# Global Landscape of Climate Finance 2021

## Methodology

December, 2021

CLIMATE
POLICY
INITIATIVE

# Contents

# 1. DEFINITIONS, DATA COLLECTION PROCESS AND SCOPE

The Global Landscape of Climate Finance series (the *Landscape*) captures available data on primary financing supporting greenhouse gas emissions reductions and climate resilience activities. The *Landscape* consolidates data from a wide range of primary and secondary sources. It follows financial flows along their lifecycles, from the original source of financing, through financial intermediaries, their deployment in the form of financial instruments, and the recipients of finance, to how finance is ultimately used on the ground (see Buchner et al., 2011, 2012, 2013, 2014, 2015, 2017; Oliver et al., 2018, Macquarie et al., 2020; Buchner et al., 2019).

In order to combine data from various sources, Climate Policy Initiative (CPI) has adopted an operational definition of climate finance and a standardized accounting methodology in order to ensure data are comparable and consistent, and overlaps are avoided, to the fullest extent possible.

This document outlines the *Landscape* methodology as used in the 2021 report, in terms of definitions, principles, accounting scope, outstanding issues, assumptions, and data coverage.

## 1.1 CLIMATE FINANCE DEFINITION

The CPI working definition of climate finance is aligned with the recommended operational definition of the UNFCCC Standing Committee on Finance (see UNFCCC SCF, 2014, 2016, 2018, 2020), which states: "Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts."

**Our climate finance mapping exercise is limited to primary capital flows directed toward low-carbon and climate-resilient development interventions with direct or indirect greenhouse gas mitigation or adaptation benefits.** These flows include support for capacity-building measures as well as for the development and implementation of policies. To determine what constitutes mitigation and adaptation finance provided by the public sector, we rely on the tracking methodologies and reporting followed by: i) the members of the OECD's Development Assistance Committee (DAC), data for which is publicly available through the Creditor Reporting System (CRS) database[1]; ii) the group of Multilateral Development Banks (MDB) and members of the International Development Finance Club

[1] See OECD (2011, 2016 and 2021a).

(IDFC) reporting on climate finance [2]; and iii) the group of Multilateral Climate Funds, as reported through the Climate Funds Update[3]. We acknowledge that there are emerging alternative standards, definitions, and classifications including, among others, the EU taxonomy, Climate Resilient Principles for green bonds, and the recommendations of the Task Force on Climate-related Financial Disclosures. However, these standards are still evolving and are therefore not currently reflected in the *Landscape*. As a result, we consider:

**Mitigation finance** as resources directed to activities:

- Contributing to reducing or avoiding GHG emissions, including gases regulated by the Montreal Protocol; or
- Maintaining or enhancing GHG sinks and reservoirs.

**Adaptation finance** as resources directed to activities aimed at reducing the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience. Throughout the report we use the words 'climate resilience finance' and 'adaptation finance' interchangeably but acknowledge that differences exist between the two.

**Dual benefits finance** as resources directed to activities contributing to both "climate change mitigation" and "climate change adaptation" and meeting the respective criteria for each category. An afforestation project preventing slope erosion is an example of a "dual benefit" project because it brings significant adaptation benefits, while also making a positive contribution to mitigation (Klein et al., 2007).

CPI analysts endeavor to identify eligible and ineligible climate finance flows through a set of general principles discussed further below. While we make every effort to ensure the consistency of the data reported in the *Landscape*, we do not audit or verify data providers' application of climate finance definitions, and we rely on the reporting provided.

## 1.2 PROCESS OF DATA COLLECTION AND REPORTING

Following an extensive data scoping exercise, datasets are intensively cleaned and processed. Where financing flows are detailed at the project level, data are checked manually for the consistency of information about actors, geographies, instruments, and sectors. Desk research complements the cleaning process where the datasets are incomplete.

To ensure consistency and comparability in our data between the private and public sectors, we set and observe the following general principles when collecting and reporting the data:

[2] See MDB (2015a, 2015b, 2018, 2019, 2021).
[3] https://climatefundsupdate.org/.

