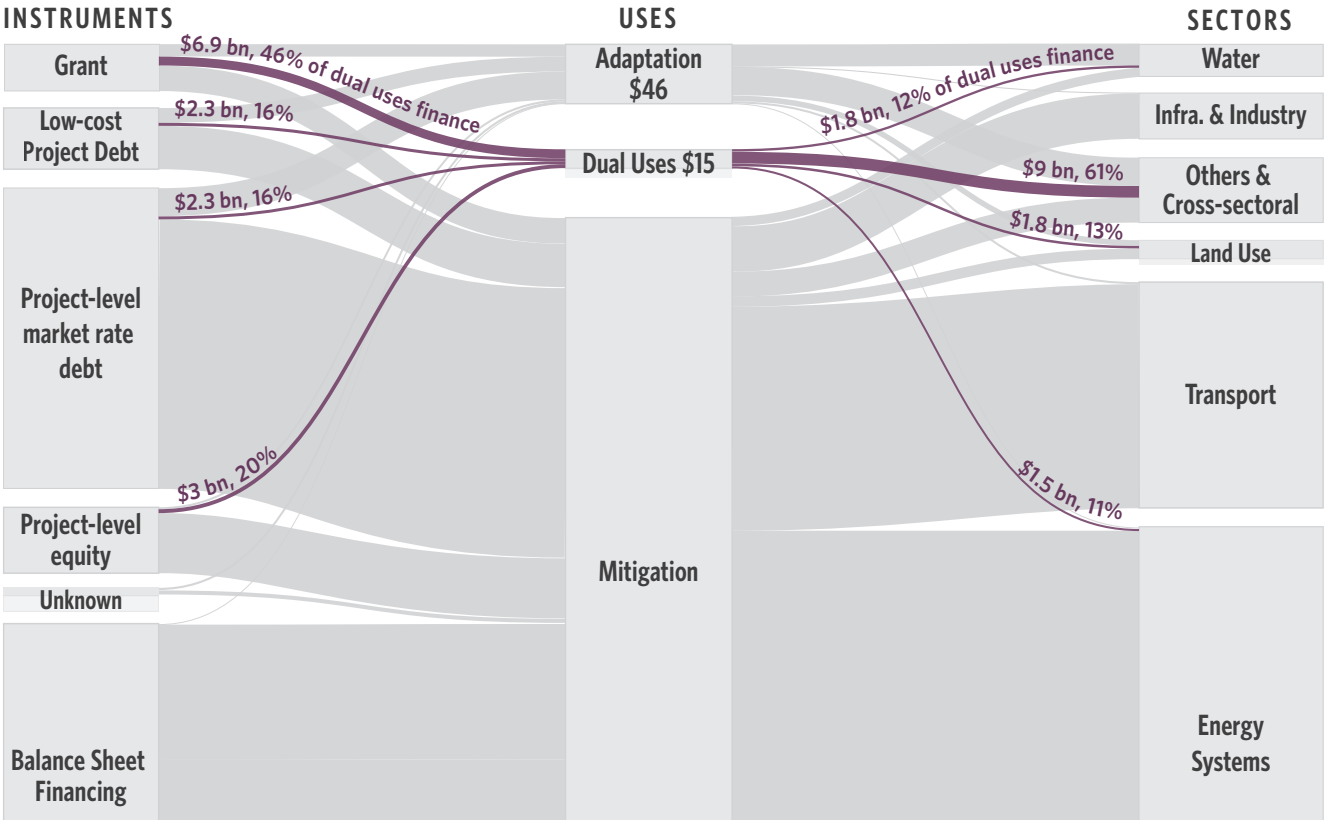
25 Includes disaster-risk management and biodiversity, land and marine conservation

Across all sectors, project-level market rate debt was the most common financing instrument, followed by a more even split between low-cost project debt and grants. Oxfam (2020) cautions against an international climate finance architecture overwhelmingly built upon non-concessional loans, the result of which could be rising, and in some cases, unsustainable debt among the world's poorest countries. Vulnerable small island developing states (SIDS) already face high debt burdens, particularly since the onset of the COVID-19 pandemic, and could, therefore, benefit from so-called debt-for-climate swaps (Thomas & Theokritoff, 2021).