### Avoid double counting

CPI's *Landscape* tracks only those transactions that represent new money targeting climate-specific outcomes. For instance, both private research and development (R&D) for new technologies and investment in manufacturing for low-GHG and climate-resilient development are excluded, because at the technology deployment stage such costs are capitalized and factored in the investment amounts of new projects that implement these technologies, increasing the risk of double counting if the initial investment were to be tracked separately. Similarly, revenue support mechanisms such as feed-in tariffs reimbures the initital investment costs, so including them would constitute double counting. Thus, we do not track policy-induced revenue support mechanisms or other public subsidies[4] whose primary function is to pay back initial investment costs.[5]

There are significant overlaps between datasets meaning that the same flows are recorded several times. During the consolidation phase, CPI ranks sources of duplicate flows according to reliability and comprehensiveness, selecting only the highest quality entry for each overlapped transaction in order to avoid double counting.

### Track primary investment

The *Landscape* captures total primary financial transactions and investment costs or, where tracked, components of activities that directly contribute to adaptation and/or mitigation, plus public framework and capacity development expenditures (e.g., development of national climate strategies). Secondary market transactions (e.g., re-selling of stakes or public trading on financial markets) are not tracked because they do not represent new investment targeting climate-specific outcomes, but rather money being exchanged for existing assets. See section 2.2 for more details.

### Exclude carbon emissions lock-in

Investments and expenditures captured in the *Landscape* do not capture investments that have a high risk of locking in significant future greenhouse gas emissions. Based on this principle, fossil fuel-based lower-carbon and energy-efficient generation transactions, such as financing for efficiency retrofits of coal-fired power plants, are excluded.

### Maximize granularity

Wherever possible, CPI uses project-level data to check and select flows. Project-level information is more likely to provide verifiable details on project characteristics, instruments, destinations of financing and financing structures. Where project-level data are not

[4] Please note that public subsidies for EVs are included as an exception. For further details, please refer to "Electric Vehicles" under "Assumptions" section.
[5] See Falconer and Stadelmann (2014) for further details on CPI's understanding and definition of key climate finance terms.

available or insufficiently complete for inclusion in the *Landscape*, aggregated data are used.

**Include tangible financial commitments**

The figures reported in the *Landscape* represent financial commitments made during the period being tracked. Depending on the context (e.g. a public commitment by a government, versus a private financing contract agreed between corporate actors), commitments may refer to firm obligations by means of Board decisions on investment programs, closure of financing contracts or similar actions. Such commitments are backed by the necessary funds to provide specified assistance/financing to a project, recipient country, or any other partner organization. Financial resources committed record the amount of expected transfer at the time the contract was closed, or the commitment otherwise established, irrespective of the time required for the completion of disbursement. It is important to note that we only track financial commitments from the institutions financed through their own funds and exclude any external funds managed and/or implemented by the institutions. For further details, please see "□ National and multilateral climate funds" below.

Although the focus on commitments rather than disbursements may affect the sequencing of flows over time – given that committed amounts are often disbursed over a number of years – disbursement information would provide a more accurate picture of the actual volume of financial resources devoted to addressing climate change in a given year. However, consistent data on disbursements is often lacking across various actors. Note that some of the CPI's country-specific Landscapes (to date, covering Brazil, China, Cote d'Ivoire, Germany, India, Indonesia, Kenya, and South Africa) also capture disbursement data, as it is more readily available through national budget and expenditure systems.

**Err toward conservativeness**

In case of insufficient details, CPI takes a conservative approach and prefers to under-report rather than over-report climate finance. A case in point is energy efficiency investment from the private sector. Due to methodological differences regarding how energy efficiency components, often part of a larger project, are estimated in external sources using top down approaches (IEA, 2021), these investments were not included in the report. Together with the 2021 *Landscape,* CPI also published a methodological brief about tracking energy efficiency investments in buildings in the context of climate finance, which addresses some of the previously mentioned issues, and demonstrates the application of the proposed methodology based on a sample of asset-level data collection. These estimates are not included in this edition of the *Landscape*.

## 1.3 SCOPE OF ACCOUNTING

### 1.3.1 FINANCIAL INSTRUMENTS

The 2021 *Landscape* captures the following financial instruments:

- **Grants**: Transfers made in cash, goods or services for which no repayment is required.
- **Project-level debt**: Debt relying on a project's cash flow for repayment.
  - *Low-cost debt* refers to loans extended at terms preferable to those prevailing on the market. We count the full amount of the loan, not the grant equivalent.
  - *Market-rate debt* refers to loans extended at regular market conditions.
- **Project-level equity**: Equity investment relying on the project's cash flow for repayment
- **Balance sheet financing**: Direct debt or equity investment by a company or financial institution[6].