Box 6: Dual benefits finance

USD 14.8 billion (2% of total global climate finance) flowed to projects that reduce both climate vulnerability and GHG emissions. Out of this, 86% (or USD 12.7 billion) was from public actors. A majority (USD 9 billion) of dual benefit climate finance went into 'others & cross sectoral' projects followed by AFOLU, and water & waste sector. The largest recipients of dual benefits climate finance were Sub-Saharan Africa, Latin America & Caribbean, and East Asia & Pacific. Bilateral DFIs, government, and multilateral DFIs were the largest source of dual benefit climate finance, totaling USD 11.6 billion. Grants were the most popular financing instrument totaling USD 6.7 billion or 45% of public dual benefit climate finance.

Figure 21: Dual benefits finance



5. GEOGRAPHY

This section presents the domestic and international flows of tracked climate finance. It profiles regional flows of investments in terms of origin, destination, uses, private and public sources, and instruments.

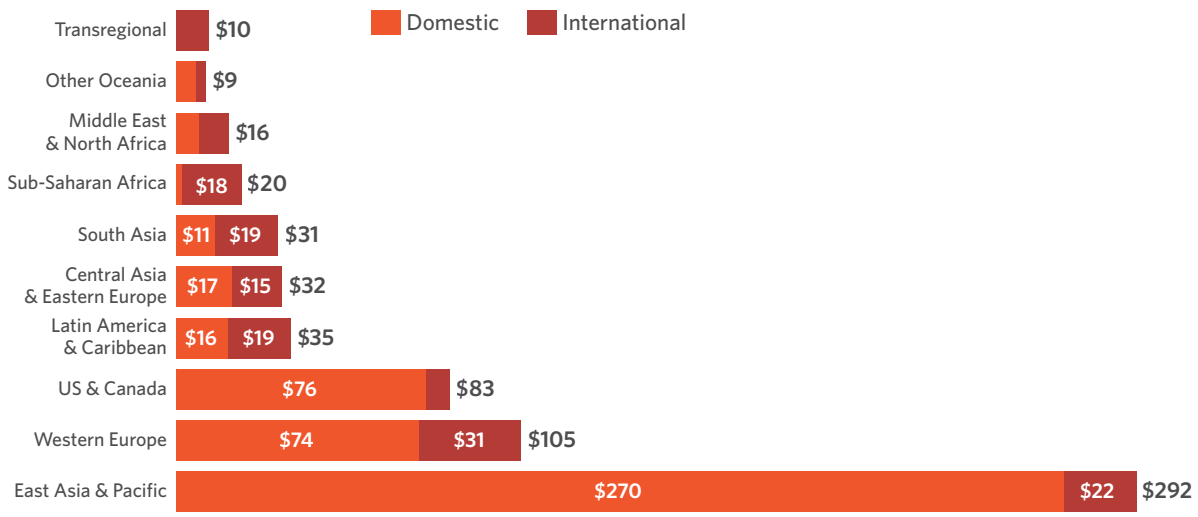
5.1 DOMESTIC AND INTERNATIONAL FLOWS

Three-quarters of 2019/2020 tracked climate investments (USD 479 billion) flowed domestically, highlighting the continuing need to strengthen national policies and domestic regulatory frameworks to encourage domestic investments and address risk. The remaining USD 153 billion flowed internationally to fund projects across borders. The international flows registered an increase of 8% from 2017/2018, primarily driven by the increased public investments from multilateral and national DFIs.

More than half (58%) of the climate projects funded domestically were from private sources. The USD 310 billion of private climate finance mainly targeted projects at the domestic level, with only 11% flowing to international territories. Although the USD 321 billion tracked public finance was also primarily invested domestically, 37% financed international projects, making it the principal source (79%) of tracked international investments.

High shares of domestic flows dominated in Western Europe, United States & Canada, and East Asia & Pacific, accounting for 76% of the global flows. It is estimated that 92% of the climate finance that went to the United States & Canada, and East Asia & Pacific were raised and spent domestically, and 71% for Western Europe (Figure 22). Inversely, a higher share of international finance was observed in the developing regions of Sub-Saharan Africa and South Asia, the majority of which were directed towards projects with cross-sectoral impacts and those related to energy systems and AFOLU and fisheries.