We acknowledge the importance of risk management instruments like guarantees and insurance in enabling increased private climate flows, in particular to areas and sectors with low risk appetites for private investment. However, following the principle of conservatism, we exclude these instruments from the total climate finance figure because actual disbursements from these instruments are contingent upon uncertain future events. Guarantees are only exercised in particular circumstances, and there is a chance of there never being any financial outflow from the guarantor.[7]

### 1.3.2 PRIVATE CLIMATE FINANCE FLOWS

The nature of financing is determined by the actors undertaking a given transaction. We categorize private investors as:

- **Corporations**, which can have activities in the energy sector, in other sectors, or in both (e.g. a large water utility company installing both hydropower generation and water treatment facilities). This category merges project developers and corporate actors, two groups of investors kept distinct in *Landscapes* up until 2018.
- **Households**, i.e. family-level economic entities, which includes high-net-worth individuals and their intermediaries (e.g. family offices investing on their behalf);
- **Commercial financial institutions**, i.e. providers of private debt capital (and occasionally other instruments), including commercial and investment banks;

[6] The share of climate finance allocated to different categories of financial instruments may not fully reflect reality, as our categorization is based on the quality of the data sources we can access.
[7] We acknowledge that risk management instruments are accounted by other organizations producing, collecting, aggregating and publishing data on climate finance flows, including the group of MDBs jointly reporting on climate finance and the OECD.

- **Institutional investors**, including insurance companies, asset management firms, pension funds, foundations, and endowments;
- **Private equity, venture capital, and infrastructure funds**.

### 1.3.3 PUBLIC CLIMATE FINANCE FLOWS

The 2021 *Landscape* covers public climate finance commitments from:

- **Development Finance Institutions (DFIs).** We classify DFI flows in the following categories:
  - **Multilateral and regional**, where the institution has multiple shareholder countries and directs finance flows internationally
  - **Bilateral**, where a single country owns the institution and it directs finance flows internationally; and
  - **National**, where a single country owns the institution and finance is directed domestically.
- **Government and their agencies.** These include:
  - Bilateral climate-related development finance reported to the OECD-DAC Creditor Reporting System (OECD, 2021b) to track Official Development Assistance (ODA) and Other Official Flows (OOF) in 2021.[8]
  - Domestic financing through public budgets carried out by central, state, or local governments and their agencies.
- **National and multilateral climate funds (MCFs).** We include commitments from DFIs' own resources only and exclude the following: external resources that DFIs manage on behalf of third parties; governments' contributions to DFIs or Climate Funds; bilateral Climate Funds' commitments; DFIs' contributions to projects reported in BNEF (2021a) to avoid double counting.
- **State-owned enterprises (SOEs) and financial institutions (SOFIs).** We classify institutions as state-owned if they are at least majority owned by a government or government agency.

Since the 2020 update of the *Landscape*, partially or fully state-owned enterprises (SOEs) and state-owned financial institutions (SOFIs) are classified as public entities. Note that national development finance institutions (including development banks) are not labeled as SOFIs, since they are reported as separate categories. 'Public Funds,' which are institutional investors managing funds under public ownership, are another additional category which has shifted from the private to public grouping.

[8] Our estimate captures the portion of bilateral climate-related development finance reported in the OECD's DAC Creditor Reporting System (CRS) qualifying as Official Development Assistance (ODA) or Other Official Flows (OOF) in 2021. The lower bound of our figures includes finance marked as having 'climate change mitigation' or 'adaptation' as its 'principal' objective. The upper bound includes activities with a 'significant' climate change objective. In the case of activities marked both as mitigation and adaptation, we attributed related financing to the use marked as 'principal'. Due to lack of data for 2020, we assumed that bilateral climate finance commitments were the same amount as in 2019.