Figure 22: Domestic and international climate finance flows by region of destination (USD billion, 2019/2020 annual average)



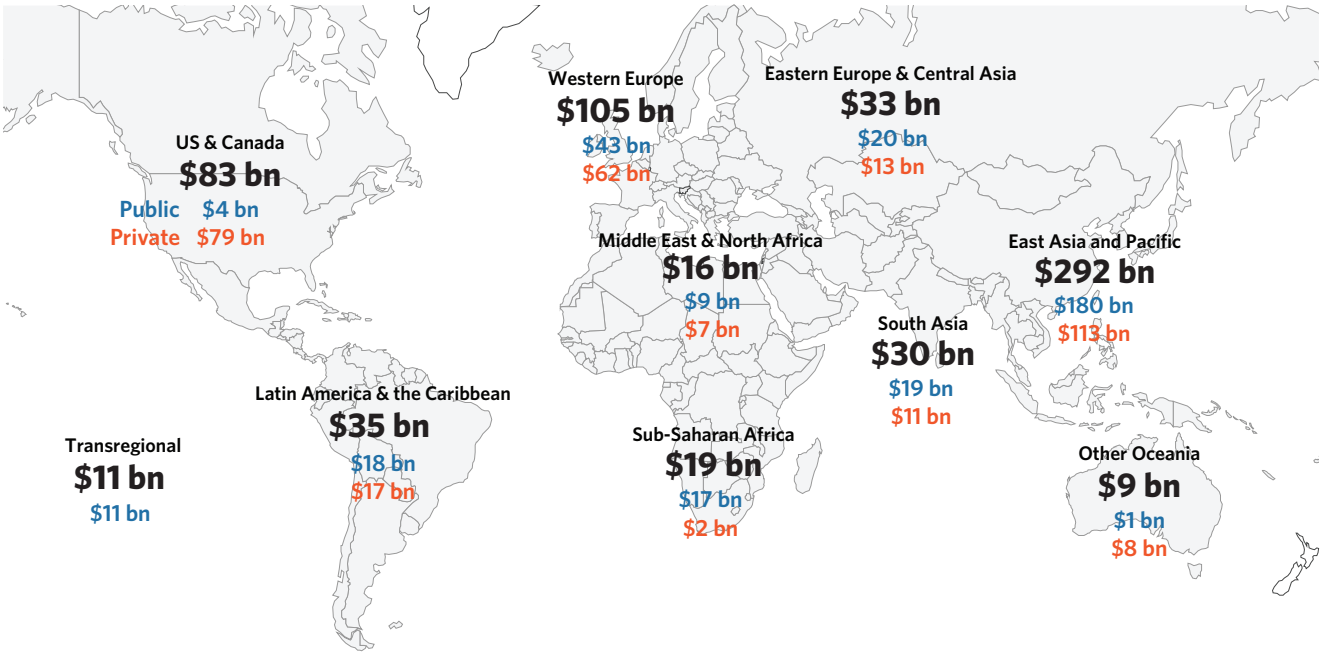
5.2 ORIGIN AND DESTINATION OF FINANCE

A majority of climate finance flowed to East Asia & Pacific, Western Europe, and the United States & Canada, while only a quarter went to other regions. East Asia & Pacific remained the primary destination, accounting for 46% of global flows, up by USD 43 billion from 2017/2018. We estimate that 81% of the investments in the East Asia & Pacific region were concentrated in China, attributed to strong public spending on climate projects and conducive national policies for domestic investment.

Climate projects in economically advanced regions of Western Europe, United States & Canada, and "other Oceania" were primarily funded by private finance, while the rest of the regions sourced their climate investments mostly from public sources. The highest dependency (88%) on public finance was observed in Sub-Saharan Africa, underpinning the critical role of public institutions and governments in driving climate actions in economically constrained and vulnerable countries, as well as the importance of using public finance strategically to further mobilize private funds towards these territories.

Non-OECD countries were principally funding their own climate needs. Of the total amount of tracked climate investments, 52% were sourced from non-OECD countries, 36% from OECD countries, and the remaining have unknown sources. **Non-OECD countries were the principal destination of tracked climate finance, obtaining 64% or USD 401 billion of the total global flows.** However, 80% of the non-OECD investments came from non-OECD sources, indicating that non-OECD countries were principally funding their own climate needs.

Figure 23: Destination region of climate finance, by public/private (USD billion, 2019/2020 annual average)



Support for mitigation remains greater than support for adaptation across regions. All regions were mainly funding mitigation actions, with 80% of the mitigation investments concentrated in the high emitting regions of United States & Canada, Western Europe, and East Asia & Pacific.

Tracked investments towards the categories of policy, national budget support, and capacity building was USD 17.6 billion in 2019/2020, addressing the need to consider the circumstances of smaller and vulnerable economies. Also, this allocation of investments indicates progress related to the need for capacity building and institutional strengthening to enable climate action (see e.g. UNFCC, 2021b).

Box 7: Domestic finance tracking - challenges and opportunities

Domestic finance tracking provides opportunities for countries to better align with global climate commitments. It helps countries measure and evaluate success in mobilizing investments from the deployment of domestic budgetary resources, determining gaps and opportunities, redirecting investment flows to respond to unique national climate circumstances, and enhancing accountability among donors and parties of the Paris Agreement (CPI, 2021b; CPI, 2019; GFLAC and UNDP, 2018). Data availability constraints prevent a comprehensive understanding and, thus, more granular and geographic-specific climate finance reporting is needed.

Despite the ongoing concerns on definitional issues, data uncertainty, limited institutional capacity, and a lack of systematized information (UNFCCC, 2020; GFLAC and UNDP, 2018), efforts to fill in the knowledge gap are increasing. It is estimated that USD 86.7 billion of domestic public climate finance was spent in 2017-2018 annually, as reported in Biennial Update Reports (BURs), Climate Public Expenditure and Investment Reviews (CPEIRs) and other sources (UNFCCC, 2021). Furthermore, in a sub-national tracking exercise it was estimated that climate finance flows for cities reached an estimated USD 384 billion annually on average in 2017/2018 (CCFLA et al. 2021).

6. INTERLINKAGES WITH OTHER SUSTAINABLE DEVELOPMENT GOALS

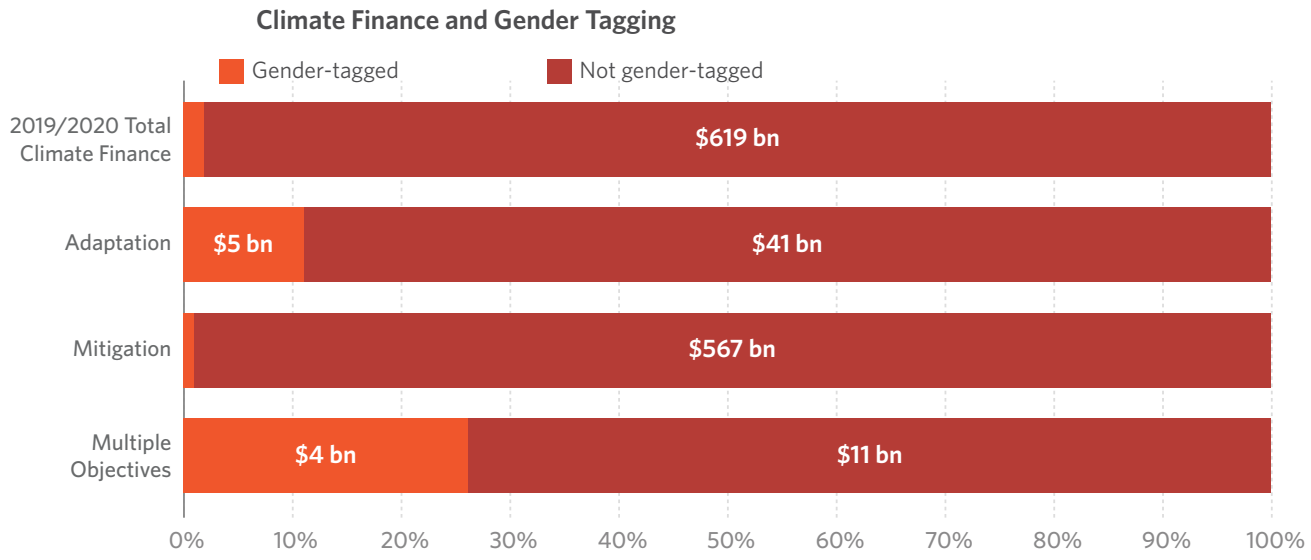
Climate finance offers synergies for meeting other sustainable development goals (SDGs) simultaneously, while tagging and tracking such finance can help to measure progress towards the 2030 SDG agenda and a just and sustainable transition more generally. For example, climate projects with gender equality objectives embedded into project design and development help raise visibility for and measure progress toward SDG 5 and SDG 13. Other possibilities include tracking climate finance offering biodiversity co-benefits, in turn measuring progress towards SDG 13, 14, and 15. Examples include nature-based solutions and ecosystem-based adaptation measures. As data availability and granularity increase, tracking climate and SDG-aligned finance together can better facilitate assessments of progress towards attaining the SDGs and efforts to ensure a sustainable post-COVID recovery and an overall just transition.