# 2. DATA SOURCES AND ASSUMPTIONS

## 2.1 KEY DATA SOURCES

| Category | Flow | Source of data | Data granularity |
|---|---|---|---|
| **Private** | **Private finance** | BNEF (2021a)<br>BNEF (2021b) | Project-level (large-scale renewable energy projects)<br>Aggregated (small-scale solar) |
| | | Convergence (2021) | Project-level |
| | | Proprietary data from Climate Bonds Initiative | Project-level |
| | | IEA SHC (2021) | Aggregated (solar water heater capacity additions) |
| | | Proprietary data from IEA on EV Charging | Aggregated |
| | | Proprietary data from IEA on EV Investment | Aggregated |
| | | IJGlobal[9] (2021) | Project-level |
| | | REN21 (2015) | Aggregated (solar water heater country and regional capital costs) |
| **Public** | **Development Finance Institutions (DFIs)** | Surveys* | Project-level or aggregated (depending on reporting institution) |
| | | Convergence (2021) | Project-level |
| | | BNEF** (2021a) | Project-level (large-scale renewable energy projects) |
| | | OECD (2021b) | Project-level |
| | | Annual reports/websites | Project-level |
| | **Climate Funds** | Climate Funds Update via ODI/HBF (2020) | Project-level |
| | | OECD (2021b) | Project-level |
| | **Governments and their agencies** | OECD (2021b)<br>BNEF (2021a)<br>Proprietary data from Climate Bonds Initiative | Project-level |
| | | IEA (2021) | Aggregated |

*(*) This year's report includes primary survey data from 40 DFIs.*
*(**) Additional data not provided in the surveys or OECD reporting*

## 2.2 ASSUMPTIONS

In certain instances in which complete investment information is unavailable, assumptions are made to fill gaps. These assumptions are in line with the principles outlined earlier in this

[9] IJ Global databases were used to gather information on primary financing for non energy projects like water, waste, municipal infrastructure, power T&D, and low-carbon transport from corporations and financial institutions.

document and are regularly updated to reflect changing market conditions at the most granular level possible.

**Climate Bonds**

The 2021 *Landscape* uses a dataset of green bond issuances from Climate Bond Initiative (CBI). While the finance raised through green bond issuance itself is excluded due to double counting issues, primary investment in climate projects is sometimes disclosed in post-issuance reporting. First, we screen issuance data for double counting with other data sources. From the remaining dataset, we check post-issuance documentation for project-level data. To be included in the *Landscape*'s finance totals, information must be available on the value of investment, the date of financing, the (climate-related) nature of the project, the instrument used, and the recipient of finance (unless the instrument is balance sheet financing tracked by the issuer). We assume that projects with completion dates after the date of issuance receive primary financing unless otherwise specified. Where this information is not available, flows are excluded to avoid capturing refinancing and other non-primary transactions. Since green bond impact reporting often takes place at the end of a calendar year, and where more than one year of documentation is available, we include the year-on-year difference in the total finance allocated to projects under construction.

**Electric vehicles**

Through collaboration with the IEA, the 2021 *Landscape* includes data on electric vehicles (EV) purchases from 2019 to 2020. This dataset was constructed through desk research to identify country-level retail prices of all commercially available models of battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), combined with annual sales data by country. The base price paid by the consumer is then recalculated, adjusting for any governmental incentives or taxes. However, unlike general subsidies, public incentives for EV purchases are included in the *Landscape* because public finance does not flow to the vendor (as with most revenue support schemes) but instead contributes directly to consumption of low-carbon transport. Plug in hybrid electric vehicles are excluded in our analysis given their potential to pollute depending on the drivers' behaviour.

The methodology for allocating the breakdown of private purchases of EVs has been modified relative to the 2019 *Landscape*. In previous editions, EV purchases were split by private vs. public (accounting for both subsidy schemes and government direct expenditure). As before, governments are responsible for all the public spending, using grants as the sole financial instrument. The assumption for the private portion was that all consumption came from households/individuals through balance sheet financing (equity portion). In this edition, a deeper analysis allowed us to break down the private investment into purchases by households/individuals (equity balance sheet), purchases by corporates

(equity balance sheet), and commercial FIs (project-level market rate debt) that facilitate purchases of EVs through debt. The table below sums up the assumptions used.

| Countries/regions | Years | Household | Corporate | Commercial FI | |
|---|---|---|---|---|---|
| | | Share | Share | Auto Loan rate | Loan-to-Value |
| China | 2019/2020 | 96% | 4% | 50% | 60% |
| United States of America | 2019/2020 | 50% | 50% | 85% | 96% |
| Germany | 2019/2020 | 36% | 64% | 75% | 85% |
| Norway | 2019/2020 | 79% | 21% | 63% | 65% |
| United Kingdom | 2019/2020 | 33% | 67% | 93% | 100% |
| France [10] | 2019 | 57% | 43% | NA | NA |
| France | 2020 | 72% | 28% | NA | NA |
| Italy | 2020 | 56% | 44% | 70% | 80% |
| Canada | 2020 | 83% | 17% | 70% | 80% |
| Japan | 2019/2020 | 60% | 40% | 70% | 80% |
| Unspecified/Asia and Pacific | 2019/2020 | 60% | 40% | 70% | 80% |
| Unspecified/Eastern Europe | 2019/2020 | 60% | 40% | 70% | 80% |
| Unspecified/America | 2019/2020 | 60% | 40% | 70% | 80% |
| Unspecified/Global | 2019/2020 | 60% | 40% | 70% | 80% |