6.1 GENDER-TAGGING IN CLIMATE FINANCE

Incorporating a gender lens into tracked climate finance is an emerging activity among reporting (public) institutions, however, data is scarce. Women's livelihoods tend to be more sensitive to climatic changes while their local knowledge, skills, and propensity for community-participation offers a window of opportunity for enhancing synergies between climate- and gender-based sustainable development (UNDP & GGCA, 2016).

In addition to using the OECD-DAC markers, this edition of the Landscape facilitated reporting on gender-sensitive climate finance among surveyed public actors. As shown in Figure 24, adaptation and projects with dual benefits appear to offer the most potential for incorporating gender-tagging, currently reporting 11% and 27% gender-tagging respectively. On the other hand, only 0.7% of tracked mitigation projects were gender-tagged. Convergence (2021) also found that since 2015, 18% of blended climate finance transactions have been aligned with SDG 5 (Gender Equality). About one-quarter (22%) of blended climate finance deals had integrated some gender-lens component into the overall transaction structure, while over 75% of transactions featured no gender-focused elements at all.

Figure 24: Gender-tagged climate finance (2019/2020)



To ensure that climate finance is, increasingly, grounded in gender equality and women's empowerment, gender-based criteria for project selection and fund disbursement should become embedded within all climate finance governance structures and procedures, both ex ante and ex post (UNDP & GGCA, 2016). Moving forward, more granular, project-level reporting by all actors can help to assess the Landscape of gender-sensitive climate finance in future tracking exercises, in turn allowing us to measure progress towards attaining SDG 5.

7. CONCLUSIONS AND RECOMMENDATIONS

1. Climate finance must increase in speed and scale this decade for a credible transition to a sustainable, net zero, and resilient world.

Finance flows are nowhere near the estimated needs, conservatively estimated at USD 4.5 - 5 trillion annually. High-emissions investments continue to flow in key sectors, curbing the impact of new finance in climate mitigation and adaptation. Climate investment should count in the trillions annually, whereas fossil fuel investments should dramatically decrease this decade to achieve the transition to a sustainable, net zero emissions, and resilient world.

Climate finance commitments also need to translate into action in the real economy, requiring all public and private actors to align their investments with Paris goals and net zero, sustainable pathways. This requires coordinated action from all actors:

- Governments should build confidence in key markets with clear policy signals and incentives, with interim goals on net zero, whereas financial regulators should set standardised rules to enforce the targets.
- Development banks and international finance institutions can help build strategy, engage with counterparties, and support policy development, while deploying a wider range of instruments that take on more risk, helping to catalyze more private investment in developing economies.
- The private sector needs to better appreciate new approaches to collaborating and investing, but also needs to mainstream climate considerations by assessing risk and opportunities in a more holistic way.

2. Filling the investment gap for adaptation is critical to achieving the goals of the Paris Agreement.

COP26 elevated the global community's focus on adaptation finance. New financial commitments to adaptation were announced in Glasgow, but total commitments remain far short of the estimated costs through to 2030. Furthermore, information on investment levels in adaptation remains highly limited, which negatively impacts efficient allocation of climate finance mandated by the Paris Agreement and reinforced by the Glasgow Climate Pact. Increasing allocation towards developing economies is critical, particularly countries that contribute relatively little to climate changing emissions but that are already suffering the negative impacts of climate change.

To increase adaptation finance, a multifaceted approach is needed:

- Increasing the volume and accessibility of climate information, along with technical capacity, with a view towards developing effective adaptation activities.

- Articulating investment-ready National Adaptation Plans and mainstreaming climate resilience in government procurement. Such planning can help identify priority actions across sectors and indicate areas for private sector participation.
- Diversifying the portfolio of financial instruments employed to increase investment in adaptation. Instrument selection should be informed by a variety of factors including the timeline for implementation, the private investment market environment, sovereign debt levels, and capacities for monitoring and evaluation.[26]

Parallel to these actions, policymakers should also prioritize developing frameworks to measure global adaptation progress. This step will be especially critical for robust analyses of investment flows and associated gaps to improve resilience outcomes.

3. Public and private actors should improve definitions, methodologies, and data access to effectively contribute to climate action.

With the rapid proliferation of sustainability, resilience, and net zero announcements, establishing minimum standards for integrity across all actors and at all stages of action is needed (CPI[27], 2021). Although sustainability and climate reporting are gaining traction in the public and private sector, currently available disclosure initiatives and taxonomies fall short of providing standardized information on climate investment levels. Furthermore, definitions and metrics on climate investment are not standardized. For example:

- Comparable data in the AFOLU, buildings, and industrial sectors are scarce, particularly from the private sector, and lack science-based standards.
- Continuously updated data is also required at the country level, including domestic public budget expenditures.

Because the public and private sectors do not have commonly accepted definitions, approaches, and taxonomies of climate finance, it is difficult to assess the collective progress on global climate mitigation and adaptation efforts. This information is essential to measure progress against the need, avoid resource fragmentation, and direct finance where it is needed to be most impactful.

4. We need credible and coordinated monitoring of commitments, with clear transition plans that include interim goals.

Achieving net zero by 2050 will require all public and private actors align not only investment, but also practices, business models, and operations with the collective goal of limiting global warming to 1.5°C and increasing resilience to the changing climate. To achieve real economy impact, we need better oversight to ensure that commitments are: **immediate**, and establish a solid foundation; **credible**, to ensure meaningful progress over business as usual; and, **verifiable**, to combat greenwashing.

26 https://gca.org/wp-content/uploads/2021/01/GCA-Adaption-in-Finance-Report.pdf
27 Framework for Sustainable Finance Integrity, https://www.climatepolicyinitiative.org/publication/framework-for-sustainable-finance-integrity/

As concluded in the Framework for Sustainable Finance Integrity (CPI, 2021a), coordination across public and private financial actors is also needed to ensure coherence and impact on resilience, net zero, and sustainability, in alignment with science and with support from all sectors.

5. Wider and better programming and reporting on the interlinkages between climate finance and other sdgs can help facilitate assessments of progress towards a just and sustainable transition

Delivering on the goals of the Paris Agreement will involve deep structural changes altering the nexus between the environment, the economy, and people. Climate finance can be leveraged to ensure a just and sustainable transition, taking into account the needs of different beneficiaries (e.g., women, youth, rural and indigenous populations). This edition of the Landscape shows that, for example, incorporating a gender lens into climate finance is an emerging activity – among public institutions – however, currently the data is scarce. More granular reporting across all actors can help to assess the landscape of climate and SDG-aligned finance and, therefore, progress towards a just and sustainable transition. Moreover, directing attention to the distribution of climate finance benefits can help to assess the efficacy of capital flows. The quality, as well as quantity, of climate finance is equally important to ensure every dollar counts and investments are reaching those most in need of it.

8. ANNEX: DATA TABLES

Table A.1: Breakdown of global climate finance by public and private actors (USD billion)

Actor	2019	2020	2019/2020 Average
Private	**280**	**340**	**310**
Commercial FI	111	134	122
Corporation	111	136	124
Funds	8	3	5
Households/Individuals	47	64	55
Institutional Investors	3	4	3
Public	**343**	**300**	**321**
Bilateral DFI	47	23	35
Export Credit Agency (ECA)	1	1	1
Government	41	35	38
Multilateral Climate Funds	4	3	4
Multilateral DFI	62	67	65
National DFI	137	103	120
Public Fund	2	2	2
SOE	12	13	13
State-owned FI	38	52	45
Total	**623**	**640**	**632**

Table A.2: Financing for adaptation & mitigation split by public and private sources (USD billion)

Sources	2019	2020	2019/2020 Average
Private	**280**	**340**	**310**
Adaptation	0	2	1
Mitigation	279	335	307
Multiple objectives	1	3	2
Public	**343**	**300**	**321**
Adaptation	42	48	45
Mitigation	288	240	264
Dual benefits	14	12	13
Total	**623**	**640**	**632**