The auto loan rate is the percentage of all cars subject to car loans, and the loan-to-volume is the average percentage of the car price covered by the loan. By multiplying both rates by the amount of private EV finance, we get the Commercial FI amount (except for France, where we directly had access to commercial FIs). Six countries together represent 75% of BEV (China, United States, France, Norway, Germany, United Kingdom). For regions where there was not a deep dive analysis, we assume a 60/40 split between households and corporates, and a 70% auto loan rate and 80% loan-to-volume rate for calculating the commercial FI amount.

**Electric vehicles charging infrastructure**

IEA charging infrastructure data were first introduced to the *Landscape* in 2019. Data on investments on charging infrastructure are covered in the IEA's annual World Energy Investment (WEI) report. The WEI, a free and public report, is the IEA's annual benchmark for tracking energy investment and includes a count of EV charging points and investment. In 2019, the IEA has provided regional and country level charging investment numbers, without dividing them into public and private investment. In 2021, the IEA provided the split between public and private directly to CPI. Data are not available for all countries. Where

[10] In France, available literature directly provided total commercial FI funding for auto loans. Therefore, the auto loan rate and the loan-to-value variables were not required.

country-level information is available, we use it. Otherwise, we allocate the remaining investment on a regional basis.

**Large-scale renewable energy projects**

This year, we individually analyzed direct primary financing data from large-scale renewable energy projects[11] based in 158 countries to identify their financing structure and the entities providing financing. For this, data are retrieved from the Bloomberg New Energy Finance (BNEF) renewable energy and asset finance databases (BNEF, 2021a).

***Gearing Ratios***

Gearing ratios describe the ratio of a project's long-term debt to the total capital invested. Where a project-specific gearing ratio is provided, it is used directly to calculate debt and/or equity values for the relevant project. Where no gearing ratio is provided, we apply gearing ratio assumptions to estimate debt and equity financing for renewable energy projects in which one of the debt, equity, or total value figures is known, in order to calculate the other two unknown fields. In these cases, a 70/30 gearing ratio is assumed, except for wind power projects in China, where an 80/20 gearing is assumed based on the higher debt-to-equity ratios observed in historical transactions. This assumption is unchanged from the 2019 *Landscape*.

***Tax equity***

In the 2021 *Landscape*, we use updated assumptions on tax equity financing for US renewable energy projects. These assumptions were formed based on representative gearing ratios for solar PV financing provided by the National Renewable Energy Laboratory (NREL), as well as informal discussions with multiple US renewable energy developers. Generally, for projects using all three of tax equity, sponsor equity, and debt, the gearing ratio applied was 40% tax equity, 40% debt, and 20% sponsor equity. Other cases applied slightly different assumptions, varying based on data availability and project structure; however, the overall practice was to assume slightly higher debt as a share of overall project value, in order to more accurately account for debt that continued to be associated with renewables projects even after undergoing tax equity refinancing and/or other ownership restructurings that commonly occur in US-market renewables projects.

***Multipliers***

The 2021 *Landscape* consolidates and updates technology- and geography-specific investment cost multipliers used in previous editions. Multipliers are used in

[11] We consider investments in wind, solar, biofuels, biomass & waste, geothermal, marine, and small hydro projects that reached financial closure in 2019 and 2020.

cases where financing information is not available to estimate total investment costs based on the size of the project in MW. Country-level multipliers from the REN21 Global Status Report (REN21, 2019) are used where possible. Where country-level multipliers are not available, REN21 regional multipliers are used. Where neither is available, regional multipliers from IRENA's Renewable Power Generation Costs report (IRENA, 2021) are used. Otherwise, the REN21 transregional multiplier is used.

**Small-scale renewable energy investments**

This refers to mainly residential and commercial solar PV projects with capacity less than 1MW. It accounted for 131 GW of new capacity installed in 2019/2020, obtained from BNEF market size generation capacity and finance databases (BNEF, 2021b).

The dataset places all finance within three broader regional categories: Americas, Europe/Middle East/Africa, and Asia/Pacific. It includes both capacity additions and finance of small-scale solar panels at the regional and country level. However, for some countries only the capacity data are available, but not the investment data.

We generate "Rest of Americas,""Rest of Europe/Middle East/Africa," and "Rest of Asia/Pacific" investments by summing up investments from countries of one region and subtracting from the respective total region investment. In cases where we do not know a country's investment, we proportionally allocate the respective "Rest of Region" investment value based on the country's capacity share regarding its region.

**Solar water heating systems**

Households, corporates, and governments' investments in solar water heating systems, estimated based on cost data from IEA SHC (2018), country-level inflation rates from World Bank (2021), and capacity additions data from IEA SHC (2021).[12,]

When calculating country-level investment costs for solar water heaters, cost estimates for countries lacking specific costs are derived by averaging available values for other countries in the same region. Where regions have no country-level estimates available, the global average is used. Some exceptions have been made to this rule where appropriate. For example, the European average cost for large domestic hot water applications does not include France, given that it is an outlier relative to other countries' cost ranges, and does not comprise a significant portion of the European solar water heating market.

[12] We considered new installed capacity in 2019 and 2020 as reported in IEA SCH (2021), and systems capital costs reported in IEA SCH (2018). Since the latest capital costs available in this report were form 2016, we used country-level consumer-inflation rates from the World Bank (2021) from 2016 to 2019 and 2020 respectively to produce actualized capital costs. The IEA SCH (2021) report installed capacity estimates were broken down by segment (governments, households, corporates) and geographies.

# 3. MITIGATION AND ADAPTATION SECTORS AND ACTIVITIES

This section describes the sectoral breakdown used to categorize mitigation and adaptation flows and provides examples of the kinds of projects that may be covered by the selected categories.

The 2021 *Landscape* sector classification was heavily updated and now offers a multi-layer economic sector breakdown. This effort was carried out to reflect the increasing need to understand investments' real economy impacts, align with new methodologies, and fully exploit the potential of more granular data. This updated sector classification is, among others, inspired from the following economic activities classifications: MDB (2021), CBI taxonomy (CBI, 2021), IPCC WG3's AR5 (IPCC, 2014), the EU taxonomy (EU Technical Expert Group on Sustainable Finance, 2020), OECD' CRS purpose codes (OECD, 2021a). We applied this classification as consistently as possible when compiling this report. Finance qualifying as Official Development Assistance and tracked in the OECD's DAC Creditor Reporting System can be marked as having mitigation or adaptation as its 'principal' objective or having a 'significant' climate change objective (OECD, 2016). MDBs, meanwhile, identify components of projects that can count either fully or partially towards adaptation finance, but each bank's individual processes determine which proportions to count as mitigation or as adaptation so that the actual financing will not be double-counted (MDBs).

We allocated finance to 'dual benefits' if it was specifically labeled as such by the surveyed DFI or by the databases used for retrieving Climate Funds' commitments, or if either the DFIs or aforementioned databases labelled it as having adaptation and mitigation both as 'principal' or 'significant' benefits.

| Sector | Sub-Sector | Mitigation or adapdation solution | Additional information and examples |
|---|---|---|---|
| **Energy Systems** | Power & Heat Generation | Biofuel/Biomass-fired | If a project's Greenhouse gas (GHG) emissions reductions are demonstrated compared with technically and economically viable alternatives |
| | | Geothermal | |
| | | Hydropower[13] | If a project's GHG emission reductions are demonstrated compared with technically and economically viable alternatives |
| | | Hydrogen fuel cell | Using green hydrogen only |
| | | Off grid (renewables only) | Renewables only |
| | | Other Marine | Wave, Tidal, etc |
| | | Solar – Concentrated Solar Power (CSP) | |
| | | Solar – Photovoltaic (PV) | Utility scale and distributed |
| | | Wind – Offshore | |
| | | Wind – Onshore | |
| | | Carbon Capture Use and Storage in Fossil Fuel power plants | Incremental costs of CCUS technology only |
| | | Waste-to-Energy | Ex. incineration, gasification, pyrolysis and plasma with clear mitigation benefits |
| | | Multiple | Unspecified RE projects or projects with combining multiple energy sources |
| | | Renewable Retrofit | Energy Efficiency in existing renewable power assets |
| | | Resilient Infrastructure and Infrastructure for Resilience | Ex. Reduction in river flows leading to loss of generation from a hydroelectric plant |
| | Power & Heat Transmission & Distribution | District Heating | Fueled by renewable energy only |
| | | Smart Grid | |
| | | Mini grids | |
| | | Power Grid – Retrofit | Retrofits that lead to clear energy efficiency gains |
| | | Power Grid – New | That enable the integration of renewable power capacity |
| | | Resilient Infrastructure and Infrastructure for Resilience | Ex. Undergrounding of power lines |
| | Fuel Production | Biogas | Production of biogas connected to natural gas pipelines |
| | | Biofuel | Biofuel production |
| | | Hydrogen from Renewables | |