Table A.3: Breakdown of global climate finance by instruments (USD billion)

Instrument	2019	2020	2019/2020 Average
Balance sheet financing (debt portion)	97	113	105
Balance sheet financing (equity portion)	131	179	155
Grant	38	34	36
Low-cost project debt	58	37	47
Project-level equity	56	46	51
Project-level market rate debt	239	226	232
Unknown	5	5	5
Total	**623**	**640**	**632**

Table A.4: Breakdown of global climate finance by Use and by Sector (USD billion)

Use/Sector	2019	2020	2019/2020 Average
Adaptation	**42**	**49**	**46**
Agriculture, Forestry, Other land uses and Fisheries	5	4	4
Buildings & Infrastructure	1	1	1
Energy Systems	1	0.2	0.3
Industry	0.03	0.01	0.02
Information and Communications Technology	0.25	0.24	0.24
Others & Cross-sectoral	19	25	22
Transport	2	1	1
Waste	0.01	0.02	0.01
Water & Wastewater	15	19	17
Mitigation	**566**	**576**	**571**
Agriculture, Forestry, Other land uses and Fisheries	7	9	8
Buildings & Infrastructure	35	22	28
Energy Systems	321	342	332
Industry	9	5	7
Information and Communications Technology	0.1	0.1	0.1
Others & Cross-sectoral	21	17	19
Transport	169	177	173
Waste	1	3	2
Water & Wastewater	2	1	1
Multiple objectives	**15**	**15**	**15**
Agriculture, Forestry, Other land uses and Fisheries	2	2	2
Energy Systems	2	1	2
Others & Cross-sectoral	9	10	9
Transport	1	0.1	0.4
Water & Wastewater	1	2	2
Total	**623**	**640**	**632**

Table A.5: Breakdown of Energy System Sector total climate finance by sub-sector (USD billion)

Energy System Sub-sector	2019	2020	2019/2020 Average
Fuel Production	1	1	1
Other/Unspecified	1	1	1
Policy & National Budget Support & Capacity Building	1	1	1
Power & Heat Generation	313	332	322
Power & Heat Transmission & Distribution	8	8	8
Total	**324**	**343**	**334**

Table A.6: Breakdown of Transport Sector total climate finance by sub-sector (USD billion)

Transport Sub-sector	2019	2020	2019/2020 Average
Aviation	0	0	0
Other/Unspecified	92	60	76
Policy & National Budget Support & Capacity Building	2	0	1
Private Road Transport	59	106	82
Rail & Public Transport	17	10	14
Transport-oriented Urban Development and Infrastructure	1	1	1
Waterway	0	0	0
Total	**171**	**178**	**175**

Table A.7: Breakdown of Buildings & Infrastructure Sector total climate finance by sub-sector (USD billion)

Buildings & Infrastructure Sub-sector	2019	2020	2019/2020 Average
Appliances & Lighting	0	0	0
Building & Infrastructure Construction Work	21	9	15
HVAC & Water Heaters	14	14	14
Other/Unspecified	0	0	0
Policy & National Budget Support & Capacity Building	0	0	0
Total	**36**	**23**	**29**

Table A.8: International and domestic climate finance flows (USD billion)

OECD/Non-OECD destination	2019	2020	2019-2020 Average
Domestic	**478**	**479**	**479**
non-OECD	294	302	298
OECD	184	176	180
Unknown	0	0	0
International	**145**	**161**	**153**
From Non-OECD to OECD	3	4	3
From Non-OECD to Other Non-OECD	19	29	24
From OECD to non-OECD	78	79	78
From OECD to Other OECD	44	49	46
From Transregional to Non-OECD	1	1	1
From Transregional to OECD	0	0	0
Total	**623**	**640**	**632**

Note: *International public finance flows with transregional destination are assumed to be directed to non-OECD countries.*

Table A.9: Breakdown of global climate finance by region of destination (USD billion)

Region	2019	2020	2019/2020 Average
Central Asia and Eastern Europe	35	29	32
East Asia and Pacific	278	305	292
Latin America & Caribbean	37	33	35
Middle East and North Africa	16	15	15
Other Oceania	10	8	0
South Asia	30	30	0
Sub-Saharan Africa	19	19	19
Transregional	11	10	11
US & Canada	88	79	84
Western Europe	100	110	105
Total	**623**	**640**	**632**

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