[13] CPI does not include large hydro projects financed by 1) the public sector and that does not demonstrate mitigation potential, and 2) the private sector.

| | | | |
|---|---|---|---|
| | Fuel Transmission & Distribution | NA | Ex. Green hydrogen pipelines |
| | Policy & National Budget Support & Capacity Building | NA | |
| | Other/Unspecified | NA | Other energy projects including general energy access development with clear mitigation and/or adaptation benefits |
| **Industry** | Industrial, Extraction, and Manufacturing Processes | Non-Energy and Fugitive GHG reduction | Ex. Substitutions in industrial processes with associated GHG cuts |
| | | Carbon Capture Use and Storage | Excluding Energy sector – Incremental cost only |
| | | Energy-Use Improvements & Other GHG cuts | Energy consumption and GHG cuts in industrial processes |
| | | Substitution with Hydrogen from Renewables | Industrial processes using hydrogen shifting from FF-based Hydrogen to RE-based hydrogen |
| | Industry Infrastructure & Warehouse | Energy Efficiency | Low-consumption warehouses and light industry buildings |
| | | Resilient Infrastructure and Infrastructure for resilience | Ex. Improve resilience of existing industrial plant/flood protection etc. |
| | Policy & National Budget Support & Capacity Building | NA | |
| | Other/Unspecified | NA | |
| **Waste** | Solid Waste | Infrastructure & Management (incl. recycling) | |
| | Policy & National Budget Support & Capacity Building | NA | |
| | Other/Unspecified | NA | |
| **Water & Wastewater** | Water Supply & Sanitation | Efficient Large Infrastructure | |
| | | Basic Water Access | |
| | Waste Water Treatment | Infrastructure & Management | Greenfield or brownfield projects that reduce methane or nitrous oxide emissions through wastewater, fecal sludge, or septage management |
| | | NA | |
| | Policy & National Budget Support & Capacity Building | NA | Ex. Improved catchment management planning and regulation of water abstraction |
| | Other/Unspecified | NA | |

| | | | |
|---|---|---|---|
| **Buildings & Infrastructure** | Building & Infrastructure Construction Work | Energy Efficiency - New Construction | |
| | | Energy Efficiency - Retrofit | |
| | | Resilient Infrastructure and Infrastructure for Resilience | |
| | HVAC & Water Heaters | Renewable Energy-based HVAC | |
| | | Solar Thermal Water Heaters | |
| | | Energy Efficient HVAC | Efficient cooling, etc. |
| | Appliances & Lighting | Efficient Lighting systems (incl. public lighting) | Ex. LEDs |
| | Policy & National Budget Support & Capacity Building | NA | Ex. More robust building regulations and improved enforcement |
| | Other/Unspecified | NA | |
| **Transport** | Private Road Transport | Battery Electric Vehicles (BEV) | |
| | | Electric Vehicle (EV) Chargers | |
| | Rail & Public Transport | Modal Shift Policy Support | |
| | | Energy Efficiency - Retrofit | Fleet Retrofit with clear energy efficiency gains |
| | | New Bus, Light or Heavy Rail Fleet & Related Infrastructure | With associated modal shifts from a higher-carbon transport mode.<br>FF-powered rail engines are excluded |
| | Waterway | Energy Efficiency - Retrofit | Fleet Retrofit |
| | | New Low-carbon Fleet & Related Infrastructure | |
| | Aviation | Energy Efficiency - Retrofit | |
| | | Modal Shift Policy Support | |
| | Policy & National Budget Support & Capacity Building | NA | |
| | Transport-oriented Infrastructure and Urban Development | Infrastructure for non-motorized transports | |
| | | Resilient Infrastructure and Infrastructure for Resilience | Ex. Use of revised codes for infrastructure design that consider increased frequency or severity of extreme events |
| | Other/Unspecified | Modal Shift with Associated GHG Emission Cuts | |
| **Information and Communications Technology** | Data Centers | NA | New highly energy efficient centers or energy efficient retrofits |
| | Telecommunication Networks | NA | New highly energy efficient networks or energy efficient retrofits |

| | | | |
|---|---|---|---|
| | | Resilient Infrastructure and Infrastructure for Resilience | |
| | Policy & National Budget Support & Capacity Building | NA | |
| | Other/Unspecified | NA | |
| **Agriculture, Forestry, Other land uses and Fisheries** | Agriculture | Sustainable Crops, Agro-forestry, Livestock production | Ex. Investments in crops that are more resilient to climate extremes and change |
| | | Supply chain management (commercialisation, primary processing & storage) | |
| | | Financial services for sustainable production, commercialisation, storage and processing | |
| | Forestry | Afforestation, Reforestation, Forest Conservation, sustainable management of existing forest, including extraction of non-timber products | |
| | | Supply chain management (commercialisation, primary processing & storage) | |
| | Fisheries | Sustainable fish production | |
| | | Supply chain management (commercialisation, primary processing & storage) | |
| | Food & diet | Food waste and low-carbon diets | |
| | Policy & National Budget Support & Capacity Building | NA | |
| | Unspecified / Multiple | NA | |
| **Others & Cross-sectoral** | Policy & National Budget Support & Capacity Building | NA | |
| | Biodiversity, Land & Marine Conservation | NA | |
| | Disaster-risk Management | NA | Ex. Integration of climate change scenarios and climate risk assessments into disaster risk plans and preparedness |
| | Other/Unspecified | NA | |

# 4. GEOGRAPHIES AND COUNTRIES

This section describes the regional breakdown adopted in the 2021 *Landscape* to represent the destinations of climate finance flows (see table below). Flows are classified as 'transregional' when resources are channeled to more than one region.

**Countries classification by region**

| Region | Country or territory |
|---|---|
| Central Asia & Eastern Europe | **OECD:** Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Turkey. **Non-OECD:** Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Georgia, Kazakhstan, Kosovo[14], Kyrgyz Republic, North Macedonia, Montenegro, Republic of Moldova, Romania, Russian Federation, Serbia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan |
| East Asia & Pacific | **Non-OECD:** American Samoa, Brunei, Cambodia, China, Cook Islands, Democratic People's Republic of Korea, Fiji, Indonesia, Kiribati, Lao PDR, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Myanmar, Nauru, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu, Viet Nam |
| Latin America & Caribbean | **OECD:** Chile, Colombia, Costa Rica, Mexico **Non-OECD:** Anguilla, Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Bonaire, Brazil, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, St. Barthélemy, Sint Eustatius and Saba, St. Kitts and Nevis, St. Lucia, St. Vincent and Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela (Bolivarian Republic of), West Indies |
| Middle East & North Africa | **Non-OECD:** Algeria, Bahrain, Egypt, Islamic Republic of Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen |
| Other Oceania | **OECD:** Australia **Non-OECD:** New Zealand, Tokelau |

[14] This designation is without prejudice to positions on status, and is in line with United Nations Security Council resolution 1244 and the International Court of Justice Opinion on the Kosovo Declaration of Independence.

| | |
|---|---|
| Sub-Saharan Africa | **Non-OECD:** Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Republic of Congo, Democratic Republic of the Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Mozambique, Namibia, Niger, Nigeria, Réunion, Rwanda, São Tomé and Principe, Saint Helena, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, United Republic of Tanzania, Togo, Uganda, Zambia, Zimbabwe |
| South Asia | **Non-OECD:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka |
| US & Canada | **OECD:** Canada, United States of America |
| Western Europe | **OECD:** Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom. Annex I Parties: Andorra, Liechtenstein, Malta, Monaco<br>**Non-OECD**: San Marino, Vatican City |

**Domestic and International Flows**

Financial flows are categorized into domestic and international. This categorization indicates how much climate finance is flowing beyond national territories and determines dependency of countries to domestic and international finance for climate investments. The analysis further investigate international climate finance coming from and flowing to OECD and non-OECD countries.[15]

Domestic flows pertain to climate finance that was raised and spent within the same country, while international flows pertain to climate finance flows that were raised in a specific country but spent in another. Climate finance from multilateral development financial institutions is automatically categorized as international flows.

[15] The list of 38 members to the Organisation for Economic Co-operation and Development (OECD) can be found at https://www.oecd.org/about/.

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